



TMWA Board Meeting

Wednesday, December 17, 2014

Press Clippings

November 14, 2014 – December 10, 2014



*Nahin Chowdhury (Mamie Towles Elementary School)
2010 Poster Art Contest – Honorable Mention, Grades 4-6*

TCID discusses flood zones, TROA

Nevada Appeal, 11/14/14

Expand Photo [STEVE RANSON / SRANSON@LAHONTANVALLEYNEWS.COM](mailto:STEVE_RANSON@LAHONTANVALLEYNEWS.COM) |

The V-Line canal west of Fallon will be included in a flood study.

Despite a three-year drought, the Carson Water Subconservancy District has locked up a federal grant concerning flood zones in Fallon.

Ed James, general manager for CWSD, told the Truckee-Carson Irrigation District board of directors last week his entity secured a grant from FEMA for a project to research and draw plans for flood areas below Lahontan Reservoir.

Part of the plan, James said, was to determine a way to divert water from Diversion Dam to Sheckler Reservoir in case of major flooding.

In addition, James said the V-Line canal, which flows through the city, can only hold 2,000 cubic-feet per second of water. The line will also be included in the study as James said it is possible for flooding to reach downtown should a major storm occur.

The TCID board, meanwhile, showed skepticism of the plan as they noted the state is suffering a major drought and previous plans for a diversion to Sheckler Reservoir in the past never materialized.

The study is expected to take several months and any implementation of a new diversionary plan would not be in place for years.

Aside from the flood study, James and the board also discussed their concerns with the Truckee River Operating Agreement (TROA) and how it will be implemented.

TROA has been in the works for the past 12 years and affects TCID, [the Truckee Meadows Water Authority](#), Pyramid Lake Paiute Tribe and the state of California.

The concern is who will be the administrator of TROA. Currently, James said there is no administrator, a federal judge will appoint someone.

In other TCID news —

The district's new database system and applications will be operational for the 2015 election, according to Project Manager Rusty Jardine.

TCID has undergone a massive project to upgrade its software and applications to become more streamlined with customers and reporting water calculations to the U.S. Bureau of Reclamation.

In addition, Jardine said a review of land maps have uncovered customers may have more votes than previously thought. As a result of more detailed data, Jardine said a more accurate acreage may be determined, which would allow those individuals more votes.

A reduction of votes, he added, would not be taken against those landowners with the same amount of acreage.

Lesley Stahl reports on disturbing new evidence that our planet's groundwater is being pumped out much faster than it can be replenished

- 2014Nov 16
- CorrespondentLesley Stahl

OR WATCH VIDEO: <http://www.cbsnews.com/news/depleting-the-water/>

The following is a script of "Water" which aired on Nov. 16, 2014. Lesley Stahl is the correspondent. Shari Finkelstein and Jennie Held, producers.

It's been said that the wars of the 21st century may well be fought over water. The Earth's population has more than doubled over the last 50 years and the demand for fresh water -- to drink and to grow food -- has surged along with it. But sources of water like rainfall, rivers, streams, reservoirs, certainly haven't doubled. So where is all that extra water coming from? More and more, it's being pumped out of the ground.

Water experts say groundwater is like a savings account -- something you draw on in times of need. But savings accounts need to be replenished, and there is new evidence that so much water is being taken out, much of the world is in danger of a groundwater overdraft.

California is entering its fourth year of a record-breaking drought. Last year was the driest since the state started keeping records more than a hundred years ago. And yet, pay a visit to California's Central Valley and out of that parched land you'll see acre upon acre of corn, almond trees, pomegranates, tomatoes, grapes. And what makes them all possible: water. Where do you get water in a drought? You take it out of the savings account: groundwater.

[Jay Famiglietti: When we talk about surface water, we're talking about lakes and rivers. And when we're talking about groundwater, we're really talking about water below the water table.]

Jay Famiglietti, an Earth sciences professor at the University of California, Irvine, is a leading expert on groundwater.

Jay Famiglietti: It's like a sponge. It's like an underground sponge.

He's talking about the aquifers where groundwater is stored -- layers of soil and rock, as he showed us in this simple graphic, that are saturated with water and can be drilled into, like the three wells shown here.

Lesley Stahl: You can actually pump it out of the crevices?

Jay Famiglietti: Imagine like trying to put a straw into a sponge. You can actually suck water right out of a sponge. It's a very similar process.

Sucking the water out of those aquifers is big business these days in the Central Valley. Well driller Steve Arthur is a very busy man.

Steve Arthur: All the farmers, they don't have no surface water. They've got to keep these crops alive. The only way to do that is to drill wells, pump the water from the ground.

Lesley Stahl: So it's either drill or go out of business?

Steve Arthur: Yes.

So there's something of a groundwater rush going on here. Arthur's seven rigs are in constant use and his waiting list is well over a year. And because some wells here are running dry, he's having to

drill twice as deep as he did just a year or two ago. This well will cost the farmer a quarter of a million dollars, and go down 1,200 feet -- about the height of the Empire State Building.

"If we're talking about a deeper aquifer, that could take tens or hundreds of years to recharge."

Lesley Stahl: Are you and are the farmers worried that by going that deep you are depleting the ground water?

Steve Arthur: Well, yes, we are depleting it. But on the other hand, what choice do you have? This is the most fertile valley in the world. You can grow anything you want here. If we don't have water to grow something, it's going to be a desert.

He said many farmers think the problem is cyclical and that once the drought ends, things will be okay.

Lesley Stahl: Now when they take water out and it rains...

Jay Famiglietti: Yes.

Lesley Stahl: ...doesn't the water go back down there?

Jay Famiglietti: These aquifers near the surface, they can sometimes be replenished very quickly. If we're talking about a deeper aquifer, that could take tens or hundreds of years to recharge.

Figuring out how much is being depleted from those aquifers deep underground isn't easy. Hydrologist Claudia Faunt took us to what looked like someone's backyard shed, where she and her colleagues at the U.S. Geological Survey monitor groundwater levels in the Central Valley the way they always have -- by dropping a sensor down a monitoring well.



Lesley Stahl: So this is a well.

Claudia Faunt: This is a well. So we have a tape here that has a sensor on the end.

Lesley Stahl: Oh, let me see.

The Geological Survey has 20,000 wells like this across the country.

Lesley Stahl: It's a tape measure.

Claudia Faunt: It's a tape measure.

Lesley Stahl: How will you know when it hits water?

Claudia Faunt: It's going to beep.

By comparing measurements from different wells over time, they get the best picture they can of where groundwater levels stand. She unspooled and unspooled, until finally...

[Beep]

Lesley Stahl: Oh.

It startled me, as did the result: a five-foot drop in just one month.

Claudia Faunt: Right now, we're reaching water levels that are at historic lows, they're like...

Lesley Stahl: Historic lows?

Claudia Faunt: Right. At this site, water levels have dropped about 200 feet in the last few years.

Gathering data from holes in the ground like this has been the only way to get a handle on groundwater depletion. That is, until 2002, and the launch of an experimental NASA satellite called GRACE.

Lesley Stahl: What does GRACE stand for?

Mike Watkins: So GRACE stands for gravity recovery and climate experiment.

Mike Watkins is head of the Science Division at NASA's Jet Propulsion Laboratory in Pasadena. He was the mission manager for the latest Mars rover mission and he is the project scientist for GRACE.

Mike Watkins: So the way GRACE works is it's two satellites.

Lesley Stahl: Two?

Mike Watkins: They're actually measuring each other's orbit very, very accurately.

What affects that orbit is gravity.

Mike Watkins: As the first one comes up on some extra mass, an area of higher gravity, it gets pulled away...

Lesley Stahl: It goes faster.

Mike Watkins: ...from the second spacecraft.



And that's where water comes in. Since water has mass, it affects the pull of gravity, so after the first GRACE satellite approaches an area that's had lots of heavy rain for example, and is pulled ahead, the second one gets there, feels the pull and catches up. The instruments are constantly measuring the distance between the two.

Mike Watkins: Their changes in separation, their changes in their orbit are a little different this month than last month because water moved around and it changed the gravity field just enough.

So GRACE can tell whether an area has gained water weight or lost it.

Lesley Stahl: So GRACE is like a big scale in the sky?

Mike Watkins: Absolutely.

GRACE can also tell how much water an area has gained or lost. Scientists can then subtract out the amount of rain and snowfall there, and what's left are the changes in groundwater.

Lesley Stahl: It's kind of brilliant to think that a satellite in the sky is measuring groundwater.

Mike Watkins: It is fantastic.

Jay Famiglietti: I thought it was complete nonsense. There's no way we can see groundwater from space.

Jay Famiglietti started out a skeptic, but that was before he began analyzing the data GRACE sent back. The first place he looked was India. He showed us a time-lapse animation of the changes GRACE detected there over the last 12 years. Note the dates on the lower right. The redder it gets, the greater the loss of water.

Lesley Stahl: Oh, look at that.

He calculated that more than half the loss was due to groundwater depletion.

Jay Famiglietti: And this is a huge agricultural region.

"So we're talking about groundwater depletion in the aquifers that supply irrigation water to grow the world's food."

Lesley Stahl: Have they been doing the same kind of pumping...

Jay Famiglietti: Yes.

Lesley Stahl: ...that we're seeing in California?

Jay Famiglietti: Yes.

Lesley Stahl: It got so dark red.

Jay Famiglietti: Yeah, that's bad.



Play video
NASA turns its eyes on Earth

NASA scientist Mike Watkins explains how NASA is using GRACE and its other satellites to revolutionize Earth science.

His India findings were published in the journal "Nature." But as he showed us, India wasn't the only red spot on the GRACE map.

Jay Famiglietti: This is right outside Beijing, Bangladesh and then across southern Asia.

He noticed a pattern.

Jay Famiglietti: They are almost exclusively located over the major aquifers of the world. And those are also our big food-producing regions. So we're talking about groundwater depletion in the aquifers that supply irrigation water to grow the world's food.

If that isn't worrisome enough, some of those aquifer systems are in volatile regions, for instance this one that is shared by Syria, Iraq, Iran and Turkey.

Jay Famiglietti: Turkey's built a bunch of dams. Stored a bunch of water upstream. That forces the downstream neighbors to use more groundwater and the groundwater's being depleted.

Lesley Stahl: Oh my.

Jay Famiglietti: We're seeing this water loss spread literally right across Iran, Iraq and into Syria and down.

Lesley Stahl: It's progressive.

"So the ground basically collapses or compresses down and the land sinks."

Famiglietti, who's now moved to the jet propulsion lab to work on GRACE, has started traveling around the world, trying to alert governments and academics to the problem, and he isn't the only one who's worried.

A 2012 report from the director of National Intelligence warned that within 10 years "many countries important to the United States will experience water problems ... that will risk instability and state failure..." and cited the possible "use of water as a weapon or to further terrorist objectives."

Lesley Stahl: Water is the new oil.

Jay Famiglietti: It's true. It's headed in that direction.

And what about our own food-producing regions, like California's Central Valley, which produces 25 percent of the nation's food. What is GRACE telling us there?

Lesley Stahl: 2008.

Jay Famiglietti: Right.

Lesley Stahl: '09.

Jay Famiglietti: And now things are going to start to get very red.

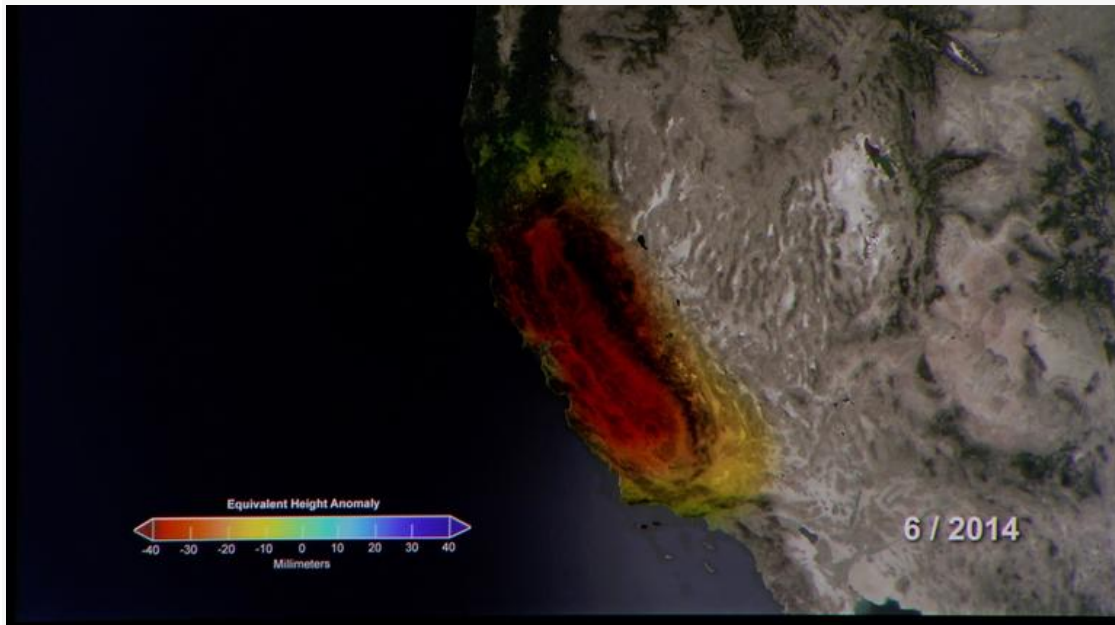
Lesley Stahl: 2010.

GRACE is confirming what the geological survey well measures have shown, but giving a broader and more frightening picture, since it shows that the rainy years are not making up for the losses.

Lesley Stahl: '14. Dark red.

Lesley Stahl: That's alarming.

Jay Famiglietti: It should be.



So much groundwater has been pumped out here that the geological survey says it's causing another problem: parts of the valley are literally sinking. It's called subsidence.

Claudia Faunt: So the ground basically collapses or compresses down and the land sinks.

Lesley Stahl: The land is sinking down.

She said at this spot, the ground is dropping several inches a year.

Claudia Faunt: And north of here, it's more like a foot per year.

Lesley Stahl: That sounds like a lot, a foot a year.

Claudia Faunt: It's some of the fastest rates we have ever seen in the valley, and in the world.

She says it's caused damage to infrastructure: buckles in canals and sinking bridges. Here the land has sunk six feet. It used to be level with the top of this concrete slab.

Lesley Stahl: And this is because of the pumping of the groundwater?

Claudia Faunt: Yes.

Lesley Stahl: Is there any limit on a farmer, as to how much he can actually take out of this groundwater?

Claudia Faunt: Not right now in the state of California.

Lesley Stahl: None?

Claudia Faunt: As long as you put it to a beneficial use, you can take as much as you want.

But what's beneficial to you may not be beneficial to your neighbor.

Lesley Stahl: When you dig a well like this, are you taking water from the next farm?

Steve Arthur: I would say yeah. We're taking water from everybody.

Lesley Stahl: Well, is that neighbor going to be unhappy?

Steve Arthur: No. Everybody knows that there's a water problem. Everybody knows you got to drill deeper, deeper. And it's funny you say that because we're actually going to drill a well for that farmer next door also.

"I can't believe how brave I am. 45 minutes ago, this was sewer water."

Making things worse, farmers have actually been planting what are known as "thirsty" crops. We saw orchard after orchard of almond trees. Almonds draw big profits, but they need water all year long, and farmers can never let fields go fallow, or the trees will die.

But with all the water depletion here, we did find one place that is pumping water back into its aquifer.

Lesley Stahl: Look, it really looks ickier up close.

We took a ride with Mike Markus, general manager of the Orange County Water District and a program some call "toilet to tap." They take 96-million gallons a day of treated wastewater from a county sanitation plant -- and yes, that includes sewage -- and in effect, recycle it. He says in 45 minutes, this sewage water will be drinkable.

Mike Markus: You'll love it.

Lesley Stahl: You think I'm going to drink that water?

Mike Markus: Yes, you will.

They put the wastewater through an elaborate three-step process: suck it through microscopic filters, force it through membranes, blast it with UV light. By the end, Markus insists it's purer than the water we drink. But it doesn't go straight to the tap. They send it to this basin and then use it to replenish the groundwater.

Jay Famiglietti: It's amazing. Because of recycling of sewage water, they've been able to arrest that decline in the groundwater.

Lesley Stahl: All right. I'm going to do it. I'm going to do it.



All that was left was to try it. To tell the truth, it wasn't bad.

Lesley Stahl: I can't believe how brave I am. Forty-five minutes ago, this was sewer water.

Mike Markus: And now, it's drinkable.

He says it's a great model for big cities around the country. But it's not the answer for areas like the Central Valley, which is sparsely populated and therefore doesn't produce enough waste. So at least for now, it's continuing withdrawals from that savings account.

Lesley Stahl: Will there be a time when there is zero water in the aquifer for people in California?

Jay Famiglietti: Unless we take action, yes.

California has just taken action -- enacted a law that for the first time takes steps toward regulating groundwater. But it could take 25 years to fully implement

Mike Carrigan recalls his legacy in Sparks

Marcella Corona, RGJ 11:16 a.m. PST November 17, 2014



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Term-limited Mike Carrigan laughs at a video that Sparks Council members showed during a ceremony that honored his 15 years of service on Monday, Nov. 10, 2014. (Photo: Marcella Corona/RGJ)Buy Photo

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Mike Carrigan wanted to be a voice for the people of Sparks, which has been his "mantra" ever since he was elected into the Sparks City Council in 1999.

"I made a comment to my wife (Cora) one day and I said, 'I hope we get someone in (the Council) that will listen to the people,'" Carrigan said.

"She said, 'Well, if you're so worried about it, why you don't run for office?'" Carrigan said. "I said, 'OK, that's a good idea.'"

Carrigan, who was term-limited after 15 years, said goodbye to Mayor Geno Martini and the other four council members on Nov. 10. Councilwoman Charlene Bybee won the Ward 4 race to replace him.

Bye bye Bob, hello Hillary: [New Reno mayor gets sworn in](#)

Jumping to business: [Sparks swears in its new leaders](#)

Carrigan has been described as a straight-shooter and an opinionated advocate for redevelopment in Sparks, despite ethical questions that led to a complaint being filed against him. The dispute eventually went to the U.S. Supreme Court.

Washoe County Deputy District Attorney Greg Salter, a former deputy Sparks city attorney, has known Carrigan since he joined the City Council.

"He was the chairman of the (Sparks Redevelopment Agency) for a while when I was working on the (Sparks Marina) project, and he was very enthusiastic about reviving Sparks," Salter said.

Carrigan said Sparks has always put its citizens first.

"I'm hoping that will continue, and I'm pretty sure it will," he said.

Bybee, who was sworn in at Monday's City Council meeting, said she has "some big shoes to fill."



Buy Photo

Sparks Mayor Geno Martini and recently elected Councilwoman Charlene Bybee watch a video featured at a ceremony honoring term-limited Mike Carrigan for his 15 years of service on Monday, Nov. 10, 2014.(Photo: Marcella Corona/RGJ)

"I'm hoping to fill those shoes, and I'll call you if I get stuck," Bybee told Carrigan on Monday. "I have a great team working with me."

"I just want to say good luck, and I hope to make you proud," she said.

Carrigan said his advice to Bybee is to listen to what the people have to say.

"Make the financial decision that goes by how you would run your own household," Carrigan said in a phone interview. "In other words, just because it's the public's money doesn't mean you can spend it willy-nilly."

A lifetime of service

Carrigan, 65, enlisted in the Navy at 17, graduated from the Naval Academy and served as a pilot. He moved to Sparks in the early 1990s, where he raised his family.

Carrigan said keeping Sparks family-oriented is something he's proud of.

"We decided to put a park about a quarter of a mile from everybody's home, even though maintenance of those parks cost a lot of money," Carrigan said. "It's just a good place for someone to take their family."

"One of the things that I'm really proud of is that we put the (Golden Eagle Regional Park) in my ward without spending a dime of the public's money," he said.

The city used the proceeds from the sale of the 27-acre Don Mello Sports Complex to help pay for the \$30 million Golden Eagle park. Other funding included \$6 million from consolidated tax revenue bonds, \$3.4 million in park impact fees and \$1.8 million from the Washoe County Parks and Open Space Bond approved by voters in 2000.

Carrigan said the local economy is coming back, leaving Sparks "in really good shape compared to Reno and Washoe County."

"I think the smartest thing we've done since I've been on the City Council is that the three entities, Washoe County, Reno and Sparks, bought the water company," he said, referring to Truckee Meadows Water Authority. "I think that was the smartest thing we ever did because now we're in control of the most precious resource we have."



Buy Photo

Former Sparks Councilman Mike Carrigan laughs at a video council members presented during a ceremony honoring Carrigan, who was term-limited, after 15 years of service on Monday, Nov. 10, 2014.(Photo: Marcella Corona/RGJ)

A voice for redevelopment

Carrigan said he hopes that redevelopment in downtown Sparks will continue. That includes plans to build new apartments near Victorian Square.

"For too long, the city has been trying to tell developers what to do with their money, and you can't do that," Carrigan said. "What you have to do is find a developer and say, 'OK, what do you want to do,' and try to work with that person."

"Before, the city would say, 'We don't like your idea, do this instead,' and no one is going to put any of their money to do what we want," he said.

Salter, who in past years worked on the project to build the Sparks Marina, said redevelopment was tough because of the recession that started in 2007.

"We went through several different proposals to try to get downtown going," Salter said. "We bought some properties down there, and we knocked down old buildings and did deals with three to four developers to get going in Sparks."

"But darn it, the market started to go bad," he said.

Salter said one of many redevelopment projects in Victorian Square included plans to build a retail center with businesses on the first floor and residential units on the top floors.

"Carrigan was very good, and he was always pushing deals that were good for Sparks," Salter said. "He wasn't just pushing deals."

"He wanted it to be a class act, and he wanted the architecture to be right and the deal to be right," he said. "But the finances started to dry up, and we couldn't push it over the threshold."

A big player in downtown Sparks

Carrigan said another problem was working with John Ascuaga's Nugget, which owns "key parts of downtown."

"It was difficult to redevelop because the Nugget wouldn't sell their property unless the developer did what they wanted them to do," he said.

Michonne Ascuaga, former CEO of the Nugget and daughter of John Ascuaga, disagreed with Carrigan. She said the hotel worked closely with city officials until the recession hit.

"We were very interested in seeing something happen across the street," Ascuaga said. "We were looking for something to happen that would bring energy to downtown and, frankly, to our business."

Ascuaga said the Nugget spent a "good part of the early 2000s trying to gain property that was critical near the plaza."

"We were a shareholder and somebody that had skin in the game, and we wanted to participate in the process," she said of downtown redevelopment. "I think we had a right to sit at the table."

Carrigan said that redevelopment in downtown has a bright future as the city works with Global Gaming and Hospitality, which bought the Nugget earlier this year.

Nugget President and CEO Carlton Geer said he's been meeting with city officials to talk about what to do with the eight parcels the hotel-casino owns. He said his talks with Carrigan, City Manager Steve Driscoll and other staff have been positive.

"We look forward to working together to come up with a redevelopment plan for the city of Sparks," Geer said in a phone interview Tuesday.

Geer said the more traffic in Victorian Square, the better business would be for the Nugget.

"We have the community interest in mind, but we also have our own interest in mind ... and we're working through all these issues," Geer said.

Carrigan said 39 North Downtown, a new group of local business owners, has also taken an interest in helping redevelop Victorian Square.

"For Midtown, the government stayed out of that, and they let the business people do what they needed to do because they knew best," said Carrigan. "That's what we need to do with downtown Sparks."

"I'm so happy that those guys (39 North) are coming around because it'll be exactly like what I envisioned, which is the people who have a stake in it will decide what they want to do," he said.

No regrets

Carrigan said he's made some tough decisions, one of which resulted in him facing the Nevada Commission on Ethics in a dispute that went all the way to the U.S. Supreme Court.

"During my campaign, I had some people that went totally negative on me, lied and filed an ethics complaint against me just because they didn't want me to be on the City Council," Carrigan said.

"I really haven't gotten over that yet," he said.



Buy Photo

Former Sparks Councilman Mike Carrigan attends the council meeting on Monday, Nov. 10, 2014. Carrigan was term-limited from the council as representative of Ward 4 and said goodbye to the council members at the meeting.(Photo: Marcella Corona/RGJ)

The case dated back to 2006 when Sparks council members rejected plans in a 3-2 vote for a \$100 million project to build a Lazy 8 hotel-casino.

The project was brought before the council by developers with the Peppermill Resort Spa Casino and Red Hawk Land Co., which was controlled by lobbyist Harvey Whittemore, who is now in prison in an unrelated case.

Carrigan, along with Councilman Ron Schmitt, voted in favor of the Lazy 8.

But the decision created ethical issues because of Carrigan's relationship with his former campaign manager, Carlos Vasquez, who was involved with Red Hawk.

"It's interesting to me that the two people involved, one of them is in federal prison right now and the other one had to sell his casino and I'm still a city councilman," Carrigan said just prior to leaving office Nov. 10. "I guess you could say that was karma."

An ethics complaint was filed against Carrigan, who later appealed, leading to a seven-year legal fight.

Last year, the U.S. Supreme Court upheld the state's conflict of interest law and rejected Carrigan's claim that the law was too vague. Carrigan claimed it also violated a politician's First Amendment right of association.

Playing the blame game

Carrigan said he blamed the lawsuit that followed his decision on John Ascuaga's Nugget, which "didn't want another casino competing with it."

"It was just that two big gamers were in a war and I got caught in the middle," Carrigan said, adding that he was advised by the city attorney to disclose his relation with the developers.

"I really don't have any regrets because the people were smart and they saw through that," Carrigan said.

Michonne Ascuaga, who was involved in the case as former CEO, said the Nugget never filed a complaint against Carrigan.

"He was so upset with the Nugget, and he could never get over it," Ascuaga said. "I think that made it difficult for the city to move forward because the Nugget is a major employer."

"We made every attempt to move on, but I don't think it was possible for Mike," she said.

Despite the hard feelings left from the Lazy 8 dispute, Ascuaga said Carrigan was someone the City Council needed.

"I think he was very smart and conservative at a time when the city needed him to be," she said. "He questioned things, and he may be surprised to hear me say this, but I think he brought a lot of good things to the council."

Phil Salerno, former 16-year councilman and owner of Nevada Forms and Printing, said he was on the council when Carrigan was first elected.

"I don't think the Lazy 8 was presented to the council in the right manner," said Salerno, who voted against it. "They couldn't even answer concerns on traffic."

"They were unprepared when they came, and I felt that they felt we would just push it through," Salerno said.

Because the Lazy 8 was in Ward 4, which includes northeast Sparks, Carrigan received most of the backlash from all sides, Salerno said.

"I know it affected everyone on the City Council because, either way you voted, you were criticized," Salerno said.

Salerno said he also faced a complaint filed with the Commission on Ethics because of his close business relationships with several local casinos. The complaint had been filed by Whittemore, which resulted in Salerno being fined \$5,000.

"I was on the same boat as Mike because people thought I should have disclosed my work with other casinos because of my printing business," Salerno said, adding he is sympathetic toward Carrigan.

The Commission on Ethics later agreed to drop other counts against Salerno.

Mayor Martini, who's worked with Carrigan for several years, said he was in favor of the Lazy 8.

"I was on the council with him from the very beginning, and I think our ideas go well together," Martini said at Monday's meeting. "So I'm going to miss him. He's a real straight-shooter, and I like that."



Former Sparks Councilman Mike Carrigan, right, Mayor Geno Martini and Councilman Ron Schmitt talk and laugh just before a ceremony honoring Carrigan, who was term-limited, for his 15 years of service on Monday, Nov. 10, 2014.(Photo: Marcella Corona/RGJ)

Sparks says goodbye

On Nov. 10, council members said goodbye to Carrigan in a small ceremony that ended with Martini proclaiming it "Mike Carrigan Day."

Councilwoman Julia Ratti recalled having lunch with Carrigan after she first was elected to council.

"Since that time, there's a tremendous amount of respect I have for you, and I'm really going to miss you," she told Carrigan.

Schmitt said he enjoyed Carrigan's honesty and support.

"Whenever you said you would support something you did, and I appreciate that," he said.

Meanwhile, Carrigan's daughter, Ashley Carrigan, 37, congratulated Bybee.

"It's a little bizarre to see your name up there and not my dad's after 15 years," Ashley Carrigan said, adding that she hopes to see more of her father now that he retired.

Mike Carrigan said he hopes to take up more of his outdoor hobbies, which include golf, fishing and hunting. He and his wife, Cora, plan on also traveling to Thailand and Machu Picchu in Peru next year.

At the end of the meeting, Carrigan received a standing ovation.

"It's been a great adventure so thank you so much," he said.

On RGJ.com

Check RGJ.com for coverage of the swearing in of re-elected Sparks Mayor Geno Martini and Councilman Ed Lawson, along with new Councilwoman Charlene Bybee.

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Death by dirty water: Storm runoff a risk for fish



(AP Photo/Ted S. Warren)



(AP Photo/Ted S. Warren). In this Oct. 20, 2014, photo, Steve Damm, a biologist with the U.S.



(AP Photo/Ted S. Warren). In this Oct. 20, 2014, photo, Jenifer McIntyre, a post-doctoral researcher at Washington State University's Puyallup Research and Extension Center, collects water samples for testing from a tank of highway runoff water.



(AP Photo/Ted S. Warren)



(AP Photo/Elaine Thompson). In this Nov. 5, 2014, photo, a researcher slices open the belly of a female coho found dead in Seattle's Longfellow Creek to reveal she was still full of eggs and had not spawned.

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By PHUONG LE
Associated Press

POULSBO, Wash. (AP) - Just hours into the experiment, the prognosis was grim for salmon that had been submerged in rain runoff collected from one of Seattle's busiest highways. One by one, the fish were removed from a tank filled with coffee-colored water and inspected: They were rigid. Their typically red gills were gray.

"He's way dead," David Baldwin, a research zoologist with the National Oceanic and Atmospheric Administration's Northwest Fisheries Science Center, declared at the four-hour mark.

This was the fate of coho salmon exposed to the everyday toxic brew of dirt, metals, oil and other gunk that washes off highway pavement after rains and directly into Puget Sound.

When that runoff was filtered through a simple mixture of gravel, sand and compost, however, the outlook was much brighter. Salmon exposed to treated water were healthy and responsive, even after 24 hours.

The research being conducted by scientists with NOAA, Washington State University and the U.S. Fish and Wildlife Service offers a promising solution to stormwater pollution, a major problem for Puget Sound and other streams and lakes in the nation.

With pollution from industrial pipes closely regulated, cities and states are more often tackling stormwater runoff that results from everyday activities: oils from leaky cars, pesticides from lawns and other pollutants that wash off roads and sidewalks and into streams and lakes.

Across the country, there's been an aggressive push for rain gardens and other green techniques that rely on vegetation, soil or natural elements to slow and filter stormwater.

"The results are pretty stark," said Jenifer McIntyre, a researcher with WSU who is part of salmon experiment. "So far, what we're seeing is that, absolutely, things like rain gardens are going to be part of the solution."

Washington state now requires municipalities to adopt such green techniques to get a stormwater permit under the Clean Water Act after a conservation group sued. A campaign is trying to get 12,000 rain gardens in Puget Sound to help reduce water pollution. Portland, Oregon; Kansas City, Missouri; and Philadelphia and other cities have embraced similar green technologies.

"It's really promising, showing that rain gardens and bio-filtration are removing the pollutants that are killing the salmon," said Chris Wilke with Puget Soundkeeper Alliance.

More than a decade ago, researchers began noticing adult coho dying before spawning in urban creeks in Seattle. Monitoring over eight years, they observed fish consistently dying and at high rates in Longfellow Creek and other urban creeks compared with a stream that wasn't in an urban area.

The salmon swam erratically near the water's surface, appeared disoriented and displayed other neurological symptoms. Disease or typical water issues such as temperature or dissolved oxygen didn't appear to be a problem.

The evidence pointed to one or more chemical contaminants, most likely carried into urban streams through stormwater runoff, according to a study by NOAA and others.

The scientists are still working to find out the underlying cause of death: what contaminant or mixture of contaminants in that runoff is harmful to salmon.

"There used to be coho salmon runs all through Puget Sound and creeks. There haven't been for decades," said Julann Spromberg, a toxicologist working for NOAA Fisheries. "They're coming back, and they're dying. We need to figure out what's going on."

"A silver bullet would be nice but it doesn't appear to exist," she added.

In an experiment two years ago, the scientists exposed adult coho salmon to artificial cocktails of metals and petroleum hydrocarbons in runoff and found that it didn't kill the fish.

Actual runoff was another matter.

One morning at Grovers Creek Hatchery in Poulsbo, Spromberg and her colleagues ran an experiment to find out how fish respond to stormwater runoff and runoff that had been treated.

About a dozen salmon were netted and placed in 2-foot-long PVC tubes and then submerged into one of three holding tanks.

One tank was filled with runoff collected from a downspout off Highway 520 in Seattle. In a second tank, that same runoff had been seeped through a mulch layer and into 55-gallon drums filled with gravel, sand and compost to simulate a rain garden. A third tank with well water was used as a control.

Over the next few weeks, the scientists repeated the experiment two additional times. Each time, salmon in the dirty water died while the others survived.

In the next phase of the research, they plan to expose coho salmon embryos to find out how stormwater runoff affects fish development.

"People don't understand necessarily how all those tiny little actions can make a combined effect - tires worn down, exhaust from my car. It's not something that people are thinking about on a daily basis," McIntyre said.

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One View: Sparks sewer plant must be expanded now

By Jerry Purdy and Gary Norris, Special to the Reno-Gazette-Journal 9:08 p.m. PST November 16, 2014



This image shows a sewer construction project in Sparks in 2005 — some say we need such projects to start up again. (Photo: RGJ file)

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The Sparks sewer treatment plant has been operating at or near full capacity for some time.

A recent RGJ article dated Sept. 24 indicated state environmental officials have fined the cities of Reno and Sparks \$16,000 because their joint sewage treatment plant is violating standards for how much nitrogen is being discharged into the Truckee River. Many articles have been written in the Reno and Sparks newspapers about the sewer plant issue, yet little significant action has been taken to correct the problem.

In the morning hours, the Truckee River often has a foamy off-color look downstream from the sewer plant. This abnormal appearance differs significantly from upstream of the plant, where the river appears normal. Many downstream water users who rely on the Truckee River as their primary source of drinking water are concerned about the possibility of unknowingly or accidentally ingesting sewer plant effluent because after it's mixed and diluted, it looks like ordinary river water.

We were unable to find any information about the quantity and kind of chemicals existing in our Sparks sewer plant effluent. We found some major national studies on this subject that provided this information in considerable detail. One national study detailed the presence of 56 drugs including oxycodone, high blood pressure medications and many over-the-counter drugs. Tylenol and ibuprofen were among the most common drugs frequently found in sewer plant effluent.

Other studies place the elderly, expectant mothers, children, and seniors with health issues most at risk of developing serious or deadly health problems from ingesting improperly treated sewer plant effluent that contains a stew of dissolved drugs and chemicals. Another major concern is little if anything is known about the nature and extent of birth defects caused from ingesting sewer plant effluent. We believe most would agree no one's health and wellbeing should be put at risk because elected officials and technical experts have been reluctant to take aggressive action to upgrade the plant.

It's been indicated the Sparks plant is operating at 99 percent capacity and can only accept 3,800 more hookups. Also Reno and Sparks have approved hookups for about 16,000 future homes in subdivisions that have approved plans but have not started construction. Most communities begin developing plans for increasing sewer plant capacity when the existing plant reaches 85 percent of its capacity.

We assume many of Tesla's 6,500 employees and their families will choose to live in the Reno-Sparks area. These additional families will overwhelm existing sewer treatment facilities that already are unable to properly treat sewer effluent. We believe Tesla and others like Amazon should be required to fund the immediate expansion of the sewer plant because construction of this magnitude usually takes several years to complete.

We want to know the estimated cost of the sewer plant expansion and who will pay for it: Tesla or, we, the taxpayers.

Gary Norris is professor emeritus at the University of Nevada, Reno. Jerry Purdy is a retired engineer with the Federal Highway Administration

Winterizing Your Home

By: [Paul Harris - Email](#)

Posted: Mon 7:14 PM, Nov 17, 2014

By: [Paul Harris - Email](#)



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RENO,NV-- Brent Smith has been a field coordinator with the Truckee Meadows Water Authority for more than a decade. He has some tips every [homeowner](#) should know about winterizing their home. First locate your sprinkler or irrigation system valve and turn it off. Failure to do so could be costly.

“People usually have a back flow riser that comes out of the ground,” said Smith. “That will be the first thing that is going to break. It is going to spray all over the side of your house and create a big mess. We will have to send crews out there to turn off your water.”

For homeowner Marlene Olsen she felt more comfortable calling a plumber.

“It was less than a hundred dollars,” said Olsen. “It is just good [insurance](#) to me. They know the system.”

Smith said one of the easiest things you can do to winterize your home is to disconnect the garden hose from the outside faucet. You don’t want any residual water backing up and freezing. Indoors there are some [simple](#) tips like keeping the thermostat at 55 degrees if you leave your home during the holidays and opening up the cabinets underneath the sink.

“It is a good idea to open the cabinet doors to let a little more of the heat that is in the house a chance to get to those pipes,” said Smith

Flat-rate water use to be phased out

Jeff DeLong, RGJ 12:22 a.m. PST November 20, 2014



The Truckee Meadows Water Authority will consider requiring all customers currently bill at a flat rate to metered service.(Photo: RGJ file)

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The primary water provider for Reno-Sparks will move ahead with plans to phase out its last flat-rate water customers, switching to metered water service for all.

Changes are also being contemplated regarding landscaping requirements for new development – including turf used along parkways and in common areas – as the region struggles through a third year of drought.

Directors of the Truckee Meadows Water Authority directed staff to return soon with plans to achieve both goals as a means to reduce water consumption across the region.

"I'm all for it," Washoe County Commissioner Vaughn Hartung said of a proposal to switch the last 6,142 water customers billed at flat rates to metered water service in the near future. The board is expected to review a plan on how to achieve the switchover in early 2015.

Flat rate customers pay the same regardless of the amount of water consumed. Metered customers are billed based on the amount of water actually used. The idea of "flipping the switch" and requiring all customers to be billed through meters has been discussed on and off over the years, sometimes generating controversy. The number of flat-rate customers has dropped steadily, down from 31,805 in 2003 to the current 6,142, which include homes, condominiums and apartment units.

The on-going drought has returned the issue to the forefront as utility officials consider ways to more efficiently conserve water. Last year, residential flat-rate customers used about double the amount of those on meters – 282,000 gallons compared to 124,000.

Renewed discussion over the water service conversion comes the same year drought conditions lowered Lake Tahoe below its natural rim, diminished flows of the Truckee River and forced the use of upstream drought reserves to meet water demand for the first time since 1994. The utility late in the summer also asked its customers to reduce outdoor water use by 10 percent.

While residential customers did cut use by 11 percent, the request met with less success with commercial customers, lowering the overall reduction achieved to 7.5 percent, utility directors were told Wednesday.

The board also agreed to work with the cities of Reno and Sparks, Washoe County and the Truckee Meadows Regional Planning Agency to consider changes in landscaping requirements for new development. Developers are sometimes required to install water-hungry turf along parkways and common areas. Homeowners associations also often require a minimum amount of turf for homes.

The idea of reducing mandated installation of turf would likely be well received by many, Hartung said.

"There are a lot of businesses out there that maintain a lot of turf and they don't want to," Hartung said. "It's up to everyone to conserve this precious resource."

Making such change will require some big swings in the way people think, said John Erwin, the utility's director of natural resources.

"It's going to take a major cultural shift," Erwin said.

Mark Foree, the utility's general manager, said new discussions on flat-rate water use and turf requirements represent positive developments as the region deals with the impacts of drought.

"In times of drought, a lot of considerations should be made," Foree said. "What can we do differently?"

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One View: Thanks for conserving water – it helped

Mark Foree 12:52 p.m. PST November 25, 2014



Mark Foree(Photo: Handout)

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Conservation continues to work in our community and I'd like to thank you for doing your part on this Thanksgiving Day.

Starting on Aug. 1, 2014, we asked Truckee Meadows Water Authority customers to reduce their outdoor use by 10 percent, encouraging them to conserve water when it counted — during the months when we were using our drought reserves. That is the time when TMWA can save the water our customers conserve in upstream reservoirs for use next summer, if this dry weather cycle continues.

How did our customers respond? The results are now in and total water demand decreased by approximately 7.5 percent, even though the weather was hotter than last year, which would usually result in increased outdoor water use. That savings equates to 350 million gallons — which is the amount used by 2,800 average residential homes in a year.

Here are some of the ways in which the community reduced their water use. They watered only three days a week, turned off sprinklers when it rained, prevented waste and run-off, reduced the run times on their sprinkler timers, and avoided watering between 11 a.m. and 7 p.m. We responded to 2,462 calls on our conservation hot line reporting water waste and performed 1,232 water usage reviews for our customers. Despite having hotter weather than last year in that time frame, it appears most folks stepped up and did their part by decreasing their water use.

TMWA's goal is to do everything possible to preserve our upstream drought reserves. The target was to use no more than 20 percent of that storage this year. I am pleased to report that we used only 18 percent, which is an amount that we anticipate will be replenished with the spring runoff, even if we have another below-average winter. Thanks to your efforts, we will again go into next summer with our drought reserves full. As high-desert residents, we know that is good insurance to have.

As you know, TMWA plans for dry years. Our staff continually monitors weather and snowpack conditions and plans for a nine-year dry weather cycle, which is one year longer than the worst drought on record. For a deeper look at TMWA's resource and drought planning, the 2010-2030 Water Resource Plan is located on our website at:

www.tmwa.com/water_system/resources/2030wrp.

At TMWA, we are all hoping for a great snow year. But, should that not be the case, the water you saved this summer and fall is being held in upstream reservoirs and will help preserve our water supply for next year. Thank you, Truckee Meadows water users, for doing a great job!

Mark Foree is general manager of Truckee Meadows Water Authority



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People on the Move: Nov. 30

Staff report *9:14 p.m. PST November 29, 2014*

***Ron Penrose**, P.E. and project manager at Truckee Meadows Water Authority, has served for several years as chairman of the Operator Certification Committee and also as chairman of the Management Development and Leadership Committee, American Water Works Association (AWWA)-Calif./Nev. Section. In those capacities, he has supervised operators' certifications in the state of Nevada and developed programs for leadership within the water utility industry. Penrose also presented a paper on the Public Process of the Glendale Water Improvement Project at the most recent AWWA conference. The presentation outlined how to develop teamwork and trust on a very visible capital project. The Glendale project is now in operation.

Planning for Tesla's Impact on Washoe County

By: [Paul Harris - Email](#)

Posted: Mon 6:52 PM, Dec 08, 2014

By: [Paul Harris - Email](#)



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RENO, NV -- The new Tesla plant may be built in Storey County, but its impact will be felt throughout the northern part of our state. In a rare meeting, the Washoe County Board of Commissioners along with members of the Reno and Sparks City councils focused on three [elements](#) from the projected impact of the Tesla battery plant: population growth, water and and waste water.

"I think it is going to be interesting," said Hillary Schieve, Mayor of Reno. "I think housing could be a concern obviously."

Concerns because a report presented to the commissioners estimates by 2018 more than 22,000 [jobs](#) could be added to Washoe County. Jobs created by Tesla and as a result of the plant being built, increasing the population by nearly 24,000 people.

The Truckee Meadows Water Authority says it has enough water reserves to meet that type of [growth](#) until 2043, but when it comes to wastewater, officials from the local treatment facilities believe they currently can only handle 10 years of growth. One proposal suggested is a new

wastewater pipeline to be built from Storey County to Washoe County with an estimated cost of \$35 million.

“Some of the experts in Washoe county were saying that is a fine initiative as long as Storey County will agree to take the wastewater on a sustained basis and treat it,” said **Chairman** David Humke, Washoe County Board of Commissioners.

To make sure the arrival of the Tesla plant goes smoothly, city and county officials know they have to **work together**.

“This is all going to be a balance because too much of something could certainly hurt our area and we want to make sure this is **smart** growth,” said Schieve.

The impact of Tesla will be discussed in the next few meetings in the new year. The commission is scheduled to hear reports on how Tesla will affect **schools** and local transportation

Is Reno ready for Tesla growth? Yes, but at a price



[Anjeanette Damon](#), RGJ 3:29 p.m. PST December 8, 2014



An artist's rendering of the proposed Tesla gigafactory proposed for the Tahoe Reno Industrial Center east of Reno.(Photo: Handout)

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Reno can handle a spike in growth fueled by the construction of Tesla's \$5 billion battery gigafactory, regional officials learned Monday.

But it will come with a hefty price tag and no one is sure who will foot the bill.

At a joint meeting of the Washoe County Commission and Reno and Sparks city councils, regional officials said the area is well positioned to provide water and housing to a population influx that could reach as high as 6,200 new residents by the time the gigafactory is up and running in 2018.

But the region faces an expensive challenge when it comes to sewage treatment, which is already straining the area's largest waste water treatment plant. Although the Truckee Meadows Water

Reclamation Facility has not reached capacity, it can't treat the incoming water fast enough to meet environmental regulations.

The fix for that isn't cheap. Either the region builds a \$35 million pipeline to send the effluent water to Storey County for industrial use, or it installs new nitrogen treatment technology at a cost of \$40 million.



Councilwoman Neoma Jardon discusses region's capacity to handle housing, water and waste treatment for Tesla growth. Anjeanette Damon/RGJ

Sparks Assistant City Manager Neil Krutz said those projects would have to be fast-tracked in order to meet the immediate demand expected from Tesla in the next 10 years.

That \$40 million cost is not built into the rates Reno and Sparks sewer customers already pay-- rates that are climbing 8 percent a year. The sewage treatment plant in Stead also needs \$71 million worth of improvements in the near future.

"We have enough capacity to treat the growth that is coming at us in the next decade," Krutz said. "We certainly don't have it ready to go today. We can't throw a switch at TMWRF or any of our five facilities and suddenly add 10 million gallons a day. Really it's up to us to deliver on those capital and operating plans so that the capacity is there when it is needed."

Sparks City Councilwoman Julia Ratti remarked that that is a pretty big 'if.'

"We have to spend more money to get there," she said.

Krutz answered yes.

Regional officials may also seek state or federal funding to build the effluent water pipeline, hoping to sell it as infrastructure needed for economic development.

That plan also poses a risk to Washoe County, however. Washoe can pipe the water to Storey County, but if the water isn't used in the Tahoe Reno Industrial Center, Washoe would be liable for the effluent going back into the Truckee River. The treatment plant was fined by state regulators for putting too much nitrogen into the Truckee River.

In terms of housing, the region has about 64,000 housing units that have been approved but are not yet built-- more than enough to handle the population influx from Tesla and other growth. But regional forecasters question whether the housing is the right type of housing to meet the needs of the Tesla workers-- about half of whom are expected to take up residence in Washoe County.

"We are in the very, very early stage in this process of planning for Tesla," said Kim Robinson, executive director of the Truckee Meadows Regional Planning Authority. "We are going to have to constantly reevaluate that particular piece."

Water planners said the region has enough water to meet the demands of the projected population growth, but only if the region brings online the water importation project from Fish Springs Ranch. The water rights are assembled and the pipeline is constructed already for that project. Additional ground water resources are available in northern basins, but the infrastructure has not been built to transport that water.

According to projections from Jim Smitherman of the Western Regional Water Commission, the region will need 142,000 acre feet of water by 2030. The region has 143,800 acre feet available without building further infrastructure, Smitherman said.

Much of the region's infrastructure plans were put in place during a boom in construction and development before the recession. That growth curve is anticipated to start up again, but won't be as steep as once projected, even with the arrival of Tesla.

With the plans in place, the region must come up with the money to fund them.

Absent from the meeting, however, was a discussion of whether the region's roads and school system-- which already lacks sufficient infrastructure funds-- can meet the Tesla growth demands. Officials hope to meet again in January to discuss those topics

California loses ground in drought water-saving

Posted: Dec 02, 2014 11:23 AM PST <em class="wnDate">Tuesday, December 2, 2014 2:23 PM EST Updated: Dec 02, 2014 11:23 AM PST <em class="wnDate">Tuesday, December 2, 2014 2:23 PM EST

SACRAMENTO, Calif. (AP) - Californians are losing ground in a state goal to cut water use by 20 percent in the drought.

New state water board figures Tuesday show Californians used 6.7 percent less water last month compared to October of last year. That's down from an 11.6 percent reduction last month. And far short of a state goal of 20 percent water conservation from last year.

Water board staffer Eric Oppenheimer says that lost ground stems mainly from high water use in some Southern California communities. That includes average daily water use of 587 gallons a person in Rancho Cordoba, compared to a state average of 71 gallons per person per day.

California is in its third year of drought.

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California water officials see hope in 2015

Posted: Dec 01, 2014 5:30 PM PST <em class="wnDate">Monday, December 1, 2014 8:30 PM EST Updated: Dec 01, 2014 5:30 PM PST <em class="wnDate">Monday, December 1, 2014 8:30 PM EST

SACRAMENTO, Calif. (AP) - State water officials say they're entering California's wet season with a glimmer of optimism, following three drought years.

The state's Department of Water Resources announced Monday that it plans to provide 10 percent of normal water supplies to farmers and cities in 2015 from a vast system of reservoirs and canals. That's up from the record low of 5 percent released this year.

Officials say improved rain and snow forecast for 2015 provides some hope, but the amount of water eventually provided may drop if the rainy season from now through February fails to produce.

Mark Cowin, director of the Water Resources department, says conservation remains important.

He says California needs a wet year with 150 percent of normal rain and snow to replenish its reservoirs and recover from drought.

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For Immediate Release, December 8, 2014

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Anti-fracking Protesters to Rally Outside BLM Auction in Reno

Coalition Urges BLM to Cancel Lease Sales to Protect Water, Health and Environment

RENO, Nev.— Protesters wearing blue and carrying water jugs will rally outside the U.S. Bureau of Land Management office in Reno on Tuesday morning to protest the auction of fracking leases on public lands. The auction of over 150,000 acres in Lincoln and Nye counties in BLM's Ely District will begin at 9 a.m. at the BLM Nevada State Headquarters building located at 1340 Financial Boulevard in Reno. Frack-Free Nevada and Nevadans Against Fracking, which is organizing the protest, is calling on the BLM to cancel the sale in order to protect water, people, wildlife and quality of life from the dangers of fracking.

The protest will be Tuesday, Dec. 9, from 7:45 a.m. to 9:15 a.m.

"Fracking is a big risk to Nevada's water, and without adequate clean water, we have nothing," said Dan Patterson, with the Center for Biological Diversity, a member of the coalition. "The fracking industry wants to get its hands on Nevada, but while they reap profits, our wildlife and water supplies will pay the price. Across the state, from Reno to Austin and Reese River Valley, to Ely, eastern Nevada and Las Vegas, Nevadans want to protect our water, quality of life, lands and wildlife from the fracking push."

Fracking uses huge volumes of water, mixed with sand and dangerous chemicals, to blast open rock formations and release oil and gas. The controversial technique is being proposed on hundreds of thousands of acres of public lands managed by the BLM across Nevada.

A typical hydraulic fracturing process uses between 1.2 million and 3.5 million gallons of water per well, with large projects using up to 5 million gallons. This water often resurfaces as "flowback," which is often highly polluted by fracking chemicals as well as radioactive materials from fractured shale.

Fracking has brought environmental and economic problems to rural communities across the country. Accidents and leaks have polluted rivers, streams and drinking water. Regions peppered with drilling rigs have high levels of smog, global warming gases, as well as other airborne pollutants, including potential carcinogens. Rural communities face an onslaught of heavy truck traffic — often laden with dangerous chemicals used in drilling — and declining property values. Wildlife habitat is also fragmented and degraded.

"Fracking is part of a larger problem, a problem where money trumps common sense and we jeopardize our precious water for a few dollars," said Dawn Harris of Frack-Free Nevada and Nevadans Against Fracking. "Nevada state and local officials should ban fracking to protect our water, as people in places like Denton, Texas and San Benito County, California have done."

"Nevada's precious groundwater should not be sacrificed for short term profits of corporations. In our arid desert, groundwater should always trump oil," said Bob Fulkerson of the Progressive Leadership Alliance of Nevada.

Communities directly affected by oil and gas fracking, as a result of these sales, were not alerted by BLM in advance of preparing lease sale.

"Nevada Tribes have a vested interest in protecting our ancestral homelands from being harmed by the oil & gas industry," said Jennifer Eisele, of the Shoshone Paiute Tribes, Duck Valley Indian Reservation. "We have a spiritual relationship with Mother Earth and it is our duty to protect our natural resources for the future existence of ourselves and descendants. Exploitation of fossil fuels may harm our water quality and damage our agriculture, which is our primary means of economic support."

"Water is precious in the desert. I'm afraid of fracking chemicals being injected into our groundwater," said Jennifer Messina of Ely, a retired teacher. "People are working to promote eastern Nevada as a great place to live and visit. All our efforts are lost if fracking poisons our ground."

“BLM has a mandate to protect the safety of the environment and human health, but both BLM and the oil and gas industry have poor records,” said Dr. Bonnie Eberhardt Bobb of Austin, Nevada, in southern Lander County. “Dangerous fracking fluids could seep in to our groundwater. Disposal of fracking waste by injection in to the ground has also been correlated with increased earthquake activity.”

This summer, Lander County Commissioners objected and filed administrative protests over BLM's sale of oil and gas fracking leases in Big Smokey Valley. Earlier this fall, the Lander County Water Board unanimously passed a resolution opposing any drilling or fracking in the Middle Reese River Valley, near Austin, due to threats to town water sources.

The Center for Biological Diversity is a national, nonprofit conservation organization with more than 800,000 members and online activists dedicated to the protection of endangered species and wild places.

Frack-Free Nevada and Nevadans Against Fracking seeks to protect Nevada's precious water, maintain the health and quality of life of Nevada communities, guard our air quality, improve agriculture and ranching, and preserve wildlife.