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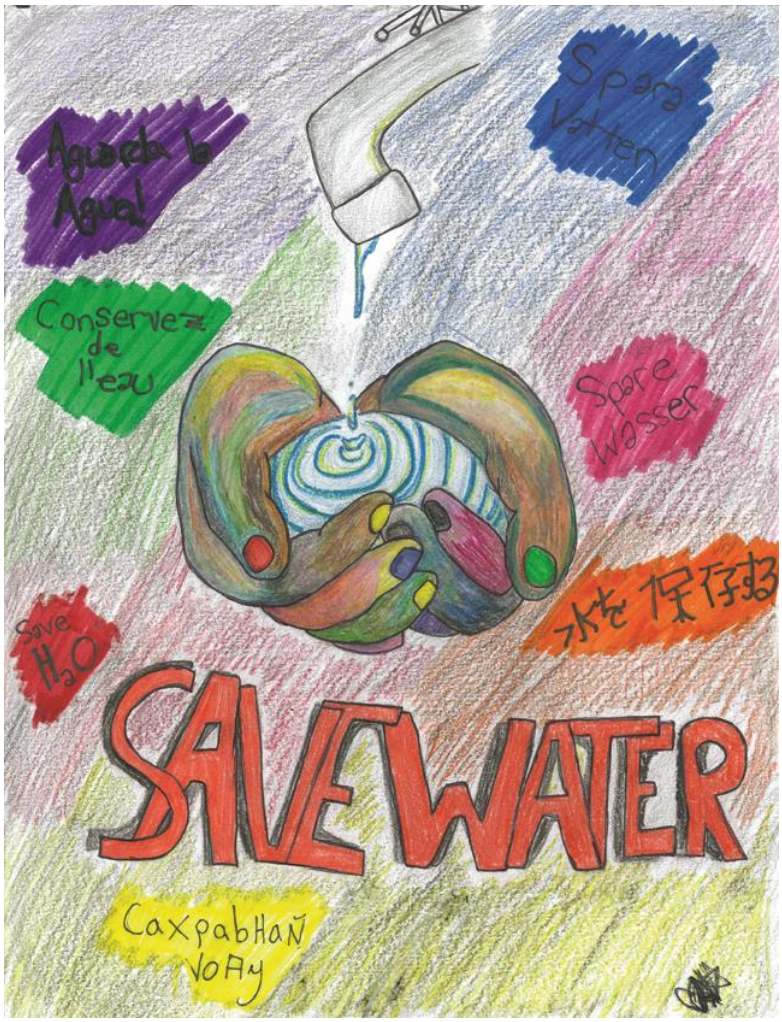
TMWA Board Meeting

Wednesday, September 17, 2014

Press Clippings

July 17, 2014 – September 9, 2014



Katherine Horton (Archie Clayton Middle School)
2010 Poster Art Contest – Honorable Mention, Grades 7-8

Courtesy of Natalie Muth, Utah Division of Wildlife Resources This is the average size of a quagga mussel at Lake Mead.

Utah will keep fighting quagga mussels

Funding » Lawmaker suggests a surcharge on boat registrations to fund the fight, educate the public.

By Brett Prettyman
| The Salt Lake Tribune

First Published Jul 16 2014 04:23 pm • Updated 7 hours ago

The National Park Service may have given up on fighting invasive mussels in Utah, the state's top wildlife official says, but the state will keep trying to control the spread of the tiny creature with potentially large economic impacts.

And a state lawmaker wants to add a $10 surcharge to boat registrations to help fund the effort.

Photos



View photo gallery (3 photos)

Greg Sheehan, director of the Utah Division of Wildlife Resources (DWR), told a legislative committee Wednesday about his dealings with federal officials at Glen Canyon National Recreation Area this spring.

"We did have some frustrating moments," Sheehan told the Natural Resources, Agriculture and Environment Interim Committee. "They essentially kind of said, 'We are done with quagga mussels.' That 'we are not really responsible for the state of Utah and we need to protect our park in other ways that we see fit.' "

Quagga mussels are minuscule and short-lived, but they reproduce quickly and when they die, their shells remain as an anchor point for new mussels. The invasive species can block water transportation systems, damage water vessels and ruin beaches.

The National Park Service had an aggressive boat decontamination and education program at Glen Canyon National Recreation Area on Lake Powell until this spring, when established colonies were discovered in several areas of the lake.

Concerned about the possible impacts on the state's vital water systems, Sheehan worked with the National Park Service and Utah's congressional delegation to find $750,000 to get the quagga campaign reinstated at Lake Powell.

It is not as aggressive as the state would like it to be, Sheehan said, but the DWR will continue to work with Glen Canyon officials to keep the efforts going.

Sen. Scott Jenkins, R-Plain City, announced he will introduce a bill in the 2015 session to help fund the aquatic invasive species program and educate boat owners at the same time.

"We have 70,000 registered boats. The idea is we put a $10 surcharge [on the registration fee] for mussels," Jenkins said. "We don't want to just raise the fee and no one knows what it is for. People will know it is for the mussel program. Education is as important as everything else."

story continues below
story continues below

Tooele County arson suspect is former volunteer firefighter
Published Jul 17, 2014 03:29:21PM
Utah rises in new U.S. earthquake map's hazard rating
Published Jul 17, 2014 03:29:03PM
Movie review: Visuals not enough to heat up 'Planes: Fire & Rescue'
Published Jul 17, 2014 03:28:33PM
'The Purge: Anarchy': Who dies now? It's complicated
Published Jul 17, 2014 03:19:02PM

Lake Powell is the only water in Utah confirmed to hold invasive mussels, and state officials say it is important to educate

boaters about decontamination to prevent any spread. Lake Powell is a popular destination, and boaters often travel to other Utah waters within days of visiting the quagga-infested reservoir.

State efforts to help curtail the spread of invasive mussels have focused on Bear Lake — which straddles the Utah/Idaho border — in recent months.

The main challenge at Bear Lake is that boaters can launch their craft on the beach without the need to visit a marina or boat ramp. That removes the opportunity for officials to ask where a boat has been, check whether it has been decontaminated and raise awareness of the issue.

Could wine-making get big in Northern Nevada?

Ray Hagar, RGJ *2:32 p.m. PDT July 19, 2014*

(Photo: Marilyn Newton/RGJ)

Six words in a little-known Nevada law is stopping Washoe County and Clark County from establishing a potentially huge industry in Nevada — wine making and wine selling, said a president of a political action committee trying to change the law.

Nevada's largest two counties are not allowed to make and then sell wine because of a 1991 provision designed to help rural wineries. And today, wineries are well established in Nevada's smaller counties such as Nye, Churchill and Douglas.

Yet the unique climate of Washoe gives the Reno area the potential to cash in on the wine industry, said a University of Nevada, Reno professor who has been growing grapes and making wine on university farmland for almost 20 years.

"I have been promoting that (commercial wine making and selling) for years," said professor Grant Cramer, professor of biochemistry and molecular biology. "Northern Nevada has been growing grapes and making wine at the university experimental station. And it has been shown that the region is able to produce some very good-quality wines."

By this time next year, however, a group of local grape growers and wine enthusiasts that does not include Cramer hope the Nevada Legislature will have changed the law to allow a wine industry to grow in Nevada's two largest counties.

"All we want is six words removed from the current law, said Dennis Eckmeyer, president of the Nevada Wine Coalition and a registered investment adviser.

Eckmeyer called the potential for wine making and wine selling in Washoe County, "the best-kept secret in Northern Nevada.

"And that is why we are trying to get the word out. We have proven it is viable. We have proven we can do this on a commercial basis."

Although Cramer has steered away from the politics of the issue, he noted Clark County has a lot of potential for a commercial wine making industry, too. Estate Vineyards in nearby Pahrump, is Nevada's oldest commercially producing red-grape vineyard, going backs to the early 1990s.

"Certainly southern Italy is very hot," Cramer said in a comparison to Clark County. "It is going to be a different set of grapes that you would use there, compared to Reno because grapes are very sensitive to the climate."

Dennis Eckmeyer, left, and Daniel Hopper work at pruning grape vines at the University of Nevada vineyard. There is a group pushing to make it legal to make wine and sell it in Washoe and Clark Counties. *(Photo: Marilyn Newton/RGJ)*

Potential for economic development

Eckmeyer's coalition has big dreams. They see Washoe County becoming a major wine producing area. They point to the booming wine industry in eastern Washington, where the climate is much like the climate in Northern Nevada. One of rural Nevada's top wineries, Churchill Farms in Fallon, uses vines supplied from eastern Washington to grow its grapes.

"If eastern Washington can do it, we certainly should be able to do it as an industry," Cramer said. "How large we can be is hard to say. But if you go back and look at the statistics of what is happening in Washington state, that the industry there is exploding, doubling every five years or so."

Over the past 40 years, the Washington state wine industry has grown into an industry with a statewide economic impact of $8.6 billion, according to the Washington State Wine Commission.

Washington state also has an estimated 27,455 full-time jobs that are wine related, according to a 2012 study by Stonebridge Research.

In recent years, the Washington wine industry has mushroomed. The nationwide economic impact of the Washington state wine industry was estimated at $14.9 billion in a 2011 study. That $14.9 billion is a $10 billion increase from a similar study in 2007.

Grapes: Drought-resistant crop

Those numbers dwarf Nevada's total agriculture output. The overall economic impact of agriculture in Nevada is estimated at $5.3 billion, according to 2013 Nevada Agricultural Report from the Governor's Office of Economic Development.

Eckmeyer envisions a Nevada wine industry similar to that of Washington state in the next 40 years. For every acre of grapes grown in a potentially large Nevada wine industry, Eckmeyer estimates 2.5 jobs would be created. He also sees the commercial wine industry in Nevada as a boost to Nevada's university system in research and agriculture.

Ironically, wine grapes were listed as a recommended crop in Northern and Southern Nevada, according to the 2013 Nevada Agricultural Report.

"I see it as a win, win, win," Eckmeyer said of an expanded Nevada wine industry. "The university would win, the state would win because we would be creating jobs and create tax revenue and we (wine producers) would win because we would get to make great wine and sell it."

University research and rural wineries also point to another reason why the wine industry would work in Nevada. It takes much less water to produce grapes for wine making than it does many other traditional Nevada crops, studies show.

Alfalfa — one of Northern Nevada's most common crops — takes 42 to 52 inches of water per acre annually to grow, according to a 2005 thesis by Miguel Henry at UNR. Wine grapes, however, needed just four inches of water per acre.

"You would also make a lot more money on a crop of grapes that you would alfalfa," Cramer said.

Indeed. A recent University of Nevada study estimated an acre of alfalfa's market value is $1,441. That same acre of chardonnay grapes would have a market value of $7,709.

Nevada seems to be the only western state not nurturing a major wine industry. Idaho has 47 wineries and an economic impact of $73 million annually, according to Nevada Wine Coalition statistics.

Oregon is the third-largest wine grape-growing region in the U.S. with 463 wineries, 13,500 jobs and an economic value of $2.7 billion. Utah, Arizona and New Mexico all have a wine industry.

"Basically, the wine industry is alive and well throughout the county, especially in the neighboring states to Nevada," said Assembly Minority Leader Pat Hickey, R-Reno, the state legislator who is proposing the change in state's wine production law.

'Enotourism'

Expanding wine production in Washoe and Clark counties would affect Nevada's tourism industry, Hickey added

"You have the potential for wine tours and wine tasting," Hickey said, noting the tourism attraction of the wineries in the Napa-Sonoma region of California.

"Enotourism" is the official name for tourism that is centered on wine and wine tasting. It has potential for growth in a state like Nevada, already famous for tourism, Cramer said.

"Most of the impact of the wine industry is in the tourism side effects," Cramer said. "It is associated with restaurants and hotels. If you go to California, the grape value there is worth about $2 billion in retail sales but the impact on the economy is about $50 billion. So there is a much broader and wider impact of the industry on the economy than just growing grapes."

Restaurants and hotels profit in enotourism, Cramer said.

"Look at the tourism attraction of people coming to go to the winery, the restaurants that open up and the hotels that open up," Cramer said. "If you look at what has happened in eastern Washington, it has transformed eastern Washington. There are all kinds of boutique hotels and very nice restaurants that have developed. They are associated with the tourism in eastern Washington that is related to the wine tours."

Some established rural wineries in Nevada don't see a problem with the potential added competition from Washoe and Clark counties.

"I would love to see new wineries come in, as long as they product good products," said Colby Frey of Churchill Vineyards in Fallon. "I would love to see us be like Napa Valley and be known for good wines. I would be for as many wineries as our state could handle – as long as they are all producing good wines and helping each other build a brand for Nevada."

The goal for any new commercial wineries in Nevada should be producing quality wines that boost the state's brand as an excellent state for wine. Churchill Vineyards displays its state pride with a blue label on its wine bottles that resembles the outline of Nevada's borders.

"If we are producing bad products, it hurts all of us," Frey said. "If we make a bad wine, maybe people will not want to try another Nevada wine. They might not want to buy from another Nevada winery because maybe they tried a Nevada wine and didn't like it."

The political process

Eckmeyer is certain the wine bill — like all bills — will have opposition when Hickey introduces the bill next February at the 2015 Nevada Legislature.

Yet his enemies have yet to reveal themselves.

"I am not naïve enough to think we are not going to get any opposition on this bill whatsoever," Eckmeyer said. "But for the life of me, I can't see why you would want to stifle growth, stifle economic recovery and stifle a cool new industry. Nevada is an agricultural state. We have been growing stuff since the state began. So why not incorporate grapes?"

Hickey and the Nevada Wine Coalition want to craft the bill's language as to not cut Nevada's wine and liquor distributors out of the process. The bill will maintain Nevada's "three-tiered" process where one entity produces the product, another distributes it and a third-party sells it in a retail format.

The liquor distribution business has a tradition of deep political clout in state politics, said the wine coalition's lobbyist, Randi Thompson of Reno. So the distributors' backing of the bill would be necessary for passage.

"The challenge is making sure that the distributors maintain their role in protecting the three-tier system in Nevada," Thompson said. "We have no issue with that at all. We hope these wineries can grow and produce so much wine that they need a distributor. We are essentially creating a new market for them (distributors) for them to sell wine made in Nevada to Nevadans."

Alfredo Alonso of Reno, who represents many of Nevada's liquor distributors at the Legislature, said it is difficult to take a stance on the proposal since the bill's language has yet to be drafted.

"As long as the three-tier system is not affected — and again not knowing what is in the bill — the devil's in the details," Alonso said. "I know for a fact that we would be opposed to anything that would affect the three-tiered system."

Hickey said he has spoken with some Northern Nevada Democrats and they are supportive.

"There is not likely to be any opposition," Hickey said.

"I think there will be bipartisan support because liberalizing our laws regarding our wineries is a good, conservative thing to do," Hickey said.

Yet not all Southern Nevada Democrats feel the same way. And Southern Democrats control the power in Carson City, helping their party hold the majorities in the Assembly and state Senate.

Sen. Tick Segerblom, D-Las Vegas, noted that his medical marijuana bill from the 2013 was also touted as a way to develop Nevada economy. Hickey and other Republicans didn't support it, even though it became law, Segerblom said.

Segerblom recalled Hickey's snub when asked about supporting Hickey's winery bill in 2015.

"When I talked to him about marijuana, he didn't seem to think that was good for economic development, so I think I would have to take a pass on this one," Segerblom said. "He (Hickey) didn't think my marijuana bill was good so why would I think this bill was good?"

Senate Majority Leader Mo Denis, D-Las Vegas, was not so quick to dismiss a winery bill.

"Like anything, I would hope that we could have a good discussion about it," Denis said. "If it is good for Nevada, then it is something we need to talk about, to see if it is viable."

$8.6 billion: The annual economic impact of the Washington state wine industry -- an industry that members of the Nevada Wine Coalition think Nevada can someday equal.

$5.3 billion: The overall economic impact of agriculture in the state of Nevada, according to the 2013 Nevada Agriculture Report by the Governor's Office of Economic Development.

42 to 52: The inches of water needed per acre annually to grow alfalfa in the Fallon area, according to a 2005 thesis by Miguel Henry at UNR.

4: The inches of water needed per acre annually to grow wine grapes in the Fallon area, according to Henry's thesis.

$1,441: The estimated market value of an acre of alfalfa in Northern Nevada.

$7,709: The estimated market value of an acre of chardonnay grapes in Northern Nevada.

Source: Washington Wine Commission, University of Nevada, Reno research.

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Closing Irrigation Ditches Hurts Businesses

By: ***Catherine Van*** *- Email*
Updated: Sun 3:08 PM, Jul 20, 2014

RENO, Nev. -- This year's dry winter is now taking a toll on local businesses. Starting next week, the Federal Water Master will close all irrigation ditches and diversions from the Truckee River and businesses will have to find other sources for water.

For 143 years, families have been going up to Mountain View Cemetery to visit a loved one.

"We come up here at least 5, 6 times a year. We come up to visit my mom. She passed away in 2006," Robert Benzie, a visitor said.

While they pay their respects, the cemetery maintenance crews are watering up to 60 acres of lawn every day to preserve it.

"It's nice for [families] to come to grassed areas versus dead grass or just dirt," Charles Stegmeir, a family counselor from Mountain View Cemetery said.

However, now they'll have to cut back. Early last week, they received a letter from the Truckee Meadows Water Authority (TMWA) warning them that all irrigation ditches and diversions from the Truckee River will be closed.

"We're kind of at their mercy," Stegmeir sad. "We do the best we can and we do try, and we are out here diligently."

It's two months earlier than the cemetery expected, but this year's drought brought the worst stream flow in 100 years of recorded history, drying up the reservoir storage by the end of July.

"It kind of sucks, you know?" Benzie said. "It's going to be rough if it gets really brown, but understandable because it's such a big area."

80% of the cemetery's water comes from an irrigation ditch, now, it has to rely solely on well water to keep the lawns maintained, which won't be cheap.

"It gets expensive for us to do it," Stegmeir said. "We can continue to water in our most troubled areas or new areas that we're trying to get grass established and the older stuff that is established can endure a little more."

"It's beautiful up here. I think it's a beautiful spot," Benzie said. "I'm glad this is where we've chosen to bury our family members and hopefully next year it will get better."

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Charles Crombie

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Police said Crombie admitted to scrubbing the murder scene and pawning Smith's belongings, including a TV and VCR. Officers also said Crombie used Smith's debit card to buy tickets to several movies and withdrew more than $3,200 from his checking account.

Smith appeared as a freckle-faced kid in "Our Gang," better known as "The Little Rascals," in the late 1920s.

At a sentencing hearing in 2005, Darlla Wann told Crombie that he not only took her grandfather from her family, but the whole country.

"All he was trying to do was help you get on your feet and you murdered him," she said, according to a KLAS report. "I hope his ghost haunts you every night you lay in your cell until you die."

who is from Carson City, serves on the House Appropriations Committee that writes the spending bills. The Senate still must pass the legislation.

Money to protect Northern Nevada's water supply

The National Science Foundation has awarded nearly $2 million to the University of Nevada, Reno to develop a framework for water management and supply within the Truckee-Carson River System.

Reid, who announced the grant Thursday, said Northern Nevada needs tools to better protect its water supplies, especially as it goes through another year of drought.

"The framework that will be put in place ... will help Nevada deal with the ongoing drought and the impacts of climate change," Reid said. "Nevada is seeing record-high temperatures and extreme and exceptional drought conditions throughout the state. There is a great need to better manage and conserve our limited water supplies, and the National Science Foundation's assistance will help empower Northern Nevada to do so."

The project will help predict how well the river system will handle future weather events and develop water management policies to fit changing weather patterns, according to the National Science Foundation.

Contact Erin Kelly at ekelly@gannett.com

Damon

Continued from Page 9A

Dennis Eckmeyer, left, and Daniel Hopper work at pruning grape vines at the University of Nevada, Reno vineyard. There is a group pushing to make it legal to make wine and sell it in Washoe and Clark Counties. PHOTOS BY MARILYN NEWTON/RGJ

Top photo: Mike Steedman hoes along vines at the University of Nevada, Reno. It is currently illegal to produce and sell locally made wine in Washoe and Clark counties.

NEVADA'S WINE INDUSTRY

$8.6 billion

Annual economic impact of the Washington state wine industry — an industry that members of the Nevada Wine Coalition think Nevada can someday equal.

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Inches of water needed per acre annually to grow alfalfa in the Fallon area.

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Estimated market value of an acre of alfalfa in Northern Nevada.

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Estimated market value of an acre of chardonnay grapes in Northern Nevada.

Source: Washington Wine Commission; University of Nevada, Reno research.

6/20 - 5pm - TMWA Asks Customers to Reduce Outdoor Water Use

Mon, 21 Jul 2014

TAGS:

Paul Nelson 2:23
Truckee 0:03, 0:34
Truckee meadows water authority 0:41

AUTOMATICALLY GENERATED TRANSCRIPT (may not be 100% accurate)

Likely we'll see you then thank you after three years of drought Truckee -- residents will likely need to cut back on water usage by the end of next month. On a minute now live at least -- with a look at the State's drought condition and how could impact us all well. Yeah -- this past winter was one of the driest on record in Nevada we got less than half of our normal snowpack last winner. And our precipitation just 60% of average since October but still. For now you can use the water well we've got it. Today there's plenty of water flowing in the Truckee river and the crowd -- But by late July the river's flows were expected to dip below 500 cubic feet per second in the Truckee meadows water authority will be viewed using the reserves. The systems designed to do this we have measured reserves upstream. We also have additional ground -- -- will be an exercise and and pulling out as well lower river flows means someone customers will be asked reaching -- outdoor watering. By 10%. Right now due to 6 PM in the water here that -- and from 11 AM to 7 PM carrying out or usage. If that's where most these images of folks are very good inside inside what he's doesn't change month to month stated. Residents -- almost four times as much water during the summertime but as you can see the entire state -- in a drought. The darker red shows exceptional drought it's impacting most of purging and Churchill counties in just one week that spread west in the cal. Or via other -- continued to decrease. In -- the stream during the summer continue to get lower and lower. And soils -- down the exceptional drought is accumulation of three years without adequate precipitation. That leads to increased fire danger and hampers agriculture. Range lands are drying out does not you know crop of for 2000. And for farmers as well there are wiser and shorter and shorter. Officials say aerial wells are consistently full Dan Jackson says his water table is sixty feet higher than its original level I don't. It concerns. On. Over -- water. And while eastern Nevada is also -- out there doing a lot better than we are out here on the western side of the state. The -- mountains had average snowfall over the winner but that's still not enough to make up for the previous two dry winters covering the story -- Paul Nelson penalties.

Voluntary outdoor water cutbacks start in Truckee Meadows next week

Video

Voluntary outdoor water cutbacks to start in Truckee Meadows

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- TMWA Water Conservation Info

Reported by: Ashley Cullins
Email: acullins@mynews4.com

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Published: 7/21 4:27 pm
Updated: 7/21 9:39 pm

RENO, Nev. (MyNews4.com & KRNV) -- Experts at both Truckee Meadows Water Authority and the National Weather Service say the recent rain is definitely welcome, but our water supply comes more from snow in the winter than summer storms.

"Basically, rain down here is great, great for your lawns your trees," said TMWA Senior Hydrologist Bill Hauck. "You can back off on your outdoor watering, but from a supply perspective where we need it to come in is upstream."

Hauck said the rain still did some good. "The river did pick up a little bit, you know, especially last night on the east end of town. That water will make its way down to some of the farmers and ranchers down in Fallon, so it's certainly not a bad thing."

But at the end of the July, the Truckee River could look shockingly low. "It's what the river would look like if there weren't those series of reservoirs upstream," Hauck said. "Certainly TMWA is prepared for this."

Hauck wants to remind people to water responsibly. Your assigned watering days are based on the last number of your street address. Starting next week, they are asking you to not water between 11 a.m. and 7 p.m., and they are asking for voluntary cutbacks of 10-percent.

Hauck said indoor water use stays about the same year-round, so this only applies to outdoor water use. "If your irrigation timer for your lawn is set for ten minutes, dial it back to nine minutes. That would be 10 percent. That's one of the easiest, simplest ways you could cut back."

Hauck said they prepare for a nine-year drought, but these voluntary cutbacks help make the most of the reserves. "Anything we do save can be held in reserve for next year if the winter of 2015 is anywhere near as bad as it was this year."

If you see water being wasted outdoors in your neighborhood, TMWA wants you to report it. For that information and outdoor watering details, click here.

California agency approves hiring "water cops"

Posted: Jul 22, 2014 12:15 PM PDT
Updated: Jul 22, 2014 9:23 PM PDT

SAN JOSE, Calif. (AP) - A water agency in the Silicon Valley will hire several "water cops" to issue fines to people caught wasting water during California's historic drought.

Santa Clara Valley Water District officials voted 6-0 on Tuesday to hire up to 10 temporary workers to enforce water restrictions in the area.

The San Jose Mercury News (http://bit.ly/1rpbM58) reports the workers will respond in person to complaints about property owners who are accused of wasting water outdoors, such as spraying water onto paved surfaces instead of lawns and plants.

The water district asked its 1.8 million customers earlier this year to cut water use by 20 percent, but it has not yet met that goal.

Last week California water regulators approved fines of up to $500 a day for water wasters

Cut in Reno-Sparks water use requested

Jeff DeLong, RGJ *9:28 a.m. PDT July 25, 2014*

(Photo: Tim Dunn/RGJ file photo)

Save some water.

That's the message going out by Monday to more than 93,000 homes and businesses across greater Reno-Sparks as the area struggles with the impacts of a lengthy drought.

Everyone's being asked to reduce water consumption by 10 percent as the region's primary water provider is forced for the first time in 20 years to tap backup water supplies stored in Truckee River reservoirs.

"Everybody is being asked to do their part. We're all in this together," said Kim Mazeres, director of customer relations for the Truckee Meadows Water Authority.

The 10 percent reduction, utility officials say, can be easily achieved by simply cutting back on lawn watering and other outdoor irrigation. While they urge people to check for water-wasting problems such as leaky toilets, no reduction in indoor water use is believed necessary.

DRIEST YEAR EVER? Drought threatens region's way of life

EFFECTS FELT AT TAHOE: Sand Harbor boat ramp closed for the season

The voluntary cutback comes as a lowering Lake Tahoe nears its natural rim and flows of the Truckee River continue to diminish. The water authority will begin to tap backup supplies stored in Boca and Stampede reservoirs. Later in the summer, it will begin drawing water stored in Donner Lake as well.

Reno area residents will be asked to cut water use. Area farmers struggle, as does wildlife. Fire danger grows. As the drought enters its third year, we take a look at its many impacts. Jeff Delong/RGJ

This is the first time backup water has been needed since the utility's private predecessor, Sierra Pacific, was forced to use it at the tail end of a lengthy drought in

1994. Three years of drought has now produced similar conditions to what was seen then.

"We're extremely dry. This is definitely a significant drought," said Chad Blanchard, federal water master. Blanchard's office, established by federal court decree, controls flows out of Lake Tahoe and the river's other reservoirs.

Sometime next week, flows of the Truckee River should drop to the point people will definitely notice a difference in comparison to current conditions, which are already low, Blanchard said. Flows into irrigation ditches will cease. Rafting, fishing and other river-related recreation will be impacted.

"There's definitely an effect to the community," Blanchard said.

At this point, it's unknown whether the stretch of river between the Glendale water treatment plant and the wastewater plant in Sparks might go entirely dry as occurred in 1994.

For area residents affected by the water authority's request to cut water use, word is already out.

A few simple steps can achieve the 10 percent reduction in water use sought by the Truckee Meadows Water Authority. Jeff DeLong/RGJ

Monika Strunck, who lives on Reno's Dant Boulevard, plans to ask her gardner today to adjust timers on the sprinklers that water her lawn.

"We can try to cut back a little bit," Strunck said. "If you do a few minutes with every timer, it should help."

"I've already done it," said neighbor Gretchen Hughs, who said she adjusted her sprinker timers as soon as she heard the request would be coming. "I said why wait? I'll do it now."

Hughs has gone a few steps further. When she moved into her home in 2001, the yard was covered in grass and junipers. She's replaced them with less water-hungry landscaping.

"I've been at it since I've been here," Hughs said. "We've had this water problem forever. You might as well dig in and do it."

A 10 percent reduction in consumption should save about 2,000 acre-feet, or more than 650 million gallons, of water. That would be sufficient to allow the utility to avoid needing to tap its largest drought reserve reservoir, Independence Lake, at all this year. That water could then be saved in the event the drought lasts a fourth year and

it is needed in 2015.

For the last three years, the community has relied on water stored during the big winter of 2010-11, when runoff from heavy snows filled area reservoirs to the brim. The last three winters have been dry, with last winter the worst. The Truckee River Basin's April 1 snowpack was only 34 percent of normal.

"Basically we've been living off that 2011 carry-over water. This summer, it's finally dried up," said Bill Hauck, the water authority's water supply coordinator.

The utility is prepared to deal with a drought lasting another year or longer, Hauck said.

"We're planning for another year," Hauck said. "But we're hoping it rains like heck. We're hoping for a banner snowpack."

WHAT TO DO

-- If you have an automatic sprinkler system, set your timer's seasonal water budget to 90 percent.

-- If you have 10-minute cycles, reduce them to nine minutes. A little math might be involved for other water cycles.

-- If you have

Ditches Suffer in Drought

Updated: Thu 10:17 PM, Jul 24, 2014

By: Colin Lygren- Email

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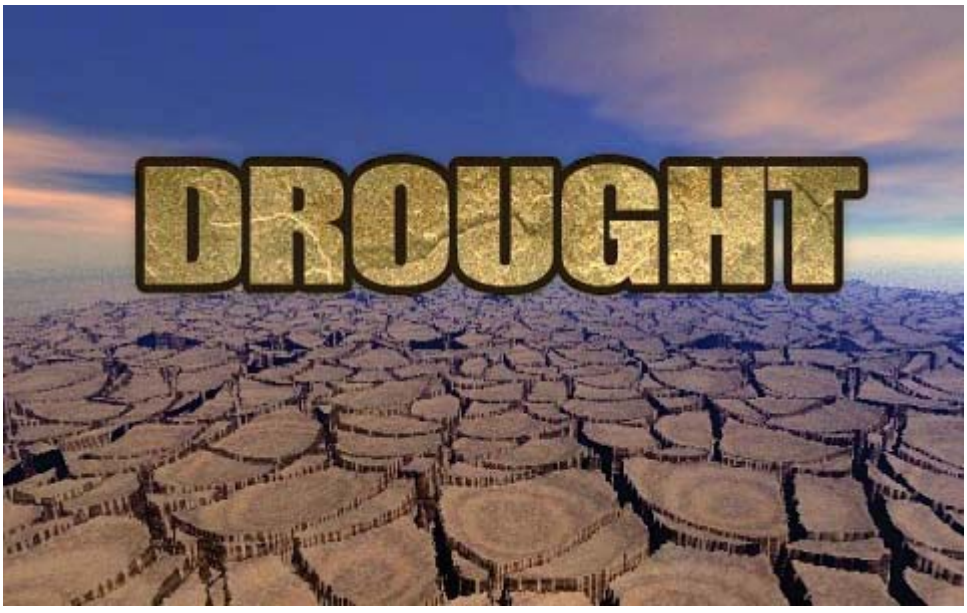
RENO, NV - In about a week the water in Boca Reservoir will dry up and the level of the Truckee River will drop to about half. It has implications for recreation, but more importantly irrigation.



MGN Online

Ditches like this one spread water to dry areas all around the Truckee Meadows. They feed parks, golf courses and small farms. Next week, for the first time in 20 years, they're going to dry up right in the middle of summer.

Irrigation ditches are placed throughout Washoe County. They start near the state line and weave their way north to Spanish Springs or South Meadow. There are 7 of them in all.

"There is still quite a few properties that are irrigated and they rely on that water to keep their pastures green," said David Wathen, Hydrologist for the Federal Water Master's Office.

Highland ditch, near Verdi was gushing with water on Thursday, but starting next week there wont be enough water in the river to support ditches.

"we are running out of storage in Boca reservoir, and we are very limited in what we can release out of Tahoe." said Wathen.

The river flow through Reno right now is about 250 cubic feet per second. When Boca dries up next week, the flow will drop to about 100 cubic feet per second.

"That water will be distributed based on the priority system and who has the best right to use the water," said Chad Blanchard, Federal Water Master.

The Pyramid Lake Pauite Tribe and TMWA have the most rights, they'll get water. But what about most of those 7 ditches?

"They will be shut off for the season. Just do to lack of water," said Wathen.

Golf courses will be effected, so will farms, and Rancho San Rafael Park.

"Certainly there are going to be impacts, no one wants to be out of water at the end of July," said Bill Hauck, Hydrologist with TMWA.

It's a fact of life during drought. It just comes as a shock this year because the last time it happened this early was 1994.

"It catches some people off guard. You know it has been 20 years so it is something that we have not had to deal with in quite some time."

Drought to Affect River Recreation

Updated: Fri 7:43 PM, Jul 25, 2014

By: Colin Lygren- Email

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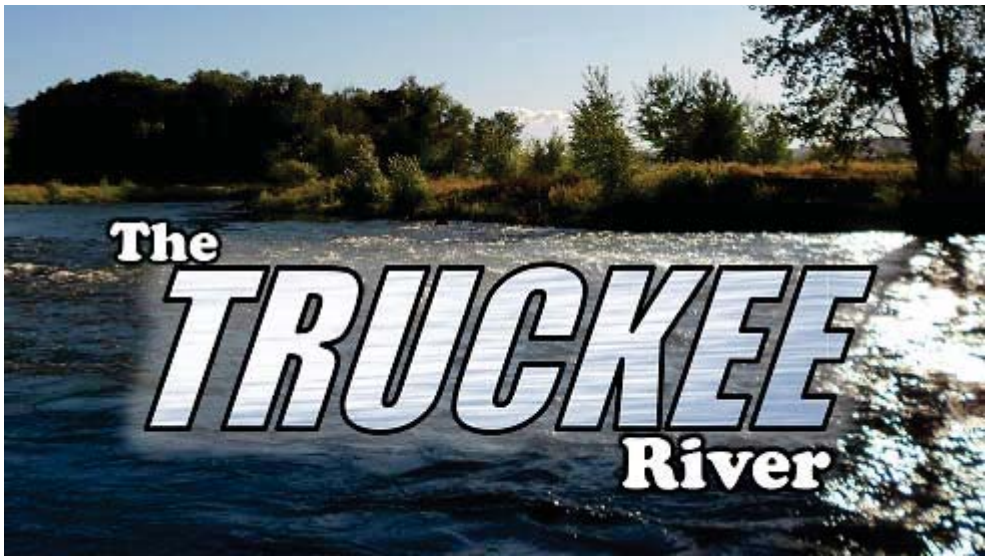

RENO, Nev.-- This weekend may be the last weekend to enjoy a trip down the Truckee River.

"A little shallow in some places but it is good. it is still fun right now," said Paul Morss who was rafting with his family on Friday.

"It was fantastic it was great. this is our first time trying this out so water level I think was really good for beginners," said Morss.

It's a good thing they did it now. If they tried next week, they would have been in for a bumpy ride.

"You'll just be dragging the rocks and as they call it, the river will be boney and not very pleasant of a float," said Chad Blanchard, the Federal Water Master.

It's a lack of water. The Truckee River through Reno is fed by Boca and Lake Tahoe. Next week, Boca will run dry and Tahoe will just be trickling into the river.

"Definitely kayaking, rafting will be effected more than others things. Obviously swimming it does not take as much water," said Blanchard.

James Bell of Sierra Adventures says the situation is not perfect, but they'll make do.

"This year would probably be the closest that we at least can't raft, but I think they will be able to tube on some section of the river here," said Bell.

Bell says tubes can travel in relatively little water, but river raft's have multiple people so they don't do as well.

"So we'll just scale that down even more as the water gets shallower," said Bell.

Voluntary Water Restrictions Start Monday

Posted: Jul 25, 2014 3:35 PM PDT
Updated: Jul 25, 2014 3:35 PM PDT

By Michael Wolfe - email

Starting Monday, Truckee Meadows Water Authority will ask residents to voluntarily reduce their outdoor water use by 10%.

TMWA hydrologists say that's as simple as cutting back your sprinkler use on your lawn from 10 minutes to nine.

They say saving now will help them keep water in case our drought continues into next year because that water will be able to stay in their reserves.

“Any water we do cut back and end up saving we'll be able to keep until next year in case that's a dry year as well,” says senior hydrologist Bill Hauck.

TMWA says they don't anticipate any additional voluntary watering cuts this summer- or any mandatory ones- and they say last time they implemented them 20 years ago they saved more water than anticipated.

Reduce outdoor water use by 10%, make a difference

Video | Images

TMWA asks customers to reduce water usage

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- TMWA Free Workshops
- Water supply projected to be enough for summer
- Voluntary outdoor water cutbacks start in Truckee Meadows next week
- Water use scheduled to be cut by 10% in July

Print Story

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Published: 7/28 12:32 pm

Updated: 9:27 am

RENO, Nev. (MyNews4.com & KRNV) -- Customers of Truckee Meadows Water Authority are being asked to reduce their outdoor water use by 10%. To do this, Truckee Meadows Water Authority is suggesting residents hold off on watering from 11 a.m. to 7 p.m.

According to a recent press release by Truckee Meadows Water Authority, now is the time when customers can make a difference by conserving water and reducing their outdoor water use. Conservation now will help minimize the amount of water TMWA needs to release from its drought reserves.

"Although we are announcing this week that it is time to reduce your water use by 10%, we are already seeing signs that our customers are cutting back," said General Manager Mark Foree. "Our community has a great water conservation ethic and values our precious resources. Since TMWA was formed 13 years ago, despite the growth in the area, overall water use has gone down by 15 percent. A big thank you goes out to everyone for understanding that we are all in this together," Foree added.

The good news is that TMWA's drought supply reservoirs -- Donner and Independence Lakes -- are full. With no room in these reservoirs, TMWA had no place to store additional conserved water until now. Projections are showing that just a 10% reduction in water use during late summer will help TMWA to keep Independence Reservoir full this year. It will also help contribute to strong drought reserves for next year, should the dry cycle continue.

For a full explanation of the area's water supply, drought planning, and how you can save, visit ***Tmwa.com/save.***

Reno-Sparks Residents Asked to Cut Outdoor Water Use

Posted: Jul 28, 2014 4:32 PM PDT
Updated: Jul 28, 2014 5:23 PM PDT

By Paul Nelson - email

After three years of drought, the Truckee Meadows Water Authority is asking customers to reduce outdoor water use by 10%. That means that if you water for 10 minutes, to cut that down to nine minutes and avoid watering between 11 AM and 7 PM.

"It's been 20 years since we've asked them but we expect them to pitch in and we expect to achieve the conservation we're looking for," Mark Foree, TMWA General Manager said.

Foree says some customers have already started conserving water. Water usage is down from the peak on July 3, when 120 million gallons of water were used. With 93,000 households, cutting watering by 10% could save enough to cover 2,000 acres in a foot of water.

"The water that we save this summer and fall, we can use that next summer if the drought continues," Foree said.

Foree says Lake Tahoe is doing better than expected, despite being just 0.9 feet above its natural rim. Drought supply reservoirs are full and ready for times like these.

"It's similar to the drought we had in the early '90s," Foree said. "That was the tail-end of an 8-year drought. So, it's really similar to that but we have drought reserves for a reason. We hold them in reserve for when we need them."

Truckee River flows will likely drop below 150 cubic feet per second, later this week. That's when we will start to use those reserves. While rain helps a little, a wet winter is what we really need to turn our water situation in the right direction.

"We can have a few to several years of very dry weather patterns and that's followed by one or two years that fill everything up," Foree said.
Foree says there are no plans to go back to a 2-day water schedule. He says studies show people don't use less water compared to the current 3-day schedule and they like it better because they can be more flexible with water usage.

From TMWA:

Frequently Asked Questions: Drought and Water Supply Update

Overview: Water customers are now being asked to reduce their outdoor water use by 10% and not water from 11 a.m. to 7 p.m. We are asking our customers for additional, voluntary conservation, because TMWA is now to releasing water from its upstream drought reserves. Fortunately, TMWA has planned for these types of dry cycles and

is using upstream and groundwater drought reserves to meet customer demands. Now is the time when our customers can make a difference by conserving water and reducing their outdoor water use by 10%, which will help minimize the amount of water we need to release from reserves.

Is this for all customers?
Yes. We are asking for a 10% reduction in outside water use from all of our customers – homes, businesses, homeowner's associations, apartments, etc. We are all in this together. And, with a small reduction in everyone's water use, we will have plenty of drought reserves, should we need them next year.

Why didn't TMWA ask for more conservation earlier in the summer?
The good news is that TMWA's drought supply reservoirs – Donner and Independence Lakes – have been full. With no room in our reservoirs, TMWA had no place to store additional conserved water. We have planned to use our drought reserves as late in the summer as possible and ask our customers for their help in conserving when it counts, which is when we are actually releasing our reserves. TMWA continues its three-day- a-week watering schedules throughout the summer and encourages everyone to use water responsibly. Our customers have always been diligent about conservation and are encouraged to keep up the good work.

Why only focus on outdoor watering?
The average customer's water use is approximately four times higher in the summer, due to outdoor water use. Customers have a great conservation ethic and are already very efficient using water indoors. So, focusing on outdoor water use is where we can get the biggest impact in water savings. For tips on how you can achieve 10% water savings, go to www.tmwa.com/save.

Why 10%?
Projections show a 10% reduction in water use during late summer will allow TMWA to keep Independence Reservoir full this year, and result in robust drought reserves for next year, should the dry cycle continue.

Why is there no watering from 11 a.m. to 7 p.m.?
The no-watering times will be expanded, from noon - 6 p.m., to 11 a.m. - 7 p.m. In the Truckee Meadows, this time of the day is typically the hottest and windiest when more water is lost to evaporation. It is also one of the measures to be deployed when river flows are impacted before Labor Day (as cited in TMWA's 2010-2030 Water Resource Plan).

What happened to the flows in the Truckee River?
Reservoir releases from Lake Tahoe and Boca Reservoir (which are not TMWA drought reserves) are required to meet mandated river flows at the CA/NV state line. These releases are administered by the Federal Water Master under court decrees from the 1940's. Water levels in Lake Tahoe and Boca Reservoir are no longer sufficient to meet required minimum flows; as a result, the Truckee River has begun to drop off. TMWA is now making releases from our drought storage reservoirs (Donner and Independence Lakes) to supply water to our treatment plants. In other words, much of the water presently in the Truckee River is drought reserves set aside to meet the community's needs.

How much water do we get from the Truckee River?
The amount of water that TMWA draws from the Truckee River is probably a lot less than you would think. Typically, TMWA meets more than 85 percent of our annual customer demand using the Truckee River. Yet, in the aggregate, TMWA is the smallest major user on the river system, only using eight percent during a dry year and three percent in a normal year.

How is the Truckee Meadows prepared for a drought?
Drought is a natural occurrence in the high desert and this community is well prepared. We are fortunate to have a robust supply system of upstream reservoirs and underground reserves available for use during dry years. Groundwater supplies are also enhanced and protected each winter when TMWA injects approximately five million gallons of treated water per day through its wells into the groundwater aquifer for future drought-year use.

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 planning, the "2010-2030 Water Resource Plan," was adopted by the TMWA Board of Directors in 2009. Portions of the plan are incorporated into the Regional Water Management Plan which is maintained by the Western Regional Water Commission.

In addition, this is a community that has always focused on water conservation, not only in dry years, but in plentiful years. The average household is using 15 percent less water than 10 years ago. Our citizens have always valued our precious water resources and conservation.

Assigned-Day Watering details:
Assigned Day Watering is in effect. As a reminder, each home or business has three days to water each week. If the last number of your home or business address is even (0, 2, 4, 6, 8), please water on Tuesday, Thursdays and/or Saturdays. If the last number of your home or business address is odd (1, 3, 5, 7, 9), water only on Sundays, Wednesdays and/or Fridays. Please don't water on Mondays, as it is a day of rest for the water system, giving it a chance to recharge. Please do not water from 11 a.m. to 7 p.m. Keep in mind weather-wise watering: water deeper and less often; water at cooler times of day to avoid high temperatures; never water when it is windy; and reduce watering in the fall to help lawns and plants go dormant.

Why don't we go back to Twice a Week Watering to save water?
Twice a week watering restrictions are not needed at this time. There are adequate drought reserves for the remainder of this summer, and projections show the 10% conservation target we are requesting will result in healthy

drought reserves at the beginning of next summer.

How will the conservation rules be enforced?

We are serious about encouraging responsible water use and preventing waste. If you see water being wasted, please let us know and call the conservation department at 834-8005. Those customers who waste water will be contacted. We will also have staff patrolling seven days a week during the watering season who will look out for water waste, as we have done for many years.

From TMWA

Drought Prompts Reno Water Authority to Call for Conservation

RENO, Nev. - The severity of Nevada's ongoing drought has prompted the Truckee Meadows Water Authority to call upon its thousands of customers in Reno, Sparks and Washoe counties to conserve water.

Mark Foree, general manager of the Truckee Meadows Water Authority, says the lack of water has forced his agency to tap its emergency "drought reserves" water supply for the first time in 20 years.

"We're really focusing on outdoor irrigation, and the reason is during this time of year three times more water is used outdoors than indoors," says Foree. "So that's why we're really focusing on outdoor water use."

The Truckee Meadows Water Authority is asking its 94,000 customers to reduce outdoor irrigation by at least 10 percent, and to avoid watering between 11 a.m. and 7 p.m. Foree says cutting back on outdoor watering should be simple since most irrigation systems have timers which can be adjusted.

Foree adds the water authority is requesting "voluntary" water conservation since its customers have a history of complying with previous water saving efforts during periods of drought.

"This community has always pitched in when we've asked," says Foree. "It's been a long time since we've had to ask, but 20 years ago when we asked for conservation, we got the conservation we were looking for."

Foree says about 90 percent of the Reno-Sparks water supply comes from Lake Tahoe and the Truckee River system. He hopes a heavy snowfall this winter will help restore water levels, but if not, he warns water conservation efforts will likely intensify.

Low water levels can be dangerous for young swimmers

Video

Low water levels can be dangerous young swimmers

Reported by: Jaime Hayden
Email: jhayden@mynews4.com

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Published: 7/29 4:39 pm
Updated: 7/29 9:31 pm

RENO, Nev. (MyNews4.com & KRNV) -- Summer break is coming to an end for kids in the Washoe County School District. Still, low water levels in the Truckee River are not stopping people from enjoying some fun in the sun.

But experts say low levels can be dangerous, especially for young swimmers. "The water is not as strong, the current is not as strong, however, there is more rocks, so kids can get just as hurt now in the low water as they can in the high water," said Jim Litchfield from the Truckee River Foundation.

With less than two weeks until kids will be heading back to school, the Truckee River is expected to be extra busy. "I think as the last waning weeks of the summer, enjoy the Truckee River, enjoy all the public parks adjacent to the Truckee River, and just use common sense, have fun and be safe," said Litchfield.

Litchfield said despite low water levels, everywhere in the Truckee River is accessible, but he said be aware of your surroundings. "They should always be cautious that there are several low-head dams, diversion dams, in and around the Truckee Meadows, and I really encourage kids and parents to stay away from those."

So if you take your kids swimming during these last few days of summer break, Litchfield has some basic river safety tips. "Swim with their bottom down and their feet up so if they do hit a rock, they are able to bounce off the rock. And if they do put their feet down, be careful to not put them in between rocks where they could get a foot entrapment."

Litchfield wants to remind us all to never swim alone in the river. He also said swimming safety gear is always recommended for young kids

Drought Shutters Hydro Power Generation

Updated: Wed 10:40 PM, Jul 30, 2014

By: Colin Lygren- Email

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VERDI, NV - Our water situation worsened on Wednesday as the level of the Truckee River continued to drop. We have finally reached the point where the drought is having some unexpected consequences; it's affecting power generation.

Three different power plants along the Truckee River have been providing electricity since the days of the Comstock Lode.

"You take a water column, you drop that water column down and you spin a turbine and that turbine in turn spins a

generator," said Pat Nielson, who is in charge of TMWA's hydro power generation.

The technology has remained relatively unchanged in the 130 years since hydro power was invented. That's why TMWA's hydro plants are still just as useful today as they were the day they opened.

"It's a good green energy. There is no fuel use, no thermal loading of the water, these are a good green source of power," said Nielson.

The hydroelectric system is 100 years old but that does not means its not useful. Combined the three power houses generate enough power for about 5400 homes, according to TMWA.

"6.7 megawatts is not a great amount when it is compared to all of northern Nevada," said Faye Anderson with NV Energy.

The energy the TMWA generates is fed back into the NV Energy power grid. In the grand scheme of things it is not much energy, but it is more than TMWA uses in its entire operation.

"To TMWA and to its water customers who use that to supply their water pumping and what have you, it could have an amount for them," said Anderson.

As good as it is, its about to be shut off.

"The upstream storage is dwindling, the river has been cut back and this plant probably will only be online maybe another 4 to five days," said Nielson.

One of the plants powered down Wednesday morning. The others will close soon.

"Until the river flows pick back up and the reservoirs replenish themselves, we will not be operating," said Nielson

It's going to take some time for those reservoirs to refill, and that means the plants will be turned off for a

while. Experts estimate they likely won't be operating again until January or February.

Sierra Nevada Journeys provides watershed education

Posted: Wed 11:22 PM, Jul 30, 2014

*By: KOLOCares*Email*

Sierra Nevada Journeys educates students, teachers, and volunteers on local issues associated with the Truckee River Watershed through a grant provided by the Truckee River Fund at the Community Foundation of Western Nevada. The goal is to provide high-impact science programming covering topics such as invasive species and watershed health while empowering youth to protect and enhance the quality of the Truckee River.

“Teachers are eager to incorporate relevant, local science education into their classrooms, but often lack funding or experience to accomplish this. Because of the generous grant from the Truckee River Fund, 400 of our area’s students participated in our hands-on watershed education programming,” Eaton Dunkelberger, CEO of Sierra Nevada Journeys said. “These students are building their comprehension of how a watershed works to explore ways to protect one of our most precious resources.”

400 students ranging from 3rd to 5thgrade participated in watershed education that included three in-class lessons and a field study experience. 85% of participating students were able to correctly identify, label and diagram the Truckee River Watershed. Another result from the program is a deeper understanding and knowledge of potential invasive species including the New Zealand Mud Snail. Additionally, over 90% of the students participating demonstrated improved comprehension of related state science standards through the watershed education.

“The Truckee River Fund is dedicated to protecting and enhancing water quality and water resources of the Truckee River and its watershed. This program with Sierra Nevada Journeys is a great fit and we are excited to have so many young people learning such deep lessons about protecting our precious resources,” Ron Penrose, Project Manger at Truckee Meadows Water Authority said.

Thirty nine educators also participated in the initiative through professional development workshops. These workshops included water science, the water cycle, water quality, use of the Truckee River, an introduction to the Truckee River Watershed map as a teaching resource and finally, the use of local events as service learning opportunities. One hundred percent of the educators reported they plan to use the lessons provided through the workshops, according to post program surveys.

“This fit in nicely with what we were already doing in class. I loved the hands-on science learning; the students really enjoyed the lessons – especially the field trip to the Truckee River,” said one fifth grade teacher from Kate Smith Elementary.

To provide program sustainability and to continue sharing knowledge about our watershed, Sierra Nevada Journeys piloted their Field Educator Volunteer program. The volunteer program both involves and further educates local community on the importance of watersheds while helping provide Watershed Education to a larger number of local schools

How to Maintain Your Lawn During a Drought

Updated: Wed 4:20 AM, Jul 30, 2014

By: Catherine Van - Email

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RENO, NV - It's obvious that the cure for a dry lawn is water, but during a drought, it's even harder to get. The Truckee Meadows Water Authority is asking you to reduce your outdoor water usage by 10% starting now. However, just because you have cut back, it doesn't mean your lawn has to suffer.

Brandon Pearce waters his lawn every other day for about 20 minutes in the morning and 10 minutes at night

"We're just hand-watering a couple of times a week mainly just keeping the fruit trees and the flowers alive," he said.

It's enough to keep the plants alive, but is it enough for the grass?

"Basically, you want to water enough so that the moisture can get about 6 inches in the ground, about four to six inches deep," Steve Packer, Moana Nursery plant doctor said.

Volume can be hard to measure; it all depends on your

- Related Links
- Washoe County Evapotranspiration Project

sprinkler system and the type of soil you have.

'If you have like impulse heads or rotary, that can be anywhere from 30 to 50 minutes," Packer added.

Clay soils absorb more water, while sand soils are more porous and need more water.

"Your lawn needs about one inch to a half inch of moisture per week, so it all depends on how many gallons your spray puts out," he said.

Washoe County has set up a website that can do all the math for you. Just plug in your sprinkling system's information and it will calculate how long you should be watering your lawn.

The best times to water your lawn is before 10 a.m. and after 7 p.m.

"It's not as windy, it's not as hot, so you're not really losing a lot of water to transpiration or evaporation from the heat," said Packer. "It's just getting down to the soil."

In the end, watering for less than 30 minutes for three times a week is plenty to keep your grass green.

"The watering you do should be sufficient to keep your lawn looking nice even during a drought."

Truckee Water Levels Drop 1st Time in 20 Years

Posted: Jul 30, 2014 3:33 PM PDT
Updated: Jul 30, 2014 3:33 PM PDT

By Michael Wolfe - **email**

Despite our recent rainfall, the federal water master has had to close the gates at Boca Reservoirs because the water in storage has run out, which means water levels are dropping in the Truckee Meadows.

An official at the Truckee Meadows Water Authority says this is the first time in two decades the river flows have not been normal this time of year.

However, they say they've been monitoring the drought situation, and are prepared for the drop in river flows, and so they'll start releasing water reserves within days.

“TMWA has ample drought reserves upstream in Donner Lake, Independence Lake, Stampede and Boca Reservoirs. We also have drought reserves or underground reserves in the aqua fir underground throughout reno and sparks,” says senior hydrologist Bill Hauck.

You may remember TMWA has asked residents to voluntarily cut back outdoor water use by 10%.

They say by conserving now they can save water for later years in case the drought persists.

Man Fined $3,000 Over Leaky Toilet, Avoids Paying by Attending "Water School"

By Riya Bhattacharjee

File photo.

Thursday, Jul 31, 2014 • Updated at 10:45 AM PDT

A city in California is taking the drought very seriously.

The Santa Cruz Water Department slapped a $3,000 fine on a man for a leak caused by a running toilet, NBC affiliate KSBW reported Wednesday.

- San Jose PD Might Eliminate Motorcycle Unit

The man had the leaky toilet for eight days, the station reported.

The man, who was not identified, was able to avoid the hefty penalty by deciding to attend "water school," a free, one-time class which teaches participants how to manage water at their property, read a water meter, find and fix leaks among other things.

- Thousands of Blue Sea Creatures Wash Up on Local California Beaches

Santa Cruz Water Department conservation manager Toby Goddard told KSBW that the penalty for having a running toilet for eight days ranged between $3,000 to $4,000.

"That's a terrible situation, of course it was eliminated by his attending water school," he said.

Santa Cruz city officials are cracking down on water wasters, with residents paying more than half a million dollars in fines since the city declared a Stage 3 drought emergency two months ago.

Goddard said most of the fines were rescinded after water wasters attended water school, which is held on Monday nights

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Nothing Bundt Cakes Step inside this sweet bakery and order from four different sizes and 10 different flavors of bundt cake. Perfect for every occasion, Nothing Bundt Cakes make great gifts or treats for anniversaries, birthdays, baby showers, office parties, and more. Ten flavors (including luscious chocolate-chocolate chip, red velvet, white chocolate raspberry, carrot, lemon, marble, and pecan praline) with 40 unique decorations perfect the experience. Open 9 a.m. – 6 p.m. Mon. – Sat. 5051 S. McCarran Blvd.; 775-827-5151; Nothingbundtcakes.com.

Nothing To It Culinary Center This outstanding facility features hands-on and demonstration classes taught by master chefs. You'll also find a gourmet Napa Valley-inspired deli, as well as a fabulous kitchen store for all your cooking needs. Owners/operators Jay Bushman and Lara Ritchie have a passion for giving people the tools to be great chefs in their own homes. Deli is open 11 a.m. – 2 p.m. Mon. – Fri., 11:30 a.m. – 1:30 p.m. Sat. Catering is available. Check the website for class information. 225 Crummer Lane; 775-826-2628; Nothingtoit.com.

Old Granite Street Eatery Settle in for comforting food, quality ingredients, craft beers, a focused wine selection, and intriguing cocktails at this hip and fun gathering spot. Lunch and dinner with Sunday brunch 11 a.m. – 10 p.m.; Mon. – Thurs., 11 a.m. – 11 p.m. Fri.; 10 a.m. – 11 p.m. Sat.; 10 a.m. – 3 p.m. Sun. 243 S. Sierra St.; 775-622-3222; Oldgranitestreeteatery.com.

Peluso's Apizza Enjoy delicious Napoletana-style pizza, Italian dinners, salads, toasted subs, and take 'n' bake pizza. Andrew and Carmine Peluso are now in Reno! Open 10:30 a.m. – 9:30 p.m. Mon. – Thurs., 10:30 a.m. – 10 p.m. Sat. 1201 California Ave. (next to Top Hat Cleaners); 775-737-9731; Find Peluso's on Facebook.

PFPCo.'s Noble Pie Parlor (formerly Pie-Face Pizza Co.) Located in the historic downtown El Cortez Hotel, this friendly gourmet pizzeria offers great pie utilizing fresh local ingredients, craft beers, and a handpicked wine selection. Try The Resa Special (sun-dried tomato, roasted garlic, jalapeño, red onion, pine nuts, spinach, and goat cheese) or the Backyard Chicken (house-recipe-barbecue-sauce rotisserie chicken, pepperoni, red onion, scallions, and red peppers). Also enjoy award-winning hot wings, unique strombolis, their innovative brunch menu with a build-your-own Bloody Mary bar on Sat. and Sun., as well as gluten-free, vegetarian, and vegan options. Delivery is available downtown and to nearby residential areas. Open 11 a.m. – midnight Mon. – Tues., 11 – 2 a.m. Wed., 11 – 3 a.m. Thurs., 11 – 5 a.m. Fri., 10 – 5 a.m. Sat., and 10 a.m. – 9 p.m. Sun. 239 W. Second St.; 775-622-9222; Noblepieparlor.com.

Pho The restaurant's pho (Vietnamese rice noodle soup) is deep, rich fulfillment in a bowl. And it's topped to the brim with fresh vegetables, meats, and seafood. But Pho is more than just delectable hot soup. Try warm rice and noodle dishes and refreshing salads and sandwiches. In addition, there is an extensive vegetarian menu. Open 11 a.m. – 8:30 p.m. Mon. – Sat., 11 a.m. – 7:30 p.m. Sun. 6775 Sierra Center Pkwy., Ste. 600; 775-852-6100; Phorestaurant.biz.

Pho Mein This casual dining spot is serving up authentic Asian noodles and stir-fry for sit down or take out on the go. The extensive menu features an array of Vietnamese and Chinese favorites, including more than 20 pho noodle bowl choices, a huge selection of appetizers, salads, stir-fry entrées, rice dishes, and favorites such as Kung Pao chicken and Mongolian beef. Open at 11 a.m. daily. Inside Eldorado Resort Casino, 345 N. Virginia St.; 775-786-5700; Eldoradoreno.com/reno-restaurants.

Rapscallion Seafood House and Bar This restaurant is like no other dining experience in Reno. For more than 36 years the local landmark has been raising the bar with its daily changing lunch menu, creative dinner entrées, and

City to charge market rate for water rights

Robert Perea *9:16 p.m. PDT August 1, 2014*

(Photo: City of Fernley)

Trying to ensure it has money to purchase water rights without depleting its water fund, the city of Fernley will begin to charge developers who do not provide their own water rights the market rate for water rights

The Fernley City Council on July 16 approved a resolution to set the fee in lieu of dedication of water rights to follow the market rate as set by Truckee Meadows Water Authority.

Currently, the Nevada State Engineer must determine that the city has enough water credits before approving any residential final subdivision maps. That requires all new residential and most commercial developers to dedicate water rights before the city can promise to serve any water.

The council recently adopted an ordinance to repeal the ability for commercial development to qualify to pay fees in lieu of water dedication. However, the city must honor an existing exception that allows developers of some existing lots, for tentative subdivision maps, final subdivision maps or parcel maps approved prior to December 14, 2004, to pay fees in lieu of water dedication if the original parcel did not have water rights.

The city's most current appraisal is $1,850 per acre foot. However, TMWA charges $7,700, so if the city were to charge the rate of its appraisal, it would not be enough to purchase actual water and would have to pay the difference from its water fund.

According to the staff report provided to the council, TMWA bases its fee on actual purchases of replacement water. The water rights purchased by TMWA, like any rights Fernley would purchase, are Truckee River water rights.

The new resolution approved by the council means rather than approving a new resolution every time the market fluctuates, the fee will change as the market changes, because TMWA recalculates the amount several times a year

n't drink the water, says 4th-largest Ohio city

Posted: Aug 02, 2014 7:01 AM PDT
Updated: Aug 02, 2014 7:35 PM PDT

By JOHN SEEWER
Associated Press

TOLEDO, Ohio (AP) - Toxins possibly from algae on Lake Erie fouled the water supply of the state's fourth-largest city Saturday, forcing officials to issue warnings not to drink the water and the governor to declare a state of emergency as worried residents descended on stores, quickly clearing shelves of bottled water.

"It looked like Black Friday," said Aundrea Simmons, who stood in a line of about 50 people at a pharmacy before buying four cases of water. "I have children and elderly parents. They take their medication with water."

The city advised about 400,000 residents in Toledo, most of its suburbs and a few areas in southeastern Michigan not to brush their teeth with or boil the water because that would only increase the toxin's concentration. The mayor also warned that children should not shower or bathe in the water and that it shouldn't be given to pets.

Toledo issued the warning just after midnight after tests at one treatment plant showed two sample readings for microsystin above the standard for consumption.

Gov. John Kasich said it was too early to say how long the advisory will last or what caused toxins to spike suddenly in the drinking water. Officials were waiting on test results on water samples.

"We don't really want to speculate on this," he told The Associated Press. "When it comes to this water, we've got be very careful."

Toledo Mayor D. Michael Collins said it would probably be Sunday morning before all the results are in and officials could consider after that whether to lift the advisory.

The governor and his staff said state agencies were working to bring water and other supplies to areas around Toledo while also assisting hospitals and other affected businesses.

"What's more important than water? Water's about life," Kasich said. "We know it's difficult. We know it's frustrating."

Algae blooms during the summer have become more frequent and troublesome around the western end of Lake Erie, the shallowest of the five Great Lakes.

The algae growth is fed by phosphorus mainly from farm fertilizer runoff and sewage treatment plants, leaving behind toxins that have contributed to oxygen-deprived dead zones where fish can't survive. The toxins can kill animals and sicken humans.

Scientists had predicted a significant bloom of the blue-green algae this year, but they didn't expect it to peak until early September.

Kasich's emergency order issued Saturday allowed the state to begin bringing water into the Toledo area. Large containers were being filled with water at a prison near Columbus and trucked about 130 miles north to Toledo, said Joe Andrews, a spokesman for the Ohio Department of Public Safety.

The state also asked major grocery chains to divert as much water as they can to northwest Ohio, Andrews said.

As truckloads of water came in from across the state, Toledo leaders set up distribution centers at schools around the city, limiting families to one case of bottled water. Some stores were receiving new shipments of water and putting limits on how much people can buy. The Red Cross was helping distribute water to homebound residents.

"We're going to be prepared to make sure people are not without water," the mayor said.

He pleaded with residents not to panic. There were no reports of people becoming sick from drinking the water, Collins said.

Samples of water were flown to the federal and state Environmental Protection Agency offices in Cincinnati and Columbus and a university in Michigan for

additional testing, officials said.

State EPA Director Craig Butler said that the first tests indicating trouble with the water came Friday night and that additional testing confirmed the elevated readings. He said the water coming from the lake into Toledo's water plant had relatively low toxicity levels this summer until this sudden spike that sent residents scrambling for clean water.

Police officers were called to stores early Saturday morning as people lined up to buy bottled water, bags of ice and flavored water.

"People were hoarding it. It's ridiculous," said Monica Morales, who bought several cases of bottled water before the store sold out of water a half-hour after opening.

Stores in cities up to 50 miles away were reporting shortages of bottled water. Some neighboring communities that aren't connected to Toledo's water system were offering their water to people who brought their own bottles and containers.

Operators of water plants all along Lake Erie, which supplies drinking water for 11 million people, have been concerned over the last few years about toxins fouling their supplies.

Almost a year ago, one township just east of Toledo told its 2,000 residents not to drink or use the water coming from their taps. That was believed to be the first time a city has banned residents from using the water because of toxins from algae in the lake.

Most water treatment plants along the western Lake Erie shoreline treat their water to combat the algae. Toledo spent about $4 million last year on chemicals to treat its water and combat the toxins.

Voluntary Fishing Regulations During a Drought

Updated: Sun 10:29 PM, Aug 03, 2014

By: Catherine Van - Email

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RENO, NV - Low water levels means higher water temperatures, which could be deadly for the trout being re-released back into the Truckee River. Local fishermen are taking on a new effort to protect them.

"They bring us a lot of joy. The least we can do is show them some respect," said Arlo Townsend, a fly fishing guide at Arlo's Fly Fishing Services.

It's part of the angler's code of ethics and hen water levels are low, they have to band together to help protect the fish.

"If the water gets above 68 degree temperature, we need to stop thinking about fishing," Townsend adds.

That's because trout are most active when water temperatures are between 45 and 65 degrees; anything hotter will deplete the water of oxygen, making it dangerous for trout.

"We run the risk of pushing that trout to exhaustion to the point where he's not able to recuperate after we fight him at the end of the line and release him afterwards."

Townsend is proposing a hoot owl closure, meaning avoid fishing from noon to midnight when the water is hottest. The movement started in Montana, where all rivers closed between those hours do to the high temperatures.

"We just want to protect our fragile resource the trout are," he said. "They bring us a lot of joy and we want to treat them with respect and when we let them go back into the river, we want them to be in the best shape possible to return to their homes."

It's a voluntary action and it doesn't mean you have to cut fishing out entirely. Trout are cold water species but there are other fish that do just fine in warmer waters.

"There's plenty of carp fish around the pond and even in the lower river on the Truckee. There's lots of urban ponds that hold a lot of carp and bass and catfish for us."

Fly fishers carry an inexpensive thermometer with them every time they go out to the water. The best thing you can do is be aware of water temperatures at all times.

JoAnne Skelly
skellyj@unce.unr.edu

Planting a resilient garden

Plants are made up of 85 to 90 percent water, but they use less than 5 percent of the water that passes through them in plant processes. The rest is lost to evaporative cooling and transpiration. We have to irrigate our landscape and garden plants efficiently and make every drop count so plants receive the optimal amount of water for health, without wasting a precious resource.

We are in another drought. The Truckee Meadows Water Authority is asking that homes and businesses in Reno/Sparks reduce their outdoor water use by 10 percent, because Lake Tahoe and the other reservoirs are extremely low. While this doesn't sound like much of a reduction, plants that aren't drought tolerant may suffer.

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Some plants have physiological mechanisms that help them avoid drought stress. Drought resistance or resilience is actually the avoidance, postponement or tolerance of dehydration. A drought-resilient plant can usually resist injury and survive water stress.

Some plants escape drought. They go dormant during the drought and regrow when water is once again available. Kentucky bluegrass turns brown under limited water availability, yet can often come back when water is restored, unless the water deficit lasted long enough to kill it. Others, such as desert wildflowers, complete their life cycle during favorable moisture conditions. Some plants tolerate drought by reducing the water lost by closing down the pores on their leaves and developing a thickened cuticle. Or, they may lose leaves or grow less, so they need less water. Some can change the angle of their leaves or curl them, so there is less leaf surface exposed to the drying sun. Others have hairy leaf surfaces or spines that shade the leaf and reduce water loss. Another adaptation is coloration. Gray leaves absorb less sun, stay cooler and therefore lose less water. Notice that many of Nevada's native plants, such as sagebrush, are gray-green in color.

Roots have a big impact on drought tolerance or resistance. Deep roots, such as tall fescue has, can keep drawing up water until the drought reaches deep into the soil. Under water stress, some plants grow more spreading roots and root hairs to better mine the soil for water.

In our arid climate, when we design our landscapes, or need to replace or put in new plants, we should focus on using drought-resilient species. This will provide a more sustainable landscape during times of drought.

JoAnne Skelly is the Carson City/Storey County Extension educator for University of Nevada

Cooperative Extension and may be reached at skellyj@unce.unr.edu or 887-2252.

Fish to be salvaged from drought ravaged ditches

Images

Print Story

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Published: 5:59 am

Updated: 6:23 am

RENO, Nev. (MyNews4.com & KRNV) -- The ongoing drought continues to challenge Nevada's wildlife. Low water levels throughout the Truckee River system are causing the Truckee Meadows Water Authority to shut down two diversion ditches of the Truckee River system, eventually leaving fish in those waters high and dry.

The Verdi Ditch and the Washoe Ditch saw flows cut off last week. Crews from the Nevada Department of Wildlife will attempt to salvage trout from these ditches beginning Tuesday, August 5, when remaining waters in the ditches will have receded enough to insure the success of the operation.

NDOW personnel will utilize backpack electro-fishers and nets to salvage fish from the ditches. The fish will then be placed in fish hauling trucks from the Mason Valley Fish Hatchery and taken to the Sparks Marina and Marylyn's Pond (in Galena Creek Regional Park).

The operation beginning Tuesday will run throughout the week, and possibly into the following week.

Stranded Fish Rescued from Truckee River Ditches

Updated: Wed 8:10 AM, Aug 06, 2014

By: Colin Lygren- Email

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VERDI, NV - We told you last week how the drought is causing the shut-off of canals that feed TMWA's three power plants. Tuesday, those canals were almost empty of water, but they were still filled with fish that have swum in over the years. Now they need help getting to fresher, deeper water.

"These will be completely dry probably by next week," said Pat Nielson, who is in charge of TMWA's hydro power generation.

Tuesday, an effort started to save the fish.

"Fortunately for us we are able to rescue a good portion of these fish and put them back into the water," said Chris Healy with the Nevada Department of Wildlife.

It's a pretty complicated process. 20 or so volunteers put on

protective gear and hop in the water, ready to net the fish when they appear. The key to the operation is special backpacks with batteries inside. They shock the water and cause the fish to float to the surface.

"It is cool to see some good-sized fish, too. You know that there are fish in there but you don't actually know 'til you see them," said Corri Conner, an NDOW volunteer.

Some monster trout were pulled from the canals. The biggest ones were 3-4 pounds. They have likely lived in the canals their entire lives.

"It's a great spot for them. There is plenty of food for them; there is not a lot of predators that are in the canals," said Kim Toulouse, Volunteer Coordinator for the Nevada Department of Wildlife.

Their home was great, but staying in the canals any longer means certain death. So the fish are loaded into a truck and taken to the Truckee River or Marilyn's Pond in Galena Creek Park, where they'll have a better chance of staying alive.

"It's a good thing. You know we are trying to help the wildlife and the fish population here because of the drought," said Conner.

The drought will continue to have an effect on those canals for a while. They'll be dry until our reservoirs get filled back up; then it will take even more time for the fish to move back in and develop their habitat. It is all dependent on whether the drought continues.

Drought prompts fish salvage in Reno ditches

Jeff DeLong, RGJ *11:23 a.m. PDT August 6, 2014*

(Photo: Marilyn Newton/RGJ)

Dealing with drought is wet work.

Wading knee deep beneath drizzling skies, wildlife officials and volunteers worked Tuesday to rescue fish running out of water.

The operation by the Nevada Department of Wildlife was staged to save fish from Reno diversion ditches that will soon go dry after the flow of water from a diminished Truckee River was cut off due to the drought.

"We're trying to make sure the fish in there get a second chance," said Chris Healy, spokesman for the Department of Wildlife. "Nobody likes to see a natural resource go to waste. We would have seen a lot of fish go to waste."

Some 25 wader-clad rescuers splashed through ditches used to divert river water for power generation at hydroelectric plants operated by the Truckee Meadows Water Authority, which recently shut off flow into the ditches from the river.

Fish – including some pretty sizable brown and rainbow trout – mountain whitefish and minnows were shocked by backpack "electro-fishers," scooped out of the water by net and deposited into truck-borne fish tanks. Some 3,000 fish salvaged Tuesday will be put in the Truckee River near Verdi, in part because recent rains have benefitted river flows. Others will likely be planted in Marilyn's Pond at Galena Creek Regional Park.

Officials, volunteers gather to salvage trout and other fish stranded in Truckee River diversion ditches by drought conditions. Jeff DeLong/RGJ

"With the drought conditions, the water is going to disappear from these canals," said Kim Toulouse, volunteer program manager for the Department of Wildlife. "All the fish that are in the canals are basically stranded."

Tuesday's fish salvage was just one action the Department of Wildlife has been forced to pursue due to the drought, now in its third year. In February and for the earliest time in 20 years, NDOW began planting trout raised in its Mason Valley hatchery into the river and the area's urban ponds.

The idea was to put the fish into water while there was still some left in which for them to swim.

"Mother Nature is not being very good to us this winter, so we're trying to look ahead," Kim Tisdale, supervisory fisheries biologist, said at the time.

"If we don't, we'll end up with a hatchery full of fish and no place to put them," Tisdale said.

For the second year in a row, the state in mid-May lifted limits of fish allowed caught at Wildhorse and Willow Creek reservoirs in Elko County with the goal of removing as many fish as possible before lowering water and rising temperatures combined to produce unsurvivable conditions.

Sufficient flows are expected through the summer for most of the Truckee River's trout to survive but another dry year could come with profound impact to the fishery, Healy said.

Julie Regan at the Tahoe Regional Planning Agency office.

Lake invaders

Invasive species prevention and control at Lake Tahoe

Invasive species have been intercepted on about 30 boats this season by Lake Tahoe inspectors.

by
Sage Leehey
sagel@newsreview.com

Quagga and zebra mussels are two invasive species that officials are trying to prevent from entering the lake, according to Julie Regan, Tahoe Regional Planning Agency's chief of external affairs. Quagga mussels, specifically, could pose a huge threat to the ecosystem of Lake Tahoe because they change the chemistry of the water.

"While they're filter feeders, and there could be short term boosts in clarity, the long-term consequence is a huge negative impact on the fishery, on the food web of the lake as a whole and of scenic and resource degradation where they attach to piers, they attach to any structure, rocks," Regan said.

There are four inspection stations where boaters can have their vessels checked before entering the lake. After a clean inspection, the boater receives a wire seal that must be broken in order to launch the boat and marinas check for this. They receive a new seal when leaving the lake.

Lake Tahoe already has a few species established in its depths, including Asian clams, Eurasian watermilfoil and curly-leaf pondweed.

Programs to manage and attempt to rid the lake of these species have been largely successful, and TRPA is researching more ways to handle them. The biggest issue is funding, though, because the federal funding is drying up, and boater's fees cover about half of the overall cost of the inspection and control programs.

Regan said the presence of quagga mussels in the lake could harm or destroy various aspects of the region's economy as well.

For more information about boat inspections at the lake, visit tahoeboatinspections.com.

"We have a wedding industry in Lake Tahoe, so imagine people trying to have their wedding on a beach that is littered with degrading quagga mussel shells," Regan said. "They could really ruin the recreation value of what we consider a pristine environment here in Tahoe."

The tendency of quagga mussels to attach to just about anything poses a threat to water infrastructure, too, because they can clog water intake lines, forcing water purveyors to pay to chisel them off.

Other areas have already seen the effects of invasive mussels, including Lake Mead, Lake Havasu, Lake Pleasant, the Great Lakes and the Mississippi River system. According to TRPA aquatics resources program manager Dennis Zabaglo, boats coming from Lake Mead in Southern Nevada to Tahoe are the most common boats to be carrying mussels. Regan said Lake Mead has trillions of mussels and the problem is more difficult to handle there and in other places than in Tahoe.

"We're fortunate where we have a watershed where we can see all the access points going into the lake and we can manage that with our problem versus other places, like Lake Mead, where there are multiple entry points, where it's almost impossible to have an inspector present at every possible inspection site," Regan said.

The best way to prevent carrying invasive species into the lake is to clean, drain and dry your vessel immediately after leaving a body of water. This will also speed up the inspection process when re-entering Lake Tahoe. □

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Study: Oceans more tainted with man-made mercury

Posted: Aug 06, 2014 10:14 AM PDT
Updated: Aug 07, 2014 11:27 AM PDT

By SETH BORENSTEIN
AP Science Writer

WASHINGTON (AP) - In much of the world's oceans, levels of the metal mercury are double to triple what they were before the industrial revolution, a new study says.

Researchers found there's more mercury from human sources - mostly burning fossil fuels and mining for gold - than scientists had thought.

The study assessed inorganic mercury, which in the ocean gets converted into the toxic methylmercury found in seafood. When pregnant women, nursing mothers and young children eat too much methylmercury-tainted seafood, there's an increased risk of nervous system problems in the developing child.

The new results don't provide any immediate conclusions about eating fish, says Carl Lamborg of the Woods Hole Oceanographic Institute in Massachusetts. His study is published Wednesday in the journal Nature.

"Everywhere on the planet is contaminated with mercury to some extent," he said.

His study found that mercury concentration varied by depth, generally higher at the surface and mid-level depths than in deep water. But in the North Atlantic, high concentrations reached even deeper than 3,300 feet.

In general, mercury levels between the surface and 330 feet deep were more than triple pre-industrial times levels, Lamborg said. Between 330 and 3,300 feet deep, they were about 150 percent greater than the levels from more than a century ago. But they were only about 10 percent higher at depths greater than 3,300 feet, except for the North Atlantic.

Nearly two-thirds of the world's ocean mercury from man-made sources is in water that's shallower than 3,300 feet, the study found.

The study is important and will help scientists eventually understand how mercury gets into the marine food chain and us, said University of Michigan Earth sciences professor Joel Blum, who wasn't part of the study.

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Seth Borenstein can be followed at http://twitter.com/borenbears

Emerson Marcus, RGJ *11:26 a.m. PDT August 6, 2014*

(Photo: Emerson Marcus/RGJ)

Question: Why is no one doing anything about needles in the river? The city can provide them but when it comes to cleaning them up, no one cares?

— Daniel Gray, Reno

Answer: Daniel Gray, who provided this week's "Ask the RGJ" question, said he first saw a syringe along the riverbank in Reno when his 4-year-old daughter spotted one.

"She was asking, 'What is that?' " said Gray, 22, owner of Sierra Aquatics, a local fish and reptile pet store.

In the months since, Gray says he complained at least four times to Reno Direct, the city of Reno's nonemergency call center.

On Monday, Gray pointed out several syringes at Fisherman's Park II in east Reno, underneath the Kietzke Lane Bridge. He's seen syringes at Rock Park in Sparks, too.

He called again Monday, and an operator told him Reno Direct did not have a history of his complaints in its call database.

"My biggest concern is nobody does anything; nobody seems to care," he said.

But Reno Parks manager Jeff Mann said they tried to address Gray's complaint.

"We tried to go find it based on what he said," Mann said. "We didn't find the actual location. It was a couple weeks ago. We went somewhere in Fisherman's Park. His location wasn't specific enough."

Mann said Reno Direct gets many calls every day, but often the callers fail to give accurate locations of items that need to be cleaned.

Jaime Souza, Keep Truckee Meadows Beautiful program manager, said it is not uncommon to find syringes along the river. KTMB crews on cleanup events bring rubber gloves and containers to store such biohazards, Souza said.

Free needles

Gray said he believes the syringes at Fisherman's Park II were a result of legislation passed last year in Nevada.

In 2013, the Legislature repealed laws that made it illegal to own hypodermic needles. Since January, Northern Nevada HOPES has provided free syringes to the public, arguing the program combats the spread of hepatitis and HIV.

In July, the program gave away more than 46,000 syringes to about 400 people, according to Robert Harding, HOPES harm reduction and outreach worker. In January, its first month, the program gave away 2,000 syringes, he said.

According to the state health division, more than 8,000 Nevadans live with HIV/AIDS, and 15 percent of them cited injection drug use as primary risk factor for contraction. That number is closer to 35 percent for hepatitis, according to the CDC.

HOPES also provides free containers for storage after needle use, Northern Nevada HOPES CEO Sharon Chamberlain said.

"We've always been available to go out and pick up syringes," Chamberlain said.

Before the new law, police could arrest people for having needles. Many disposed of them in unsafe ways, and some people shared needles, according to HOPES.

Jennifer Snyder, executive director of the substance abuse nonprofit Join Together Northern Nevada, said the HOPES program is a "harm reduction strategy" that could have nothing to do with syringes along the river.

She attributed the needles along the river more to the rise in heroin use in Reno, and she doesn't necessarily believe needles from HOPES are the ones littering the river.

"So many people are abusing opiates right now, which makes it hard to identify the cause," Snyder said.

Cleanup movement

While drug use appears to be the root cause of the issue, officials said, initiatives to make cleanup along the river more effective are in the works.

The Reno Parks Department has cleanup crews for the walking path along the Truckee River, but the agency does not clean the banks unless asked, Mann said.

KTMB leads two annual cleanups along the banks of the river. The next scheduled cleanup is Sept. 27.

"You'd be surprised what you find along the river," said Souza, who mentioned Fisherman's Park II as a "problem spot."

During the course of the year, Souza said the county's inmate river cleanup crew picks up the bulk of discarded waste.

That program includes a federal grant for a full-time crew leader working every work day with a crew of up to six inmates, said Brooke Howard, sheriff's detention program coordinator.

In this fiscal year, the inmate crew has gathered more than 4,500 bags of trash on riverbanks and parks, along with 497 items deemed hazards, ranging from rusty grocery shopping carts to syringes, Howard said.

That grant — amounting to about $100,000 over the course of the past two fiscal years — ends December.

The crew's last cleanup at Fisherman's Park II was three weeks ago, Howard said.

"The waste and the trash and the syringes will just remain where they are unless we can keep a dedicated crew on the river day-to-day," she said.

KTMB recently sent a survey to more than 4,500 on its email list. The river was the No. 1 concern, according to the survey, Souza said.

That got the ball rolling on an awareness campaign, she said.

"We have given tours to council members and mayoral candidates, and everybody is aware of the issues and knows there is a lot to be done," Souza said.

Since the beginning of the summer, city officials have met monthly with local businesses and organizations on how to beautify the river and make cleanup more

efficient, Code Enforcement Manager Alex Woodley said.

Recently, the city installed a trash compactor on Riverside Drive. Within two days, it was full, Woodley said. The city plans its own cleanup Sept. 12 at parks along the river in east Reno, he said.

"We are focusing on the river because that is one of our attractions downtown," Woodley said.

KTMB hopes to roll out an adopt-a-river program as soon as September, Souza said. That program would be similar to adopt-a-highway programs — volunteers could adopt Fisherman's Park, and other locations, as their cleanup spots.

"We will have a website up for it soon," she said. "Definitely by the end of August."

"There is a really strong movement right now," Souza said. "There are a lot of organizations looking to do more. The community will soon see a lot of good things happen when it comes to the river."

DO YOU HAVE A QUESTION?

Emerson Marcus answers reader questions on local topics on his blog at RGJ.com and in the newspaper Wednesdays. Email your questions to emarcus@rgj.com

Desert Landscaping Grows in the Truckee Meadows

Posted: Aug 07, 2014 1:49 PM PDT
Updated: Aug 07, 2014 2:22 PM PDT

By John Potter - email

Have you ever considered making the transition from a typical yard to one that uses hardly any water? Homeowners here are doing it, and not just to help fight the drought. It's also about saving a lot of cash.

At Reno's Signature Landscapes, Steve Fine gives a lot of credit to his customers for doing their part to save water. As he told us, "It is the last finite resource we have in this community."

What Steve does is the most powerful conservation method around. The water you use indoors is treated and recycled…that's not the case with the water you dump on your lawn. Nothing saves more water than getting rid of the traditional green. As he put it, "Landscaping is the single most use of water you're going to have on your water bill every year, whether it's a residence or commercial property."

The concept of a xeriscape, or desert landscaped lawn is so win-win, a banner number of homeowners are buying into it. Fine told me, "People are ripping out lawns all the way from Verdi to Cold Springs…all the way out to Carson City."

And they're getting a lot of money back: "The typical TMWA bill is $75 to $125. You could knock off 40 bucks easily each month…that's over 500 bucks a year, easily."

That would also save millions of gallons of water in Reno alone, and the results can be eye catching. Instead of water-sucking grass, there's decomposed granite: "It stays in your property, it doesn't move around with the wind, and it compacts to where you don't have to mess with it for years."

And, you'll end up with a no-fuss yard. Signature Landscapes president Lebo Newman says, "You don't even have to prune. It's really easy, really easy. And the lawnmower can stay in the garage…it doesn't have to go to the repair shop. You don't have to get all greasy."

And if enough people get rid of the grass, that's a powerful effect on lessening the drought. As Newman told us, "It just makes sense. It's the obvious solution to not having much water."

If you'd like to change up your yard, the Truckee Meadows Water Authority offers an interactive "Water Saving Landscape Guide" online. You can click it here:
http://www.tmwalandscapeguide.com/landscape_guide/interactive/index.php

Posted on Thursday, 08.07.14

Thousands of stranded fish rescued in dry Nevada

Nevada Department of Wildlife volunteer coordinator Kim Toulouse holds one of the large fish salvaged from the Verdi Ditch just west of Reno on Wednesday, Aug. 6, 2014. The 30-inch-long rainbow trout estimated to weigh about 10 pounds was among about 6,000 fish volunteers removed from irrigation ditches that have been cut off from Truckee River water supplies due to lingering drought. NEVADA DEPARTMENT OF WILDLIFE / AP PHOTO

Similar Stories:

- Thousands of stranded fish rescued in dry Nevada

THE ASSOCIATED PRESS

RENO, Nev. -- Volunteers joined Nevada wildlife officials this week in a rescue mission to save thousands of stranded trout and other fish from irrigation ditches that have been cut off from Truckee River water supplies due to drought in the Reno area.

Two dozen wader-clad rescuers splashed through the knee-deep ditches that soon will be going dry, netting an estimated 6,000 fish over two days.

Most were returned Wednesday to the Truckee River near Verdi, just west of Reno, where a rare stretch of wet August weather helped boost flows the past few days with more than an inch of precipitation.

Wildlife officials say the moisture helped, but it doesn't put much of a dent in the lingering drought, now in its third year.

"We're trying to make sure the fish in there get a second chance," Nevada Department of Wildlife spokesman Chris Healy said.

"Nobody likes to see a natural resource go to waste. We would have seen a lot of fish go to waste," he told the Reno Gazette-Journal (http://tinyurl.com/kgm84r9).

The Truckee Meadows Water Authority shut off flows last week to the ditches that deliver river water to power generation and hydroelectric plants the authority operates.

"With the drought conditions, the water is going to disappear from these canals," said Kim Toulouse, volunteer program manager for the state wildlife agency. "All the fish that are in the canals are basically stranded."

The fish salvage was just one action state officials have been forced to pursue due to the unusually dry conditions. NDOW began plating trout raised in its Mason Valley hatchery into the river and the area's urban ponds in February, the earliest time in 20 years.

For the second year in a row, the state in mid-May also lifted limits on fish allowed to be caught at Wildhorse and Willow Creek reservoirs in Elko County. Its goal was to remove as many fish as possible before lowering water and rising temperatures combined to produce conditions where the fish cannot survive.

"Mother Nature is not being very good to us this winter, so we're trying to look ahead," said Kim Tisdale, the state's supervisory fisheries biologist. "If we don't, we'll end up with a hatchery full of fish and no place to put them."

Editorial: Save water now to ensure our supply later

REN *8:39 a.m. PDT August 7, 2014*

(Photo: Marilyn Newton/RGJ)

On Tuesday, a couple dozen employees of the Nevada Department of Wildlife and volunteers took part in an unusual “catch-and-release” operation: They rescued thousands of fish trapped in area ditches that soon will be without the water the fish need to survive.

The fish — including brown and rainbow trout, mountain whitefish and minnow, according to the Gazette-Journal’s Jeff DeLong — were stunned by an electrical shock, netted and moved to area waterways, including the Truckee River, where the biggest threat will be Reno-Sparks anglers, not the lack of water.

The plight of fish caught in ditches and sloughs may not have been the biggest problem caused by the continuing drought, but it *was* a visible reminder that the drought is already having a significant impact on the Truckee Meadows.

We not be in dire straits, thanks in large part to the ability of the Truckee Meadows Water Authority to store water in the wet years to help us get by in the dry years.

But, as the fish rescue demonstrates, droughts do affect all of us in ways that we may not even think about. That’s why we all need to do our part to conserve water while we still have water to conserve.

■ ■ ■

Late last month, the authority asked its customers, about 93,000 homes and businesses in Reno-Sparks, to cut their water usage by approximately 10 percent. The easiest way to meet that request is to reduce lawn watering, which can be accomplished by the push of a button on many irrigation systems.

In California, where 80 percent of the state is facing “extreme drought” conditions, Gov. Jerry Brown asked residents to cut their water use by 20 percent back in January. Instead, they increased their use by approximately 1 percent.

As a result, the State Water Resources Control Board voted to impose water restrictions on California residents statewide for the first time. The regulations ban “wasteful” outdoor watering, such as overwatering lawns, hosing down sidewalks or driveways and washing cars without a shut-off nozzle on the hose, according to thinkprogress.org. Violators could be fined as much as $500 for a violation.

The city of Santa Cruz has gone even further. Its goal was a 25 percent reduction, and it *was* successful. All it took was a hit to property owners’ pocketbooks: Residential properties were allocated a monthly ration of water.

When the ration was exceeded, the price of each additional unit skyrocketed. That got users’ attention quickly. (An unfixed leak could drive bills into the thousands of

dollars.)

So far, there's been no need for draconian measures in Northern Nevada. Water use has actually declined in recent years despite the increasing population. One reason for the reduction in water use has been the expansion of water meters. Forcing the remaining TMWA customers who are paying a flat rate for water to switch to a metered rate, could cut water use even more.

Nevertheless, water consumers need to abide by TMWA's request. For the first time in 20 years, TMWA is tapping into its backup supplies in the Boca and Stampede reservoirs. It also expects to take water from its portion of Donner Lake, but it hopes to avoid the need to take water out of Independence Lake.

A 10 percent reduction in water use is not a big sacrifice for most Reno-Sparks residents, but it could have a very big effect on water supplies in case the drought continues beyond this year.

Researchers Study Environmental Changes in Lake Tahoe

Posted: Aug 11, 2014 5:04 PM PDT
Updated: Aug 11, 2014 7:04 PM PDT

By Paul Nelson - email

The University of Nevada is teaming up with the Desert Research Institute and UC Davis to study a variety of environmental impacts on Lake Tahoe. Most of their studies have focused on the middle of the lake, but now they are shifting a little closer to shore.

Researchers have been studying Lake Tahoe for more than 30 years, and in that time, they've noticed a steady decline in the lake's health. Researchers are using the university's Aquatic Ecosystems Lab boat to study near-shore water clarity and the bottom of Lake Tahoe.

"Tracking when changes are happening, why they're happening, what's going on in the watershed to cause things to get better or to get worse in the near shore," Alan Heyvaert, Associate Research Professor at DRI said.

Researchers say the lake has had dramatic changes since the 1960s, and not for the better.

"There's a slight hue of green, this year," Sudeep Chandra, Associate Professor of Limnology at UNR said. "As soon as you go about 100 feet offshore, it starts turning blue."

Plant life in the lake is diminishing, likely because of decreased lake clarity that blocks out sunlight and because invasive species eat or trample them. Scientists say the amount of roads and vehicles also has an impact on the ecosystem, grinding up dirt into fine particles that could end up in the lake. But work is being done to improve water quality.

"We control the disturbance of lands," Heyvaert said. "We control the use of fertilizer. We're managing our storm water runoff so that we're treating it or infiltrating it before it gets to the lake."

Native species at the bottom of the lake have declined by 80% to 99%, and several invasive species have been introduced. Boats have to be inspected to prevent more from coming in, and one company has invented a filter called the Mussel Master. It goes into the motor area of the boat, aiming to trap invasive species.

"It lets the water from the bilge water, contained in the boat, filter through," Chandra said. "So, that way, when a boat comes to a lake, it won't introduce new species.

Another company is harvesting crawdads from the lake, for commercial sales. They even have the crawfish festival, in Stateline.

"I think those are great ways of having casinos and businesses, trying to promote the removal of those invasive crayfish," Chandra said.

Researchers say private partnerships, like these will help the lake rebound, especially since public funding is very hard to come by. Climatic changes are also happening outside of the lake. An observer station, in Tahoe City, shows that the summertime overnight low temperatures have risen an average of two to four degrees in the last 100 years

Fernley to charge market rate for water rights

Robert Perea *6:42 p.m. PDT August 12, 2014*

(Photo: Provided by Fernley)

Trying to ensure it has money to purchase water rights without depleting its water fund, Fernley last month opted to charge developers who do not provide their own water rights the market rate to obtain them.

Rates would follow the market rate as set by Truckee Meadows Water Authority.

The city's most current appraisal is $1,850 per acre-foot. However, TMWA charges $7,700, so if the city were to charge the rate of its appraisal, it would have to pay the difference from its water fund.

According to the staff report provided to the council, TMWA bases its fee on actual purchases of replacement water. The water rights purchased by TMWA, like any rights Fernley would purchase, are Truckee River water rights.

The new resolution approved by the council means rather than approving a new resolution every time the market fluctuates, the fee will change as the market changes, because TMWA recalculates the amount several times a year.

The Nevada State Engineer must determine that the city has enough water credits before approving any residential final subdivision maps. That requires all new residential and most commercial developers to dedicate water rights before the city can promise to serve any water.

The council also recently adopted an ordinance to repeal the ability for commercial development to qualify to pay fees in lieu of water dedication, though some plans approved before late December 2004 are given an exception

Letter: Rosy projections for water raise new questions

9:02 p.m. PDT August 12, 2014

(Photo: RGJ)

“Despite drought,” says the subtitle in the Aug. 10 Sunday Business section, “plenty of water available for economic development.”

If the Truckee Meadows is not hurting for water, why has the Truckee Meadows Water Authority asked users to cut back by 10 percent, and why is the Steamboat ditch dry?

Charlotte Voitoff, Reno

Tahoe-Truckee water levels near 5-year trend; hundreds of fish relocated

Article | Comments (0)

Courtesy David Lass |

California Department of Fish and Wildlife staff assist in

PREV | NEXT

BY THE NUMBERS

6,220 feet: The lowest Lake Tahoe's level has ever been recorded, 1992.

6,231 feet: The highest Lake Tahoe's level has ever been recorded, in 1907.

1987 to 1994: The worst drought in Tahoe's recorded history.*

1928 to 1935: The second-worst drought in Tahoe's recorded history.

— After the drought ended in mid-1995, Tahoe saw its most dramatic rise, going from 6,221 feet in October 1994 to almost 6,227 in July 1995.

Source: Truckee Meadows Water Authority, which began recording statistics in 1900. Visit tmwa.com/lake_level to learn more and view interactive historical maps.

*Assuming the current drought will be over at some point in the future, it's unclear where it will rank in historical perspective.

TRUCKEE, Calif. — Hundreds of juvenile fish that found themselves literally out of water in the Little Truckee River were recently relocated in hopes they can survive impacts of the ongoing drought.

On July 30, the Reno-based Federal Water Master halted Boca Reservoir water releases due to running out of available storage, causing flows south of the reservoir to drop from 125 cubic feet per second to nearly zero cfs, said Chad Blanchard, the federal water master.

While it's "very common" for Boca releases to be cut off, Blanchard said the result this time was unexpected — hundreds of wild brown and rainbow trout and native mountain whitefish were left stranded, unable to swim downstream to the Truckee River.

"We (Stefan McLeod, president of Trout Unlimited Truckee Chapter No. 103) were shocked at what we saw," said David Lass, Trout Unlimited California field director, in a statement. "Just days before, in runs where McLeod happily caught and released wild bows and browns exceeding 20 inches, (they) now ran completely dry, exposing the jagged river bottom."

The dry riverbed left many fish dead, Lass said, but isolated pools of water were full of alive wild trout and native whitefish and sculpin.

Since trout need cold, oxygen-rich water to survive, Lass said, "we knew we had to take advantage of the short window to take action."

On the morning of July 31, the California Department of Fish and Wildlife and Trout Unlimited volunteers focused on relocating the surviving fish to the nearby Truckee River.

"Considering the short distance and the

nearby connectivity of the Little Truckee to the main stem Truckee, the release site was considered the best alternative to offer conditions that would allow the captured fish to survive," said Janice Mackey, a public information officer for California Department of Fish and Wildlife.

Residents can visit tahoetroutbum.org to learn more about the Truckee Trout Unlimited group, or attend "Friends of the Forest Day" from 9 a.m. to 2 p.m. Sunday at Prosser Creek Dam Road.

The free volunteer event is sponsored by the group, along with the National Forest Foundation, U.S. Forest Service and Sierra Nevada Brewing, and involves working in Lower Prosser Creek to create spawning beads for wild trout. Email Lisa Leonard at lleonard@nationalforests.org for information.

HISTORICAL TRENDS

Sources for the Truckee River include precipitation (rain and snowmelt) and flows from Boca Reservoir and Lake Tahoe, Blanchard said.

Since 1975, flows out of Boca have been off for a total of 2,366 days based on need and availability of water, he said last week.

As of Tuesday, Lake Tahoe was at 6,223.79 feet above sea level; its natural rim is 6,223 feet. Once the lake hits its natural rim, flow into the Truckee River will cease.

"Tahoe is hanging in there much more than we anticipated, which is really good," Blanchard said.

Water levels in the Sierra appear to be on a similar track from five years ago. The last time Lake Tahoe dipped below its natural rim was October 2009 (which was the first time since October 2004), as a result of a three-year dry spell.

The snow- and water-rich winter of 2010-11 greatly helped boost levels, but the past three dry winters have led to current drought conditions in the region and much of the West.

And while recent rain showers and cloud cover have helped lower the rate of evaporation, it hasn't made a dent in California's drought situation.

As of last week, 99.80 percent of California was in "severe drought," 81.92 percent was in "extreme drought," and 58.41 percent was in "exceptional drought" — with the latter including the Truckee/Tahoe region, according to the U.S. Drought Monitor.

According to Truckee Meadows Water Authority research, it takes roughly two or three years of non-drought precipitation on average to refill Lake Tahoe after a drought period.

Sun Managing Editor Kevin MacMillan contributed to this report.

$3.8 MILLION PROJECT WILL HELP NORTHERN NEVADA BUILD RESILIENCY TO FUTURE DROUGHTS

August 14, 2014 · by carsonvalleytimes · in County, NEWS. ·

$3.8 million project will help Northern Nevada build resiliency to future droughts

Photo Cutline: The “Water for the Seasons” project team at the Truckee River, in Reno, Nev. Back row, left to right – Matt Reeves, Staci Emm, Greg Pohll, Derek Kauneckis; front row, left to right – Maureen McCarthy and Loretta Singletary; not pictured – Richard Niswonger and Michael Dettinger. Photo by Theresa Danna-Douglas.

by Claudene Wharton, University of Nevada Cooperative Extension

University of Nevada, Reno and Desert Research Institute to engage stakeholders, explore solutions to the region's changing water supplies to enhance water sustainability and climate resiliency

RENO, Nev. – Managing water in northern Nevada's Truckee-Carson River System requires local communities to balance urban, agricultural and ecosystem needs. Changes in historical climate trends are increasingly expected to make this balancing act more challenging. A competitive grant totaling $3.8 million has been awarded to the University of Nevada, Reno and the Desert Research Institute (DRI), in partnership with the U.S. Geological Survey, to integrate science and water policy research with extensive community outreach to identify the expected impacts of climate change and solutions for protecting valuable water resources throughout northern Nevada.

The "Water for the Seasons" project will focus on the Truckee-Carson River System as a model for snow-fed arid-land river systems across the American West. Funding includes $1.8 million awarded by the National Science Foundation to the University and $2 million awarded by the U.S. Department of Agriculture to DRI and the U.S. Geological Survey.

(Continued Below)

Water supplies in these regions are dependent on the timing, duration and form of winter precipitation and spring run-off. Throughout much of the West, demand for these water supplies is increasing, and many are already stretched to their capacity. Recent climate extremes and trends – including continued drought, increased winter rain instead of snow, reduced annual snowpack, earlier spring runoffs, flash floods and higher temperatures – present challenges to agency water managers, local farmers and ranchers, urban developers and the general public. This project aims to identify new strategies for enhancing the resiliency of communities in northern Nevada to adapt to these challenges and changes.

An interdisciplinary research team with expertise in hydrology, climate science, environmental policy, resource economics, public policy and community outreach will work closely with the region's diverse stakeholder communities to assess impacts of different drought scenarios and climate extremes; develop models of water supplies and demands resulting from those scenarios; and develop policy options to help stakeholders evaluate and meet challenges posed by warming temperatures and unpredictable water supplies.

"Our goal is to be proactive now so that the region can be better prepared to meet future water management challenges," said Maureen McCarthy, interim director of the University's Academy for the Environment and the project's director. "Ultimately, we are looking for options that will protect our ecosystems, support economic development and enhance the livelihoods of our communities and agricultural producers."

Sen. Harry Reid commented on the need for the project, "Nevada is seeing record high temperatures and exceptional drought conditions throughout the state. With the recent extreme weather trends, northern Nevada and the Truckee-Carson River System need the tools to better predict and protect their water supplies," he said. "The framework that will be put in place by the University of Nevada, Reno and the Desert Research Institute, in partnership with the U.S. Geological Survey, will help Nevada deal with the ongoing drought and the impacts of climate change. There is a great need to better manage and conserve our limited water supplies, and I fully support the National Science Foundation and the United States Department of Agriculture's assistance, which will help empower northern Nevada to do so."

McCarthy explained that a Stakeholder Advisory Group, led by University of Nevada Cooperative Extension, will work closely with the research team and represent interests of tribal communities and municipalities; tribal, federal, state and local water managers; agriculture producers; state and regional economic developers; and federal, state, tribal and nongovernmental groups dedicated to ecosystems protection.

"The uniqueness of this project is the core role of stakeholder involvement right from the get-go," she said. "We have over a dozen entities ready to partner with us. These are established relationships with longtime partners, who are very comfortable working with the University's Cooperative Extension."

Loretta Singletary, University of Nevada Cooperative Extension professor and interdisciplinary outreach liaison, is co-principal investigator in the project with Derek Kauneckis, associate professor of political science, and Staci Emm, Extension Educator. Emm's programs focus on community development, natural resources and sustainability, while Kauneckis works in public and environmental policy. Singletary has 22 years of experience in Extension work, most of them in Nevada's communities.

"The project honors the University and Cooperative Extension's legacy of working in and with communities," Singletary said. "It's what we do. We partner with scientists and

community stakeholders to better understand and address complex public issues such as adapting to climate change and managing water supplies, which don't always offer simple solutions."

Greg Pohll, research professor of hydrology and hydrogeology and the project's principle investigator from DRI, will co-lead the modeling portion of the project. Pohll, who has studied and modeled snow-fed arid-land river systems for nearly 20 years, will focus on the Truckee River and Lake Tahoe Basin system with three other DRI surface and groundwater experts, Associate Research Professors Justin Huntington and Matt Reeves and Assistant Research Professor Seshadri Rajagopal. All four are alumni of the University of Nevada, Reno.

"DRI is excited to be a part of the collaborative team to develop state-of-the-art computer models to predict how rivers and groundwater will respond to prolonged droughts. We expect these tools will help the team build sustainable solutions to adapt to a variable climate," Pohll said.

Richard Niswonger and Michael Dettinger, senior research hydrologists and the project's principal investigators from the U.S. Geological Survey, will co-lead the climate scenario development and the modeling portion of the project focusing on the Carson River system. Dettinger is a leading expert in climate modeling and extreme climate scenarios such as the well-known U.S. Geological Survey ARkStorm project. Niswonger is one of the lead developers of the hydrology model (GSFLOW) that will be used for the study. Additionally, Shane Coors, water resource engineer with Precision Water Resources Engineering, will utilize the new Truckee-Carson Planning Model to conduct operational modeling on the Truckee River.

Three post-doctoral researchers, two graduate students and eight undergraduate summer researchers will be part of the project team, engaging in hands-on learning and supporting all aspects of the project. The undergraduates at the University will be funded for summer research experience in association with the National Science Foundation's Research Experience for Undergraduates.

More information on the "Water for the Seasons project will be available online at the University's Academy for the Environment website, http://environment.unr.edu/academy/.

# # #

About the Desert Research Institute: *DRI, the nonprofit research campus of the Nevada System of Higher Education, strives to be the world leader in environmental sciences through the application of knowledge and technologies to improve people's lives throughout Nevada and the world.*

About the University of Nevada, Reno: *Founded in 1874 as Nevada's land-grant university, the University of Nevada, Reno ranks in the top tier of best national*

universities. With nearly 19,000 students, the University is driven to contribute a culture of student success, world-improving research and outreach that enhances communities and business. Part of the Nevada System of Higher Education, the University is home to the state's medical school. With outreach and education programs in all Nevada counties and home to one of the largest study-abroad consortiums, the University extends across the state and around the world. For more information, visit www.unr.edu.

Californians to vote on $7.5 billion water plan

Posted: Aug 13, 2014 8:28 PM PDT
Updated: Aug 13, 2014 10:18 PM PDT

By FENIT NIRAPPIL
Associated Press

SACRAMENTO, Calif. (AP) - Driven to action by the state's historic drought, California lawmakers on Wednesday voted to place a $7.5 billion water plan before voters in November.

The measure marks the largest investment in decades in the state's water infrastructure and is designed to build reservoirs, clean up contaminated groundwater and promote water-saving technologies.

It replaces an existing water bond that was approved by a previous Legislature but was widely considered too costly and too bloated with pork-barrel projects to win favor with voters.

After weeks of difficult negotiations, the ballot measure sailed through both houses of the Legislature: 77-2 in the Assembly and 37-0 in the Senate. Republican Tim Donnelly of Twin Peaks and Democrat Wesley Chesbro of Arcata cast the dissenting votes in the Assembly.

Gov. Jerry Brown signed the legislation, AB1471, shortly after the Legislature acted. Citing the overwhelming bipartisan support, the Democratic governor said he probably had never seen Democrats and Republicans so united in his lifetime.

"It's about water, it's about our future, it's about Californians coming together," Brown said.

The evening votes in the Assembly and Senate came after the Democratic governor and lawmakers from both parties were finally able to clear their main hurdle, a disagreement about how much money should be spent on new reservoirs and other storage projects.

A state with a population that exceeds 38 million and an agricultural industry that feeds the nation has been struggling to meet the increasing demands for water after three dry winters.

The push to revamp the 2009 ballot measure, which was $11.1 billion and had been delayed from statewide votes twice, gained momentum as the worst drought in a generation intensified throughout the state. It has forced farmers to fallow fields, led to double-digit unemployment in many rural areas, turned large expanses of reservoirs into mud flats and prompted local governments to mandate water-use restrictions and impose fines for water waste.

Senate President Pro Tem Darrell Steinberg, D-Sacramento, said water was something many Californians had previously taken for granted.

"The need is so great in California," he said, referring to the wide margin of support the spending measure enjoyed in the Legislature. "The time is now."

The relatively swift and overwhelming votes for passage in both houses of the Legislature were in contrast to the weeks of difficult negotiations to replace the existing and more costly water bond that already was on the November ballot.

Brown wanted a much smaller bond to attract voters and minimize state debt, while many Democratic lawmakers fought against money for reservoirs and sought strong environmental protections for the Sacramento-San Joaquin River Delta.

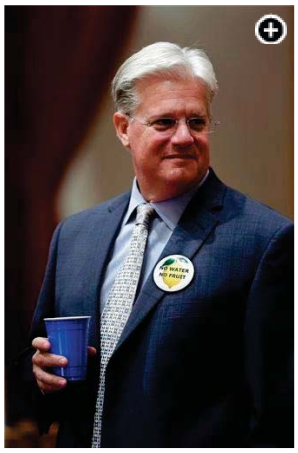
The proposal approved Wednesday includes $2.7 billion dedicated to storage projects, which likely would include a new reservoir in what is now a bucolic agricultural valley in Colusa County north of Sacramento and another in the Sierra Nevada northeast of Fresno.

That amount is more than Democrats and the governor had proposed for new reservoirs but less than the $3 billion included in the old ballot measure, which was approved by a previous Legislature in 2009.

The breakthrough on water storage was hailed by Republican lawmakers, who saw it as a top priority. Democratic lawmakers who represent agricultural areas in the Central Valley also pushed for the reservoir funding.

"This now offers us an opportunity to guarantee the future," said Sen. Jim Nielsen, a Republican who represents a largely agricultural region in Northern

(AP Photo/Rich Pedroncelli). Senate Minority Leader Bob Huff, R-Diamond Bar, left, meets with Senate President Pro Tem Darrell Steinberg, D-Sacramento, during the Senate session, Wednesday, Aug. 13, 2014, in Sacramento, Calif.



(AP Photo/Rich Pedroncelli). State Senator Andy Vidak, R-Hanford, wears a badge relating to the importance of water to his district, during the Senate session, Wednesday, Aug. 13, 2014, in Sacramento, Calif.

(AP Photo/Rich Pedroncelli). State Sen.

(AP Photo/Rich Pedroncelli). Sen.

California that will be home to one of the proposed reservoirs. "This is not about us and not about the next election; it's about our grandchildren."

Numerous agricultural, environmental and business groups quickly endorsed the legislative compromise. The plan includes $7.1 billion in new borrowing and $425 million from previous bonds that would be redirected to the updated water priorities. Redirecting that money requires voter approval.

Provisions in the latest bond proposal involving water recycling and cleanup of contaminated groundwater could increase the availability of water during future droughts. The bond also includes other water projects not directly related to supply, such as watershed improvements and flood management.

Democrats needed Republican support in the Senate but not in the Assembly, where they hold a supermajority. Even so, the governor has said bipartisan support for the bond measure is crucial to show voters that it has wide support.

Assembly Speaker Toni Atkins, D-San Diego, said lawmakers can show a united front and make a strong case to voters that the water plan is worth supporting.

"People should feel a sense of comfort that when you got the boat rowing in the right direction that we are going to be OK, we are going to succeed," she said. "I think we are all going to become cheerleaders for doing the right thing."

Wednesday's scheduled vote was timed to the secretary of state's deadline for printing voter pamphlets, which lawmakers had earlier pushed back by two days

(AP Photo/Rich Pedroncelli). Sen, Mark Leno, D-San Francisco, takes a phone call off the Senate floor, during a break in the legislative session, Wednesday, Aug. 13, 2014, in Sacramento, Calif.

ew LA rate tiers proposed to conserve water

Posted: Aug 13, 2014 9:59 AM PDT
Updated: Aug 13, 2014 9:59 AM PDT

LOS ANGELES (AP) - Two Los Angeles officials are calling for tougher restrictions on residential water customers in an effort to conserve during California's persistent drought.

The Daily News reports (http://bit.ly/1uOWo1V) Councilmen Mike Bonin and Felipe Fuentes asked the Department of Water and Power on Tuesday to report on recommendations to add extra tiers of water use at a higher price.

They also plan to propose that the city halt all outdoor watering on land not used for parks or recreation.

The newspaper says under their proposal, residents would be given a water budget of a base amount that they could use daily to meet their needs - with prices going up as that amount rises.

The DWP currently has a two-tier system for residential customers.

Information from: (Los Angeles) Daily News, http://www.dailynews.com

Letter: Lush lawns pose threat to Reno residents

9:02 p.m. PDT August 13, 2014

(Photo: AP)

Another View [Voices, Aug. 8] asks “If the water crisis in Toledo (Ohio) doesn’t spur voters to demand response and lawmakers to take action, what will?”

My answer is, “Probably not much.”

Were voters concerned when budget cuts probably decimated staff and money for improvements to Detroit’s (they’re upstream) and Toledo’s water and wastewater programs during the recession? Probably not.

Phosphorus and nitrogen loading from the Maumee River (which empties into Lake Erie at Toledo) is the primary culprit. It originates from millions of acres of tiled cropland. Corn, wheat and soybean growers, and now mega-livestock operations in this and other areas of Ohio, have very strong lobbies. The road to regulating agricultural runoff is littered with the bodies of bureaucrats and a few politicians.

People will have to suck it up and pay higher water and sewer bills for improvements in treatment. However, even this won’t eliminate the problem as a warming climate and variability in year-to-year weather and runoff will still occasionally create conditions ideal for algae blooms.

In any case, I really doubt algae blooms present a threat to Reno area residents; the real pollutant here may be all those nice, lush, green lawns.

Jerry Wager, Reno

Summer rains have spared Reno water supplies

Jeff DeLong, RGJ *8:15 a.m. PDT August 14, 2014*

(Photo: Tim Dunn/RGJ)

That unusually long stretch of monsoon-influenced weather that brought drenching downfalls, flooded streets and triggered mudslides also provided a welcome boost to flows of a diminished Truckee River.

It did so to the point that operators of the primary water provider serving Reno-Sparks, planning to tap backup drought supplies for the first time in 20 years, has, for the most part, been able to avoid doing so.

RAIN ON BURNING MAN? Preparations have been slowed.

5 TIPS FROM LIZ: Survive wet, cold at Burning Man.

"We knew the rain would help. We just didn't know how much," said Mark Foree, general manager of the Truckee Meadows Water Authority. "It's had a pretty good impact on our river flows."

Three years of drought lowered reservoirs and decreased river flows, prompting the water authority on July 28 to ask its customers to reduce water use by 10 percent.

The following day, as regular water supplies in Boca Reservoir ran out, the federal water master closed the reservoir's floodgates, resulting in a quick and noticeable

drop of the river.

Those flows were expected to continue to plummet but, in part due to rainfall associated with on-and-off thunderstorms that have popped up across the region since July 8, they hung in there.

The water authority finally began tapping its drought reserves stored in Boca on Aug. 3. Then a new surge of monsoonal moisture brought unusually steady summer rains to the Reno-Tahoe area, with more than an inch of rainfall recorded at Reno-Tahoe International Airport on Aug. 4 and 5.

That rain swelled the river to the point that the water authority was able to shut down its use of drought reserves and hasn't had to turn back to them since.

"We've used just a fraction of 1 percent of our total drought reserves so far," Foree said, adding that recent rains combined with decreased demand to save water.

Many customers stopped watering during rains and many are apparently complying with the utility's request to cut back on outdoor water use in general, Foree said.

The drought, of course, is still very much a problem.

By sometime next week, the utility should again have to begin tapping drought reserves stored in Boca.

Sometime after Labor Day and into October, it will also have to begin draining reserve water stored in Donner Lake.

The utility is not expected to need any water from its largest drought reserve at Independence Lake this year, saving that water for use in the event the drought continues a fourth year.

"This has certainly pushed us back a couple of weeks from where we would have been" without the summer rains, Foree said. "It was very welcome."

While significant, the recent spate of wet summer weather is comparable to past years, some of which have produced wetter summers.

This July ranked the 10th wettest on record at the airport, with 10 percent of the month seeing rainfall, said Jessica Kielhorn of the National Weather Service in Reno.

The wettest Julys occurred in 1990, 1971 and 1960, when each experienced 19 percent of days with rain, Kielhorn said.

So far this August, enough rain has already fallen at the airport to give the month a No. 4 ranking in wetness with more than two weeks of the month to go.

The wettest August occurred in 1983, with 29 percent of the month experiencing rain, Kielhorn said.

During a 24-hour period during those steady rains of Aug. 4-5, rain fell almost continuously for 20 hours, said Kelly Redmond of the Western Regional Climate Center in Reno.

In records dating back to 1948, "I couldn't find any other instance" of that occurring during a summer month, Redmond said.

"It's unusual to have so much moisture," Redmond said. "It's really made for an interesting summer."

Save the lake

Labor Day weekend of geotourism events at Lake Tahoe

By Sage Leehey

This article was published on 08.14.14.

When you think about Lake Tahoe, what do you think of? Skiing, gaming, partying, boating and beach days? And how do you get there and get around the lake? Drive? This is exactly what nonprofit organization Sustainable Tahoe is trying to change with Tahoe Expo on Aug. 30 and 31.

Executive director Jacquie Chandler wants to change the way people think about the lake. She thinks the Tahoe Expo can help do this by demonstrating what a geotourism-based economy could look like in the region for one day a year. This is the third year the organization has hosted this event.

"It's one day until it's every day," Chandler said. "[Geotourism is] visitation that does no harm. It's stewardship of the geography, the art, the culture, the heritage, the environment and the local well-being."

She explained that the current "visitor's menu" for Lake Tahoe—which includes the activities listed above—is too limited. She wants to expand it into a geotourism economy that benefits every party involved, including visitors, business owners and the environment.

"If you had to live off the water in your bathroom sink, would you be careful what you put on the edge of your sink?" Chandler said. "Well, that's Tahoe. We're not careful about what we put on the edge of the mountains."

The Expo will have about 20 "geotracks"—fun and meaningful, low-carbon footprint activities that connect to Lake Tahoe. They are located throughout the region on both days and include activities like yoga on standup paddleboards, a tour to learn about our feathered friends at Spooner Lake, and an electric bicycle test drive and tour to monitor storm drain water.

These activities are located near bus stops so participants can help reduce their carbon footprint. Biking, hiking and water transit are options, too.

Jacquie Chandler and John Hara of Sustainable Tahoe are helping to put on the Tahoe Expo on Aug. 30 and 31.
PHOTO / SAGE LEEHEY

For more information, visit www.tahoeexpo.com.

"Transit around the lake right now is killing the lake, but if we start looking at it a little more creatively, then the journey can be the reward as well," said co-founder and president of the organization's board John Hara. "If you look at other places, transit is part of the attraction. Clean, green transit."

What both Hara and Chandler are most excited for, though, is at the event's center stage at Sand Harbor from 9 a.m. to 3 p.m.: a Washoe laka'lelup. This will be a gathering of Washoe people with various cultural activities, like making moccasins, rabbit blankets and arrowheads, and ceremonies to honor the water throughout the day. The Washoe have not done this kind of ceremony at Sand Harbor since 1840. This event will help the Washoe, too, because they're racing against the clock to teach their ceremonies, arts and crafts and culture to the younger generations.

"A long time ago, and even today, our coming together as a people is part of who we are as a distinct people and as a community of people with related identities," said Washoe Tribe language teacher Herman Fillmore. "Many times we come together for big 'gatherings,' but often these are done when it is time—when things are meant to be—not as an event."

The Washoe are the original guardians of the lake because the area is their homeland. Chandler believes this is "a rare opportunity for the past to serve the future" because we need their guidance to help preserve the lake.

There will also be a variety of performances on the Shakespeare stage at Sand Harbor starting at 3 p.m. on Aug. 30. There will be plays and dance and musical performances that each tie into the performer's love for the water

Storms Paused Drought Only Slightly

Updated: Thu 4:15 AM, Aug 14, 2014

By: Colin Lygren- Email

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RENO, NV - We have seen a lot of rain this summer. There has been a higher than average occurrence of thunderstorms, and last week a rainstorm that lasted three days. It's leaving many asking: has this weather made a difference on our drought situation?

Simply put, no, these storms have not been a drought-buster, but the recent weather pattern has made a difference. It has stopped the situation from getting worse, if only for a little

while.

"The recent rains of this week and last week have been a tremendous help for us," said John Erwin, Director of Natural Resources for the Truckee Meadows Water Authority (TMWA).

TMWA says the extra rain has supplemented Truckee River flows so much that it hasn't been tapping into drought reserves.

"We have been able to capture some of this rainfall and slowly meter it out over the past week or so," said Erwin.

On top of that, the demand for water has gone down. The rains have kept people from watering their outdoor plants, which saved TMWA about 200 million gallons a week. That is more than enough water to supply 800 homes for a year.

But on Tahoe, have the rains made a difference? Filled the lake at all? That's a complex question.

"Tahoe is hanging in there much better than we expected, and primarily due to the cloud cover," said Chad Blanchard, Federal Water Master.

According to TMWA, on average 219 million gallons of water evaporates off Lake Tahoe daily. It's the lake's biggest loss of water.

"Solar radiation has not been that much of a factor so evaporation levels have been really low. Plus we have some precip(itation) on the surface," said Blanchard.

Because of this, the lake level has not been dropping as quickly as expected. The water master suggests it means Tahoe won't drop below its natural rim as early as was expected. It may even happen as late as

October.

"It's really helping the river stay up at this point too," said Blanchard.

This has all been good news but we are by no means out of the woods. Officials at TMWA expect we will be dipping into our drought reserves again by Friday. The relief has only been temporary, and our drought situation continues

Strict cuts coming for N. Tahoe water use

Marcella Corona, RGJ *8:12 a.m. PDT August 18, 2014*

(Photo: Marilyn Newton/RGJ file)

North Lake Tahoe customers will face strict water conservation measures starting next month that could add up to an estimated $1,000 in fees for those who don't follow those measures, the North Tahoe Public Utility District said Friday.

The State Water Resources Control Board in California had adopted emergency water regulations in late July that targets outdoor water use, board officials said in a news release last month. The new regulations will remain in effect for 270 days or unless the board finds it's no longer necessary.

Drought takes toll on boating, rafting at Tahoe

Summer rains have spared Reno water supplies

"Every large water purveyor must implement emergency conservation measures to the point that limits outdoor water use in California, so we're responding to it," said Pam Emmerich, technology and public information administrator for the North Tahoe Public Utility District.

"Our focus is on education ... by getting the word out to people on the measures," she said Friday. "It's really to help everyone get to know the new measures."

The state's new water regulations require urban water suppliers like the Lake Tahoe utility to implement contingency plans that make restrictions on outdoor irrigation mandatory, officials said in a new release. Utilities failing to do so could be subject to a fine of up $10,000 per day the violation continues.

The district didn't get fined despite not mandating the restrictions until Aug. 12.

"We are facing the worst drought impact that we or our grandparents have ever seen," Felicia Marcus, State Water Board chairwoman, said in a July statement. "And, more importantly, we have no idea when it will end."

North Tahoe complies

The regulations could be expanded if the drought continues, Marcus said in a news release.

The district will start sending brochures on the regulations to customers with their water bills, Emmerich said. The water agency offers sewer and water services to customers from Crystal Bay to Dollar Point, Emmerich said.

The focus will be on those who use excessive water, including residents who might have leaky pipes or are overwatering their lawns, she said.

"You can burn through 50,000 to 60,000 gallons of water without knowing if you don't have a meter," she said. "This area has really sandy soil, so if people have leaks anywhere, that water doesn't come back up, it gets absorbed and they would never

know they're wasting water."

Customers also must only water before 11 a.m. or after 6 p.m., Emmerich said.

"The more you use water in the morning and in the evening, then that water won't evaporate as quickly and you'll have more water going into the ground," she said.

Enforcement plan

Customers who overuse water will be sent a letter and a brochure explaining the regulations.

"We're really hoping that a nice personalized letter will encourage people to take care of their issues within five business days," Emmerich said.

Customers will then receive a violation notice, giving them another five days to resolve the issue.

If the violation is left unresolved, customers can face a $100 fee per day for non-compliance that will be added to the water bill. That customer will then have two business days to correct the violation.

A third violation could mean a $250 daily fee and two business days to comply.

The customer's water will then be shut off, Emmerich said.

"I think we live in a relatively environmentally friendly community and people can see for themselves that the water levels at Lake Tahoe are low," Emmerich said. "So we haven't heard anybody complain about these measures yet."

"This is the first time any of us that are here right now can ever remember having set a regulation like this," she said.

If you go:

What: The North Tahoe Public Utility District and the Tahoe City Public Utility District to hold a WaterWise Landscaping Workshop

When: 6 p.m.-8 p.m. Aug. 28

Where: Tahoe City Public Utility District offices, 221 Fairway Ave. in Tahoe City

Source: North Tahoe Public Utility District

Zebra Mussels Move Into Denton Water System

July 31, 2014 9:54 PM

Related Tags: clog, denton, Infestation, lake ray roberts, wastewater treatment plant, water department, Zebra mussel, Zebra Mussels

DENTON COUNTY (CBSDFW.COM) – They are a species about the size of a dime, but the damage they are causing will cost one city millions. Zebra mussels have moved from Lake Ray Roberts into the water system in Denton.

The infestation is something like a clogged pipe problem. Each mussel that moves into the main water line threatens to clog things up. Even though there is currently only a thin layer of zebra mussels in the system Denton officials say it will cost some $500,000 to clean.

Zebra mussels have been moving through Lake Ray Roberts for two years. But fishermen, like Lawson King, say now they see them just about everywhere.

“You can catch branches and it’s covered in zebra mussels,” he said.

A few of the mussels showed up in Denton’s water treatment plant last fall. The Army Corps of Engineers found them coating underwater screens.

Denton water manager Tim Fisher decided it would be best if they looked to see if the mussels were also on city water lines.

“We weren’t really sure what we were going to find,” he said.

City workers put a camera in the pipeline, where the

city pulls its raw water out of Lake Ray Roberts, and found 80-percent of it covered in zebra mussels. That discovery prompted them to submerge another camera by the water treatment plant. That video showed that 20-percent of the pipeline was covered.

To keep water flowing, Denton city leaders were told Thursday that money is needed to fund four cleanup and mussel control projects.

“Look at all the other facts and it pretty much made sense,” Fisher said.

The zebra mussel projects are estimated to cost $3 million. The expenditures will probably result in a near one-percent increase in area utility bills – for now.

Slowing Water Slows Area Business

Posted: Aug 20, 2014 3:59 PM PDT
Updated: Aug 20, 2014 4:25 PM PDT

By Kristen Remington - email

The Truckee Meadows Water Authority says this time of year, the Truckee is usually flowing at about 300 cubic feet per second through downtown Reno. Right now that's dropped to just about 80.

TMWA says for the first time in 20 years, it's tapping into its drought reserves.

Long-time fly fisherman Mike Sexton comes down to the Truckee River quite often and knows it well.

"Probably 14-16 inches down it seems like…I'm normally standing in this about right here."

While the below-average water levels aren't keeping him from casting and reeling in, the river flow is changing when he and other anglers fish. Many only come out early now, because the low flow means warmer waters.

And as Jim Litchfield, of the Reno Fly Shop, explains when water temperatures go up it adds stress to fish just to survive. So adding a catch-and-release can be too much. "It's not difficult to find fish, because unfortunately they don't have many places to go. The biggest thing we're trying to let people know is the water temperatures are high."

Meantime, on the other side of the river, at Sierra Adventures, Jim Bell monitors the water levels closely, too.

His business depends on it. He rents out kayaks, rafts and tubes. But when the water levels drop below 100-150 cubic feet per second he says, so does business.

Since last week, rentals have dropped about 60%. "It's really tubing only right now, that's about it."

But instead of sitting back and waiting for another storm, Bell's getting creative offering other rentals instead. "We got the bike rentals here and other things people can do. This last week, I ran three ATV trips."

All the while waiting for river levels to rise again.

TMWA says its plans to continue drawing from its reserves for the next couple months to keep up with demand from its customers and its downstream obligations. TMWA adds it has planned for a nine-year drought, so it has plenty of water in storage.

Workshops Scheduled to Address Water Consolidation

Posted: Aug 20, 2014 12:15 PM PDT
Updated: Aug 21, 2014 9:25 AM PDT

From Washoe County:

A series of public workshops is scheduled to address rules and rates regarding the consolidation of Washoe County's water utility and South Truckee Meadows General Improvement District (STMGID) with Truckee Meadows Water Authority (TMWA). The consolidation is scheduled to be completed by Dec. 31, 2014.

As directed by the Nevada State Legislature, the goals of the water utility consolidation are to achieve lower cost of service while also allowing for a “conjunctive use” approach to area water-resource management and that no customer group will be negatively impacted.

Water rates will not change for any customer, but the TMWA Board of Directors must adopt the current rate schedules for current Washoe County and STMGID customers. As part of that process, workshops have been scheduled pursuant to TMWA administrative procedures. If you have any questions, please attend one of the following meetings:

Mt. Rose/Galena Fan Domestic Well Mitigation Program: Aug. 26, 2014, 6 p.m.
STMGID Rates: Sept. 8, 2014, 5:30 p.m.
Washoe County Water Utility Rates: Sept. 9, 2014, 5:30 p.m.
Rules of Service Changes and Other Rates: Sept. 10, 2014, 5:30 p.m.

All workshops will be held at TMWA's main office at 1355 Capital Blvd., Reno, NV 89502.

For more information, go to www.tmwa.com/news/consolidation.

From Washoe County

Threats facing Tahoe include climate change, drought

Politicians, scientists and others convene to discuss the future of an endangered national treasure.

Jeff DeLong, RGJ *9:17 a.m. PDT August 20, 2014*

(Photo: Paul Altrocchi/Special to the RGJ)

A changing climate, worsening drought and catastrophic wildfires were among the top threats to Lake Tahoe cited Tuesday during the 18th annual Lake Tahoe Summit.

Federal and state officials joined scientists and land managers and noted successful efforts to restore Tahoe as well as major challenges that lie in the years ahead.

"What we do today, the determinations we make, are going to be the foundations for what happens to the lake in the future," Nevada Gov. Brian Sandoval told the crowd assembled on the south shore of the lake.

Chief among coming tasks will be efforts to reauthorize the Lake Tahoe Restoration Act, which would provide $415 million for environmental projects around the lake. The act has bipartisan support from the Nevada and California delegations but could face

a tough time moving forward through a divided Congress, officials said Tuesday.

"As you might guess, we face an uphill battle getting the bill passed," said the host of this year's summit, U.S. Sen. Dianne Feinstein, D-Calif.

Tuesday's event was held 17 years after President Bill Clinton convened the first Lake Tahoe Summit in 1997, calling attention to a host of ecological problems faced at the landmark alpine lake. Since then, some $1.74 billion has been spent on environmental projects around the Tahoe Basin — including erosion control, wetlands restoration and forest health improvements — with many positive changes accomplished, summit participants said.

Of the $1.74 billion, some $323 million was raised from the private sector and that revenue source will prove increasingly vital in the future with public funds "in short supply," Feinstein said.

A drought now three years long has produced conditions of concern at Tahoe, where "we see wide expansive beaches that shouldn't be there," and elsewhere across the West, Sandoval said. Nevada's governor was among several speakers that spoke of increasing concern over wildfire.

"If these drought conditions continue there will be more stressed and dying trees which will increase the risk of fire," Sandoval said.

And if fire is a growing danger, people may have only themselves to blame, said Rep. Tom McClintock, R-Calif. McClintock lashed out at policy he said has left far too much timber standing in overgrown forests that should be thinned. McClintock called fire the "greatest natural threat" facing Tahoe.

The danger was made clear by the Angora Fire that destroyed more than 250 homes outside South Lake Tahoe in 2007, McClintock said. And it was made clear last summer by the Rim Fire, the Sierra's largest, that chewed through 400 square miles of forest.

Many of the trees burned then should have been removed through salvage logging projects, producing millions of needed dollars for the government, McClintock said.

"Instead, that timber rots in place," he said. "The situation today calls out for the return of sound forest management practices."

Democratic California Gov. Jerry Brown, keynote speaker, said those tasked with protecting the lake must continue to take "baby steps" toward an ambitious goal he described as a decidedly challenging one.

"We are engaged in a great undertaking," Brown said. "It's going to take science, management, technology and learning how to live with nature because in the end of the day, nature rules."

At a glance:

ENVIRONMENTAL SPENDING

Between 1997 and December 2013, all sectors collectively invested $1.74 billion in projects to restore Lake Tahoe:

FEDERAL GOVERNMENT: $576.3 million

CALIFORNIA: $654.6 million

NEVADA: $112.5 million

LOCAL GOVERNMENT: $74.9 million

PRIVATE SECTOR: $323.7 million

Source: Tahoe Regional Planning Agency

1 Month Since Voluntary Water Restrictions

*Posted: Aug 28, 2014 1:57 PM PDT*Thursday, August 28, 2014 4:57 PM EDT*Updated: Aug 28, 2014 2:18 PM PDT*Thursday, August 28, 2014 5:18 PM EDT
By John Potter - email

Today (Thursday) marks 1 month since the Truckee Meadows Water Authority did something it hasn't done in 20 years...ask their customers to voluntary reduce how much water they use. Users were asked to reduce their outdoor water use by 10%, and not water lawns from 11 a.m. to 7 p.m. As TMWA Senior Hydrologist Bill Hauck told us, "The summer of 1994 was the last time we had to ask our customers to do any kind of conservation."

Houck has been running the water numbers at TMWA for 18 years now. He's been through the dry stretches, but none like this one. As he put it, "We've seen a very dry year here and there and even 2, but to have 3 back to back the way we did, this is about as bad as I've seen."

We did get a monsoon-based series of downpours in early August, which let TMWA hold off on making that difficult next step, and that is to use those backup drought supplies. But, as I'm sure you've noticed, the weather has been back to dry and desert-like. Hauck told us, "We have used some of our drought supplies from Boca and Stampede. On September 1st on Labor Day, we'll cut back releases from Stampede and we'll start releasing from Donner Lake."

The situation prompted the unusual request to lower water usage. And after 1 month, even though it was made as a voluntary request, users pulled through. Hauck says, "We've seen about a 12% reduction in customer demand, which is absolutely fantastic. You know we came out and asked for 10%...you never know what you're going to get, but we're certainly more than happy."

After this month's rain, TMWA began tapping into those drought reserves at Boca and Stampede reservoirs. On Monday, they'll take some from Donner Lake. But if the 12% conservation rate holds up, TMWA will be able to keep Independence Reservoir full this year, and have others in good shape and ready…in case there's a 4th year of drought.

For tips on how you can achieve your own 10% or more in water savings, click the link below:
www.tmwa.com/save

Ask the RGJ: Are Burners wasting local water?

Emerson Marcus, RGJ *7:49 p.m. PDT September 2, 2014*

(Photo: Andy Barron/RGJ)

Question:They (Burners) come here and use thousands of gallons of water when we are told to conserve our water. Why are they allowed to come into our town and use our water when we are in a drought?

— Shirley B.

A: Truckee Meadows Water Authority says it discourages water waste throughout the year.

But they say there is no reason to believe Burners waste water or significantly affect water use in the region, even when they're washing off dusty vehicles after the Burning Man festival.

Water-saving tips: Here's how to cut water use during drought

Most car washes recycle water and as long as someone is washing property at home with an adjustable nozzle, it is OK, TMWA manager of customer services Andy Gebhardt said.

But Gebhardt says car washes are more efficient means of saving water than washing vehicles covered with playa dust at home. That's because most car washes recycle water, he said.

Gebhardt, who takes complains on water waste, said he has not taken complaints on Burners wasting water as they return from the annual festival in the Black Rock Desert. There is no reason to believe, historically, that Burners waste water when they return from the playa, he said.

Customers in the Truckee Meadows have been asked to cut water use by 10 percent this summer following a three-year drought.

California's 100-year drought

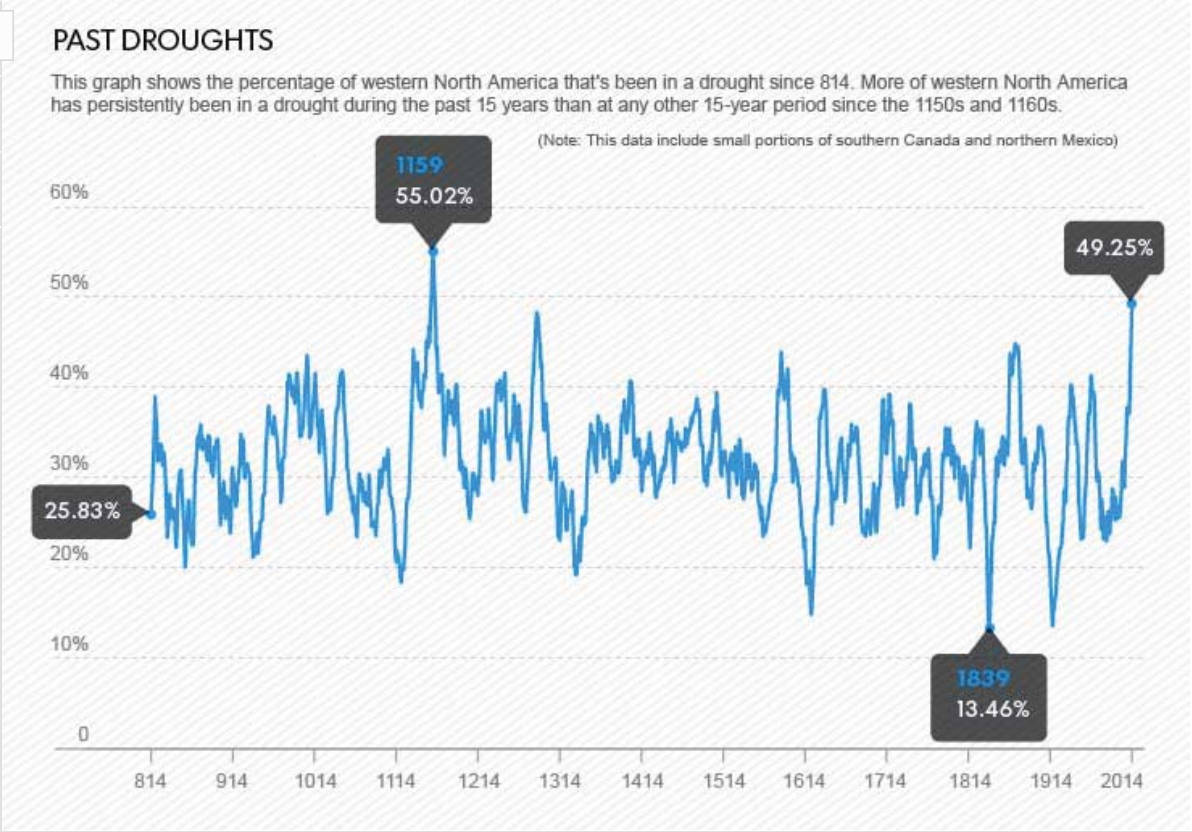
MEGADROUGHTS A THREAT TO CIVILIZATION

Megadroughts are extreme dry spells that can last for a decade or longer. They have parched the West, including present-day California, long before Europeans settled the region in the 1800s.

1 PAST

2 PRESENT

3 FUTURE



Lamont Doherty Earth Observatory of Columbia University; U.S. Drought Monitor; Cornell University
Doyle Rice, Frank Pompa and Julie Snider, USA TODAY

Doyle Rice, USA TODAY *9:23 a.m. EDT September 3, 2014*

(Photo: Justin Sullivan, Getty Images)

California is in the third year of one of the state's worst droughts in the past century, one that's led to fierce wildfires, water shortages and restrictions, and potentially staggering agricultural losses.

The dryness in California is only part of a longer-term, 15-year drought across most of the Western USA, one that bioclimatologist Park Williams said is notable because "more area in the West has persistently been in drought during the past 15 years than in any other 15-year period since the 1150s and 1160s" — that's more than 850 years ago.

"When considering the West as a whole, we are currently in the midst of a historically relevant megadrought," said Williams, a professor at the Lamont-Doherty Earth Observatory of Columbia University in New York.

Megadroughts are what Cornell University scientist Toby Ault calls the "great white sharks of climate: powerful, dangerous and hard to detect before it's too late. They have happened in the past, and they are still out there, lurking in what is possible for the future, even without climate change." Ault goes so far as to call megadroughts "a threat to civilization."

WHAT IS A MEGADROUGHT?

Megadroughts are defined more by their duration than their severity. They are extreme dry spells that can last for a decade or longer, according to research meteorologist Martin Hoerling of the National Oceanic and Atmospheric Administration.

Megadroughts have parched the West, including present-day California, long before Europeans settled the region in the 1800s.

Most of the USA's droughts of the past century, even the infamous 1930s Dust Bowl that forced migrations of Oklahomans and others from the Plains, "were exceeded in severity and duration multiple times by droughts during the preceding 2,000 years," the National Climate Assessment reported this year.

The difference now, of course, is the Western USA is home to more than 70 million people who weren't here for previous megadroughts. The implications are far more daunting.

Overall, "the nature of the beast is that drought is cyclical, and these long periods of drought have been commonplace in the past," according to Mark Svoboda, a climatologist at the National Drought Mitigation Center in Lincoln, Neb. "We are simply much more vulnerable today than at any time in the past. People can't just pick up and leave to the degree they did in the past."

Ault agrees that this long-term Western dry spell could be classified as a megadrought. "But this is not as bad as it could get," he warned.

How do scientists know how wet or dry it was centuries ago? Though no weather records exist before the late 1800s, scientists can examine paleoclimatic "proxy data," such as tree rings and lake sediment, to find out how much — or little — rain fell hundreds or even thousands of years ago.

At the most simplistic level, tree rings are wider during wet years and narrower during dry years.

"Prolonged droughts — some of which lasted more than a century — brought thriving civilizations, such as the ancestral Pueblo (Native Americans) of the Four Corners region, to starvation, migration and finally collapse, " Lynn Ingram, a geologist at the University of California-Berkeley, wrote in her recent book *The West Without Water*.

Ault says decade-long droughts happen once or twice a century in the Western USA, but much worse droughts, ones that last for multiple decades, occur once or twice per millennium.

Has California reached megadrought status? Not yet: "This one wouldn't stand out as a megadrought," Hoerling said. Even so, "this is the state's worst consecutive three years for precipitation in 119 years of records," he said.

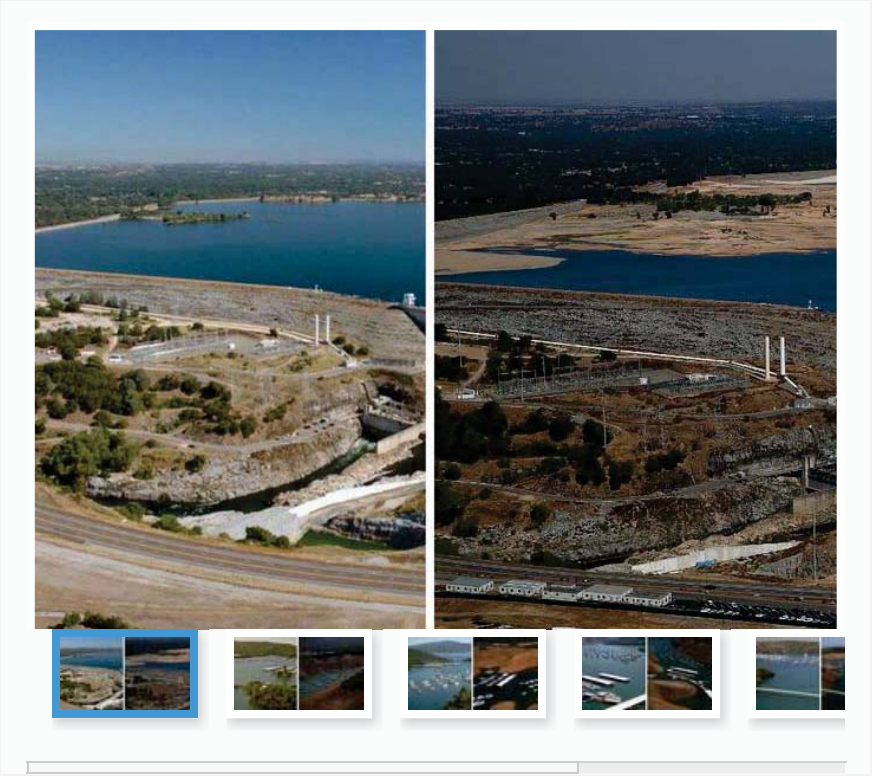
As of Aug. 28, 100% of the state of California was considered to be in a drought, according to the U.S. Drought Monitor. More than 58% is in "exceptional" drought, the worst level. Record warmth has fueled the drought as the state sees its hottest year

since records began in 1895, the National Climatic Data Center reports.

Because of the dryness, Calif. Gov. Jerry Brown declared a statewide drought emergency this year. Since then, reservoir storage levels have continued to drop, and as of late August, they were down to about 59% of the historical average.

Regulations restricting outdoor water use were put in place in late July for the entire state. People aren't allowed to hose down driveways and sidewalks, nor are they allowed to water lawns and landscapes (if there is excess runoff). There are reports of wells running dry in central California.

About 1,000 more wildfires than usual have charred the state, including some unusual ones in the spring.



The drought is likely to inflict $2.2 billion in losses on the agricultural industry, according to a July study from the University of California-Davis.

HOW BAD CAN IT GET IN CALIFORNIA?

"If California suffered something like a multi-decade drought," University of Arizona climate scientist Gregg Garfin said, "the best-case scenario would be some combination of conservation, technological improvements (such as desalinization plants), multi-state cooperation on the drought, economic-based water transfers from agriculture to urban areas and other things like that to get humans through the drought.

"But there would be consequences for ecosystems and agriculture," he said.

"In the worst-case scenario, there might be out-migration and/or ghost towns," Garfin said. As a way to avoid this, "we could simply suck down more and more groundwater, which would have its own set of ramifications for local aquifers and the environment."

Even in the worst case of severe multi-decade drought, "it is hard for me to imagine people and businesses being banned from moving into urban areas of California," he

said.

"We have much better resilience now than in the 'ghost town days,' with the ability to drill deeper, along with various ways of importing water and trading for water," Garfin said. "A more subtle way of restricting people (not banning them) is what Santa Fe has done — where new housing developments must either come with their own new source of water, or they must offset the water through conservation."

Overall, if the drought worsened, "we'd have to learn how to use water more efficiently," Ault said. "This is a glimpse of the future."

ROLE OF CLIMATE CHANGE

What role does climate change play in this drought or in future droughts?

Scientists such as Hoerling and Ault say they don't have the tools to tease out how much of this specific drought might be attributed to climate change.

"As of now, probably very little of the California drought can be attributed to climate change with any certainty," said tree-ring scientist Edward Cook of Lamont-Doherty.

Overall, past droughts have probably been due to subtle changes in water temperatures in the tropical Pacific Ocean. Cooler water temperatures — known as La Niñas — tend to produce drier conditions in the West.

Droughts in North America's "Medieval Warm Period" (roughly 950-1250) were associated with high temperatures in the Southwest and were probably caused by persistently cool La Niña-like conditions in the tropical Pacific Ocean. Since 2000, the dominant climate pattern has been La Niña.

Hoerling noted that some computer models from the Intergovernmental Panel on Climate Change, a United Nations science panel, show that California could actually see more, not less, winter rain and snow because of climate change.

However, overall rising temperatures would tend to favor more droughts, University of Arizona scientist Jonathan Overpeck said.

"It's been anomalously hot recently, which was not likely to have occurred without global warming," Overpeck said. "The odds are only going up that we could have a megadrought as the Earth warms."

Trends toward warmer temperatures could lead to a long-term dry spell in the region, according to a 2004 study led by Cook in the journal *Science*.

What's troubling is that the 20th century — during which time California's population increased from about 1.5 million to almost 40 million — may well have been an outlier, an unusually wet century: "Overall, the 20th century experienced less drought than most of the preceding four to 20 centuries," the *Science* study said.

Ault continues to investigate the relationship between climate change and megadroughts and the likelihood that an even more severe megadrought might hit in the next hundred years in the Southwest — one that's worse than any other drought in the past 1,000 years.

Specifically because of global warming, Ault says, the chances of the Southwestern USA experiencing a decade-long drought is at least 50% (but may be closer to 80%-90%), and the chances of a three-decade-long megadrought range from 20% to 50% over the next century. Ault is writing a study about this that will be published in a forthcoming issue of the American Meteorological Society's *Journal of Climate*.

"For the Southwestern U.S., I'm not optimistic about avoiding real megadroughts," Ault said. "As we add greenhouse gases into the atmosphere — and we haven't put the brakes on stopping this — we are weighting the dice for megadrought conditions.

"The risks would be lower if we didn't warm the planet as much as is expected to occur, but they aren't zero, because we know these things happen naturally," he said.

This is serious stuff: "Megadroughts are a threat to civilization," Ault said at an American Geophysical Union conference this year. "They could possibly be even worse than anything experienced by any humans who have lived in that part of the world for the last few thousand years."

oe Valley contract

nite Construction Company won a illion contract from Washoe County Works contract to improve Eastlake ard in Washoe Valley.
ng the project, scheduled to begin onth and continue into October, rucks will not be allowed on Eastlake ard.

etained

3 Marketing of Reno has been d to provide marketing communi- services to the Reno-based Nation- ncil of Juvenile and Family Court

tarts production

ed Resource Holdings Group Inc. of aid last week that it's begun com- production at its Dun Glen gold 5 miles southwest of Winnemucca ning County.
company controls 530 acres in the the mine, which was once operated quip Inc. and Homestake Mining Co. Fortune Cookie Mine.

n produces videos

nan Studios of Reno completed two service videos under contract from ada Department of Agriculture. y Nevada" and "Nevada School videos feature first lady Kathleen al.

Painting contract

m Painting & Decorating of Sparks 14,680 contract from the Forest to paint a warehouse in the Ely district.

Tolling agreement

The Jerritt Canyon Mine north of Elko will process about 1,000 tons of ore a day from the Big Springs project of Anova Metals Ltd. Veris Gold, owner of Jerritt Canyon, says the tolling agreement allows for processing in lots of approximately 25,000 tons. Both Jerritt Canyon and Big Springs are north of Elko.

Solar contract

Next Space Solutions LLC of Reno won a $27,740 contract from the U.S. Forest Service to provide solar pumps for use at the Dakota Prairie Grasslands headquartered at Bismarck, N.D.

Ponderosa Village completion

Ponderosa Village, a faculty and graduate-student housing project developed through a public-private partnership at the University of Nevada, Reno, has been completed. The project provides housing for 224 residents in one- and two-bedroom units. It was developed by Balfour Beatty Campus Solutions and designed by BLT Architects of Philadelphia.

Thermal Tennis merger

Thermal Tennis Inc., a small publicly held company in Reno, agreed to a merger with Colorado-based CannaSys Inc., which develops marketing for recreational-marijuana companies. Bob Deller, former CEO of Thermal Tennis, will step down, and the company will change its name to CannaSys.

Great Basin approval

Great Basin Federal Credit Union in Reno has been approved by the SBA as an Express Lender, which provides a streamlined review process. The credit union has made $2 million in business loans since beginning the lending program last October.

BAWN's new members

New members of the Builders Association of Western Nevada include Excal Construction Inc., J IV Electric, NAI Alliance Carson City and NOCA Repairs Inc.

TMWA recognition

Truckee Meadows Water Authority earned the Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association of the United States and Canada for the 11th consecutive year.

CAMPN meeting

The Carson Area Marketing & PR Network meets at 5:30 p.m. Wednesday. at the Business Resource Innovation Center, 108 E. Proctor St. in Carson City.

Joel Dunn, executive director of the Carson City Visitors Bureau, who will discuss out-of-the-box marketing strategies for Carson City. Kyle Horvath, social media director for the CCVB, also discusses how Carson City's arts, culture, history, recreation and quality of life are marketed through social media.

To RSVP, email mike@prismphotographics.com or go online at www.campn.org.

Native American business seminar

The U.S. Small Business Administration's Office of Native American Affairs along with the Nevada Small Business Development presents a free business development training seminar, Thursday.

To register, see http://native8atraining.com/Pages/registration.aspx.

A Lot of Rain, But Not Enough to Offset Area Drought

Posted: Jul 21, 2014 2:46 PM PDT
Updated: Jul 21, 2014 4:16 PM PDT

By Erin Breen - **email**

Our rainy evenings have added up to slick streets, good news for our lawns and a lot of water cooler talk. But officials with Truckee Meadows Water Authority say it probably won't add up to offsetting our drought.

"We have certainly seen a spike in the river levels this week," says TMWA hydrologist Bill Hauck. "In fact in (Lake) Tahoe we did see a three-one hundredths of a foot increase in water. But we really just didn't get enough in the upper reservoirs to make much of a difference in our water outlook."

According to the National Weather Service in Reno, as uncommon as the storm series may seem, this area actually gets one or two sets of storms like this every summer. And the other problem is that the scattered thunderstorms we are seeing are so very scattered.

"You can get a lot of rain in one area and just a few blocks away it's dry. If the largest amounts of rain fell into the reservoirs it would be different, but the rain is very scattered," says Chris Smallcomb with the National Weather Service in Reno.

And TMWA agrees. If the bulk of the rain fell into the upper reservoirs it would help. Instead they say they will be asking for voluntary cuts the end of the month.

"Come July 28th, we will still be asking our water customers to make a 10% cut in their outdoor water use. And we'll be asking them not to water between the hours of 11 a.m. and 7 p.m.," Hauck says.

But those cutbacks are not in effect now and they are voluntary.

California hopes fines up to $500 slow water waste

Posted: Jul 09, 2014 3:07 PM PDT
Updated: Jul 09, 2014 3:09 PM PDT

By DON THOMPSON
Associated Press

SACRAMENTO, Calif. (AP) - Brown lawns and dusty cars could become the norm in California as state regulators consider unprecedented $500-a-day fines for water-wasters, after acknowledging that voluntary steps to reduce consumption amid a historic drought haven't worked.

Water regulators are set to consider the draft emergency regulations when they meet in Sacramento next week, invoking for the first time mandatory statewide restrictions on residential outdoor water use.

A combination of mandatory and voluntary restrictions has resulted in a statewide water use reduction of 5 percent through May, far short of the 20 percent sought by Gov. Jerry Brown.

Regulators are hopeful that Californians, with some nudging, will respond as they did during the drought of 1976 and 1977.

Brown happened to be governor then, as well, and called for statewide conservation measures. About a third of the state's residents responded, enough to voluntarily reduce water consumption by about 20 percent, according to an archived report from the state Department of Water Resources.

"I like to say, having a browning lawn and a dirty car is a badge of honor," State Water Resources Control Board Chairwoman Felicia Marcus said in a telephone interview with The Associated Press.

About 30 percent of the state's water suppliers already have imposed mandatory restrictions that include limits on outdoor irrigation, washing vehicles and filling ornamental fountains and swimming pools.

The regulations the board will consider Tuesday aim to put muscle behind conservation efforts and would give more authority to law enforcement to impose the restrictions, though it will be up to local governments on how and when to act.

Urban water agencies would have to require mandatory restrictions on outdoor water use, if they have not done so already. Agencies without water plans would have to restrict outdoor irrigation to no more than two days each week or take other mandatory steps to conserve the same amount of water.

Statewide regulations would prohibit landscape watering that causes runoff onto sidewalks or streets, washing sidewalks, driveways and other hard surfaces, using a hose to wash a vehicle unless the hose has a shut-off nozzle and using drinking water in a fountain or decorative water feature unless the water is recirculated.

Violations would be punishable by fines of up to $500 a day, although most cities are likely to have a sliding scale that starts with a warning and builds for repeat violations.

The board is initially targeting outdoor use because that accounts for much of the water waste, Marcus said.

The California Department of Water Resources estimates that cities and suburbs use about a fifth of the state's water in most years. About half of the urban water use is outdoors.

Agriculture is by far the greatest water user, accounting for 75 percent of the state's consumption.

Kevin Wattier, general manager of the Long Beach Water District, said the agency already has mandatory restrictions but added that his district's starting $50 fine is too small to bother enforcing. He said the possibility of heftier penalties alone should stop guzzlers.

Tim Quinn, executive director of the Association of California Water Agencies, said he doesn't expect fines to be imposed by local agencies on a large scale, but said the regulations would push Californians to take the drought seriously.

"The word 'voluntary' doesn't say 'serious' to most people; the word 'mandatory' does," Quinn said.

Marcus, the water board chairwoman, said the proposed regulations are reasonable steps that all residents should take.

"What we're proposing here as an opening salvo is the bare minimum," Marcus told reporters during a conference call. "If it doesn't rain later this fall, we certainly will consider more stringent measures."

She said board members might require efforts to stop leaks that account for an estimated 10 percent or more of water use, or stricter landscape restrictions, or encouraging water agencies to boost rates for consumers who use more than their share of water as a disincentive.

"We're not trying to spank people. We're trying to ring a bell and get people's attention," she said.

"We have communities struggling for water and bathing out of buckets," Marcus said. It's fair, she said, for the state to require that at a minimum, "that people don't water sidewalks, that people don't let their water run when they're washing their car."

Associated Press Writer Fenit NIrappil contributed to this story.

Dealing with Drought part 3 of 5: What's the status of flat-rate customers?

July 9, 2014 by TR Reno Leave a Comment

Dealing with Drought part 3 of 5

By Bob Conrad, video interview by Bob Conrad and Chris Vega

THIS IS RENO: What is the status of residential flat-rate customers? Wasn't the goal to eventually move all residences to metered water service? Has metering water services impacted conservation?

Kim Mazeres, Truckee Meadows Water Authority: Flat-rate services have gone from 41 percent of our system in 2003 to 7 percent today, leaving about 6,400 services billing at the flat-rate currently. These are older homes, most with bigger lots that have a grandfathered flat rate.

So far, the switch to metered rates has been voluntary, unless a flat-rate customer moves. That triggers mandatory metered service for the next tenant/owner.

But remember, as is true with all of our rates, all costs associated with delivering water to a group of customers are paid by that group. For flat rate customers, we take the all of the costs and divide them equally among all of the flat-rate customers. Thus, the flat-rate customers who use a lower amount of water on average are subsidizing the higher use flat-rate customers.

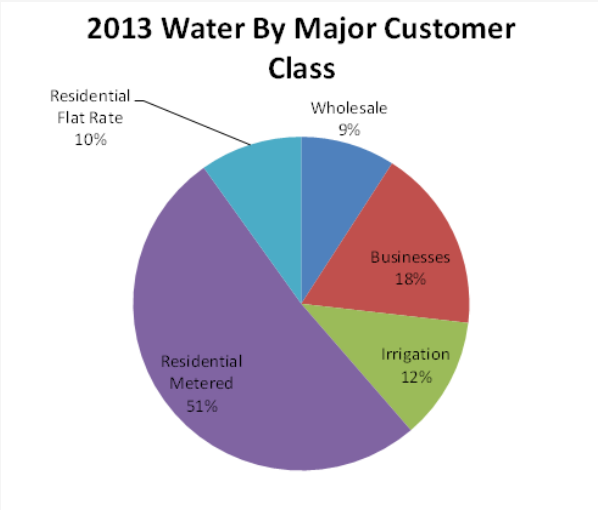
And, yes, metered water service sends a big economic signal to most customers. They pay for what they use. So, it eventually drives what you plant, how much lawn you have, how often you water, how proactively you search for irrigation leaks, etc. Most flat-rate customers have no reason to monitor their usage each month, as their bill is always the same. They could have a leak and not realize it. In last 10 years, our total annual water use has decreased by 15 percent, while our population has increased. We attribute a lot

About this series

This is Reno sat down with K Mazeres, Truckee Meadows Water Authority's director of customer relations, to explor the complex topic of how a w purveyor deals with the tough realities of drought. We sough find out more about our area' water use in key areas:

1. How well prepared our region is to deal with drought.
2. Why TMWA schedules wa conservation for specific times rather than year-round.
3. Why TMWA is tapping its reserves for the first tim 20 years.
4. Which water users are m targeted for conservatio and why.
5. What rules and regulatio

of that savings to conversion from flat-rate to metered rate billing.



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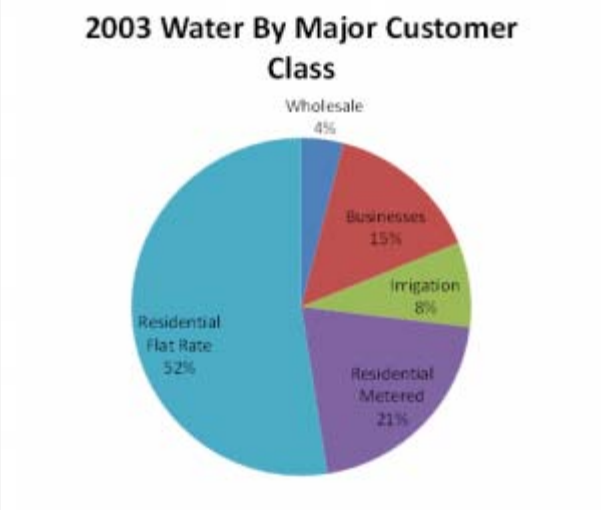

Click to enlarge. Source: TMWA.

Part 4 will be published tomorrow.

require TMWA to act and when.

6. What key agreement, no court, will greatly improv our region's ability to respond to drought.

Video interviews accompany each post in this series, exploring these topics in mor detail.

FIND OUT MORE

Here's more information on TMWA's water resources: www.tmwa.com/water_system/resources/2030wrp. For a deeper look at TMWA's resource planning, the "2010-2030 Water Resource Plan" can be downloaded here: www.tmwa.com/water_system/resources/2030wrp. Portions of the plan, which was adopted by the TMWA Board of Directors in 2 are incorporated into the Regional Water Management Plan, which is maintained by the Western Regional Water Commission.

Dealing with Drought part 4 of 5: How do we compare with other municipalities?

July 10, 2014 by TR Reno Leave a Comment

0 Sidenotes

Dealing with Drought part 4 of 5

By Bob Conrad, video interview by Bob Conrad and Chris Vega+

THIS IS RENO: How unique is the TMWA water system in comparison with other western municipalities? What is similar?+

What do you think?

Kim Mazeres, Truckee Meadows Water Authority: We are very unique, and what makes us so are our drought planning and drought reserves. Our drought reservoirs are Donner and Independence Lakes. They are very likely the only ones in the Sierra that are full.

We also have very healthy underground drought reserves. Our groundwater supplies are also enhanced and protected each winter when TMWA injects approximately five million gallons of treated water per day through its wells into the groundwater aquifer for future drought-year use.+

So, our community is very fortunate to have a robust supply system of upstream reservoirs and underground reserves available for use during dry years. Most water systems rely heavily on one or the other.+

We often get asked about why we do not have a “cash for grass” program like many other desert communities – that’s paying customers to take out areas of turf. The reason TMWA hasn’t offered this program is that we have to have an income source. For most water utilities, that’s the ability to turn around and sell that water again, usually to a developer.+

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As a community, we made a decision following the 1990's drought that precludes reselling saved water. Saved water is stored upstream or underground in the form of drought reserves. Thus, this decision has allowed the growth of the drought reserves we have today. And, this is a good thing, because that saved water benefits the whole water system and doesn't fuel growth. +

Part 5 will be published tomorrow.+

5. What rules and regulatio require TMWA to act anc when.
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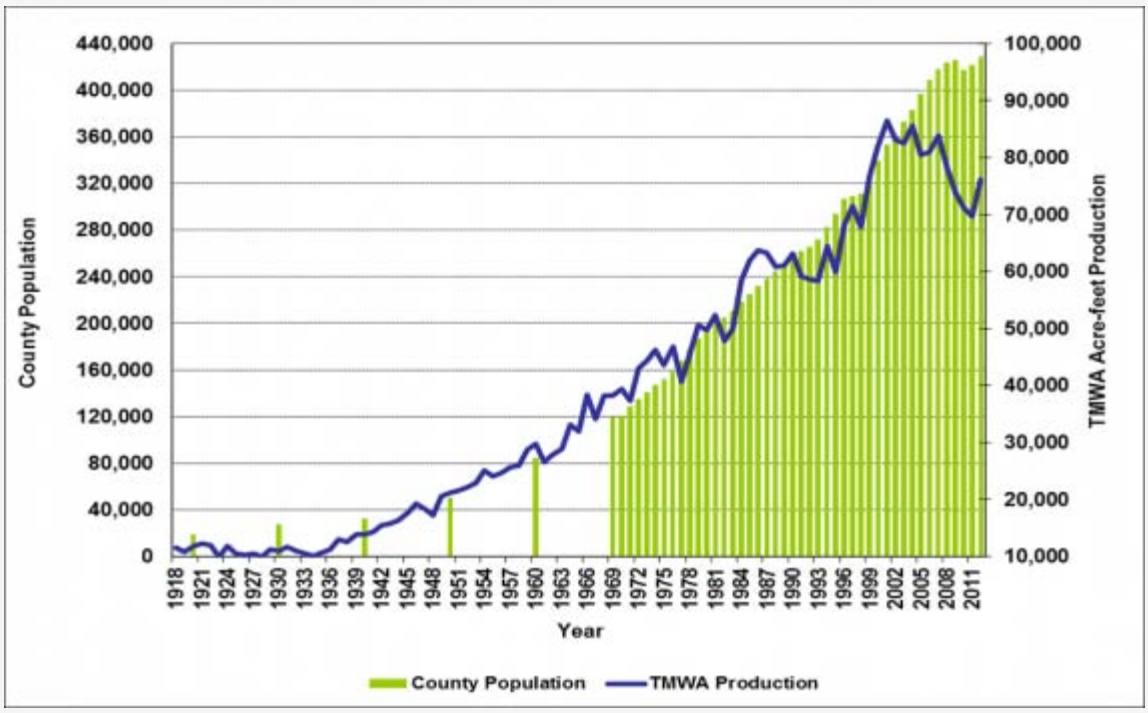

Source: TMWA.

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FIXES

The Art of Water Recovery

By DAVID BORNSTEIN JULY 10, 2014 8:00 PM

Fixes looks at solutions to social problems and why they work.

Imagine that you run a company that sells bottled water. You spend lots of money, and use lots of energy, pumping the water out of the ground, purifying it and transporting it for sale. Then, one day, you discover that a large number of bottles never make it to the stores. They are falling through holes in the trucks.

Wouldn't you want to know what could be done about it? Wouldn't you be crazy to allow the situation to continue?

Well, that's what's happening with many water utilities in the United States. The Environmental Protection Agency estimates (pdf) that public water systems lose, on average, one-sixth of their water — mainly from leaks in pipes. The E.P.A. asserts that 75 percent of that water is recoverable. (In truth, the volume of leakage in the nation's 55,000 drinking-water systems is unknown, because few conduct water audits using the standards established by the International Water Association and the American Water Works Association.)

It's been widely reported that California is experiencing its worst drought in history. But take a look at the United States Drought Monitor: much of the country is abnormally dry or in drought. Internationally, the problem is even more serious. The World Bank reports that, over the next decade and a half, water availability may fall 40 percent short of global need (pdf).

Meanwhile, utilities in the developing world are hemorrhaging water. The World Bank estimates that water systems have real losses (leakages) of 8.6 trillion gallons per year, about half in developing countries (pdf, 11MB, p.6). That's enough to serve 150 million Americans (and we use a lot of water!)

Why don't utilities do more to recover it?
The results can be substantial. Consider Manila. From 2009 to 2013, with project management from an innovative young company called Miya, the utility that provides water to the western zone of Manila, Maynilad, reduced its so-called non-revenue water from 1.5 billion to 750 million liters per day, mainly by stemming leakages (pdf).

During that period, according to Irineo L. Dimaano, who directs Maynilad's non-revenue water work, the company reduced the volume of water it supplied into the system by 400 million liters per day, while simultaneously serving an additional 1.3 million people, increasing the proportion of customers who receive 24-hour service to 97 percent from 65 percent, improving water pressure, and doubling annual revenues.

This is an extreme case of the potential gains that can be made by tightening up a water system. But water leakage is widely overlooked — largely because it is technical and dull and politically unattractive. “Water loss is unsexy,” said Mary Ann Dickinson, president of the Alliance for Water Efficiency. “There’s no ribbon cutting for new plants. If you announce that you’ve recovered a million gallons a day, it looks like you weren’t managing your system right in the first place.”

Today’s budding water loss industry grew out of the efforts of a bunch of brilliant, obsessive, far-thinking engineers in Britain who started something called the National Leakage Initiative in the early 1990s. Led by a man named Allan Lambert, they developed a methodology for categorizing and quantifying water leakage, and predicting losses, so they could rigorously determine how to reduce them.* This was vital in Britain, which had some of the world’s oldest water systems.

Their efforts were famously successful. Lambert later led a task force for the International Water Association, which established new standards for water accounting (pdf). In recent years some states, notably, California, Georgia, Tennessee and Texas, have begun requiring that utilities conduct water audits, but they have not mandated targets for water loss reduction. In fact, no state mandates targets for water loss reduction using the new standards.

Today, the emergence of companies that specialize in reducing water losses, like Miya, represents an important step forward, much like the emergence of energy service companies in the 1970s and 1980s to reduce energy use.

Miya was founded in 2006 by Shari Arison, an American-Israeli businesswoman and billionaire. Over the past eight years, the company has assembled a team of water loss experts and deployed them in a dozen countries. What distinguishes its work is its whole system approach: it looks at a water system the way a doctor looks at the body’s circulatory system.

Water systems are counterintuitive. It’s commonly thought that water leakage can be solved simply by replacing the worst pipes, but that’s usually just a short-term fix. The real key is understanding and managing pressure.

“When you have a pressurized system, what you do in one place affects all other places,” said Meir Wietchner, Miya’s chairman. Replace a leaky pipe segment and the pressure will increase in other segments and more leaks will sprout. “It’s simple physics,” he added. “And the larger the pressure the larger the leakage. If a hole that’s receiving one unit of pressure will leak X gallons per day, with 2 units of pressure it will leak 4X, and with 3 units pressure it will leak 9X. It’s a square function.”

One of Allan Lambert’s insights was to separate leaks into “bursts” and “background” losses (pdf). “It isn’t the main leaks that cause the most loss of water,” he said. “It’s the long-running leaks that go on for months or years that aren’t detected. One leaking toilet will lose as much water in two years as a burst in a four-inch main for a full day.”

So how do you fix and manage a system that's leaking in tens or hundreds of thousands of places — and how do you do it cost effectively?

RELATED
More From Fixes
Read previous contributions to this series.

That was the problem that Glen Laville, the general manager for the Bahamas Water and Sewerage Corporation (W.S.C.), was facing. Before 2012, to serve the water needs of New Providence, the largest island in the Bahamas, each day the W.S.C. was supplying some 12 million imperial gallons to the system — and each day it was losing 6.5 to 7 million gallons. Over the years, piecemeal solutions had been tried — mainly replacing big pipes — but the leakage always returned.

A cracked PVC pipe in an area of extremely high leakage in New Providence. Miya

In 2012, Miya won an $83 million 10-year contract to advance a more sustainable solution. "The other companies wanted to come in and change 20 to 30 miles of pipeline," said Laville. "We weren't looking for someone to come in and just give us a new infrastructure. We wanted a holistic approach."

One selling point was that 30 percent of the company's fees would be based on performance. To earn those payments, Miya would have to bring the leakage down to 2.5 million gallons per day by year five, and to 2 million gallons per day by year seven — and the levels would have to be maintained for the duration of the contract. (Reductions below that level become cost prohibitive.)

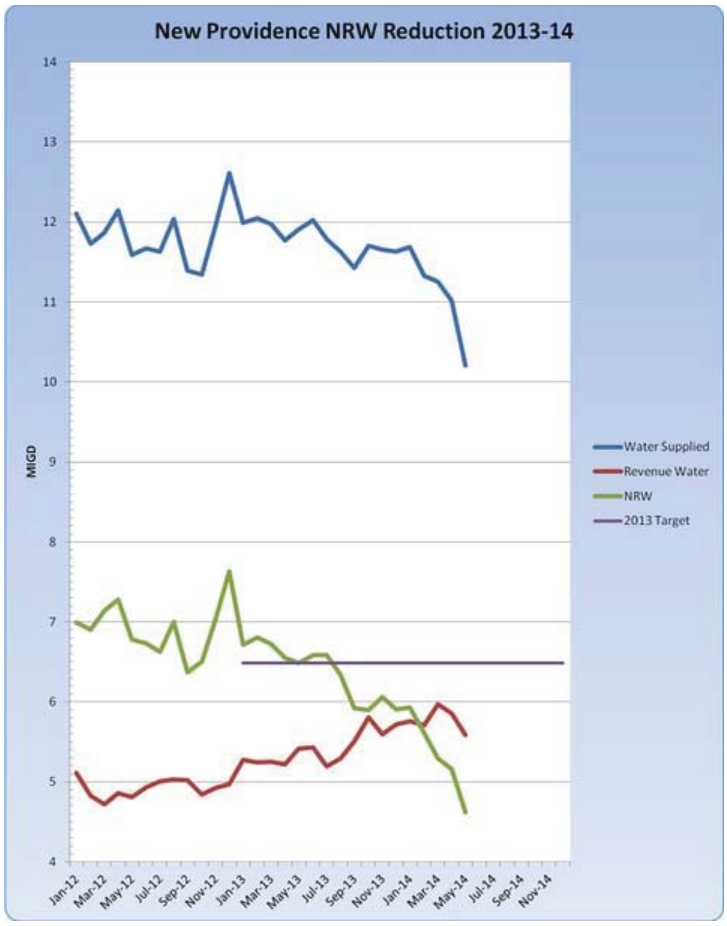
Work started in 2012. The company spent most of the year studying the problem, examining every component of the system, explained Sofia Kanellopoulou, the project manager for the Bahamas, who was formerly a deputy director of the Athens water utility. The system had 44,000 service connections — pipes from water mains to customers — and, in line with Lambert's findings from Britain, that's where 90 percent of the leaks were occurring.

There were many reasons for the leaks: Service connections hadn't been installed with proper pipes and fittings; water from the desalination plant contained substances that were damaging pipes; the water table was high, with saline intrusion from the sea, which

was also corrosive.

Then there was a secondary problem exacerbated by the leakage itself. With so much water lost, the system sometimes ran short of supply, and water had to be rationed. (Not for tourists, though. The big hotels typically supply their own water.) Water rationing is common in the developing world — but the consequences are poorly understood. When pressure drops to zero in pipes, contaminants in the surrounding ground — including salt water or waste from nearby sewage lines — can get sucked into the water lines, which is terrible for public health. And when you empty a system and then re-pressurize it, the resultant "surge wave" further damages pipes. A steady, moderately low level of pressure is best — just as in the human body.

Finding leaks is painstaking work. It starts by dividing a large system into smaller "district metered areas" where pressure can be independently monitored and controlled. You analyze tons of data with computer programs. You stay up late. Most of the water moving through a system in the middle of the night is leakage. Because it's too costly to replace every leaky pipe or connection, the key is to figure out how to save the greatest volume of water with the least possible effort.



MIGD= Millions of Imperial Gallons per Day; NRW = Non Revenue Water (leakages plus unbilled water) Bahamas Water and Sewerage Corporation

To do this, leak detectors with sophisticated sound equipment fan out around cities in the wee hours, listening closely to gauge the size of leaks below ground. (In the Bahamas that didn't work, however, because of electrical interference from power lines.)

Fortunately, the water pipes are only a few feet under the ground, so access was relatively easy.

To date, the system has been partitioned into 30 pressure zones, and will be further subdivided. More than 2,500 leaks have been repaired, using materials that are suitable for local conditions. Meters have been installed and the system pressure is being carefully managed. Water losses are already down to 4.5 million gallons per day, reports Laville. This past May, the W.S.C. needed to supply only 10 million gallons per day to meet customers' needs, two million less than in 2012.

"Last year, with two desalination facilities running at full capacity, we had to ration water," said Laville. "Within nine months of starting this project, we got to a point where we no longer had to ration the water. And we're now at a point where we can tell the desalination plant to cut back on their supply."

Over the 10 years, Laville estimates that the project will save 10 billion gallons of water, 7 million gallons of diesel, and 33 gigawatts of electricity. "In the 10 years, the project will pay for itself," he added. "It's almost a no-brainer."

It's a major improvement. But Paul Fanner, Miya's project director in the Bahamas, comments: "We're not doing anything that special. We just have to get all the things right. If you do one or two things, it doesn't work. It's all interrelated. It's not rocket science, but to do it well is very rare."

What Laville likes most is that Miya has just four people from outside the Bahamas working on the project. "That is an amazing thing for a project of this size and complexity," he said. "They come in, they train locals, they transfer that technology, and then they let them loose. At the end of 10 years, we'll have a trained work force to continue the work."

Efforts to reduce water leakage are spreading around the world, albeit slowly (pdf). There have been big water recovery gains in Cambodia, Brazil, South Africa and Malaysia, among other places. But despite the fact that it's good for business, good for customers, and good for the environment, bankers and politicians still favor expanding production when there are shortfalls (even if the expanded production will have to flow through the old leaky pipes!)

"In many areas of the world, there's no need to produce more water if we just cut waste," said Wietchner. "But a lot of people are not willing to admit the level of loss they have."

Back to California. There are currently 17 desalination plants in the planning or construction stages in the state. The $1 billion Carlsbad Desalination Project — the largest desalination facility in the Western Hemisphere — will produce 50 million gallons of potable water daily for San Diego county.

But how much water could be saved by reducing leakages in California?

One study (pdf) conducted for the California Public Utilities

Commission examined audits done by 17 water utilities and found that losses were 1.6 to 6.6 times higher than optimum levels. (See footnote, for a brief explanation of these numbers, known as Infrastructure Leakage Indices.) Assuming that 40 percent of the losses could be recovered economically, the study's lead author, Reinhard Sturm, estimated potential savings at 113 billion gallons per year — equivalent to the annual production of six Carlsbad projects.

It's vital to consider the impact on energy use and the environment. Water is often lost between the main pipe and the customer, which means it has already been extracted, treated and transported a very long way. That's expensive. All that energy is lost — and more has to be used — and that, of course, increases carbon emissions. California's water system is already the state's largest single energy user. At the same time, desalination plants are energy intensive. Electricity accounts for roughly half the cost of their water.

As noted, some states are requiring utilities to report water audits. And around the country, individuals like George Kunkel of the Philadelphia Water Department and Chris Leauber of the Water & Wastewater Authority of Wilson County, Tenn., and companies like Water Systems Optimization and Cavanaugh, are leading the way.

But given the scope of the problem – and the fact that utilities are asking their own customers to conserve water – far more attention is warranted. With properly conducted water audits and loss reduction targets, officials would be in a position to determine if shortfalls could be better met by reducing leakage than by increasing production. Right now, many have no way to know.

Part of the problem is good old-fashioned complaisance. "U.S. folks have the impression that they are already system tight and they don't need to do much more," said Mary Ann Dickinson, of the Alliance for Water Efficiency. "I believe they are mistaken and they need to run their numbers to verify where they are."

What's missing most is serious focus from governments, particularly at the state level. "Government policy makers are not paying attention to leakage," added Dickinson. "We want to see every state requiring their water utilities to look at this. That's what they did in the U.K., and the huge turnaround that occurred there is what we need to see in the U.S."

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* Note for wonks: Most people refer to water leakage in terms of percentage losses. However, Allan Lambert, the godfather of water-leakage reduction, argues against using percentages because they fail to provide a meaningful or consistent measure of the quality of a water system (and are easily manipulated). For instance, if you add a few large customers to a leaky water system and make no repairs, percentage leakage will drop. (It will appear that you have improved things when you have only increased the denominator.)

Lambert favors a measure called Infrastructure Leakage Index (I.L.I.), which compares real losses to the lowest level that is technically achievable for a particular system. An I.L.I. of 4 means

you're losing four times as much water as you would be losing if your system was optimally managed. I.L.I.s can be used to compare different systems, and also to estimate how difficult, and therefore costly, marginal gains will be to achieve.

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David Bornstein is the author of "How to Change the World," which has been published in 20 languages, and "The Price of a Dream: The Story of the Grameen Bank," and is co-author of "Social Entrepreneurship: What Everyone Needs to Know." He is a co-founder of the Solutions Journalism Network, which supports rigorous reporting about responses to social problems.

Dealing with Drought part 5 of 5: Working under federal mandates

July 11, 2014 by TR Reno Leave a Comment

0 Sidenotes

Dealing with Drought part 5 of 5

By Bob Conrad, video interview by Bob Conrad and Chris Vega+

THIS IS RENO: Can you explain mandated Truckee River flows?+

Kim Mazeres, Truckee Meadows Water Authority: The Truckee River has mandated minimum flows managed by the Federal Water Master. For instance, right now, 500 cubic feet per second (cfs) of flow must occur at the Calif.-Nevada state line. During the winter, that rate of flow goes down to 350 cfs. These flows were determined in the 1940s by the Orr Ditch Court Decree. Rates of flow takes into consideration the needs of all users on the Truckee River—municipal in Reno-Sparks, wildlife, Pyramid Lake, the farming communities downstream, irrigation needs in the Truckee Meadows, etc.+

As long as there is water in Lake Tahoe and Boca Reservoir, the required rate of flow must be met. You may be surprised to know that this community is a very small user on the Truckee River. In dry years, TMWA diverts eight percent and Truckee Carson Irrigation District gets the largest portion at 46 percent. And, in a normal year, TMWA's consumption goes down to three percent, while Pyramid Lake benefits the most at 80 percent.+

Again, when these rates of flow can no longer be met, we must use our drought reserves. This is the point in time when any water that the community conserves can be held back and saved in our drought reservoirs in Donner and Independence Lakes. We are predicting this will happen at the end of July. We will begin communicating with our customers and the community at that time to remind them that by saving 10 percent, they can do their part.+

About this series

This is Reno sat down with Kim Mazeres, Truckee Meadows Wat Authority's director of customer relations, to explore the comple topic of how a water purveyor d with the tough realities of droug We sought to find out more abou our area's water use in key area

1. How well prepared our regi is to deal with drought.
2. Why TMWA schedules wate conservation for specific ti rather than year-round.
3. Why TMWA is tapping its reserves for the first time i years.
4. Which water users are mos targeted for conservation, a why.
5. What rules and regulations require TMWA to act and w
6. What key agreement, now i court, will greatly improve region's ability to respond t

Where does the water come from for growth in our community?+

Because the diversion rights and volume have not changed since the 1940s, what does change is the use of water, such as agricultural to municipal. For more information, see our topic paper: http://tmwa.com/docs/your_water/topics/topics_growth_20120518.pdf .+

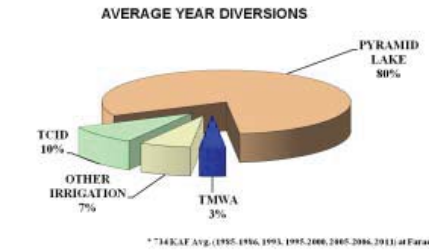
What else can you add?+

As a community, we are all in this together. I hope I have shown that if all of our 94,000 customers help just a little, just 10 percent, we can get through this drought with significant reserves left for next year.

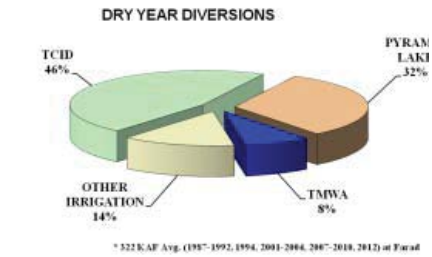
drought.

Video interviews accompany ea post in this series, exploring the topics in more detail.

Where does Truckee Rive water go?



Source: TMWA. Click to enlarge.



Source: TMWA. Click to enlarge.

local stories

Alien invasion

My time as a government agent, searching for invasive species

By William Albright

This article was published on 08.21.14.

America is being invaded by aliens!

I'm not talking about foreign children crossing our southern border or malevolent beings from outer space. This is an invasion of tiny plants and animals from around the world that threaten our waterways and even our way of life.

I should know. I was a boat inspector in the front lines of the war against aquatic invasive species.

I saw the job posting last winter as I was considering what to do for the summer. The idea of hanging out on a boat ramp by a mountain lake was very appealing. I applied for and got a job with the Truckee Regional Aquatic Invasive Species Prevention Program—TRAISPP.

TRAISPP covers several reservoirs in the Truckee River Watershed, including Boca, Prosser and Stampede—water bodies popular with boaters wanting to avoid the hassle and expense of launching at Lake Tahoe.

Last year, the program was voluntary for boaters, so being a boat inspector was more about education than enforcement. We would normally be on station at first light to ensure thorough screening of all vessels before they launched. Only a few hardy fishermen would already be afloat.

Mornings can be quite cold until the lake fog burns off, and the boaters begin to arrive. Until then, deer, eagles and the occasional hot air balloon rule the dawn.

When the boaters arrived, I would direct them to a coned-off area and hand them a clip board with a screening application for them to fill out. While they were completing it, I would ask them a few casual questions to determine if their boats required an actual inspection, decontamination or even the extreme measure of quarantine.

Quagga Mussels on a rope.
PHOTO / U.S. FOREST SERVICE

Most often a screening application was all that was needed, so I would explain about aquatic invasive species and how to guard against them. At that point, I would issue the vessel a sticker for the season, good throughout the watershed and at Donner Lake, which has its own inspectors.

During training, a lot of emphasis was placed on dealing with difficult boaters, but it is my experience that most boaters were at least patient with the process, and many expressed sincere gratitude that we were there to protect their water.

In hundreds of encounters, I only had one negative experience and that was with a boater who irrationally thought the information we were collecting would be used by the government to track his movements.

Alien Origin

Whatever you may think about the merits of globalization, one thing is certain: All that global trade is helping transport foreign plants and animals to places where they don't belong.

Quagga mussels are one of the greatest threats to North American waters. They are no threat to their native Ukrainian lakes and rivers, thanks to natural predators and other factors, but having no such restraints here, they are free to multiply without constraint.

Scientists believe quaggas made their way to North America in the ballast tanks of ocean-going ships headed for ports in the Great Lakes. Quaggas were first spotted in Lake Erie in 1989.

Quagga mussels are prolific breeders. A single mature female is capable of producing up to 1 million

eggs a year. Within a few days of fertilization, microscopic larvae called veligers emerge. These are free-floating creatures that quickly develop shells while looking for a hard surface to attach themselves to. This period can last up to four weeks and, although 99 percent of veligers perish before they become established, there are plenty of survivors.

Where quaggas become established, they quickly ruin the ecosystem. The mussels are coin-sized bivalve filter feeders. Each one can filter one liter of water a day, stripping it of the plankton that sustains fish and native mussels.

Since the veligers will attach to any hard surface, they can clog the filters and screens of power and water treatment plants, costing millions of dollars to remove them. They also foul marinas, boat engines and beaches. They only live for three to five years, so some beaches on the Great Lakes have drifts of the smelly sharp shells several feet thick in some places.

Since they were first discovered, quaggas have spread rapidly around the Great Lakes and nearby rivers and now infest many watersheds in the East. By 2007, they had infested Lake Mead and parts of the Colorado River. This dramatic expansion is the result of human activities. That's where I come in.

Quagga mussels are surprisingly resilient. They can live out of water for as long as 30 days under the right conditions and even longer where moisture is present. And because the veligers are microscopic free-floaters, a vessel can be contaminated with quaggas without the boat owner's knowledge.

Quaggas have not been found in the Truckee River watershed or Lake Tahoe yet. Boat inspection programs are particularly targeted at keeping it that way.

One of my first questions during screening was to ask where the boat had launched in the last 30 days. If the answer was Lake Mead or another water body thought to be infested such as Lahontan Reservoir, I would not issue a sticker until a complete inspection or decontamination was carried out.

This does not apply to non-motorized vessels such as kayaks or paddle boards, but all other vessels including sailboats would need to be closely inspected. The first step would be to board the vessel and look for standing water or mud in lockers, bilges and boat systems.

Next would be an examination of the hull, screw and trailer. Veligers may be invisible, but they can be felt, having a texture like coarse sandpaper.

Any time any evidence of infestation is found, decontamination is necessary. Wakeboard boats with ballast tanks are always decontaminated if they have been to another water body.

My program was voluntary last year, so any boater could launch if they wanted regardless of the risk to the environment. However, most boaters complied and had their boats decontaminated. This involved taking the vessel to a decontamination station at Northstar or Alpine Meadows ski areas and paying a fee for the service. Decontamination is achieved by flushing all internal systems and pressure washing the exterior with 140 degree water for 30 seconds.

Alternatively, an obviously infested boat could be impounded and quarantined even under the voluntary program. I know of no instance when that was required last summer, though.

The mantra of the boat inspection program is for boaters to arrive clean, drained and dry: bilge plug out, hull wiped off and various lockers and water toys dried out. Observing this mantra can often mean the difference between a quick inspection and a full decontamination. At mandatory inspection water bodies such as Lake Tahoe, that can mean the difference between waiting in line for up to an hour and being on the water.

Aliens in America

Invasive species prevention programs can be quite expensive. The program at Lake Tahoe alone costs nearly $1.5 million a year, but according to a U.S. Army Corps of Engineers study, should quaggas become established in the Tahoe Basin, the tourism industry could lose $22 million.

However, the program is not without its critics. Truckee was poised to approve mandatory inspections last summer but decided to postpone action until more scientific studies could be conducted.

One of the program's most vocal critics is long-time Donner Lake resident and retired civil engineer Steve Urie, who contends that invasive mussels cannot successfully colonize Tahoe or Donner lakes because their calcium levels are far too low to sustain the animals.

He points out that only one local study supports the belief that quaggas can survive in these waters. In 2008, the Environmental Protection Agency gave Dr. Sudeep Chandra, a University of Nevada, Reno scientist, a $20,000 grant to conduct a limited experiment to test quaggas' survivability in Lake Tahoe.

Chandra's team transplanted eight adult quaggas from Lake Mead to his Reno lab where they were placed in water taken from the Tahoe Keys. One mussel died and the rest were losing body weight when the experiment concluded, but Chandra wrote that it is possible for adult quaggas to live and reproduce in Lake Tahoe. He suggested that mandatory boat inspections are prudent.

According to Urie, the study was inconclusive at best. He believes it a waste of scarce financial resources for the town to fund the inspection program based on such weak evidence.

Quagga Mussels may be small individually, but as a

Another criticism of the program in Truckee is how permeable it has been. For example, inspections at Donner Lake take place only at the public boat ramp. Two other ramps are unmonitored. Boaters at any of the reservoirs can and do launch from the shore instead of the boat ramps.

That wasn't much of a problem when the program was voluntary because of its educational component. But, this year, the program is mandatory with decontamination fees expected to pay half of its expense at Donner Lake.

In response to critics, program officials point out that their efforts include prevention of the spread of all aquatic invasive species.

species, they are the greatest threat to North American waters after humans.
PHOTO / U.S. FISH & WILDLIFE SERVICE

Even though quagga mussels are the poster children of aquatic invasive species, they are not the only ones. Zebra mussels pose another threat similar to that of quaggas. There are also Asian clams, New Zealand mudsnails and Eurasian watermilfoil to contend with. The latter two have already found their way into Lake Tahoe and Donner Lake and are making their way down the Truckee River into the Reno area.

Eurasian watermilfoil was first spotted years ago in the Tahoe Keys where it probably arrived on the hull of a boat. It spread rapidly and officials brought in threshers to chop the stuff up. All that was accomplished was to spread it more widely.

New Zealand mudsnails are tiny enough to hide in a clump of mud and are probably spread by fishermen who may not clean their gear well enough.

The main educational duty of a boat inspector is to acquaint the public with these various threats and inform them about ways to identify and destroy them before they are spread to other water bodies.

Aliens of the Deep

Thanks to the ongoing drought, many nearby water bodies are drying up and that means more boats heading to the deeper waters of Alpine lakes such as Tahoe and Donner. Tahoe boat inspectors saw a 17 percent increase over the Fourth of July weekend, and the season was still young.

Ironically, despite increased demand, funding is going to decrease dramatically. About half of the Tahoe boat inspection program's $1.5 million comes from a federal program that will expire next year.

According to Dennis Zabaglo, AIS Program Coordinator for the Tahoe Regional Planning Agency, cuts are being enacted this year in anticipation of next year's shortfall. The inspection station at Homewood has been closed, hours of operation at the other stations have been cut and fees have been increased.

"We are actively pursuing public-private partnerships to make up for the loss of funding," Zabaglo says, "but we're also seeing a lot of buy-in from the boating public and that makes our job much easier."

Zabaglo estimates his program, jointly operated with the Tahoe Regional Conservation District, has intercepted more than 20 infested boats so far this season.

By contrast, the Truckee watershed program is seeing an increase in funding, according to TRAISPP director Teresa Crimmens. This program is primarily funded by grants from local governments, environmental groups and the Truckee Meadows Water Authority. It is also part of the Tahoe Regional Conservation District.

Last summer, TRAISPP employed a half-dozen boat inspectors. This year, there is only one part-time inspector even though boat inspections are now mandatory in Nevada and Sierra counties.

Crimmens says the program is moving toward encouraging self-inspection programs through increased use of informational rack cards and signage.

"There are lots of places to launch, any time of the day or night and we can't police them all," Crimmens says. "That's why we're moving toward mandatory self inspections."

The new approach is modeled after a similar program in Utah where boaters must fill out and display a questionnaire that mirrors what information would be asked by a boat inspector.

Kim Gorman, program director for the Tahoe Regional Conservation District, says her organization never intended to "own" the inspection programs in Nevada and Sierra counties, just get them started. It is now up to the counties to develop their own programs.

Alien Nation

Invasive species are not just aquatic, and they are occurring everywhere. Noxious weeds are endangering the Nevada desert even as bark beetles are devastating Sierra forests. Alien snakes, bugs and birds are upsetting the ecological balance in other parts of North America even as North American plants and animals endanger other parts of the world. Some scientists classify cats, wild horses and even humans as invasive species.

Although prevention is the most effective policy to date, scientists are looking into other ways to address this global problem. One approach is to simply do nothing. For example, in some lakes long infested with quaggas the water is cleaner now than before infestation. That's because the mussels effectively ate everything edible and then starved to death, but that took many years.

Scientists have also considered introducing alien fish that eat quaggas. But, aside from unintended consequences brought about by the fish themselves, there was also the fear that toxins collected by the mussels would work their way up through the food chain.

Zabaglo says the TRPA has been experimenting with plastic sheets to kill New Zealand mudsnails and manual removal of Eurasian watermilfoil in Emerald Bay. He says the program is highly successful, but critics say the plastic sheets also kill native species.

Another alternative is to eat invasive species ourselves. Farming crayfish in Lake Tahoe is one example of turning an invasive species into food. Invasive Tiger Prawns are a big problem in Louisiana but are now a popular delicacy there. Even quaggas can be eaten by humans, but the toxins they contain are a problem.

A radical new approach was unveiled in a paper published in Science magazine earlier this month. According to Harvard University genetic engineer Kevin Esvelt, one of the paper's authors, gene drive technology could potentially cause local extinction of invasive species and restore the original ecosystem.

The idea is to identify a genetic alteration that could reduce pesticide resistance, hinder a population's ability to reproduce or have some other desirable effect on an invasive species.

Scientists could then insert that alteration into the genome of an invasive species, but there is no guarantee that it will take because there is only a 50-50 chance the altered gene would propagate.

Esvelt says gene drives make it much more likely the altered gene will be dominant thanks to new technology that gives genetic engineers the ability to target very specific elements in the genome.

The new tool can be applied in a variety of ways, says Esvelt. One scenario is to alter a sex-determining gene to increase the likelihood that progeny are male. Another could be knocking out genes that are important for fertility.

However, scientists have yet to consider possible downsides such as altered genes further altering into something else once introduced or spreading to similar but non-targeted species.

Even Esvelt urges scientists to make sure the technology is being used responsibly, but with invasive species causing $120 billion in economic damage in the United States alone, there are plenty of incentives to push forward.

In another recent development, researchers in the United Kingdom and Germany have developed a model to predict the likelihood of a bio invasion at locations around the world.

They studied two years worth of shipping data involving millions of voyages to map which areas are most at risk from aquatic invasive species. They found that the animals are less likely to survive long voyages than previously thought, but the proliferation of shorter trips makes some areas more prone to successful invasions.

These include the Suez and Panama canals as well as major ports such as Hong Kong and Singapore.

Their hope is to spur the shipping industry to spending money on ways to purify their ballasts before animals escape into local water. Shipping companies are reluctant to take such steps, but the model could give local port authorities more power to enact stricter rules in the future.

In the meantime, boaters will have to be the ones who arrive clean, drained and dry. And if they don't, hopefully, there will be a boat inspector as a last resort against the invading aliens.

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Efficiency at Center of TMWA, Washoe County Water Utility Merger

*Posted: Aug 26, 2014 4:08 PM PDT*Tuesday, August 26, 2014 7:08 PM EDT*Updated: Aug 26, 2014 4:13 PM PDT*Tuesday, August 26, 2014 7:13 PM EDT
By Paul Nelson - email

The Truckee Meadows Water Authority and the Washoe County Water Utility will consolidate into one agency, on December 31, 2014. Both parties say the merger is best for everyone involved, saying customers won't notice any changes to their service. The only difference is that everyone's water bill will come from TMWA.

"We're going to better be able to utilize both of those resources for the benefit of the customers on the supply side," Jack Buyrom, TMWA Consolidation Project Manager said. "And at the end of the day, it should be a lower cost to all the customers in the region."

About 19,000 customers get their water from the Washoe County Water Utility, who also provides service to 3,800 customers of the South Truckee Meadows General Improvement District. The consolidation means those customers will be added to TMWA's customer base of 94,000. Officials say rates won't change.

"We'll save on infrastructure costs, we'll save on operating costs," Dave Solaro, Washoe County Director of Community Services said. "It's a really good thing for the customer at the end of the day."

The Western Regional Water Commission Act of 2007 required public water purveyors to evaluate a merger. An interlocal agreement was reached in 2010, and the deal will take effect in about four months.

"Lots of things started to come together, the financing piece fell together," Solaro said. "The time is right. It really is time to make this happen."

Washoe County primarily utilizes ground water. TMWA does too, but mainly gets it's water from the Truckee River system and reservoirs.

"We believe we can now have a better opportunity to manage the total water resources in our entire region," Buyrom said.

Employees at the Department of Water Resources will move over to TMWA, with others heading to the water treatment plant.

"Everybody's excited," Solaro said. "We're really looking forward to getting it done, having one major water purveyor in the area. Staff is excited. It's been a long road to get here."

Public workshops will be held at TMWA's main office on Capital Boulevard in Reno. The first will discuss the Mt. Rose/Galena Fan Domestic Well Mitigation Program, tonight at 6:00 p.m. On September 8, there will be a workshop on the South Truckee Meadows General Improvement District rates. The next day, there will be one to discuss Washoe County Water Utility rates at 5:30 p.m. Finally, on September 10, there will be one on rules of service changes and other rates. That one also starts at 5:30 p.m. Anyone interested is encouraged to attend these meetings.

Written by Paul Nelson

Misconceptions over water for growth in Reno-Sparks

Mark Robison, RGJ*3:26 p.m. PDT August 9, 2014*

(Photo: Provided by Peppermill)

Despite recent rains, Northern Nevada is in the middle of a drought that's lasted three years.

Water supplies are dwindling around the West. Lakes and reservoirs are drying up.

That means approving new housing developments and business expansions is foolish. Right?

This viewpoint is widespread. It's a perception that can keep companies with water needs from even considering locating here.

But it's not the case.

"The common misconception I see all the time is, projects go forward to a governing body — the city council, the county commission — and citizens get up and say, 'Why are we approving this? We don't have the water,' " said Sparks senior planner Jim Rundle.

Andy Hummel, left, utility manager for the city of Sparks, and Sparks senior planner Jim Rundle pose in late July at the construction site for the North Truckee Drain culvert east of Greg Street.*(Photo: Tim Dunn/RGJ)*

Voluntary restrictions did go into effect late last month, where residents and businesses are urged to reduce outdoor watering by 10 percent and to not water between 11 a.m. and 7 p.m.

Even so, Truckee Meadows Water Authority general manager Mark Foree said recently, "We're in very good shape; we have a good drought plan and ample drought reserves."

In fact, its two main drought reserves — Donner and Independence lakes — are full.

"To say our primary drought reserves are full now is a good thing compared to other agencies across the hill," he said.

Read on to learn why water is not the concern it's often made out to be in Reno-Sparks, how big a water user Tesla is expected to be, what industries are discouraged from locating here, how water is supplied to the sprawling Tahoe Reno Industrial Center and predictions of future water needs.

Water aplenty

Mike Kazmierski, CEO of the Economic Development Authority of Western Nevada, thinks Reno is well-situated waterwise.

"Despite the magnitude of this drought, we have water to meet all of our needs," he said.

"And while we may draw down our reserves this year, the first time in 20 years, by as much as 20 percent in the next few months, the system will refill over the winter and we will likely be back to 100 percent for the start of next year. This is not the case for nearly all the other reservoirs in the West."

Rundle explained that new projects are not a problem because in order to get approval, developers and businesses must prove they have enough water rights to supply their needs.

"There was one pie made for the cities and the county, and to do a development, you have to use a piece of that pie — there's no new pie being baked," he said. "If you want more, you have to buy it from somebody else."

That somebody else has generally been people with agricultural water rights.

As farmers and ranchers sell their water rights, housing developments and business parks are easily accommodated because they require much less water than the land's former uses.

"One acre- foot (of water) doesn't go as far for agriculture as it does for residential or commercial," Rundle said.

Back to his pie analogy: In the 1950s, far and away the biggest piece of Truckee River water rights went to agriculture, and a small slice went to city and industrial needs. (A similar small slice went to the Pyramid Lake Paiute Tribe.)

Fast-forward to today and the water pie is the same size — there are still 188,024 acre-feet of water rights on the Truckee River — but the amount of water rights going for agriculture has dropped from 70 percent of the pie to 30 percent. And the amount of water rights going for municipal and commercial uses has jumped from 15 percent to 55 percent.

(This is according to approximate numbers from a 2012 Truckee Meadows Water Authority infographic.)

Bill Thomas, Reno's assistant city manager, said businesses looking at moving to the area often see drought news and ask for details.

"Water is not a constraint per se as far as quantity," he said. "But all of us in economic development, we generally discourage high-water-use companies from coming here. For example, a bottling company — we'd discourage them."

Thomas said the reason drought has hit other places harder is that they haven't often faced being so dry.

"Because of our location, we've had a long-term strategy to deal with water resources," he said.

Private system

The Tahoe Reno Industrial Center east of Sparks is already home to such heavy hitters as Walmart, Toys R Us, FedEx Supply Chain Services, Petsmart and Kal Kan/Mars pet food.

It hopes to land Tesla's giant new battery factory. Tesla has already confirmed Nevada has advanced to the finalist round and that groundbreaking has begun there.

Kazmierski said there's "no concern with Tesla, as they are a moderate water user."

Lance Gilman, marketing director for the industrial park, concurs that water for Tesla — or anybody else — is not a problem.

"We're really not impacted by the drought situation," he said. "Our water source appears to be incredibly stable and we haven't seen a change in it at all (during the drought). We can pump 2 to 3 million gallons a day or more under today's capacity and that's, of course, expandable dramatically."

The industrial center has three different water sources. The smallest involves water rights for the Truckee River — it has an extraction well to get water from the river.

The biggest source involves an aquifer that's a thousand feet underground, has about 30,000 acre-feet of water (9.8 billion gallons) and serves only Tahoe Reno Industrial Center. This water is pumped throughout the park to numerous tanks, which then pipe the water to individual businesses.

"It's been tested by Tesco Gatorade for bottling and it's a very pure bottling water right out of the ground," Gilman said.

Mother Nature uses rain and snowmelt to recharge the aquifer.

A third source involves reclaimed water. The industrial park is a closed-loop system, meaning that when companies use water and it goes down the drain, this water is pumped to the center's own treatment plant, which cleans up the water and stores it in an above-ground reservoir.

This lake — about 100 surface acres and 60 to 70 feet deep at its deepest point — holds all of the park's treated water.

This recaptured water can be used in manufacturing for concrete or cool-down processes.

Gilman said water is a frequent discussion with businesses looking to locate here.

"The good news for our economic development community is, we can deliver large quantities of water, and I don't believe that that's really been available in our market in the past," he said.

Reclaimed water

The Truckee Meadows Water Authority gets the bulk of its water from the Truckee River plus about 10 percent from wells. It does not offer reclaimed water, but the cities of Reno and Sparks do, along with Washoe County.

When Apple was looking at places to construct its data center, access to reclaimed water — or effluent — helped it consider Sparks.

"We did an analysis on whether we could serve it with utilities," Rundle said. "And Apple was considering using effluent for chillers to keep the data center cool."

This is one resource that could be better utilized in Northern Nevada.

For example, no businesses use the reclaimed water offered by the city of Reno, according to Thomas.

One reason is that businesses generally must pay for the installation of special purple pipes to deliver the effluent to them. When the pipes are sent to industrial parks serving many businesses, this efficiency saves money. But they tend not to pay for themselves if serving a single company.

For instance, the Peppermill Resort Spa Casino — whose water bill is $30,000 a month — doesn't see it as cost-effective.

"If I had parks or green areas, we'd consider it," said Dean Parker, the Peppermill's executive facility director. "But luckily, I don't have that need."

This is largely because of water-saving measures the Peppermill has put into place over the past few years.

"We took out natural grass and put in artificial turf, so every season that saved 2,265,000 gallons of water," Parker said.

The Peppermill also instituted a graywater system that recycles water in its laundry and retrofitted hotel rooms with low-flow shower heads and toilets. It even has a meter on its front fountain so that if the wind tops 20 mph, the fountain automatically shuts off to keep water from blowing wastefully onto the sidewalk.

Parker said the Peppermill is dependent upon water but TMWA has a good master plan for making sure water doesn't become an issue.

"We're a mega-resort and we've never had water issues in 18 years," he said.

9-year plan

One reason Northern Nevada is sitting pretty is its drought master plan.

"Our planning process here is based on the longest drought on record, from 1987 to 1994," Foree said.

"That was an eight-year drought, so for our planning, we take that drought and add another drought year to it."

TMWA spokeswoman Marlene Olsen said the agency has not been able to find another city in the West that has a drought plan longer than three years.

Jim Smitherman, program manager for the Western Regional Water Commission, said that TMWA worked up statistics about having nine successive drought years here.

"The chance was so astronomically high that everyone agreed it was an appropriate drought standard," he said.

TMWA currently uses 74,000 acre-feet a year to supply water to its customers, and it projects a demand for 97,000 acre-feet by 2030.

"Our water supply can sustain demand up to 110,000 acre-feet," Foree said.

The future

Smitherman is gathering data now for something to be released next year called the Comprehensive Regional Water Management Plan. It will project things out to 2035.

"My plan looks at, on average, each year for the next 20 years whether there is enough sustainable water and water rights to accommodate the growth that's projected," he said.

"On a long-term sustainable basis, the average yield of the water resources is adequate and has been adequate and, according to the projections, will be adequate for the future."

Even if Northern Nevada has enough water, that doesn't mean there's not room for improvement.

Smitherman said treated wastewater (effluent) is primarily used for irrigation here, but that people in other areas use it for industries that need ultrapure water. The water just needs to be treated and treated again.

"It's ultra clean for use such as by the computer hardware industry," he said.

Thomas said El Dorado County in California allows effluent to be used for watering people's yards. That isn't allowed here but could be.

"Since the biggest user of water is landscaping, if we can use effluent, it decreases demand for river or ground water," he said.

Such savings would not allow for more growth because, as mentioned, development is restricted to using only the available water rights.

Those are projects for a future day anyway. Right now, businesses should know water is not a problem in Reno-Sparks.

"We're doing as good a job as anyone in the nation — probably better — of keeping track of how much water we have over the long term and what we can expect for demand from growth, including economic development," Smitherman said.

LAKE TAHOE LEVELS

The following shows the "gage height" in feet for Lake Tahoe each year at noon Aug. 6. Gage height is the height of the water's surface above a certain base point, in this case 6,220 feet of elevation. If the gage height hits 9.1 at Lake Tahoe, water starts to spill freely over the dam into the Truckee River. A gage height of 3 is the lake's natural rim. The current drought began in 2012 and you can see a steady drop in the gage height after 2011.

- **2008:** 4.79
- **2009:** 4.02
- **2010:** 4.33
- **2011:** 8.38
- **2012:** 6.93
- **2013:** 5.59
- **2014:** 3.83

Source: USGS National Water Information System

California homes lack water meters during drought

Scott Smith, Associated Press *4:48 p.m. PDT September 6, 2014*

(Photo: Scott Smith/AP)

FRESNO, Calif. – Although California is locked in a third year of historic drought, many homeowners and businesses still don't have meters telling them just how much water they are using.

That's changing, but some say it's not fast enough. State law requires water meters by 2025, but the State Water Resources Control Board says dozens of water districts, many in the thirsty Central Valley, aren't totally metered.

More than 235,000 homes and businesses in the state are not equipped with meters, according to the most recent figures for 2013 collected by the State Water Board. An Associated Press analysis found that Californians who live in 10 water districts with the highest number of unmetered home or business all used more water each day than the state average.

The number of unmetered homes and businesses represents a small fraction of water services statewide, but officials say every drop counts. Democratic Gov. Jerry Brown in January declared a drought emergency, and state officials in July approved fines up to $500 for residents caught wasting water. Some communities have put water cops on patrol.

The state's unmetered homes and businesses are another example of California's struggle to track water use.

A recent AP story revealed that many state agencies don't know if they are meeting the governor's goal of conserving 20 percent. Another found that state regulators do not know how many trillions of gallons have been used by corporations, agricultural concerns and others with senior water rights. And only now is California moving to regulate groundwater pumping.

Peter Gleick, who studies global water issues as president of the Pacific Institute in Oakland, said he would like every home and business to be fitted with a meter today, rather than waiting more than a decade for the deadline.

"It's inappropriate in the 21st century for us not to be carefully measuring and monitoring our water use," he said. "Especially in California during a drought."

Residents of cities such as Los Angeles, San Francisco and San Jose have been metered for decades. However, many customers served by about 40 water districts in a 300-mile stretch of the Central Valley continue to pay a flat rate, meaning they can use as much water as they want without seeing their bills rise.

All new homes built since 1992 in California were required to have water meters, and in 2004, a state law called for retrofitting the rest by 2025, except those in the smallest water districts.

It took state and federal legislation to force change in communities such as Fresno and Sacramento, where the city charters said no homes would be metered.

In Sacramento, attitudes about water date back many decades and spring from its abundance in a city located at the confluence of two major rivers, said Tom Gohring, executive director of the Water Forum, a coalition with the mission providing a reliable water supply.

Throughout the Central Valley, people believed for years that runoff from landscaping and agriculture ended up in streams or seeped into underground basins where it could be reused, Gohring said. “It was a political vestige of another era. I think that day is gone.”

Getting Sacramento fully metered is a $450 million project fraught with challenges, said Dan Sherry, supervising engineer for the city’s utility department.

“Replacing backyard mains and putting them out in the street, that’s a big deal,” he said, adding that as of June, 49 percent, or 66,250 homes and businesses, still needed meters.

Sacramento has the largest number to install, followed by water districts in Bakersfield (35 percent unmetered), Modesto (24 percent unmetered) and Lodi (55 percent unmetered), according to the state’s 2013 figures.

Meters play on basic human behavior— and people billed monthly for their water use tend to use less, said Lisa Maddaus, a water resources engineer and partner at Maddaus Water Management Inc. based in Folsom.

In studying the conversion to water meters in Davis, which was completed in 1998, she found that in the first year, residents used 18 percent less water. After the initial spike in savings, she said residents used about 10 percent less in the second year.

“Everyone tightens up their homes, maybe does a little better with leak repairs,” Maddaus said. “We see in an energy crisis, people turn off lights more. In the water crisis, you’re more prudent with your water use.”

Homeowners in Sacramento without meters pay a monthly flat rate of $45.73, and the average single-family home with a meter paid $35.82 each month in the most recent fiscal year, city officials said.

A law passed in 1992 required communities that use water from the federally run Central Valley Project to be fully metered by Jan. 1, 2013. Fresno met the deadline by spending $75 million. Water use dropped by about 10 percent after meters were installed, city spokesman Mark Standriff said.

Julie Kaiser still pays a $56 flat-rate each month. She lives in a corner of Fresno served by the private Bakman Water Company, which is preparing to install meters. Kaiser doesn’t look forward to it, because she doesn’t like being told what to do.

Besides, Kaiser said, she and her husband already conserve water, letting their front lawn die of thirst. It is yellow and crunches under each step.

“If you do have a problem with my front lawn, I don’t really care. Tough,” Kaiser said. “My basic mantra in life is not to waste.”

California water meters at a glance

Several Central California counties from Kern to Sacramento lead the list of those without fully installed water meters. The figures below are for the 2013 calendar year.

RANK	COUNTY	NUMBER OF UNMETERED CONNECTIONS
1	Sacramento	109,202
2	Kern	36,250
3	San Joaquin	20,073
4	Stanislaus	16,335
5	Merced	14,914
6	Fresno	7,697

Source: State Water Resources Control Board

Turf removal in parched California, at a glance

*Posted: Aug 24, 2014 10:05 AM PDT*Sunday, August 24, 2014 1:05 PM EDT*Updated: Aug 24, 2014 10:05 AM PDT*Sunday, August 24, 2014 1:05 PM EDT

By The Associated Press

As more Californians tear out their lawns and plant drought-friendly gardens, many homeowners wonder how the effort will pencil out.

WATER USAGE

In some areas, at least half of the daily water use is for lawns and outdoor landscaping, according to the State Water Resources Control Board. Between 1998 and 2010, homes used an average of 2.7 million acre-feet of water indoors and 3 million acre-feet outdoors, together accounting for nearly 13 percent of the state's water use, state figures show. An acre foot is nearly 326,000 gallons, or enough to cover a football field with a foot of water.

WATER SAVINGS

Homeowners who tear out their lawns will see savings in their water bills, though how much depends on what they plant instead. Long Beach, which began offering rebates in 2010 to residents who tear out their lawns, estimates that homes in its turf removal program cut down their water use by a fifth.

REBATE PAYMENTS

Water agencies are paying homeowners a rebate for tearing out grass and replacing it with drought-friendly plants, or in some cases, synthetic turf. Rebates started out several years ago at $1 a square foot of grass but in some cities have since risen as high as $3.50 a square foot.

LAWNS REMOVED

In Southern California, more than 21 million square feet of turf have been removed since the incentives began, according to the region's Metropolitan Water District.

In Long Beach, some residents have been making similar changes to their yards without seeking the rebates as the landscapes become more common, said Matthew Lyons, director of planning and conservation for the city's water department