TRUCKEE MEADOWS WATER AUTHORITY

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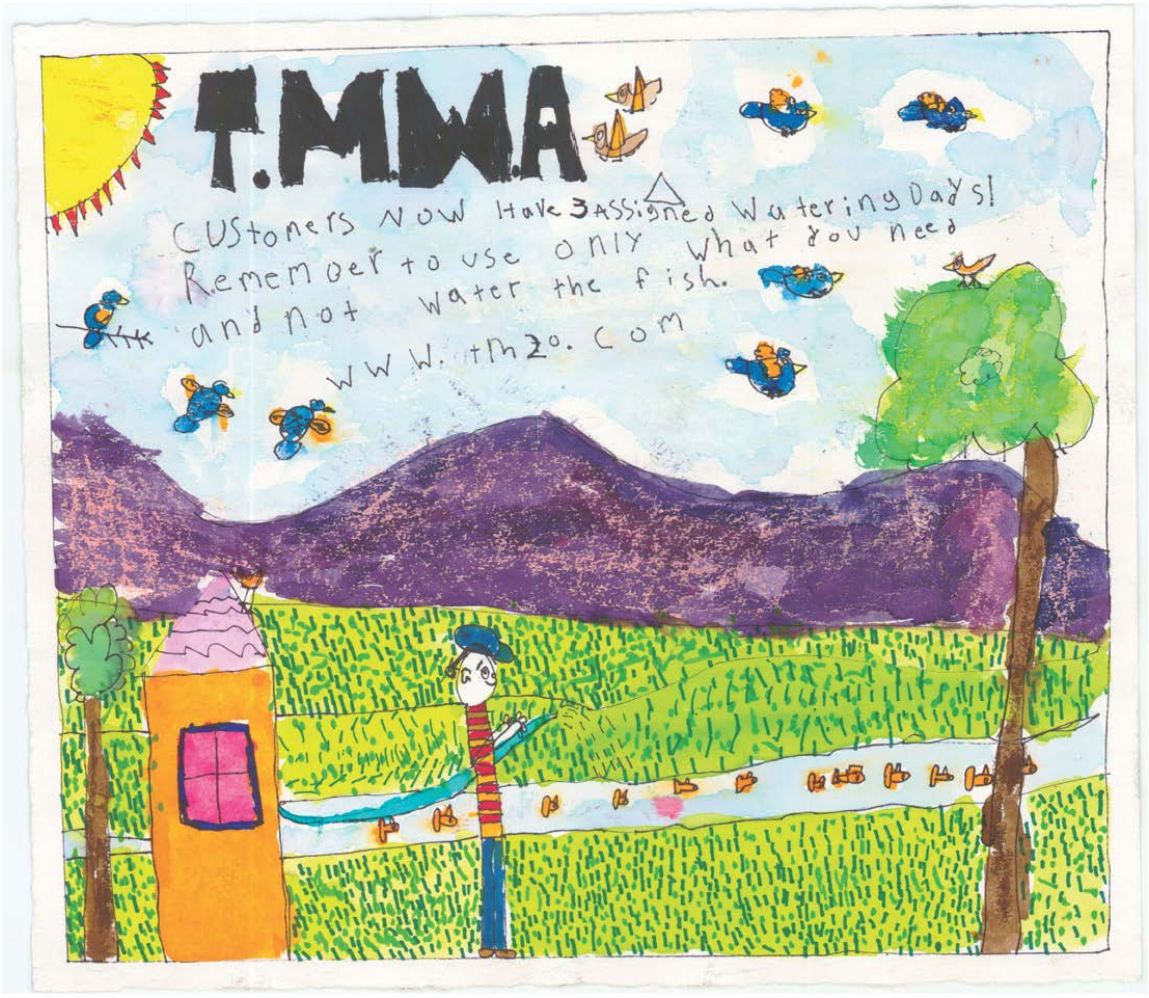
TMWA Board Meeting

Wednesday, April 15, 2015

Press Clippings

March 16, 2015 – April 8, 2015



Joshua & Sarah Burrows (Jessie Beck Elementary School)
2010 Poster Art Contest - Second Place, Grades K-3

The Water Conservation Department is always willing to assist in getting water waste under control. You may or may not be aware that the Legends landscape is watered with both TMWA-treated water and reclaimed water. Our community doesn't like to see either type of water waste.

Because the black ice and iced-over landscape is a safety hazard, I have contacted the Legends staff. I was directed to the General Manager of the Legends mall who will be contacting me. I will share your observations with him and will offer my recommendations. Also, I will give a courtesy call to the folks responsible for the reclaim watering schedule so the sprinkler system and timers can be checked and monitored closely for water waste.

Many times when I notify larger properties of water waste, they are very thankful for the call and most often address the situation immediately. If you do not see a noticeable difference in the landscape, please contact me. You can also call our Conservation Hotline at 834-8005 or email us at conservation@tmwa.com to report excessive waste.

I appreciate your helping our community use water responsibly.

Neecie Schlesener
Senior Water Conservation Coordinator
Truckee Meadows Water Authority
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nschlesener@tmwa.com I www.tmwa.com

Dodie:

Thanks for your concern regarding conservation and the drought. Every customer is being asked to save at least 10%, whether they are a residential or business customer. There are no exceptions. Although the request is voluntary, we expect all customers to respond, as they have in the past.
Your concern about The Legends has been forwarded to our Conservation Department. They will be following up with them. We also encourage you and your friends to contact them as well, as a concerned member of our community and as a consumer.
Please let me know if there is anything else I can do for you.

Marlene Olsen
GoodStanding Outreach
775-829-2810
775-772-0020-cell

From: [redacted]
Sent: Wednesday, April 08, 2015 4:03 PM
To: tmwaboard@tmwa.com
Subject: Drought Conditions

TO WHOM IT MAY CONCERN:

My letter is regarding The Legends landscaping and watering. My family have been lifelong residents of the Reno/Sparks area and have gone through many drought conditions.

My question is why is The Legends landscaping being watered? I drive that way to work and going through the roundabout you have to slow down as they have been watering in the early morning hours and it turns to black ice. Additionally, coming home at seven a.m. I noticed that the grass on the roundabout turns into an ice sculpture. Additionally, I can't tell you how many times I witnessed broken water sprinklers at apartment buildings just shooting water 30 feet into the air just last year.

So, my son turns off the water when he brushes his teeth, he takes short showers, we have invested in xeroscape landscaping and my question is when are the big corporations with plenty of money to change their landscaping going to be held accountable? Can you tell me that, please? Or is it that we, the people, have to carry the load for the big corporations to have lavish landscaping when we can't even have a slice of grass in our backyard because of the “drought” situation?

Sincerely,

Dodie Goodson

California is pumping water that fell to Earth 20,000 years ago

Topics: Environment

By Tom Knudson / March 9, 2015

By now, the impacts of California's unchecked groundwater pumping are well-known: the dropping water levels, dried-up wells and slowly sinking farmland in parts of the Central Valley.

But another consequence gets less attention, one measured not by acre-feet or gallons-per-minute but the long march of time.

As California farms and cities drill deeper for groundwater in an era of drought and climate change, they no longer are tapping reserves that percolated into the soil over recent centuries. They are pumping water that fell to Earth during a much wetter climatic regime – the ice age.

Such water is not just old. It's prehistoric. It is older than the earliest pyramids on the Nile, older than the world's oldest tree, the bristlecone pine. It was swirling down rivers and streams 15,000 to 20,000 years ago when humans were crossing the Bering Strait from Asia.

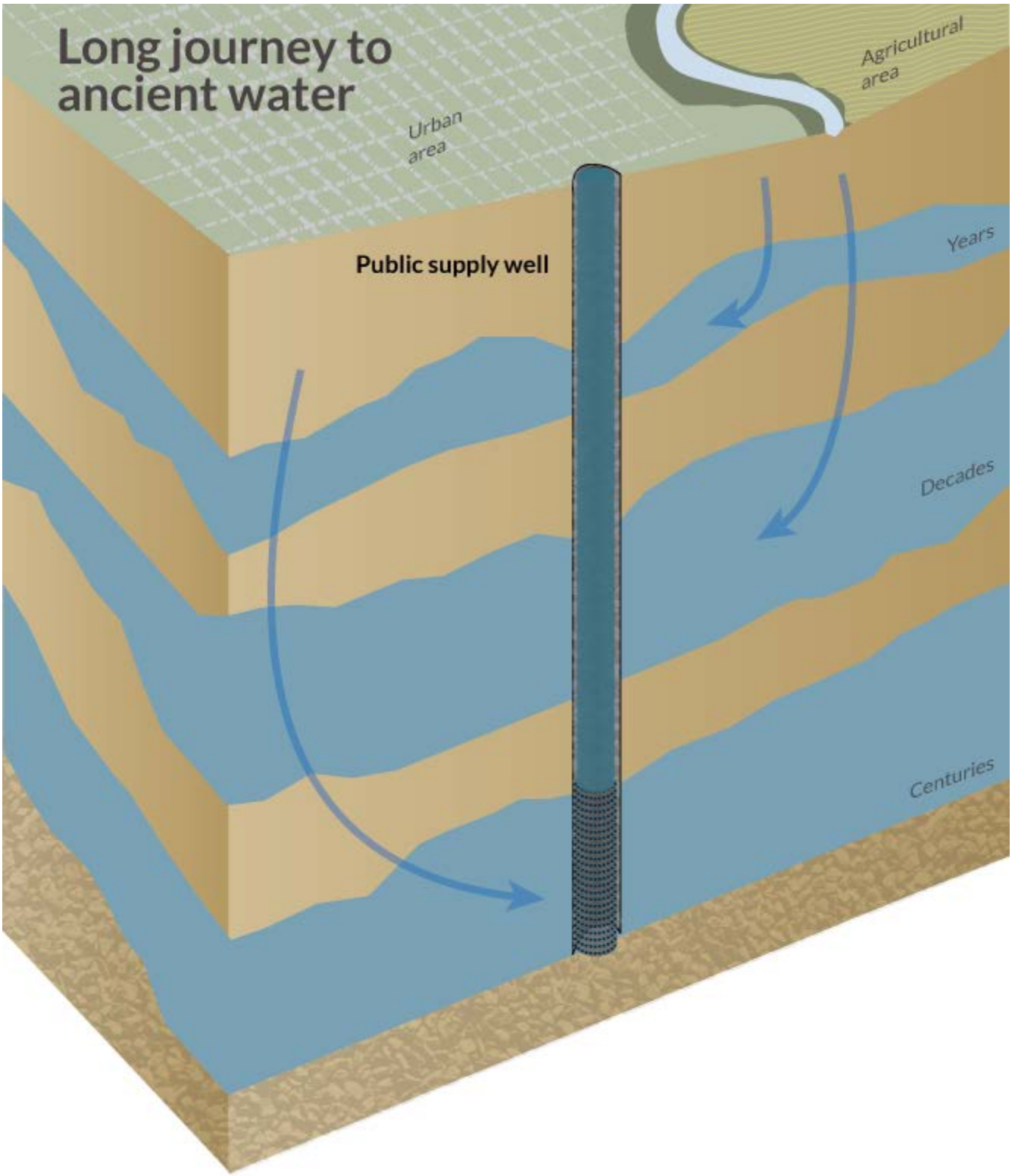
Tapping such water is more than a scientific curiosity. It is one more sign that some parts of California are living beyond nature's means, with implications that could ripple into the next century and beyond as climate change turns the region warmer and robs moisture from the sky.

"What I see going on is a future disaster. You are removing water that's been there a long, long time. And it will probably take a long time to replace it. We are mining water that cannot be readily

replaced," said Vance Kennedy, a 91-year-old retired research hydrologist in the Central Valley.

Despite such concern, the antiquity of the state's groundwater isn't a well-known phenomenon. It has been discovered in recent years by scientists working on water quality studies and revealed quietly in technical reports.

Groundwater is crucial to California. In an average year, nearly 40 percent of the state's water comes from underground sources. In the current extended drought, it's more than half. Eighty percent of California residents rely to some degree on groundwater. Some towns, cities and farming operations depend entirely on it.



Source: U.S. Geological Survey
Credit: Sam Ward/Reveal

Groundwater is like a bank account. You want to balance the debits and credits, not draw down the principal. But California has been depleting its groundwater principal for generations, pumping more than nature can replenish. So, too, has the United States as a whole. The biggest overall user is agriculture.

“If we continue irrigating at the increasing rates that we are in the U.S., the bottom line is that can’t be sustained,” said Leonard Konikow, a retired U.S. Geological Survey hydrogeologist in Virginia. “That can’t go on forever.”

A new article by Konikow in the journal Groundwater estimates that nearly 1,000 cubic kilometers – about twice the volume of Lake Erie – was depleted across the United States from 1900 to 2008. That’s enough to contribute to rising sea levels, along with melting glaciers and polar ice.

“That really surprised a lot of people,” Konikow said.

The pace of depletion has jumped dramatically since 2000. And Konikow identified one area that appears to have the most serious depletion problem in the nation – California’s agricultural powerhouse, the Central Valley, especially its more arid southern portion.

How long the bounty can last is anyone’s guess. As wells are drilled deeper, pumping costs soar. Water quality can suffer. In some areas, the earth itself is starting to sink as deep aquifers are pumped to historic low levels.

That problem is known as subsidence, and it’s a big deal. As the land sags, it is harming water delivery canals, damaging wells and buckling pavement.

“The rates of subsidence we are seeing are about a foot per year in some areas. They are just phenomenal,” said John Izbicki, a research hydrologist with the U.S. Geological Survey.

The last time this happened, during a binge of overpumping in the 20th century, one part of the valley sank 28 feet and damages topped $1.3 billion (in 2013 dollars), according to the California Water Foundation.

But that’s not all: As those deep aquifers are pumped, they suffer structural damage and no longer hold as much water as before. To visualize what happens, imagine a kitchen sponge.

“You take it out of the package and it’s all nice and fluffy,” said Bryant Jurgens, a research hydrologist with the U.S. Geological Survey. “After a month of use, it starts to shrink. When you wet it again, it doesn’t ever quite get as big as it originally was. That’s exactly what happens to the aquifer.”

And some of that water, as it turns out, is quite ancient. If you bottled it, you could label it the provenance of the Pleistocene – a geological epoch that lasted from about 2.5 million to 12,000 years ago.

The landscape was much different back then. Yosemite Valley was a river of ice. Mastodons and other now-extinct creatures roamed the West Coast. To the east and south, lakes stretched for miles across terrain we now call desert.

All water, in a sense, is ancient. It’s been cycling through clouds, rivers, forests and oceans for millions of years. But in recent decades, scientists have found ways to determine roughly when precipitation fell to earth and percolated into the surface, becoming groundwater.

They do it by testing water for the presence of certain compounds that decay slowly over time, such as carbon-14, a radioactive isotope that

also is used to estimate the age of ancient civilizations and human ancestors.

There is no point-and-click website that reveals the age of groundwater in the state. To access the information, you must wade through a tangle of studies compiled by the U.S. Geological Survey as part of a state-funded public drinking water-quality monitoring program.

The jargon in those studies is so thick it is nearly incomprehensible. But deep in the scientific sediment are nuggets worth sharing with friends – a sentence here, a table there. They show water pumped from some deep public supply wells in the valley is 10,000 to more than 30,000 years old. Similar ages also have been reported in many desert basins, including Coachella Valley and Owens Valley, a major source of drinking water for Los Angeles.

What that means for the future is uncertain. Even though many areas pump more water than is recharged naturally, there is still more groundwater to be pumped.

“We are withdrawing from a fairly large bank account,” said Tom Myers, a hydrogeologic consultant in Reno, Nevada, who has worked in Southern California. “But we are withdrawing from it a lot faster than we are putting back in. The problem is we don’t know how close it is to empty.”

And many areas also recharge aquifers with surface water imported from elsewhere.

“There are places where you could be pumping very old groundwater and there is sufficient recharge to the system – so it’s not necessarily a problem,” said Miranda Fram, a research chemist with the U.S. Geological Survey. “But in many cases, it is. It’s mining old groundwater that’s not being replenished.”

TMWA: Drought is worse then expected

Updated: Tuesday, March 17 2015, 11:27 PM PDT

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RENO - We are in our fourth year of drought; and the bad news is the Truckee Meadows Water Authority says it's worse then expected.

For example, snow pack is at 10 percent of what it should be and reservoir levels are worse.

But, the good news is there will be enough water to get through this year.

TMWA relies on multiple water resources on the surface and underground. And the organization says it has been saving up.

This winter, TMWA has been injecting about 7 million gallons a day in underground aquifers as one water saving measure.

"We're not talking mandatory conversation yet. We're not in the same situation as some other agencies in California. Again, we've got a very resilient system. If one system or source dries up, we got to another," says
Bill Hauck, Senior Hydrologist for TMWA.

The TMWA board will meet tomorrow in Sparks to approve their conservation plan for the summer. The proposal is to continue a voluntary 10% decrease in outdoor water use, but earlier than in

previous drought years.

Drought-stricken California ramps up water restrictions

By FENIT NIRAPPIL
Associated Press

SACRAMENTO, Calif. (AP) - California residents have to turn off their sprinklers, and restaurants won't give customers water unless they ask under new drought regulations approved Tuesday.

The State Water Resources Control Board has extended and expanded restrictions on water use as California enters its fourth year of drought, and winter ends without significant storms or snowfall to replenish dwindling reservoirs.

The drought's effects are rippling across the state, hurting wildlife and forcing farmers to leave fields unplanted. So far this winter, wildfires are burning through nearly four times as many acres as usual. The state firefighting agency reports that the dry conditions are forcing it to maintain its highest-ever level of seasonal firefighters straight through the winter.

Amid this backdrop, environmental advocates are calling on the state water board to find even more aggressive ways to slash water use, such as rationing, enforcing plumbing upgrades and going after corporate landscapes.

"The board could and should do more," said Kate Poole, a lawyer for the Natural Resources Defense Council.

The state agency has conceded its actions so far have been focused on the easier ways to immediately cut down urban water use. It voted Tuesday to extend statewide outdoor water limits imposed in July, barring washing down driveways, decorative fountains without recirculating pumps and sprinklers that spray pavement.

New rules will require local water departments to restrict the number of days residents can water their lawns. If they don't, residents must follow a state limit of twice a week. Homeowners are also barred from using sprinklers on days when it rains and for the next two days after.

Golf course owners objected to limiting days they can water grass, telling the board Tuesday that the regulation would threaten their ability to keep attractive landscapes, which they say are already water-efficient.

The regulations also mandate common business conservation practices statewide. Restaurants can't offer water unless customers ask, and hotels and motels must offer guests an opportunity to decline fresh towels and sheets at hotels.

It's up to local water departments to enforce these rules, which are expected to take effect later this spring. They can fine offenders $500 per violation, but few have gone that far.

The water board also decided Tuesday it will start tracking how agencies enforce the regulations, including the number of citations and warning letters issued.

The Associated Press found wide disparities in enforcement, from Los Angeles issuing just two $200 fines in a service area of nearly 4 million people to Santa Cruz levying more than $1.6 million in water waste penalties.

Meanwhile, residents have been falling short of Brown's call to slash water consumption by 20 percent when he declared a drought emergency early last year. On average, monthly water use has fallen 11 percent since the state imposed water restrictions in July, according to surveys of water suppliers.

Fearing dry conditions may be the new way of life in California, members of the board said they must look at establishing permanent conservation rules.

"In our emerging climate regime with a decreased overall Sierra snowpack and more extreme weather including drought, it's essential," water board scientist Max Gomberg said Tuesday

Worries over growth in the face of drought: Letter

2:29 p.m. PDT March 18, 2015

Letter to the Editor(Photo: RGJ)

3 CONNECTTWEETLINKEDIN 1 COMMENTEMAILMORE

As I drive around the Reno-Sparks area, I can't help but notice the new housing being built while in the midst of a four-year drought. Are we to assume that somewhere there is secret place where they are storing water that we know nothing about? Everyone talks about the drought problem but no one wants to address the fact that there is no excess water to maintain growth in this area. We live in an arid desert area that depends on the weather to give us the snow to fill our reservoirs for water storage. Take a drive to Lake Tahoe, Boca or Stampede reservoirs to see how low they really are. Four years of drought and still the building continues. You can thank those that are responsible for housing expansion when water restrictions get to an unreasonable point.

Tom Shattuck,

Sparks

Editor's note: There is only so much water available in the Truckee Meadows. The law requires no developments be approved beyond that amount. If it is imagined as a pie, businesses, developers, government and farmers each get a piece of the pie to serve their water needs. New developments must prove they have enough water rights to serve their needs. In order to get those rights, they must buy them from somebody else because no new pie is being baked. Generally, high-water-use agricultural land is converted to low-use housing developments and business parks, allowing for more growth without stressing the available water. That said, drought may become a concern. The Truckee Meadows Water Authority has reserves set aside to accommodate a nine-year drought.

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Landscape Watering Starts Early, TMWA Releases Details on Water Restrictions

Posted: Mar 18, 2015 5:17 PM PDT Wednesday, March 18, 2015 8:17 PM EDT*Updated: Mar 18, 2015 6:19 PM PDT* Wednesday, March 18, 2015 9:19 PM EDT
By Chloe Beardsley
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producers@ktvn.com

Temperatures are going up --- plus, we're just a few days away from the first day of spring. Find out why it's important to start watering your lawn early and what water restrictions we can expect this summer.

Landscaping crews have been busy all around town prepping people's homes for the spring and summer months.

Steven Fine with Signature Landscapes says this time of year is always the busiest. He's sending crews out to 900 homes right now, just to get ready for spring. Experts we followed around said now is a good time to start turning on those sprinklers. The process started a little bit early this year, because of a dry winter. "Because of the warmer weather we're starting earlier, getting our systems charged up and ready to go and then the converse side of that is we are extending the season 2 to 3 weeks with water and mowing," said Fine.

We tagged along with Cesar Marin, who showed us the ropes. "When we winterized it - we took off the filter to allow whatever water to flow out of these. So now we got to make sure it's back on," said Marin.

As far as what type of plants you should water first, we're told you should focus on trees and shrubs. "They've had a number of months where they haven't gotten a lot of water. So it's kind of bone dry," said Fine.

Grass is the second priority, for now. In most places the lawn looks dead but Steve says it's just dormant and you don't need to go overboard watering it now. Wait until the beginning of April. "Let it go through that process, the grass is a very healthy and very resilient plant so it looks dry and it looks thirsty but give it a little while," said Fine.

On Wednesday, the Truckee Meadows Water Authority Board of Directors decided to approve a drought management plan, effective immediately which requires people to save at least 10% of their water use. Water days will remain the same under the new plan. TMWA says the restrictions are the same as last summer. The only difference they are starting at the beginning of the season instead of August so more water can be saved.

Tips on taking care of your landscape are - before you start watering, check your property to make sure there are now any leaks. One leak could make you lose thousands of gallons of water a month, and really hurt your wallet.

You're also going to want to water your lawn once a week in March. By the time we transition into April, you're going to increase the watering to 2 to 3 times a week, depending on the weather

TMWA Asks for Immediate 10% Water Use Reduction

By: Colin Lygren - Email
Updated: Fri 8:52 AM, Mar 20, 2015

By: Colin Lygren - Email

RENO, NV - We need to start saving water, and we need to do it now. The Truckee Meadows Water Authority Board of Directors voted Wednesday to ask for a 10% reduction in water use, effective immediately.

"We are staring down a 4th dry year and unless something miraculous happens, the remaining two weeks of March or beginning of April, we'll be in drought operations mode earlier than we were last year," said Bill Hauck, Senior Hydrologist with TMWA.

Last year, TMWA called for a 10% reduction in outdoor water usage starting August 1st. This year, the 10% reduction applies both outdoor and indoor water usage and it starts four months earlier.

"The main difference is reservoir storage right now. We had it last year, we don't have it this year," said Hauck.

The Truckee River remains our main source of water, but as we draw closer to summer it won't be flowing naturally. It will be charged by our drought reserves. The more water we use to take a shower or water our plants, the less water we will have saved up in our reservoirs.

"Your lawn is just like you. You can only take in so much water. I can drink 10 gallons of water, but I only need one. So the lawn does the same thing. You can pour water on it but it only needs X amount," said Andy Gebhardt with TMWA Customer Service.

Gebhardt says most water waste happens when people over water their lawn. Cutting a cycle from ten minutes down to five can help conserve.

Saving water indoors is just as easy.

"Everything is just common sense. Full loads in your dishwasher, full loads in the washing machine, things like that and it can be achieved," said Gebhardt

TMWA suggests people only water their lawns between 11pm and 11am. That is the time when watering is least effected by evaporation due to heat and wind.

Drought Having Impact on Groundwater

Posted: Mar 19, 2015 3:57 PM PDT Thursday, March 19, 2015 6:57 PM EDT*Updated: Mar 19, 2015 4:02 PM PDT* Thursday, March 19, 2015 7:02 PM EDT
By Paul Nelson
Email
Connect
producers@ktvn.com

Friday is the first day of spring, closing out the fourth straight winter of dry conditions. While the drought is taking its toll on surface water -- it's also affecting groundwater. People around the state rely on groundwater for both domestic and agricultural purposes. The Nevada Division of Water Resources keeps an eye on those wells throughout the year, to observe the health of the basins. Wells, like the ones in Lemmon Valley, are measured, quarterly.

"There's ups and downs in the water levels," Shannon McDaniel, Water Resource Specialist said. "It just depends on how much precipitation we're getting, the snowpack, what kind of pumping is happening in the areas."

Despite the drought, the Lemmon Valley wells are right on par. Since January, water levels have gone up between three inches to more than a foot, depending on the well.

"You should see the water levels come up in the springtime, just because of the snowpack and melting," Kelvin Hickenbottom, Deputy Administrator for the Nevada Division of Water Resources said.

Since the drought started, some wells have dropped between one and three feet. Others have dropped as much as ten feet.

"Generally, when it's a real wet year, you'll see the water levels rebound pretty good and conditions like the last four years, in certain basins, water levels haven't recovered," Hickenbottom said.

Measurements are done by lowering steel measuring tape into the well, or by using an electric tape that sends a buzzing signal once it touches the water.

Out of 256 groundwater basins around the Silver State, about 130 of them are measured. While most agricultural wells are holding up, the municipal and domestic wells aren't rebounding quite as much.

"Their wells are generally drilled to a more shallow depth," Hickenbottom said. "They've been there for quite some time and with three to four years of drought, they've probably seen the greatest impacts."

This group says the water levels are nothing to be concerned with because they expect these kinds of fluctuations. Part of their reason for measuring the wells is to see how they hold up during different climatic conditions. Most of the wells along the sierra front are measured four times a year. Some of the more rural areas get measured once every six months.

Reno-area water users urged to cut use 10 percent in drought

- Article
- Comments (0)

RENO — The lowest Sierra snowpack in more than a century means more cutbacks for Reno-area water users and offers no relief from four years of drought, officials said.

The Truckee River Basin snowpack was 27 percent of normal earlier this week, while the Lake Tahoe Basin's snowpack measured at only 9 percent.

"This year, it's going to be considerably worse," water supply director Bill Hauck told the utility's board of directors during a drought briefing on Wednesday.

The Truckee Meadows Water Authority has asked the 118,000 homes and businesses it serves to reduce all water use by 10 percent from amounts consumed in 2013. The request came in addition to a 10 percent reduction requested last summer for outdoor irrigation.

"Last year, when we asked for a reduction of 10 percent in August and September, our residential customers responded with more than 11 percent reduction in water use," Andy Gebhardt, manager of customer service for the water authority told The Associated Press on Friday.

Authority officials also expect to begin tapping backup water supplies stored in upstream reservoirs by July 1, the Reno Gazette-Journal reported. They took that action in August for the first time in 20 years.

The water cutbacks in northern Nevada are voluntary, unlike in neighboring California were regulators have limited lawn watering to twice a week, prohibited restaurants from offering water unless customers ask, and required hotels and motels to offer guests an opportunity to decline fresh towels and sheets.

In northern Nevada, Hauck says there's little chance mountain snowpack could suddenly rebound in the coming weeks to reach anything close to normal conditions.

The period from 2012 to 2014 was the driest three-consecutive-year-period over 113 years of record at Tahoe City, California.

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Lake Tahoe dipped below its natural rim in October, cutting off flow into the Truckee River, The lake probably will not rise above the rim at all in 2015, Hauck said.

“I wouldn’t expect to see any water coming out of the lake,” he said.

Like last summer, outdoor watering will be prohibited from 11 a.m. to 7 p.m. between Memorial Day and Labor Day. Residential customers are allowed to water lawns only three times a week with specific days determined by street address.

First-time offenders get a warning, followed by a possible $25 fine that could go to $75 for each subsequent violation.

Gebhardt said the agency seldom issues fines.

“Usually customers respond very well when they are informed they have an issue with their outdoor watering,” he said.

low-snow future? We need to talk: Our view

The Opinion of the RGJ Editorial Board 9:04 p.m. PDT March 21, 2015

A chairlift sits idle at Homewood Ski Area near Tahoe City on Feb. 10. Sierra snowpack is threatened by rising minimum nighttime temperatures and higher elevation freezing points.(Photo: Jason Bean/RGJ)

38 CONNECT 6 TWEETLINKEDIN 3 COMMENTEMAILMORE

They are dropping like flies: Ski resorts closing early because of high temperatures and lack of snow.

This could be just another wild swing in the Sierra Nevada's historically fluctuating weather. Or it could be a sign of things to come.

For the past four years, something has caused high-pressure weather systems to sit off the coast of California and then be pushed north, away from northwestern Nevada.

It is too soon to tell if global climate change is responsible for this pattern, but some scientists think climate models show such winters will become more frequent.

This would be significant for Northern Nevada. It would be so significant, in fact, that it is difficult to know where to start. But start we must.

Troubling facts

Before dismissing this plea as one more dire warning in a flood of dire climate warnings, consider:

•The Nevada State Climate Office reports 2014 had the highest average statewide temperature — just over 53 degrees — since records began in 1895. The average statewide temperature for the past 120 years is 49.5 degrees, and 16 out of the past 16 years have been above average.

•Many area ski resorts are suspending operations earlier than ever. Today will be the final day of the season for Sugar Bowl; Sugar Bowl CEO Rob Kautz has worked there since 1976 and told RGJ reporter Benjamin Spillman he could not recall a ski season ever ending in March. Sierra-at-Tahoe has suspended operations, affecting 220 seasonal workers. Homewood closed early for the second year in a row. Squaw Valley had to cancel World Cup ski and snowboarding races earlier this month.

•In a separate story, Spillman reported that Lake Tahoe's mean freezing level — the elevation at which snow forms — has risen about 500 feet over the past 30 years. "This season, which is incomplete, shows a mean level around 9,000 feet, which would be the highest since 1950 when scientists started tracking the statistic," he wrote.

•RGJ reporter Jeff DeLong reported the Lake Tahoe Basin's snowpack this week measured 9 percent of normal and that it is likely no water will flow out of Lake Tahoe into the Truckee River in 2015.

•Northern Nevada is entering its fourth year of drought. The Truckee Meadows Water Authority had to tap drought reserves for the first time in 20 years last August.

• The San Jose Mercury News reported this month that in 1910, snow made up 51 percent of the total precipitation in Tahoe City. In 2013, snow was only 32 percent. Using data from the Tahoe Environmental Research Center, it also reported that the daily minimum temperature in Tahoe City over the past century has jumped 4.2 degrees and the daily maximum temperature has risen 1.7 degrees.

This is a disaster on the verge of happening.

What's being done

The city of Reno wisely acknowledged as much when it decided last week that future planning efforts need to take into account climate change.

Nevada Gov. Brian Sandoval also sees the dangers lying ahead. When he became chairman of the Western Governors' Association, he made it a priority to launch a forum where states would share information about drought: what they're doing, what works, what doesn't. Five high-profile meetings have been held since September covering numerous industries.

These meetings focused on what is happening now and what can be done now, with looks one to three years in the future.

Start talking

Discussions need to look further out, too. In the long run, preparing for disaster is cheaper than simply reacting.

Here are some questions offered in the spirit of starting discussion:

•Do the ski resorts need a fundamental shift in their culture away from being winter sports destinations to being mountain sports destinations?

Heavenly recently unveiled plans to increase summer activities. Perhaps there should also be a look at winter activities that do not depend upon snow. Dubai, it is worth noting, features indoor skiing.

•TMWA has water reserves for nine years of drought, but what if Reno's drought lasts as long as Las Vegas's drought, which is 15 years and counting?

•If Nevada's rangeland can sustain many fewer large animals in the future, which should be prioritized: federally protected wild horses and burros or ranchers' grazing cattle?

•All water is currently spoken for and we cannot control the weather. There is one source of new water: effluent. This is basically reused water. Reno and Sparks' effluent might be sold to Tesla or the Tahoe Reno Industrial Center and shipped away via pipeline. Is this wise?

The old saying of hoping for the best and preparing for the worst comes to mind. What is disconcerting, though, is that the worst-case scenario is beginning to seem more likely than the best-case.

Anyone who does not think it is time yet for such serious, far-reaching discussions should have to spell out at what point they should begin. Major ski resorts closing in February? Seven years of drought? Reservoirs below half-capacity?

The rest of us can start now.

Can California take Nevada water in drought emergency?

 Mark Robison, RGJ 11:22 a.m. PDT March 24, 2015

In this Jan. 28 photo, chairs on a ski lift overlooking Donner Lake, sit idle at Donner Ski Ranch because of lack of snow. TMWA stores water for Nevada in Donner Lake.(Photo: Rich Pedroncelli/AP)

8 CONNECT 11 TWEETLINKEDINCOMMENTEMAILMORE

While researching how bad the drought is in Northern Nevada, I started to wonder if California could steal the water here because much of our reserves are held in reservoirs on the other side of the border.

Truckee Meadows Water Authority has water stored at Stampede and Boca reservoirs and Independence and Donner lakes.

Combine with this the recent statement by a NASA scientist that California has only one year of water left in its own reservoirs and it is not a stretch to think California could declare a state of emergency, say the nation's food supply is in jeopardy and get the federal government to allow it to take Northern Nevada's stored water.

There are laws to prevent this but in states of emergency, laws are routinely set aside temporarily "for the greater good."

Additional research reveals the good news that taking water, even in an extreme emergency, would likely be impossible.

Two hydrology experts told me that the water is considered Nevada's property so taking it would be stealing and would almost border on an act of war, similar to if one state tried to annex part of another state without permission. They could not imagine any scenario where it could happen.

I also contacted Bill Hauck, TMWA's senior hydrologist. Here is his response to whether California could steal our water stored on its side of the border. The short answer: Not possible.

Hello Mark:

Since I wasn't sure whether you were referencing TMWA's privately owned reservoirs (Donner and Independence Lake) or the water stored in Lake Tahoe and other federal reservoirs like Boca and Stampede, I will attempt to provide answers to both since they are managed independently.

#1. TMWA's reservoirs are privately owned and the water rights we have to fill those each year are vested pre-1914 rights, some of the oldest on the Truckee River system and in the state of California. TMWA also owns and operates both of those dams and outlet works, which would make that virtually impossible. Also, the amount of water that TMWA has stored in these reservoirs is by our standards quite a bit (and enough to help up through tough times), it would be virtually just a drop in the bucket (barely a blip on the radar screen) when you are talking about the massive volumes of water that California demands on an annual basis. We are talking about 10,000-20,000 acre-feet of water that we have in storage vs. California's demand for tens of MILLIONS of acre-feet annually. For these reasons I don't really know how TMWA's reservoirs could ever become an issue even in the most extreme drought scenario.

#2. If you are speaking to the federally owned reservoirs (Tahoe and Boca), the water that is stored is required to be released to provide California Decreed and Federal Court Decreed rates of flow at the California-Nevada state line. Some of these decrees/agreements are over 100 years old. This water HAS TO BE released to meet those rates of flow year-round. These are also the earliest rights on the system. So Nevada is in a good position from that perspective.

#3. This is not to mention that it is physically impossible to get the water anywhere else than where it flows naturally. The water in the Truckee River flows out of Lake Tahoe in a northerly then easterly direction downhill from the Sierra's to the CA/NV state line. Water flows downhill. This is physics and the reality of all river systems. In this case the water flows downhill into Nevada.

#4. Plus, right now the elevation of Lake Tahoe is below the outlet channel and NO water is capable of being released. The only way to get water out of Tahoe right now would be to pump it out, and that was attempted by some Nevada Ranchers in the 1930's and it was met with GREAT

resistance and never happened. I could not imagine what it would take for the state of California to get the approval to make that happen in this day and age.

#5. Lastly, the physical impediments to pumping water from Lake Tahoe or some other reservoir on the Truckee River system would be huge. I would have to believe hundreds of millions to billions of dollars just for the infrastructure costs alone, then factoring that with the environmental permitting and legal challenges, any project like that would cost the taxpayers billions of dollars and take many, many years to see it through for just a very small amount of water (comparatively speaking). The Truckee River system is very small compared even with other river systems in CA and it would never pencil out.

Please let me know if you have any other questions.

Thanks,

Bill Hauck

Sr. Hydrologist

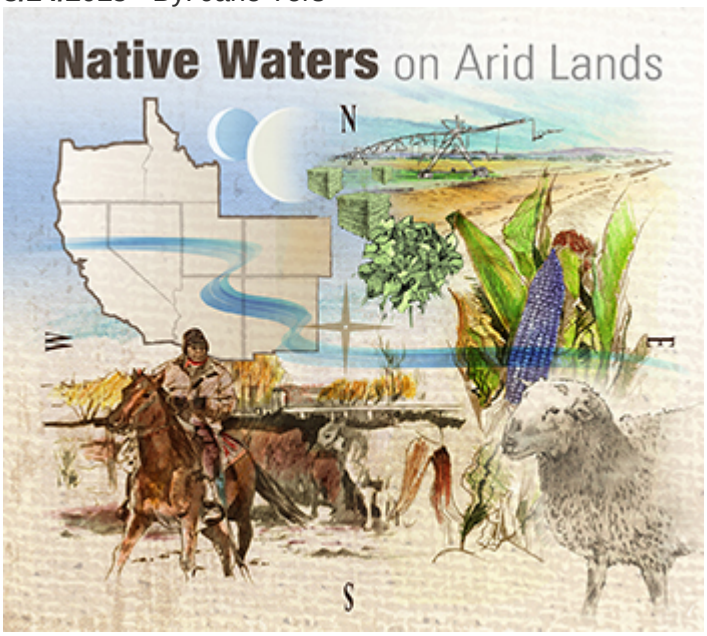
Truckee Meadows Water Authority

8 CONNECT 11 TWEETLINKEDINCOMMENT

4.5 million program to explore agriculture and water management on tribal lands

USDA-funded ‘Native Waters on Arid Lands’ brings together scientists, 1862 and 1994 land-grant institutions and tribal communities of Great Basin and Southwest to address agricultural water challenges

3/24/2015 - By: Jane Tors



A competitive, $4.5 million grant awarded by the U.S. Department of Agriculture's National Institute of Food and Agriculture will integrate research and Extension to help Great Basin and Southwestern tribal communities develop plans, policies and practices for sustainable agriculture and water management.

The five-year program, Native Waters on Arid Lands, brings together faculty and students from three of the West's 1862 land-grant institutions - University of Nevada, Reno, University of Arizona and Utah State University; First Americans (1994) Land-Grant Consortium (FALCON); Federally Recognized Tribal Extension Program instructors in Nevada and Arizona; Desert Research Institute; U.S. Geological Survey; and Ohio University. The program team includes tribal members from Nevada, Utah, Arizona and New Mexico.

American Indian farmers and ranchers provide an important economic base for the arid lands of the Great Basin Desert and American Southwest. Declining water supplies, urbanization, ecosystem change and federal Indian policies challenge American Indian agriculture for ceremonial practices, sustenance and trade.

"Water is a precious natural resource and also has profound cultural and spiritual significance to tribal peoples," John Phillips, executive director of FALCON, a professional association of 1994 land-grant administrators, faculty staff, said. "This program will help Native American communities in the Great Basin and southwest region carry on their historical role as strong environmental stewards for the Earth and its natural resources."

"The Native Waters on Arid Lands program team will work directly with tribal members to identify challenges to agriculture from diverse and competing demands for water," Maureen McCarthy, program director and director (interim) of the University of Nevada, Reno's Academy for the Environment, said. "These issues are complex and transcend ecological and sociopolitical boundaries. Knowledge generated and shared through this program will build capacity among tribal and non-tribal organizations to respond to a changing climate."

Program elements include:

- Developing climate scenarios and water supply projections for tribal lands,
- Testing the production efficiency of existing and future water systems,
- Assessing the effects of Indian land tenure on water management and agriculture,
- Considering the applicability of alternative water management policies,
- Integrating paleoecological data with tribal knowledge to understand the impacts of a changing climate.

Other senior members of the Native Waters integrated program team include Loretta Singletary, professor and interdisciplinary outreach liaison with University of Nevada Cooperative Extension, leading collaborative research and Extension outreach; Staci Emm, associate professor and Extension educator with University of Nevada Cooperative Extension, leading outreach and coordinating the tribal advisory council and annual tribal summits; Michael Dettinger, senior hydrologist with the U.S. Geological Survey, leading climate research; Beverly Ramsey, executive director of Division of Earth and Ecosystem Sciences with Desert Research Institute, leading the traditional ecological knowledge research; Bonnie Colby, professor with the Department of Agriculture and Resource Economics with University of Arizona, leading water market economics research; Trent Teegerstrom, Arizona Federally Recognized Tribal Director and Extension specialist, coordinating tribal education and outreach in Arizona; Kynda Curtis, associate professor in the Department of Applied Economics at Utah State University, leading agricultural production economics research; Eric Edwards, assistant professor in the Department of Applied Economics at Utah State University, leading property rights economic research; Derek Kauneckis, associate professor with Ohio University's Voinovich School of Leadership and Public Affairs and affiliate faculty member with the Desert Research Institute, leading water rights policy research.

Tribal members of the Native Waters on Arid Lands program team include Staci Emm (Washoe and Paiute American Indian and Yerington Paiute tribal member); Ramsey (Eastern Band of the Cherokee Nation); Curtis, Cherokee descendant; Gerald Moore (Navajo) and Arizona Federally Recognized Tribal Extension Program for Arizona educator, coordinating tribal engagement with Navajo and Hopi tribes; Reggie Premo (Duck Valley Shoshone Paiute) coordinating tribal engagement with Nevada tribes; Vicki Hebb (Cheyenne River Sioux Tribe of South Dakota) organizing and facilitating the tribal summits; administrators, faculty, staff and students from the 1994 tribal land-grant colleges and universities; and American Indian water specialists, cultural advisors, agriculturalists and educators from the region.

"We look forward to working with communities throughout the Great Basin and American southwest to help manage water resources for our future generations," Phillips said of the collaboration.

Nevada implementing solutions for drought

Expert explains how the south is able to cope

By Amber Phillips

Las Vegas Sun

LAS VEGAS — Lake Mead's elevation is just 1,087 feet above sea level and dropping steadily. Another 12 feet and the most severe drought-protection program the Southwest has ever seen will be triggered.

If and when Lake Mead hits 1,075 feet, the government will declare a federal water shortage for the seven states that draw water from the Colorado River, forcing Nevada and the others to limit water use.

Worse, a report by climate scientists and NASA predicts the Southwest will be in a decades- long drought by midcentury — the worst in 1,000 years. Despite the sobering predictions, former Las Vegas water czar Pat Mulroy said in an interview with the Las Vegas Sun that she is confident life will go on in the West.

Question: How worried should we be about the current drought?

Answer: The situation is serious, but it was not unexpected. Because of the way Lake Powell (on the Utah/Arizona border) feeds into Lake Mead, there's a lot more predictability and knowledge of what's going to happen a year ahead, before you actually see the levels drop in Lake Mead.

The good thing for Southern Nevada is we conserved early, so we have lots of cushion. On paper, we will take a shortage, but in real terms, we won't be affected by it.

Q: Will things get worse? What about the report predicting the worst drought since the Middle Ages?

A: Let's put these studies into context: Even the scientists will tell you those predictions aren't cast in concrete. They are on the sphere of possibility and need to be taken into consideration. We need to buffer against it. We need to plan for it now. But is it absolute that this is going to happen? We don't know that. Nobody knows that.

Q: So how do you convince people to conserve when the future is so uncertain?

A: You have to get closer to the reality glaring them in the face. When there's still water around, those probabilities seem remote and far. And as this drought deepens, people start getting concerned, because the questions start changing. They aren't, "Can you afford to do these things?" The question becomes, "Can you afford not to do these things?"

Q: You told National Geographic in 2008 you consider the tur n of the century the defining moment when the New

West began, when the impact of global warming fell on us overnight. What did you mean by that?

A: We had come out of essentially a century that was exceedingly wet. What climate scientists now are saying is we're not going to have that predictable wet cycle. Droughts we used to think were only two, three, four, five years long could be 30 or 40 years. It's the magnitude and the rate of change that was completely unexpected.

I think we need to be very honest with ourselves that the whole basin — not just Las Vegas — is facing a much drier future. If that's the case, what are the mosaic pieces we have to put in place now in order for 40 million people to survive in this region? There's no one silver bullet.

Q: Is there a point where the resources we have can't sustain the West's growth?

A: This isn't a Western growth issue. It's a global growth issue. It's raw human numbers.

So what do you do? Put a moat around Las Vegas and not let anybody cross it? Come on, let's get real. Do we get to decide who gets to have children and who doesn't? These become ridiculous questions.

Q: What's the tipping point when we should panic? Or move to the coast?

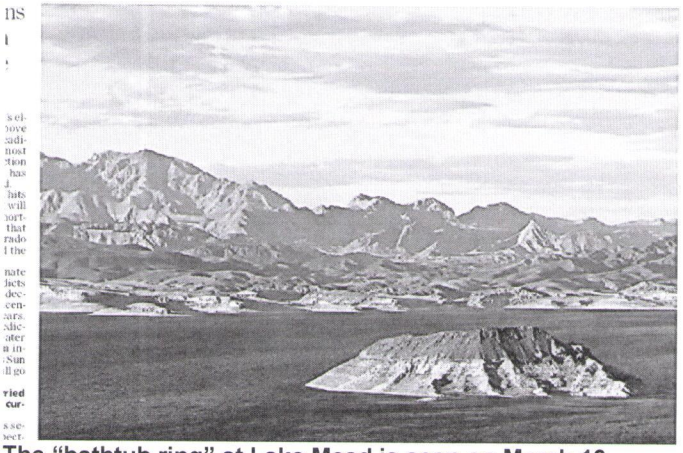
A: I don't think you ever panic. I don't think you ever move to the coast. Because there are always solutions. What becomes an inhibitor is people's willingness to implement the solutions.

And which coast are you moving to? Southern California is going to be hit as badly as Nevada.

All said, you seem optimistic we'll manage.

Communities can work together. Look at what the basin states have been able to accomplish. Twenty years ago, those communities couldn't have even talked to one another.

From the headwaters to the gulf, there is a larger ability and vitality being generated to be able to understand what lies ahead. So am I optimistic? Absolutely.



The "bathtub ring" at Lake Mead is seen on March 13.

JASON BEAN/RGJ

Reno Gazette-Journal 03/29/2015

MARK HENLE/TH

r (left) and Clay Baker cross U.S. 6/U.S. 50 on the Utah/Nevada border while moving 130 head of cattle from Hoover Place north to the Flats on Baker Ranch, Nov. 21, 2014, near

RURAL VS. URBAN:
BATTLE OVER WATER RIGHTS

Ranchers fight to retain rights on Nevada-Utah border

By Brandon Loomis
The Arizona Republic

BAKER, Nev. — Black sand gurgled like a mud volcano from the bottom of Clay Springs, pushed aside by crystalline water rising to the desert's surface.

Rancher Tom Baker stood in the marshy pasture beside one of the few oases that have kept his family ranching cattle across the Utah-Nevada line just downhill from Great Basin National Park. Cows romped and chewed in the green island surrounded by a sea of brittle brown greasewood.

Baker shook his head in disgust.

"To think you're going to take all the water out of the ground (to build) a few more blocks in Las Vegas," he said, practically spitting out his words.

The urban Southwest has a water problem, and residents of this barely populated valley fear they'll be among the first casualties.

Twenty-six years ago, the Southern Nevada Water Authority filed water-rights claims for much of the groundwater here and in several adjacent Nevada valleys, anticipating a building boom that couldn't be sustained on Colorado River water alone.

The urban water provider hoped to pump the groundwater a few hundred miles south to Las Vegas, through an underground pipeline. It would stretch more than 300 miles and could supply a few hundred thousand homes.

Now the river has proven itself unreliable, and the pressure for that pipeline is on. But it's just one of several multibillion-dollar water projects that the Colorado Basin states are scurrying to tap before someone else uses their fair share.

Utah is planning a pipeline from Lake Powell — a Colorado River reservoir that's already half-emptied by drought and overuse — to its fast-growing Mojave Desert city of St. George.

A new state water plan in Colorado envisions pumping more river water across the Rockies to Denver, though perhaps only in big, wet snow years.

Wyoming's governor proposes new Green River dams to hang onto his state's share of the Colorado's largest tributary.

These projects would not necessarily have an immediate effect on downstream users in Arizona, Nevada and California, because the upper basin would still have a legal require-

MARK HENLE/THE REPUBLIC

Tony Night works on a home under construction in the Kayenta development on Nov. 19, 2014, in Ivins, Utah.

MARK HENLE/THE REPUBLIC

A buck jumps the fence on Baker Ranch near Baker. Nev.

> *We have to quit taking more water out."*
>
> **DOUG KENNEY**
> Colorado River Research Group

less to go around for fish, wildlife, float trips, hydropower, and even for those who are building the pipes.

"We have to quit taking more water out," said Doug Kenney, a University of Colorado law professor who chairs the Colorado River Research Group.

Hedging their bets

The seven states that use the river, along with Mexico, already have taken so much that the Colorado almost never flows to the sea. Their thirst has effectively killed a once-rich estuary, endangered native fish in the Grand

an already overextended river just ensures future conflict, he said. It means urban users will go to any extent — perhaps even invoking condemnation powers to get farm water — instead of collaborating for everyone's good.

"Once you build these billion-dollar projects," he said, "you'll do whatever you have to, to put water in them."

Unlike the others, Nevada's pipe plan actually is meant to supplement the river, as a hedge against climate change. Rather than chasing more Colorado River water, Las Vegas is

portant," said Southern Nevada Water Authority General Manager John Entsminger.

Las Vegas was lightly populated when the states split up the river's flow last century. As a result, Nevada got only 300,000 acre-feet, nearly all of which Las Vegas and its suburbs are already using. Of the Southwest's metropolises, it is most dependent on the river.

In recent years, though, snow in the Rocky Mountains has dried up — both through drought years and through early spring melts.

Increasingly snow transforms directly from solid to gas, without ever flowing downhill to the river, Entsminger said. Warmth causes vaporization of some of the snow without any transformation into flowing water, a process called sublimation.

"The snow-to-water cycle is the canary in the coal mine," Entsminger said, and it's looking like the warming climate is no friend of snowpack. "That's had a very detrimental impact for the water supply for the entire basin."

It has been especially detrimental for Las Vegas, whose supply pipe in Lake Mead faces the likelihood of running dry soon.

The pipe's intake is 1,000 feet above sea level, which is roughly 80 feet below where the reservoir's level has hovered this year. But its pumps won't work if the lake falls another 30 feet — and the water already has dropped 100 feet during the current drought.

So this year SNWA is completing construction on an $817 million pipe, bored through bedrock, that goes deeper in the reservoir. It's a cost borne by local sales-tax payers with the help of funds from the sale of federal lands in the area.

"We need to act as if what we're seeing now is the new normal," water authority spokesman Bronson Mack said. "We need to adapt."

Mack stood on a ridge — formerly a peninsula marina northwest of Hoover Dam — and marveled at how far the water had receded since he first stood there late in the 20th century.

"It's mind-blowing that this is all dirt and creosote bush," he said, "where we used to fish."

More demand than supply

Scarcity drives the quest for a new supply from the north, where the groundwater claims are tied up in court.

Ranchers in the valleys to the south and west of Snake Valley, which straddles the Utah-Nevada border, sold out years ago, ceding their rights to metro Las Vegas.

Opponents have so far stalled in

 March 30, 2015 3:55 pm / Powered by TECNAVIA

Reno Gazette-Journal 03/29/2015

ased to sell when SNWA came
'I've spent my whole life trying
wells."
'amily owns more than 10,000
it irrigates only half for lack of

'5 and slipping into Alzheimer's
Dean Baker usually leaves the
his son. But his mind is still fo-
the battle he has waged for dec-
rotect his valley and the little Ne-
n that bears his family's name.
f southern Nevada thought I was
at I wouldn't take the money out
selling the ranch to the water au-
Dean Baker said.
e believes it's the urban develop-
are crazy if they think they can
ir water shortage here.
Bakers' history of drilling has
recious little beyond what the
already uses. Because Las Vegas
on any new groundwater devel-
the Bakers already had to grant a
of their rights to a creek so the
Baker could have reliable water.
ilitary found water deep under
y decades ago, when it was con-
basing MX missiles in the area.
Bakers contend that water, a rem-
n ancient sea, is salty.
the 300-mile pipeline here, Dean
arned, and you'll have to keeping
northward when the wells go dry
more groundwater in other val-

ould be a disaster for them," he
would hurt the whole state."
standing out by springs that U.S.
of Land Management scientists
would at least slow if Las Vegas
water, Tom Baker, 45, said the
els it is fighting for the local en-
nt, and not just its livelihood.
the croaks of sandhill cranes
across the valley, he said the
provide water, grass and insects
rating birds that otherwise
see water for hundreds of miles.
dded that drawing down the
ater threatens to kill the grease-
it holds soil in place across the
hat's part of the reason the local
ients as far away as Salt Lake
e protested, fearing dust storms.
A argues that a new succession of
ould anchor soils, using only the
al rainwater. But Baker said
uess.
ine all of this as dust," he said,
sweeping across a horizon of
untains and olive-studded flats.
vision of destruction, reminis-
hat happened to California's Ow-
ey after Los Angeles sucked it
o apocalyptic, said Entsminger,
'A manager. During nearly two

MARK HENLE/T

Dean Baker waters his cattle at Baker Rancher on Nov. 20, 2014. Dean was draining the line to keep it from freezing.

MARK HENLE/THE REPUBLIC

From left: Randy Elmer, Clay Baker and Kyle Elmer move 130 head of cattle from Hoover Place north to the Flats on Baker Ranch.

months of hearings, Nevada's state water engineer relied on scientists when he determined Las Vegas could take 84,000 acre-feet without drawing down the aquifer.

"We're not moving any water that anyone has used historically," he said.

But Entsminger argued it would be put to good use on the Las Vegas Strip, which drives Nevada's economy.

That kind of talk burns Baker residents.

"That's theft," said Bill Ilchik. A snuff-chewing bobcat- and coyote-fur trapper who grew up in Las Vegas, he moved to Baker in the 1960s to get away from the big city — even though only 115,000 lived in the city.

Vegas, Los Angeles and Phoenix all "take the loot and run," stretching beyond their means at the rural West's expense, he said.

"If they take our water," he said, "there's no kind of opportunity for any development up here."

Outside his trailer home is a l
brush, which he waters occasior
"That's my garden," Ilchik sa

More effort needed

The Southwest's future depen
operation, said Jennifer McClos
uty director for the U.S. Bureau
mation's Lower Colorado River
Recent conservation and sharin
ments among the states, and with
are a good start, she said.

But the states will have to do
wring enough water from the
support the tens of millions of pe
the region is expected to add by
ture.

"Everybody has to work tog
making smart decisions for ou
supply," she said.

A Bureau of Reclamation des
plant near Yuma is a good examp
much effort it will take to get eac
new water, McCloskey said.

Built to test filtration of sa
used irrigation water, it produce
acre-feet of water. That compa
roughly 3 million acre-feet that
reau predicts the region's needs
strip the river's supply by 2060.

The plant is now idle and we
$30 million to restart.

"That's how hard it is to get
McCloskey said. "There are no
of acre-feet to be had."

No amount of pipe will chang

California: Sierra Nevada snowpack hits historic low

By Peter Fimrite

Updated 6:32 am, Saturday, March 28, 2015

A skiers threads his way through patches of dry ground at Squaw Valley Ski Resort in Olympic Valley.

Photo: Max Whittaker / Getty Images

Mountain Meadow at Squaw Valley Ski Resort on Sunday, March 22,...

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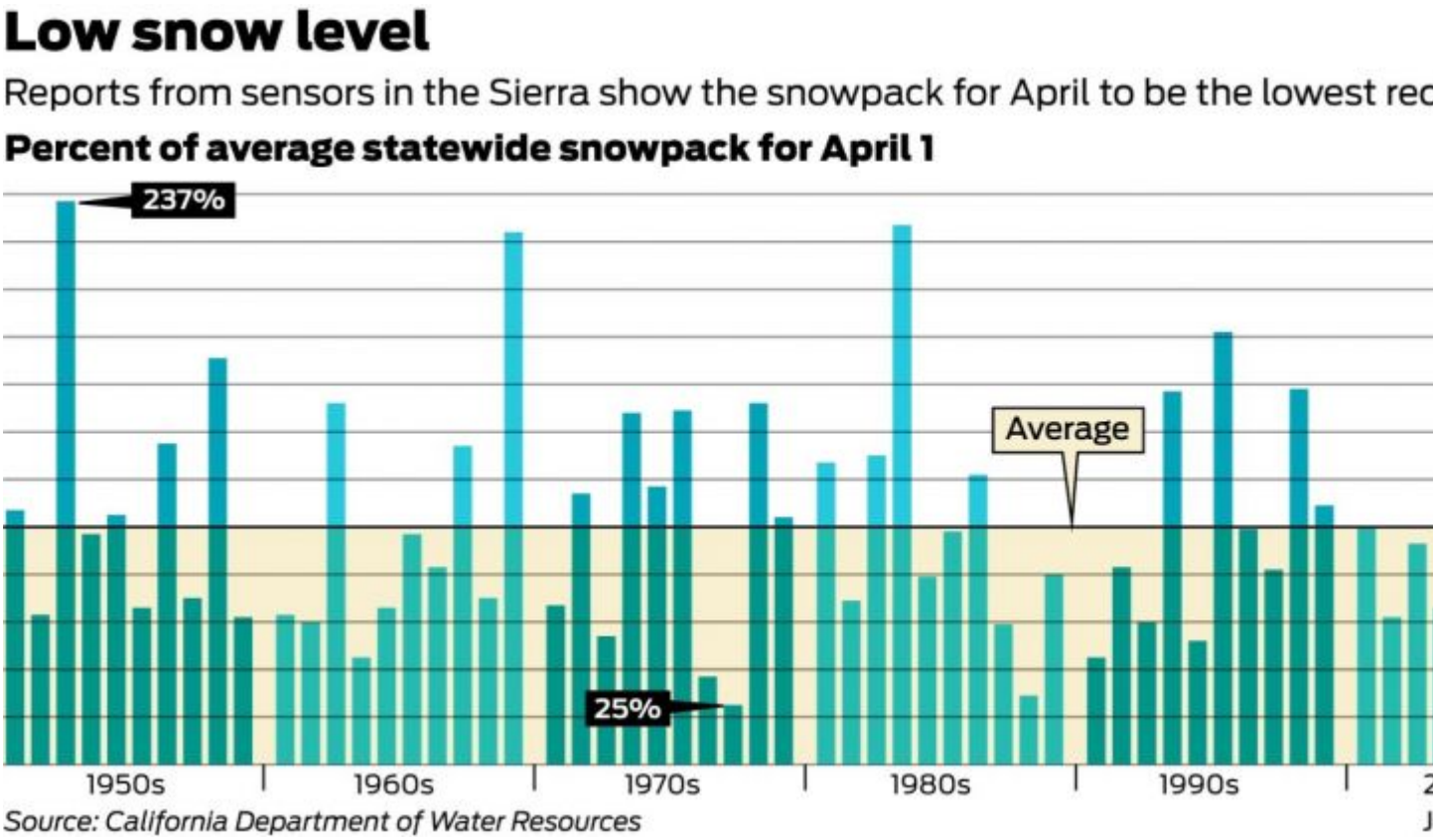
The abominable snowpack in the Sierra Nevada reached an unprecedented low this week, dipping below the historic lows in 1977 and 2014 for the driest winter in 65 years of record-keeping.

Electronic surveys show the water content of the snow throughout the Sierra is a shocking 8 percent of the historical average for this time of year, by far the driest it has been since 1950, the year record-keeping began, because of the lack of rain and snowfall and the exceedingly high temperatures. It is a troubling milestone that water resources officials say is bound to get even lower as the skies remain stubbornly blue.

“It’s certainly sobering when you consider that the snowpack in a normal year provides about 30 percent of what California needs in the summer and fall,” said Doug Carlson, the spokesman for the California Department of Water Resources. “What this suggests is that we will have very little water

running off. It accentuates the severity of the drought and emphasizes the importance of people cutting back on their water use."

The department is planning to conduct its monthly snow survey on April 1, the date water resources officials use as a benchmark because it is when the snowpack normally begins to melt and fill up the state's reservoirs. Meteorologists see nothing on the horizon that could pull the state out of its increasingly frightful drought.



The snowpack is already far below the historic low, which happened in 1977 and again last year, when the snowpack was 25 percent of normal on April 1.

The surveyors measure the depth and water content of the snow in 230 places, called snow courses, in the mountains stretching from north to south. Their results are combined with electronic measurements taken from as many as 130 places around the Sierra to calculate California's drinking water supply for the year.

The state has been publishing statewide snowpack measurements in the Sierra since 1950, but there are several places where measurements go back as far as 1926. At Phillips Station, near the Sierra-at-Tahoe resort, an average of 66.5 inches of snow is normally on the ground on April 1. "We don't expect to find any snow up there on Wednesday," Carlson said Friday. "It's pretty spooky."

The snow in the Sierra has been declining since the first seasonal snow survey Dec. 30, when electronic readings found the statewide snow water content was 50 percent of normal for that date. That survey followed several storms in December.

But the readings plummeted to 25 percent of average on Jan. 29 and 19 percent of average on March 3.

The measurements are important because snow makes up 60 percent of the water that is captured in California's reservoirs when it melts in the spring and 30 percent of the state's overall water supply during a normal year.

Curiously, California's biggest reservoirs have managed to hold steady despite the dismal snowpack. Shasta Lake, the state's largest reservoir, has 74 percent of what it normally holds at this time of year. Lake Oroville, the second-largest reservoir and the most important source for the State Water Project, is carrying 67 percent of what it normally holds at this time of year.

Shasta and Oroville carry 80 percent of the state's reservoir supply. The water is used to irrigate 8 million acres of farmland and quench the thirst of close to 30 million people.

The problem, experts say, is that the reservoirs will not be getting much additional supply from snowmelt, a crucial source in California's dry Mediterranean summer climate.

Meanwhile, the reservoirs that serve farming communities are wretchedly low. Pine Flat Dam on the Kings River is only 32 percent of normal, and Exchequer, or McClure Dam, on the Merced River stands at only 16 percent of normal. Some of the smaller reservoirs are in real danger of going completely dry this summer.

Peter Fimrite is a San Francisco Chronicle staff writer. E-mail: pfimrite@sfchronicle.com. Twitter: @pfimrite

Drought makes history, makes officials nervous

Updated: Tuesday, March 31 2015, 07:29 PM PDT

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RENO, Nev. -- The Truckee River isn't looking too bad right now, but the scene up in the mountains is a different story.

Experts say -- after a string of bad snowpack years -- this winter is clearly the worst.

"This is the lowest snowpack year out of [the last] four years, but even more important than that, it's the lowest year in a century," says Jeff Anderson of the Natural Resources Conservation Service. "We're at about 36 percent of normal right now at Mt. Rose, but if you look at the Tahoe Basin, it's at 3 percent of normal. So really, the result of that is there's not a lot of water to feed our lakes and rivers this summer."

Because of this, the Truckee Meadows Water Authority has asked people to cut their water use this season by 10 percent.

John Erwin -- Director of Natural Resources, Planning, and Management -- says that should make our reserves last longer.

"That's water that will not come out of the reserves. That's water that will be available for next year,

and the more we can save the better off we'll be next year," says Erwin.

Erwin says they plan for nine years of drought; and four years in, they're taking it one year at a time.

"We have some plans in place to augment supplies if the situation does not improve. But until we get there, I can't necessarily speculate on what needs to be done," Erwin adds.

NRCS' Jeff Anderson says this current drought is one for the history books.

"Go take a drive around Lake Tahoe and look at the snowpack, because you're really looking at history right now. We've never seen snow this low before," says Anderson.

As for the ten percent water cutbacks TMWA recommends, officials say the best place to start is outside -- with watering your yard. Water a little less than usual and make sure to do it in the early morning or late evening when it's not hot or windy.

If you want to find out where in your home you could be wasting water, you can contact TMWA directly and they'll help you figure it out. Call (775) 834-8005 for a consultation

Drought experts meet with media members to present the latest drought numbers

Updated:

More Sharing Services

3

RENO - Today at the University of Nevada, drought experts gathered to inform members of the media about the latest drought numbers.

According to the Nevada State Climatologist, Doug Boyle, right now the state is at sixty percent of the normal precipitation level.

A number Boyle says has been consistent the past 4 years, which means we are roughly a year and a half behind where the state should be.

Fox 11's Gianna Giorgi met with experts to find out where local residents can go to find out more information on current drought conditions and ways to conserve water.WATCH the CLIP above to find out and visit the University of Nevada Cooperative Extension drought resource site.

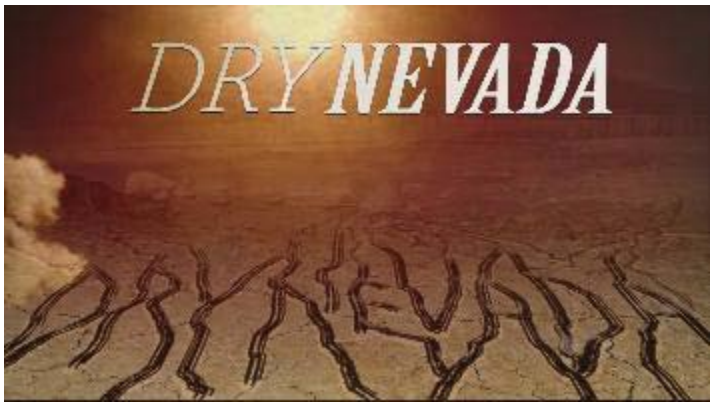
"One thing that is kind of frustrating to me as a climatologist, we're not able to say very much ahead of time what the following winter might bring" Says Kelly Redmond, Climatologist for the Desert Research Institute. "There are a lot of advances going on with climate right now, we're learning things by leaps and bounds but they have not yet translated into very good forecast of what a coming winter might bring."

The Truckee Meadows Water Authority is asking customers to reduce their water use by ten percent because of drought conditions in Northern Nevada.

Experts Say Drought Will Get Worse Before It Gets Better

By: Paul Harris - Email
Posted: Tue 8:28 PM, Mar 31, 2015

By: Paul Harris - Email



RENO, NV - During the last 30 days less than three inches of precipitation fell on the Sierra, according to the National Weather Service.

Leading drought researchers held a forum at DRI Tuesday to let the public know some of their findings and how they can conserve water.

As northern Nevada deals with the 4th year of drought conditions, some places like Lovelock are faced with hard choices.

“I was just in Lovelock and they are getting a zero surface water allocation this year so those producers out there have to figure out what they want to do,” said Dr. Laurel Saito, hydrologist, University of Nevada.

Researchers at the University of Nevada said about 70% of fresh water goes to the production of agriculture as they are working on ways for crops, especially feed crops, to to be more water-efficient. They also offered tips for homeowners.

“I advocate everyone to tear up their lawn and xeriscape,” said Prof. John Cushman, biochemist, University of Nevada. “It is the best thing you can do for the Truckee Meadows.”

If xeriscaping is not ideal for you there are some more simple tips for water conservation starting with the sprinkler system.

“They should check to make sure they do not have broken heads that are leaking extra water or heads that are not getting any water out,” Prof. John Cobourn, water resource specialist, University of Nevada.

Horticulturist Wendy Hanson said letting your grass grow a bit longer helps; when you water is key as well.

“Because when people water in the afternoon or evening hours, you actually have more evaporation and more disease, and people water very shallow and our root system on our turf grass is only three inches deep when it could be 12 inches deep with different watering,” Hanson said.

Experts say we are possibly looking at a long extended drought which the public needs to be ready for.

“I either see it sustaining or getting worse before it gets better,” Hanson said.

As we are in a drought cycle some of the researchers are now planning ahead and looking at ways to avoid possible damage from flood conditions in the future

TMWA calls for 10% reduction in water use

- Images

(MGN-Online)

Do you think you'll be able to cut back on your water usage by 10%? [more]

Yes (75.8%)
No (24.2%)

Print Story
Published: 3/31 9:44 am
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RENO, Nev. (MyNews4.com & KRNV) -- Truckee Meadows Water Authority customers are being asked to reduce their water use by at least 10 percent this spring and summer, effective immediately.

TMWA Board of Directors directed staff to begin early communication and implementation of additional conservation measures and actions, in response to the Reno-Sparks area's fourth year of drought.

"We are asking for at least 10% reduction in outside and indoor water use from all of our customers – homes, businesses, homeowner's associations and apartments." said Mark Foree, TMWA general manager. "We are all in this together. With the seriousness of the drought, we all need to do as much as we can."

"Our planning and projections show a 10% reduction in water use will allow TMWA up to save 5,000 acre feet of water stored in upstream and underground reserves – that's over 1.6 billion gallons of water. This will help us maintain reserve water supplies for next year, should the drought continue," added Foree.

According to the Federal Water Master, Truckee River flows will diminish much earlier this year than in 2014. When that happens, TMWA will begin releasing water from its drought reserves in Stampede Reservoir, Boca Reservoir, and Donner and Independence Lakes. The good news is that our drought reserves stored in these reservoirs are starting off full, despite a very poor snowpack. Any water that is saved this summer is water that will be retained in those reservoirs, making it available should it be needed next year. In addition, this winter and spring TMWA has been recharging as much treated water as possible into the underground aquifers, totaling over 720 million gallons through March**.**

With the dry weather, TMWA officials said it's even more important to prepare your turf for the summer ahead. Here are some general guidelines:

- Sprinkler run times should be 4-6 minutes, backing off by two minutes if there is runoff, or adding two minutes if your lawn is still dry after a cycle
- Start out with three run times per assigned watering day
- Check your sprinkler heads to ensure proper operation
- Now is the time to root feed your trees and fertilize your lawn

View the full recent report to the TMWA Board, which includes a full explanation of how our water system is managed in times of drought, at ***tmwa.com/drought-management***

TMWA Calls for 10% Reduction in Water Usage After Record-Low Snowpack

Posted: Mar 31, 2015 12:55 PM PDT Tuesday, March 31, 2015 3:55 PM EDT*Updated: Mar 31, 2015 5:11 PM PDT* Tuesday, March 31, 2015 8:11 PM EDT

The Truckee Meadows Water Authority (TMWA) Board of Directors have implemented additional conservation measures and actions in response to our fourth year of drought.

TMWA is asking customers to reduce their water usage by 10% for the spring and summer, with this taking effect immediately.

“We are asking for at least 10% reduction in outside and indoor water use from all of our customers – homes, businesses, homeowner's associations and apartments.” said Mark Foree, TMWA general manager. “We are all in this together. With the seriousness of the drought, we all need to do as much as we can.”

“Our planning and projections show a 10% reduction in water use will allow TMWA up to save 5,000 acre feet of water stored in upstream and underground reserves – that's over 1.6 billion gallons of water. This will help us maintain reserve water supplies for next year, should the drought continue,” added Foree.

They say with the dry weather, it's important to prepare your turf for the summer. They suggest to decrease sprinkler run times by two minutes and run it in four to six minute increments and check your lawn from there. TMWA also says to water three times a day on you assigned watering day and to check your sprinklers to make sure they are functioning correctly.
For more information, you can view the TMWA report here: **http://www.tmwa.com/drought-management**

All of this is especially important with one of the lowest snowpack readings we've ever seen.

Today, experts measured just 35 inches of depth and 13.2 inches of water content at the Mt. Rose snowpack telemetry site. "That's the lowest measurement for this time of year that's ever been recorded at the Mt. Rose SNOTEL site, and that goes back to 1980,” says Jeff Anderson, Nat'l Resources Conservation Service.

Sierra Snowpack: Worst In Century

BY ANH GRAY & MICHELLE BLISS

The Sierra snowpack is now the worst it's been in a century. Reno Public Radio's Michelle Bliss reports.

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1:23

Jeff Anderson, with the Nevada Resources Conservation Service, just measured 13.2 inches of water content in the snowpack up at the Mt. Rose summit. In a normal season, there would be about 90 inches of snow.

"When you look at the mountains right now," he says, "and you look at the snow that's up there, you're really seeing history."

With the region's water supply quickly diminishing, the Truckee Meadows Water Authority is asking consumers to voluntarily reduce their usage by 10 percent.

John Erwin with the agency says lawn care is a major culprit for water waste.

“The most use of water by our consumers is outdoor irrigation," Erwin explains. " The waste that it’s associated with the use of water is an inefficient sprinkler system.”

The authority will request even more water reduction if necessary as summer approaches.

Jim Thomas heads hydrologic sciences at the Desert Research Institute. He expects conservation to go even further:

“The voluntary restrictions we see now, I’m sure, will become mandatory as the drought goes on. We’re going to have to cut back, people may eventually lose some of their lawns, some of their bushes. I know people like to grow local gardens, things like that will probably go away.”

The water authority has found that in the past, consumers have been responsive to requests for reducing their consumption and have actually exceeded expectations.

Tags:
Drought
Truckee Meadows Water Authority
snowpack
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High desert

Can Nevada's newest crop weather a record drought?

By Georgia Fisher

This article was published on 04.02.15.

In late March, Sierra Wellness Connection became Nevada's first commercial medical-marijuana business to get state approval. Less than a week later, the fledgling company—led by former University of Nevada, Reno president Joe Crowley—also got the City Council's unanimous nod to sell the medicine. As of press time, Sierra Wellness and Certified Ag Lab of Sparks were the only two such establishments to clear the final state hurdle, said Pam Graber with the Nevada Division of Public and Behavioral Health. More are coming, of course, as hundreds of companies received provisional certifications last year.

"Provisional certification is pretty much a blessing from the state that says, 'We're OK with you. Now just go do what you need to do at the local level, make sure you can jump through their hoops, too, and you're good to go,'" Graber explained.

Once city paperwork is in order—and state inspectors come for a final look-see—a company can move forward. That's where Sierra Wellness now stands, though treasurer Deane Albright said the East Second Street dispensary won't open until August or so. Plants don't grow overnight, you know.

Know, too, that law-abiding commercial growers won't have the fragrant crop in their yards. Plants must be locked indoors, in a precaution Graber said is largely meant to deter theft. The stipulation that medical marijuana must stay inside arguably makes it more sustainable as well, especially in a parched desert.

Medical-marijuana businesses are in their bureaucratic homestretch. PHOTO/THINKSTOCK

Take CannaVative Farms, a cultivator that received its local license last week and will use high-tech pods to grow the medicine. (Sierra Wellness and a third company, MMG Agriculture, are also newly licensed growers.) Made from modified shipping containers with software that quickly alerts to threats such as pests and viruses, the pods are "a controlled environment, and are going to use less water than the typical grow," said CannaVative founder Joey Gilbert. He thinks greenhouses would be a positive addition too, should they ever be allowed.

"We're not talking about your greenhouses of 50 years ago," Gilbert said. "There's a lot to be done with solar energy, with renewable energy."

In the initial application process, new business owners of all stripes must indicate how much water they'll use, "and of course the applicant always says they'll use less," said John Erwin, Truckee Meadows Water Authority's director of natural resources planning and management. Prospective pot growers have provided a rather wide range of estimates, so TMWA is studying facilities in Colorado and the Bay Area for comparison.

To be clear, there's no point at which city staffers throw up their hands and say a business is too much of a water hog—provided the bills are paid. But for the second year, TMWA has asked customers to cut consumption by 10 percent, using 2013 numbers as a baseline. Northern Nevada is in the midst of a record drought.

Cannabis "actually is a low-water plant, depending on how you grow it, how big you grow the plant and how you trellis it out," said Clint Cates, CannaVative's director of operations. "With a lot of outdoor grows, your plants are a lot bigger, so they take a lot more water, but no more than any other agricultural crop."

Question: Only 5 years of drought water reserves left?

 Mark Robison, RGJ 6:35 p.m. PDT April 1, 2015

A drought-lowered Truckee River flows at a trickle in late September 2014.(Photo: RGJ file)

With the drought becoming an increasingly serious issue, the RGJ wants to answer your drought questions. Please send them to mrobison@rgj.com.

The question

A reader asks: If we're in the fourth year of a drought and we have nine years of drought reserves in reservoirs, does that mean we have five years of drought reserves left?

The short answer

No. Water reserves in reservoirs usually get replenished over the winter. By May, there is expected to be enough water to meet the region's nine-year drought plan, which is different from nine years of reserves. If 2016 is as dry or drier than 2015, the reservoir reserves likely will not fully recharge over the winter. Also, reserves in reservoirs are one part of drought planning. Other water sources are available.

The long answer

There are three types of drought. For the purposes of this discussion, we care about two: meteorological (how much falls from the skies compared with normal precipitation rates) and hydrological (how much water is contained on the surface in lakes, rivers and reservoirs, plus how much is underground in aquifers).

RENO GAZETTE JOURNAL
Can California take Nevada water in drought emergency?

For water resource management, these two things are not the same and a meteorological drought does not necessarily translate into a hydrological drought. This is because agencies such as the Truckee Meadows Water Authority can prepare for drought by storing excess water that accumulates during the winter.

John Erwin, TMWA's director of natural resource planning and management, said in an email response to the reader's question, "In 2014 TMWA used about 5,000 acre feet from its reserves, which will be subsequently refilled before May 2015. In 2015, TMWA is projecting to use 8,000 acre feet of its reserves, of which at least 5,000 acre feet will be refilled in 2016, and depending on the 2015/2016 snowpack, the full 8,000 acre feet could be refilled."

In other words, Erwin is saying that the water being stored in reservoirs in case of drought should be fully recharged by May, but next year it likely won't be if drought trends continue.

This leads to the concern of what happens if this non-full recharge continues year after year. At first, there may be 3,000 fewer acre feet than what is considered "full" reserves; then the next year, it may be 6,000 and so on.

There are a few responses.

One, this drought has so far been unlike the last major drought, from the late 1980s into the early 1990s. In that drought, there would be a dry year and then a wet year when water resources recharged fully and then a dry year and another wet year. That is not happening now. We have had four dry years in a row. Forecasts are notoriously difficult, and it is possible a wet year here and there will recharge everything, even if the current drought continues.

Two, the drought reservoirs are only part of TMWA's drought strategy. Even if they run out, there are other water sources — "many small buckets," as Erwin described the other reserves.

For example, TMWA also pumps 8 million gallons of treated surface water each day during the winter through its wells into the aquifer for drought-year use. TMWA says plans are underway to add 12 more such wells for recharging the aquifer.

TMWA says plans are also underway to pipe water from Fish Springs to the North Valleys to offset surface water that otherwise has to be pumped from the Truckee Meadows to the northern valleys such as Lemmon. It is also planning $2.3 million in improvements starting this summer to recharge wells in the Arrowcreek and Mt. Rose water systems during the winter.

Erwin said that if drought years are interrupted by recovery years, as has happened with previous droughts, that could be handled indefinitely. But, he said, if the current dry-year-after-dry-year cycle continues, then drought reserves could be seriously impacted.

How quickly?

"That's the $64 million question," he said. "I don't know."

He added, "I can't speculate on that being a real scenario so I can't speculate when that would be."

P.S. The third type of drought is agricultural — how much irrigation water there is for farmers.

UPDATE: This story has been updated to reflect that drought reserves are different than drought plans and to clarify what would happen if dry-year-followed-by-dry-year continues.

Keeping water use local is aim of new foundation

Keith Trout, 9:21 a.m. PDT March 23, 2015
14 CONNECT 4 TWEETLINKEDINCOMMENTEMAILMORE

After six months of efforts, a nonprofit aimed at educating and protecting water resources in the Walker River basin has been formed, with official status granted last month for the Western Nevada Water Preservation Foundation.

The new organization has scheduled a town hall meeting at 7 p.m. April 22 at Smith Valley High School and has invited several speakers to talk about water issues.

Among the speakers planned are State Engineer Jason King to talk about "water law 101," Walker River watermaster Jim Shaw to talk about the C-125 decree, Assemblywoman Robin Titus, Sen. James Settelmeyer and possibly a few more. Rick Smolin, chairman of the new foundation, also is expected to give a few words.

Joining Smolin, a Smith Valley resident, are WNWPF directors Jerry Rosse and Dan Smith, both of Smith Valley, in organizing the foundation, with about four others so far. People will be able to join the Western Nevada Water Preservation Foundation at that meeting.

Its mission statement says it is a citizens group "dedicated to protecting and preserving current water resources including, but not limited to, underground and surface water for the benefit of residents and agriculture in the various western Nevada basins. It also "is dedicated to restoring wherever possible water resources to appropriate levels for agriculture and residents in various basins of western Nevada."

In addition, Smolin and Rosse said educating the public is a major purpose to better combat the efforts to buy water rights in the Walker River Basin so it could go to Walker Lake.

"The foundation is committed to educating the public regarding the impact of diverting water resources from various basins, on residents and agriculture, as well as promoting cooperative solutions that protect western Nevada's water resources in the various basins so as to meet real water resources' need without transferring environmental problems to other areas," the group's mission concludes.

"We primarily want to educate the public," Rosse said. "We don't want people to be left behind."

Smolin said the foundation wants people to know they can protest water transfers out of the basin, "to help them go through the process, including appearing in court to let judges know citizens' feelings."

"We've got to get people educated so they can understand the issues, so water isn't transferred out of the area," Smolin said.

He said they hope this initial meeting will get people interested in water issues.

Smolin said too many people think that the current water issues are "farmers' and ranchers' problems," but that it applies to domestic users as well and they should help shoulder the costs.

He said that connection largely is due to the fact if water remains in the river to go to Walker Lake, and Western Nevada Water Preservation Foundation it isn't diverted and used on fields for irrigation, the recharge of the aquifer from that spreading of water would be lost, so domestic well users would be impacted by that.

The two said more public participation is needed.

During an educational presentation Monday regarding legal actions dealing with the Walker River and Walker River basin, water rights attorney Laura Schoeder encouraged attendance among at federal court hearings on these legal proceedings dealing with the Walker River, as that usually impresses the judges.

"I encourage you to go" to upcoming court hearings in federal district court, she said to the small group present.

"You have to participate," she said, whether as individuals or ditch companies and by farmers and domestic groundwater users

Nevada’s Utilities

April 1, 2015 By Jeanne Lauf Walpole Comments

20
2
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Utility movers and shakers in Nevada continue to be optimistic as they strategically manage new technologies, increased regulation, customer growth and a changing portfolio mix of options.

Regulations

A regulatory agency that ensures investor-owned utilities comply with laws enacted by the Nevada Legislature, the Public Utilities Commission of Nevada (PUCN) oversees a broad spectrum of entities. “Each utility has its own challenges. In natural gas we have aging infrastructure and we need to repair and replace pipelines. We have to watch costs and maintain safe service,” says Anne-Marie Cuneo, director of regulatory operations staff. “With respect to small water companies, we also have aging infrastructure and natural-occurring arsenic.”

While energy companies continue to add more alternative energy to their portfolios, individual consumers have also shown increased interest in renewables. “Small rooftop solar has made a big splash,” she says. “The panel price of solar has gotten really cheap. As the costs have come down, it’s much more accessible to people.” Other forms of alternative energies, however, have not worked out as well for Nevadans, according to Cuneo. “Nevada doesn’t have a very good wind resource,” she says. “The

state is blessed with geothermal, but there's a lot of development risks. A lot of it is on public land."

A big concern of utilities in many states is Section 111 (d) of the Clean Air Act which, according to the PUCN, awards overreaching powers to the United States Environmental Protection Agency (USEPA). The PUCN has submitted lengthy written objections to the regulations that address rules at the federal level for reducing greenhouse gas emissions at existing fossil fuel-fired electric generating units. In addition to the legal and jurisdictional issues, the PUCN objects to the timing of submittals, the yearly reporting requirement, lack of symmetry between goal calculation and compliance calculation, high program costs and the fact that carbon capture and storage is not a feasible technology for Nevada, to name a few. Reducing carbon emissions means shutting down a fossil fuel power plant and replacing it with something else, such as a renewable. "Reducing carbon emissions comes at a price. You're replacing it with something more expensive," Cuneo says.

In compliance with the Nevada Legislature's SB 123, NV Energy has retired about 500 MW of coal-fired power and is in the process of replacing this with cleaner energy. "We acquired two natural gas-fired plants," Paul Caudill, president and CEO of NV Energy said. The Las Vegas Cogeneration units and the Sun-Peak Generating Facility will bring about 496 MW of gas-fired power to the company portfolio. "We'll be looking for 300 MW of renewables in the next year," he says.

Power

The PUCN was also an active participant in the approval process for NV Energy's acceptance into the Energy Imbalance Market (EIM) that will cover seven states and more than 44 million people when it goes live this fall. A combination of California Independent System Operator (California ISO), Oregon-based PacifiCorp and NV Energy, the EIM will strengthen grid reliability by balancing supply and demand closer to when electricity is consumed. By identifying fluctuations in supply and demand, the EIM will automatically find the best resource to meet the current needs across its service region. "California has a lot of renewables during the daytime and they can't always use it. The sun shines at different times there than in Nevada. We can trade power on the short-term," Cuneo says.

The new kid on the block a year ago, Caudill said his most important priorities would be safety and customer satisfaction. Now, into his second year on the job, he points at the progress that has been made. "We had the best year the company has had with personal safety. We cut the rate of injury almost in half," he says.

Customer satisfaction is also getting higher marks, according to company surveys and one-on-one encounters. NV Energy began around the clock service in its VOIP call centers about a year ago and found that more than 80 percent of its callers were

connected within 30 seconds or less. The company also improved the efficiency of its system by linking the centers on both ends of the state. The company facilitated increased use of the online “My Account” for customers who want to monitor usage online. Out of its 1.3 million customer accounts, the company expects that around 540,000 will be using it by the end of the year.

Also optimistic, Thomas Husted, CEO of Valley Electric Association (VEA) in Pahrump, radiates bullish enthusiasm while describing the future of the company and the Industry. As a member-owned electric utility, VEA doesn’t generate electrical energy, but buys it on the open market for its more than 17,000 members. Its service territory extends for about 250 miles along the California-Nevada border from Sandy Valley in the south to halfway to Reno in the north. “We have one of the most sophisticated operating systems in the West. We’ve always been ahead of the game,” he says.

Although VEA has had an impressive history of steady growth in recent years, last year was a real winner, according to Husted. “2014 was an extremely good year. We continued to grow out of the recession and 2015 will be another exciting year,” he says. The company enjoyed a 40 percent increase in revenue last year which allowed it to maintain a ten-year run with no rate increases.

As VEA continues to expand its interest in solar energy, Husted talks about the 80-acre solar park the company is developing near Pahrump. “We’re finalizing plans to put in a community solar park which will have 60,000 solar panels. We’ll make them available to our members if they choose to participate,” he says. “They don’t have to put panels on their roof or in their backyard.” For those consumers who do generate their own solar power, Husted says VEA will buy their excess. “We’re developing the rooftop generation,” he says.

Other VEA projects include the installation of fiber because the company’s service area lacks high-speed broad band communication. “We’re running fiber to every home,” Husted says. The optional connection to the service is expected to be available by the end of this year. In addition, VEA is expanding its Pahrump-based campus to include a new community conference center and other enhanced operational facilities.

Husted is especially enthusiastic about the future as he anticipates fulfilling the energy needs for more fully automated homes. “I wish we could change faster and transition to where the world is going,” he says.

Water

As the state continues to respond to drought conditions, it’s not hard to figure out the biggest concerns of Nevada water companies. “We’re in our fourth year of drought. It’s

our highest attention right now," says Mark Foree, general manager of Truckee Meadows Water Authority (TMWA).

When put into historical perspective, however, it may not be all that unusual. "It seems like we have a prolonged drought every 20 years," he says. The company's strategic planning has enabled them to continue serving their customers even through the driest years. "We plan for a nine-year dry cycle and we have the water supplies to back that up. This comes from well pumping and upstream storage," he says.

Although TMWA has experienced healthy growth in recent years, through conservation methods it has actually used less water. Increased awareness of usage along with the installation of water meters has caused a drop in consumption from 86,000 acre feet in 2001 to 74,000 last year. "We're using a lot less than 15 years ago. It appears that we'll call for some conservation this summer," Foree says. He expects that usage for this year could drop to less than 70,000.

Foree speaks highly of the much anticipated merger between TMWA and the Washoe County Department of Water Resources (DWR) which was finalized last year. "We acquired 24,000 more customers with the merger. It's a good thing for the community. Most of the new systems are ground water," he says. These provide an efficient balance with TMWA's resources which are mainly surface water. "We own all the water rights in Independence Lake and one-half in Donner Lake," he says. The consolidation has been good for the community because it has resulted in better management of all the water resources. "We've seen some economies of scale so we'll have fewer rate increases as we go forward," he says.

As part of its ongoing water management strategies, TMWA uses its Aquifer Storage and Recovery Program to bank water for future use. "We take water from the Truckee, treat it and then we put it back down into the ground," Foree says. Up to 10 million gallons a day can be injected into selected wells during the fall and winter.

Southern Nevada is also positioned to withstand drought conditions and, despite the ongoing drought on the Colorado River, John Entsminger, general manager of the Southern Nevada Water Authority (SNWA), says that Southern Nevada will have enough water for decades to come. "We're very comfortable with our facilities and our resource portfolio right now," he says. Even as Lake Mead dropped 130 feet over the past 14 years, methodical strategic planning by the company has ensured a reliable water supply for many years to come.

The much anticipated Lake Mead Intake No. 3 project, which will pump water from the lake at 860 feet above sea level, is expected to come into service in July. "Immediately it will help our water supply because we can pull from the deepest part of the lake which is colder and cleaner," Enstminger says. Coupled with the new intake is a low lake level

pumping station, now in development, which will draw water from the 875-foot level. These two entities will secure the water supply regardless of the level of Lake Mead.

SNWA is constantly developing and promoting greater efficiencies in water usage through conservation and recycling. “We’ve reduced net use of water by about 40 percent over the past 14 years,” Entsminger says. Part of the reduction is because the type of growth has changed with less turf and landscape being used and more housing units per acre being built. Also Southern Nevada is somewhat unique by being able to utilize return flow credit methodology, which captures 99 percent of the water used indoors, treats it and then returns it to Lake Mead. “If it hits a drain, we reuse it,” Entsminger says. Looking several decades into the future, the company is exploring an instate ground water project which would pipe water from Lincoln and White Pine counties into the SNWA system. In addition, SNWA is also looking into the possibility of developing a desalination plant in Mexico.

Entsminger says that new technologies have resulted in greater efficiencies for both the company and its customers. “We don’t do check processing anymore. The vast majority pay online. We’re getting ready to launch our first mobile app,” he says. The days of meter readers walking the streets is also a dim memory. “Our entire retail side has automatic meter reading devices. We just drive down the street with a truck,” he says.

The company is very aware of the critical role they play in economic development as businesses who locate in Southern Nevada need to be assured that they will have enough water for their needs. “We appreciate the support that the business community has given us,” Entsminger says. “We have a very stable safe secure water supply in Southern Nevada.”

The Next Generation

Natural gas continues to be one of the darlings of the energy world, according to John Hester, president and CEO of Southwest Gas Corporation. “It’s a pretty carbon-friendly fuel,” he says. As coal falls out of favor, natural gas has become even more attractive, especially with a 150-year supply that is mostly domestically produced. “Domestic natural gas development has been a growth engine for the economy,” he says.

As coal-fired electrical plants are retired across the country, cleaner gas-fired facilities have taken their place. Also the use of natural gas in vehicles continues to grow. “We’re seeing increased usage in fleet operators. People continue to appreciate the low cost and the benefits to the environment compared to diesel fuel,” Hester says. “We’re also looking at liquefied natural gas (LNG) which puts a bigger energy component in a vehicle compared to compressed gas.” The company’s LNG plant in Lovelock, which is designed to provide customers peak service during winter months, can be used by long-haul truckers in warmer months. Hester also emphasizes that natural gas partners well

with renewables and with electric cars, such as Tesla. “I think we can co-exist with electric vehicles. It’s going to be a net improvement for both,” he says.

In recognition of the continuing regulation of the energy industry, research and development is adding some rather fascinating options to the fuel mix. Hester says he’s pretty excited about the idea of methanization, a process that uses electricity from a photo voltaic cell to perform electrolysis on water to produce hydrogen. The hydrogen is then combined with carbon from carbon dioxide in the atmosphere to make synthetic natural gas.

Hester predicts a bright future for his company with a natural growth rate of about one and a half percent annually. “The desert southwest continues to be a good place to live. We’re bullish on Nevada,” he says.

As they gamely face the challenges of 2015, Nevada’s utility companies embrace a changing landscape that requires adept leadership and vision to navigate. Those at the helm are invigorated by the opportunities presented and look to the future with eager anticipation.

Filed Under: Cover StoryTagged With: Anne-Marie Cuneo, Aquifer Storage and Recovery Program, Clean Air Act, Colorado River, Donner Lake, Energy Imbalance Market (EIM), John Entsminger, John Hester, Las Vegas business, Las Vegas Cogeneration, Mark Foree, Nevada business, Nevada Legislature, NV Energy, Paul Caudill, Southwest Gas Corporation, Sun-Peak Generating Facility, the Public Utilities Commission of Nevada (PUCN), Thomas Husted, Truckee Meadows Water Authority (TMWA), United States Environmental Protection Agency (USEPA), Valley Electric Association (VEA), Washoe County Department of Water Resources (DWR)

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Dire times for water users

INformation

For more about water orders and delivers, contact TCID at 775-423-2141 or visit their website at www.tcid.org.

Out of the blue, the limited fortunes for water users in the Lahontan Valley have changed drastically.

Last week, after a discussion with the Federal Water Master in Reno and reviewing new forecasts, Truckee-Carson Irrigation District Project Manager Rusty Jardine and the district was left little choice than to alter the water season.

The new information gathered left TCID no other recourse than to possibly halt the water season in the Truckee Division as soon as April 14.

“People need to get their orders in so they can apply what they can in the time allotted,” Jardine said. “It may have a bit of a dash (of orders) associated with it. That’s just the way it is.”

As for the Carson Division, Jardine said there is no timetable as those users will have water until Lahontan Reservoir runs dry.

Drought conditions are so severe the runoff from the Sierra Mountains has all but dried up. Even with the little snowpack available at elevations above 7,700 feet, the runoff may barely reach Lake Tahoe or the Truckee River to deliver the water downstream.

“In essence, we have received a full contribution from the snowfall that was up there,” Jardine said. “We are looking to see a reduction in that flow in as soon as a couple weeks. In the abundance of caution, we want people to be prepared for it.”

He added conditions may change such as cooler temperatures and late-season storms, but the outlook is still dire.

“We are still in the midst of the driest season we’ve ever had,” Jardine said. “It’s overly optimistic to think that things would change any time soon.”

Jardine reviewed data from the California/Nevada River Forecast Center along with discussions from with Chad Blanchard, the Federal Water Master in Reno, leading to the decision the water season may end much earlier than anticipated.

The result of last week’s meeting came as a shock, Jardine said, and leaves users in an even more stressful situation than previously thought.

Historic low snowpack in the Sierra Mountains along with little rain has crippled the runoff into lakes and rivers throughout the region, according to Water Supply Specialist Jeff Anderson of the Natural Resources Conservation Service in Reno.

He said this year has witnessed a 6-inch drop in water content from last year.

TCID set water allocations at 20 percent for the Truckee and Carson divisions in March with a projected cutoff date in mid to late June. However, recent forecasts have shown the runoff is not reaching rivers, streams and lakes to increase downstream flows.

“One of the more stark comparisons I can see is some of our long-term snow courses (measuring sites) around the Tahoe Basin are at historic low levels,” Anderson said. “We have snow courses that go back to 1910 or 1913 and three of those four are setting new record low values. This could be the worst snowpack in our area in over a century.”

Lake Tahoe, which provides water storage for TCID, is below its natural rim and cannot feed the Truckee River, which TCID diverts from to provide irrigation water in Fernley and Fallon.

Anderson said the levels at Lake Tahoe have remained constant throughout March and the evaporation measures are about equal to the inflow coming into the lake. The result is the lake cannot gain elevation to pour water into the Truckee River, therefore leaving water users dry.

In addition, the minimal snowpack at higher elevations is not substantial enough to reach any lake or river as the runoff is absorbed by dry ground, Anderson explained.

He said there is snowpack above 7,700 feet, but recording sites at 7,700 and below are melted away leaving a longer path for runoff to travel to reach Lake Tahoe, if the water can even get to it.

“From the Truckee Basin to the Walker Basin, every one of them is at minimum levels,” Anderson said of the NRCS’ automated sites. “We are kind of in unchartered territory. There really isn’t a year that compares.”

The drought, meanwhile, has reached historic levels as January was the worst month on record, while March is nearing historic low marks as well.

Anderson said a recording from March 16 at the Carson River/Ft. Churchill meter was 7 percent of normal.

Jardine and Anderson said this is the worst year, even harsher than 1977. Jardine said this year is so bad there is no baseline to compare, even to 1977.

Anderson, meanwhile, said the snow levels throughout much of Lake Tahoe are at historic lows, while Mt. Rose is at its third-lowest mark on record.

“We just didn’t have enough storms this year,” he added. “The situation this year is more dire than it has been in the past three years. We are not seeing a response from the streams.”

The last significant winter in Northern Nevada was in 2011 when snow levels reached more than 60 feet. Since then, however, the region has been crushed by the drought with each year producing less snow and rain than the year before.

It was enough for water users in the Lahontan Valley to get by until last year when users were cut off at the end of July.

With barely any precipitation in the fall and winter months, Lahontan Reservoir was unable to collect a significant amount of water to carryover for this season.

“That 2011 snowpack … we’ve been sort of living off that for the past three winters,” Anderson said

Sierra snowpack is 'worst in a century'

BY JEFF DELONG Reno Gazette-Journal
April 02, 2015 - 11:07 am EDT

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RENO, Nevada — The traditional snow season ended April 1 with what appears to be the most dismal Sierra Nevada mountain snowpack on record, cementing 2015's status as the fourth drought year in a row and setting the stage for a difficult summer in California and nearby states.

The Lake Tahoe Basin's snowpack Tuesday was only 3 percent of normal for the date and the Truckee River Basin's was measured at 14 percent, far worse than the end-of-season numbers for any of the previous three drought years.

"It's pretty bad, the worst in a century," said Jeff Anderson, snow surveyor for the U.S. Natural Resources Conservation Service, according to the Reno Gazette-Journal (http://on.rgj.com/1Io7KjE). "It not only squeaked by the record, I would say it shattered the record.

"It's scary," Anderson said.

At Lake Lucille in California's Desolation Wilderness, and at an altitude of 8,200 feet, the water content in the snowpack was 14.8 inches, significantly less than the previous record low of 20.4 inches set during the drought year of 1977. Records there date back to 1913. At lower elevations, the situation is more grim.

"Almost all of the snow measuring sites at Tahoe have melted out already," Anderson said. At those locations, the April 1 snowpack will be recorded with a zero.

The result will be minimal runoff this spring in area streams and rivers. Lake Tahoe, the largest reservoir in the Truckee River system, has been below its natural rim since October, cutting off all flow of water into the river. It's looking unlikely the lake will rise above its rim at all in 2015, Anderson said.

On Tuesday, the primary water provider serving the Reno-Sparks area of Northern Nevada_just east of Lake Tahoe_urged water customers to immediately cut water use by a minimum of 10%, including both outdoor irrigation and indoor water use. With continued drought seemingly unavoidable, directors of the Truckee Meadows Water Authority voted earlier this month to ask customers to reduce water use for the second year in a row.

A 10% reduction would allow the utility to save up to 5,000 acre-feet of water stored in upstream reserves and the groundwater aquifer, or more than 1.6 billion gallons, utility officials said.

"We are all in this together," said Mark Foree, the utility's general manager. "With the seriousness of the drought, we all need to do as much as we can."

The situation is indeed serious, experts agreed during a Tuesday briefing at University of Nevada, Reno.

Dry conditions and low precipitation have combined with higher-than-normal temperatures to create a significant problem, said Douglas Boyle, Nevada climatologist.

Nevada's year-round, average temperature statewide was more than 53 degrees in 2014 compared to a normal average of 49.5 degrees, producing the warmest year on record, Boyle said. Average temperatures were about 50.5 degrees in 2013 and 52.5 degrees in 2012. Precipitation throughout the recent drought period averaged between 40 and 60 percent of normal, Boyle said.

Long-range outlooks call for above-normal temperatures April through June with the drought intensifying over that period, he said.

Like many, Kelly Redmond of Reno's Western Regional Climate Center was hopeful this winter would be a decent one and help to pull the region out of protracted drought.

It wasn't to be.

"I was slightly more than hopeful we would have something at least close to normal," Redmond said. "It turned out to be as bad or worse than the previous three (years) and it's been so decidedly warm on top of that."

Reno developer should use recycled water: Letter

12 p.m. PDT April 2, 2015

Letter to the Editor(Photo: RGJ)

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At a time when there is a drought in the coming year, we are making arrangements to converse water.

There are those who seem to abuse the wetlands for their use and forget that this water is protected for the wildlife in our region. These wetland waters are for all species of animals needing water during the dry season.

The developer located at the corner of Steamboat Parkway and Rio Wrangler is taking water to develop his land instead of purchasing recycled water as most developers.

I have spoken to DiLoreto Construction and Development Inc., on the phone to share my concerns about using the wetlands for their water needs. They conveyed that they would continue to use the water from the wetlands.

There are two pumping stations that DiLoreto is using for land development.

Homeowners need to take a stand. We are charged a monthly fee to protect these wetlands as part of our Home Owners Association fees, only to see our investment in the wetlands being abused.

Charles Sena, Reno

Nevada Legislature: Cloud seeding called vital due to drought

- Article
- Comments (0)

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Sen. Pete Goicoechea, R-Eureka, told fellow members of Senate Finance on Thursday the bill putting $500,000 into cloud seeding efforts this coming biennium is vital because of the drought.

“We already recognize that, at this point, we are in a drought that we have never seen before,” he said. “We all understand that you’ve got to have clouds to seed but, when we do get a weather system, we have to have the money in place.”

He said a large share of funding would be used in the northern half of Nevada but Southern Nevada Water Authority and other areas also would see funding if there are storms to seed.

Dr. Mike Baughman of the Humboldt River Basin Water Authority said cloud seeding is probably the best way to immediately increase precipitation when a storm does pass over the state. He said numerous other stakeholders are willing to contribute as well because the actual need is more like $1 million a year instead of $500,000 over two years.

He said the plan is for a matching grants program because, “we don’t expect the state to do this alone.”

Baughman pointed out the Humboldt basin raised $70,000 to contribute to cloud seeding efforts last year.

He said agriculture especially has been hard hit by the drought. He said Reno-Sparks has called for cutbacks in water use, and recreational areas from Lahontan to Sand Harbor at Lake Tahoe have been hard hit by the lack of water.

Desert Research Institute and local officials said there are seeding programs in the Tahoe-Truckee area funded by Truckee Meadows Water Authority and in Southern Nevada funded by SWNA. SB423 would provide money for much broader seeding efforts statewide.

The state funded cloud seeding from the early 1980s until 2008 when the program was cut because of the recession.

In response to a question from Sen. Ben Kieckhefer, Mark Pitchford of Dessert Research Institute said they have considered using drones to seed clouds but getting Federal Aviation Administration approval to fly on short notice is difficult. He said seeding by aircraft is usually done by flares on the trailing edges of aircraft wings to distribute the chemicals: “You can imagine the reaction the FAA might have to having an unmanned vehicle on fire flying in the air.”

The seeding program also was supported by Ed James of the Carson Water Subconservancy District who said normally he and others have a pool to guess what the river’s peak flow would be. This year, he said the pool is on when the Carson River runs dry.

He said the subconservancy supports the appropriation in SB423.

The committee took no action on the bill.

Volunteers see increase in trash along Truckee River

Marcella Corona, RGJ 9:35 p.m. PDT April 3, 2015

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Reno Police Officers Jason Stallcop and Cameron Green pull clothing, blankets and bags from a concrete drain Friday morning near the entrance of Fisherman's Park.(Photo: Marcella Corona/RGJ)Buy Photo

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Clothing, liquor bottles and several syringe needles.

Those are a few of the things volunteers with the Truckee Meadows Water Authority picked up at Fisherman's Park Friday morning. Many said they were concerned about an increase in trash along the riverbanks.

"Two needles, that's what I picked up so far," Kevin Johnson, 36, said as he searched through nearby shrubs for more trash. "I found it along the river in the rocks just past the gazebo."

Johnson and his coworker, Jess Kohler, 42, both of Reno, were among the 25 volunteers that helped in the cleanup efforts as part of the Keep Truckee Meadows Beautiful "Adopt-A-River" program.

The program launched in January and includes a total of five participating businesses and organizations. TMWA, a nonprofit community-owned water utility, was among the groups to adopt a portion of the river. The section runs from the Glendale water treatment plant to the Kietzki Lane Bridge.

TMWA is overseen by local elected officials and citizen appointees to ensure water treatment for more than 385,000 Truckee Meadows residents. Friday was the group's second cleanup effort.

"And there's several more," Kohler said of the number of needles found Friday. "It was the same last year in November.

"This place is notorious for this kind of thing," he said. "I've never found needles anywhere else in town. It's pretty sad actually."

RENO GAZETTE JOURNAL

Ask the RGJ: Who cleans up syringes in Truckee River?

Adopt-A-River is a recent program KTMB started to address some of the trash problems along the river, program manager Jaime Souza said. It stemmed from similar programs that allow residents to adopt parks, roadways and other open spaces.

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

"Adopt a river and adopt an open space became our answer to those concerns," Souza said Friday.

In the past week, the KTMB counted 150 bags of trash collected during two prior clean up efforts.

"For a couple of years the Washoe County's inmate river crew was doing consistent cleanups," Souza said. "Now we're seeing a degradation to the river corridor east of downtown and other parts too, and the trash is piling up."

That program included a federal grant for a full-time crew leader working every work day with a crew of up to six inmates.

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Kevin Johnson, 36, of Truckee, picks up a syringe needle he found along the Truckee River at Fisherman’s Park on Galletti Way in Reno. (Photo: Marcella Corona/RGJ)

Last year, the inmate crew gathered more than 4,500 bags of trash on riverbanks and parks, along with 497 items deemed hazards.

That grant — totaling $100,000 over the course of the past two fiscal years — ended in December.

"A lot of the trash is coming from a lot of the homeless camps," Souza said. "There's a social issue at play here. We have a very large homeless population in Reno, and you can't blame them for camping along the river."

A fourth year of drought also dehydrated the river, exposing old trash never before seen, Souza said. Volunteer groups previously found rusted shopping carts, a laptop, an unopened bottle of champagne and even a mattress, she said.

RENO GAZETTE JOURNAL
Drought: Sierra snowpack 'worst in a century'

"We have an increased population and that's putting more pressure on the river," she said. "It's also windy here, and if we don't dispose our trash properly, it all gets blown out.

"It's really great that this program will provide a more consistent cleanup that the river needs, she said of Adopt-a-River. "The river is going to look so much better because of it."

Local businesses are stepping up. That includes Northern Nevada HOPES, which agreed to a monthly a sweep for syringe needles and other medical sharps along the river, Souza said.


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Kevin Johnson, 36, of Truckee, picks up trash along the Truckee River at Fisherman’s Park on Galletti Way in Reno. (Photo: Marcella Corona/RGJ)

Nevada HOPES was previously criticized for giving away more than 46,000 syringes to about 400 people. That's thanks to the 2013 Legislature that repealed laws that made it illegal to own hypodermic needles.

About 40 to 50 trash bags were collected on Friday, TMWA spokesman Robert Charpentier said.

"We're committed to do three cleanup efforts (in 12 months)," Charpentier said. "I think the important takeaway of this is that cleanliness and health of the river is important to us, and it's such an obvious program for us to be in."

Follow Marcella Corona on Twitter @Marcella_Anahi.

If you go:

What: Idlewild Park Clean Up

When: 9:30 a.m.-11:30 a.m.

Where: Idlewild Park; meeting is set at the Snowflake Pavilion

Source: Reno Earth Day

At a glance:

The next cleanup is set for Monday at Idlewild Park to pick up leftover traor annual Great Community Cleanup is set from 8 a.m. to noon on May 2 at 17 different sites in Reno-Sparks. For more information on how to help visit KTMB.org.

Suburban Sacramento-area water districts consider merger

Posted: Apr 06, 2015 5:22 AM PDT Monday, April 6, 2015 8:22 AM EDT*Updated: Apr 06, 2015 5:22 AM PDT* Monday, April 6, 2015 8:22 AM EDT

SACRAMENTO, Calif. (AP) - Two water agencies serving a combined half million people in suburban Sacramento are seeking to merge, saying they can better survive California's historic drought as a larger organization.

The Sacramento Bee reported Sunday (http://bit.ly/1xW65Bv) that officials at Sacramento Suburban Water District and their counterparts at San Juan Water District say a combined agency could save money and reduce the amount of inevitable rate increases. They also say merging the districts would give the region a stronger political voice on water policy.

After reviewing an initial analysis of the proposal, local political officials said more studies are required to justify a merger.

The boards of the districts are expected to vote next month on whether to proceed. The agencies plan to conduct more analysis if they move forward.

Information from: The Sacramento Bee, http://www.sacbee.com

HOA Members May Face Drought-Related Dilemmas

Posted: Apr 07, 2015 3:38 PM PDT Tuesday, April 7, 2015 6:38 PM EDT*Updated: Apr 07, 2015 4:13 PM PDT*
Tuesday, April 7, 2015 7:13 PM EDT
By Erin Breen
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We could all be facing a long dry summer ahead. For homeowners that can make it tough to keep landscaping green. And if by chance you live in a tightly controlled Homeowners Association, keeping that lawn green could cost you.

"If we see a dry dead spot in the lawn, we notice the homeowners and if they don't fix it they could be fined by their HOA," says Melissa Ramsey of FirstService Residential that manages 10,000 homes in the area.

To avoid that, FirstService is meeting with HOA boards to figure out how to ease regulations to deal with the drought and still keep lawns looking nice.

"We meet with them and look at, say the range of green. They may be used to a dark green and we may say how about range from here-to-here and if they are okay with it, we can communicate with the homeowners about it to avoid problems later this summer," Ramsey says.

The other complication of course would be if Truckee Meadows Water Authority got to the point of mandatory watering cutbacks and could fine homeowners. Then they could be caught in the middle of either being fined for water use....or fined for failing to keep the lawns green. They're all hoping it doesn't come to that. But they are planning ahead just in case it does

Immediate reduction in water use sought snowpack hits historic low

Posted: Tuesday, April 7, 2015 3:59 pm

Immediate reduction in water use sought; mountain snowpack hits historic low 0 comments

By Sparks Tribune

With mountain snowpack levels at historic lows, the utility that provides water to Sparks has asked residents and businesses to immediately reduce their water use, outside and inside.

“We are asking for at least 10 percent reduction in outside and indoor water use from all of our customers—homes, businesses, homeowner’s associations and apartments,” Mark Foree, general manager of the Truckee Meadows Water Authority, said in a statement. “We are all in this together. With the seriousness of the drought, we all need to do as much as we can.”

Foree said projections show that a 10 percent reduction will allow the authority to save 1.6 billion gallons of water stored in upstream and underground reserves.

“This will help us maintain reserve water supplies for next year, should the drought continue,” he said.

The water provider will begin releasing water from its drought reserves in reservoirs when flows in the Truckee River diminish, which is expected to be much earlier this year. Those reserves are starting off full despite the low snowpack, and water saved this summer will be kept in in those reservoirs, making it available next year if needed, the authority said.

As of April 1, the mountain snowpack in the Lake Tahoe Basin was a mere 2 percent of normal for the date and 14 percent of normal in the Truckee River Basin.

“We’re really shattering old records, setting new minimums,” said Jeff Anderson, water supply specialist for the U.S. Natural Resources and Conservation Service in Reno. “There are very few measuring sites that even have snow left.”

Anderson said he expects near-record low water flows in Northern Nevada rivers that are fed by the mountain snowpack. That is especially dire for farmers who rely on irrigation

Gov. Sandoval to Sign Executive Order Regarding Nevada Drought

Posted: Apr 08, 2015 6:51 AM PDT Wednesday, April 8, 2015 9:51 AM EDT*Updated: Apr 08, 2015 6:52 AM PDT* Wednesday, April 8, 2015 9:52 AM EDT
By Mike Rogers
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Channel 2 News has learned that Nevada Governor Brian Sandoval will sign an executive order regarding the state's drought situation at a 2:30pm press conference on Wednesday.

In a press release, the governor's press secretary said "As part of a continued effort to address ongoing drought concerns and ensure Nevada is prepared for the challenges ahead Sandoval will sign an Executive Order which will be detailed at the press conference."

The press conference will be held at Washoe Lake State Park where members from the Truckee Meadows Water Authority, Southern Nevada Water Authority, State Climatologist Doug Boyle, State Engineer Jason King, State Forester Bob Roper and Leo Drozdoff the Director of Conservation and Natural Resources will all be in attendance.

What will be in that executive order has not been released yet but Channel 2 will have a crew at that press conference and bring you the latest as we get it.

Drought helps boost Lake Tahoe's clarity

 Jeff DeLong, RGJ 6:10 a.m. PDT April 8, 2015

Scientists study Lake Tahoe’s waters. Measurements indicate lake clarity improved substantially in 2014, a change attributed to both drought conditions and successful restoration efforts.(Photo: Jeff DeLong/RGJ file)

Ongoing drought combined with successful restoration efforts last year to make for the biggest improvement in Lake Tahoe's clarity in more than a decade, experts said Tuesday.

Tahoe's average annual clarity in 2014 was 77.8 feet, a 7.5 foot improvement over levels measured the previous year and part of a continuing trend indicating mid-lake clarity is improving over the long run, researchers from University of California's Lake Tahoe Environmental Research Center report.

RENO GAZETTE JOURNAL
Reno must start 10% water cut now, TMWA says

It's encouraging news, but by no means shows the landmark alpine lake is out of trouble, scientists said.

"While these latest data are very reassuring, they should not be interpreted as victory," said Geoffrey Schladow, director of the research center. "Complete restoration is still decades away and some of our greatest challenges still lie ahead of us."

The clarity level was the average of 28 individual readings taken during 2014. Clarity is measured by lowering a dinner plate-like disc from a boat into the lake's depths until it disappears from view. "Secchi disk" measurements are in line with laser measurements also taken by scientists.

Last year's highest clarity measurement was 93.5 feet on July 7 and the lowest was 57.4 feet on Sept. 16. Winter clarity improved on average by 1 foot but the largest improvement was during the summer and at 78.7 feet was 13 feet better than 2013 and the highest value measured since 2002, scientists said