



2013-2014

DROUGHT OVERVIEW

FEBRUARY 18, 2014

City of Willits – Drought Overview

- Community profile (location... 2½ hours north of SF, gateway to the redwoods, 30 min from the Mendocino coast; population; economy; claim to fame... final resting place of Seabiscuit, annual Frontier Days & Rodeo, the oldest continuous rodeo and independence day celebration in California).
- Local challenges (declining industry, including the once thriving lumber industry; limited fiscal resources, aging infrastructure, Willits Bypass Project).
- Water source (two reservoirs with 1,250 acre feet total capacity; reservoirs are recharged primarily by rainfall, and, to a lesser degree, fed by springs and runoff).
- Averages (51" average rainfall; total for 2013 was 16.68").
- Number of customers served (nearly 2,500 customers, of which approximately 20% are commercial accounts).
- Timeline of water shortage in Willits (Phase I/Aug; Phase II/Nov; Phase V/Jan + local emergency declared).
- Since July 1st, the City has only received 13.96", including the two recent storms).
- Our two reservoirs are approximately 50% full, which is quite adverse for this time of the year.
- Current restrictions in place are 150 gallons/day for households up to four occupants and a 35% reduction on commercial and industrial users from their usage one year prior.
- In early January, the City was faced with the prospect of only 100 days of remaining water supply, based upon unchanged conditions (i.e., insufficient rainfall to avert continued drought conditions; no major water loss due to frozen, busted pipes; and no major fire events).
- Community-wide conservation efforts, as well as the two decent rain storms, have had a positive impact on our water supply.
- Our emergency water supply project entails bringing two existing irrigation wells into the City's water system, and providing treatment from a new secondary treatment system.
- While it was originally envisioned that the City would acquire a temporary, portable treatment system, the need to have a system in place to address future drought emergencies quickly became evident, while also recognizing several other potential emergencies for which a secondary system would provide a remedy (i.e., earthquake, water quality issues, etc). *Please note: A secondary treatment system will not provide growth inducement; other more long-term options will be explored (such as the City's watershed) to address future development needs.*
- The cost of the emergency project is nearly \$2,100,000. The City was pleased and fortunate to have been awarded the first grant in the state, \$250,000 in Prop 84 Funding through CDPH. The City is pursuing a \$500,000 grant through USDA, as well as several other possible funding streams. However, it is imperative to note that the City does not have the means in which to fund this project on its own. Like our community, our organization is small, with only 43 employees and a total annual operating budget of \$19,000,000.
- Looking forward to long-term solutions, we are most interested in advanced programs for water reclamation, recycled water use, and advanced conservation.

EMERGENCY WATERLINE PROJECT DESCRIPTION

February 4, 2014

The Emergency Waterline Project brings water from two existing wells to a treatment plant located adjacent to the Wastewater Treatment Plant. The Elias well, located approximately two miles north of the new treatment plant site, was connected by using approximately 3000' of existing 6" pipe to 4000' of new 8" C900 pipe. The new pipe was laid under a newly constructed berm surrounding the enhancement wetlands, which were constructed as part of the Wastewater Treatment Plant Project, and along existing gravel roads.

The Park Well, located approximately 500 feet south of Commercial Street near the Willits ball fields, is being connected by using one mile of new 8" C900 pipe that runs entirely under existing developed roads. The northerly section of this route follows the City's gravel access road between the City yard and the delta ponds, and the southerly section follows the existing gravel driveway to the Roots of Motive Power building before entering fully developed City property and right of way (see the attached map).

The new water treatment plant site is located just west of the existing wastewater treatment plant, within the area of that parcel designated as uplands. The plant will be constructed on an existing building pad currently used to store equipment and spoils (old concrete and asphalt removed from other city projects). The spoils have been recycled into base which has been used to elevate the pad further out of the flood zone.

This entire route is designated as uplands except the last 1000,' which is technically designated as wetlands, although, it is regularly used as a bio solids recycling field. This field is disturbed annually by tractors, as can easily be seen on the attached aerial photograph. Every effort has been made to minimize the environmental impact of the water line route and treatment plant site; all construction has been limited to areas that were previously developed.

RESOLUTION NO. 2013-15

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILLITS DECLARING A PHASE I WATER SHORTAGE EMERGENCY

WHEREAS, the City adopted Ordinance No. 2008-03, WMC Chapter 14.90, defining emergency restrictions for water use following its determination that the City has an insufficient water supply to meet demands in drought year conditions. The purpose of the ordinance is to curtail non-essential water use and preserve available water resources to maintain an adequate water supply for human consumption, sanitation and fire protection during water supply emergencies; and

WHEREAS, five stages of water shortage emergency and related conservation measures are defined in Ordinance No. 2008-03. Each phase is triggered in relation to the water storage levels in the City's reservoirs. Pursuant to WMC §19.90.030, the criteria for establishing a Phase I water emergency is met if the water in storage in City reservoirs on August 1st is less than 830 acre feet (AF); and

WHEREAS, based upon information provided by the City's Water Department, the water stored in the City's reservoirs as of August 1, 2013, is at 830 AC;

WHEREAS, consistent with such findings, and for good cause appearing, a water shortage emergency exists within the criteria of Chapter 14.90; and that it is necessary to limit usage by customers of the City's Water Department.

NOW, THEREFORE, BE IT RESOLVED that, pursuant to Chapter 14.90 of the Willits Municipal Code, the City Council of the City of Willits does hereby resolve, find and declare a Phase I Water Shortage Emergency and directs the City Clerk to publish notice of the adoption of this resolution in accordance with WMC 19.90.010.

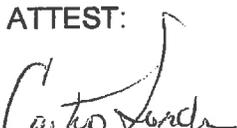
The above and foregoing Resolution was introduced by Councilmember Burton seconded by Councilmember Stranske, and passed and adopted at a regular meeting of the City Council of the City of Willits, held on the 14th day of August, 2013, by the following vote:

AYES: Stranske, Strong, Burton, Orenstein and Madrigal
NOES: None
ABSENT: None



HOLLY MADRIGAL, Mayor
City Council of the City of Willits

ATTEST:



CATHY SANDERS
Deputy City Clerk

RESOLUTION NO. 2013-24

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILLITS DECLARING A PHASE II WATER SHORTAGE EMERGENCY

WHEREAS, the City adopted Ordinance No. 2008-03, WMC Chapter 14.90, defining emergency restrictions for water use following its determination that the City has an insufficient water supply to meet demands in drought year conditions. The purpose of the ordinance is to curtail non-essential water use and preserve available water resources to maintain an adequate water supply for human consumption, sanitation and fire protection during water supply emergencies; and

WHEREAS, five stages of water shortage emergency and related conservation measures are defined in Ordinance No. 2008-03. Each phase is triggered in relation to the water storage levels in the City's reservoirs. Pursuant to WMC §19.90.030, the criteria for establishing a Phase II water emergency is met if the water in storage in City reservoirs on November 1 is less than 470 acre feet (AF); and

WHEREAS, based upon information provided by the City's Water Department, the water stored in the City's reservoirs as of November 1, 2013, was 503 AF and, due to a lack of precipitation, is now at 473 AF as of November 15, 2013; and

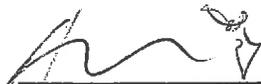
WHEREAS, there is little to no precipitation forecasted, while normal rainfall would have resulted in several inches by now; and

WHEREAS, consistent with such findings, and for good cause appearing, a water shortage emergency exists within the criteria of Chapter 14.90; and that it is necessary to limit usage by customers of the City's Water Department.

NOW, THEREFORE, BE IT RESOLVED that, pursuant to Chapter 14.90 of the Willits Municipal Code, the City Council of the City of Willits does hereby resolve, find and declare a Phase II Water Shortage Emergency and directs the City Clerk to publish notice of the adoption of this resolution in accordance with WMC 19.90.010.

The above and foregoing Resolution was introduced by Councilmember Burton seconded by Councilmember Stranske, and passed and adopted at a special meeting of the City Council of the City of Willits, held on the 18th day of November, 2013, by the following vote:

AYES: Stranske, Strong, Burton, Orenstein, and Madrigal
NOES: None
ABSENT: None



HOLLY MADRIGAL, Mayor
City Council of the City of Willits

ATTEST:



CATY SANDERS
Deputy City Clerk

RESOLUTION NO. 2014-01

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILLITS DECLARING A PHASE V WATER SHORTAGE EMERGENCY

WHEREAS, the City adopted Ordinance No. 2008-03 and amended in Ordinance No. 2008-04, WMC Chapter 14.90, defining emergency restrictions for water use following its determination that the City has an insufficient water supply to meet demands in drought year conditions. The purpose of the ordinance is to curtail nonessential water use and preserve available water resources to maintain an adequate water supply for human consumption, sanitation, and fire protection during water supply emergencies; and

WHEREAS, five stages of water emergency and related conservation measures are defined in Ordinance No. 2008-03 and amended in Ordinance 2008-04. Each phase is triggered in relation to the water storage levels in the City's reservoirs. Pursuant to WMC Section 14.90.040, the criteria for establishing a Phase V water emergency is met if the water in storage in City reservoirs on November 1, 2013 is less than 360 acre feet (AF) or conditions requiring the establishment of a Phase V water emergency appear imminent. Pursuant to Section 14.90.065, a Phase V water emergency is also met upon the City Council's determination that extraordinary circumstances exist and that such imposed water regulation is necessary to maintain an adequate water supply for essential water services.

WHEREAS, based upon information provided by the City's Water Department, the water stored in the City's reservoirs as of November 1, 2013, was 503 AF and, due to continued lack of precipitation, is now at 362 AF, as of January 6, 2014; and

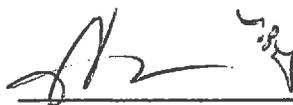
WHEREAS, the sources of water storage, supply, production and replenishment appear to be insufficient to furnish the necessary water to service the minimum requirements of the department's customers, thereby constituting an extraordinary circumstance of drought within the meaning of WMC Section 14.90.065, and an immediate hazard to the safety and welfare of the City and its residents and other customers of the department; and

WHEREAS, consistent with such findings, and for good cause appearing, a Phase V water shortage emergency exists within the criteria of Chapter 14.90.040 and 14.90.065; and it is necessary to limit usage by customers of the City's Water Department.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Willits hereby resolves and declares that a Phase V water shortage emergency exists within the criteria of Chapter 14.90.040 and 14.90.065 and directs the City Clerk to publish notice of the adoption of this resolution in accordance with WMC 14.90.010.

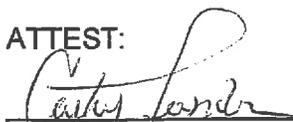
The above and foregoing Resolution was introduced by Councilmember Strong seconded by Councilmember Orenstein, and passed and adopted at a regular meeting of the City Council of the City of Willits, held on the 8th day of January, 2014, by the following vote:

AYES: Stanske, Strong, Burton, Orenstein, and Madrigal
NOES: None
ABSENT: None



HOLLY MADRIGAL, Mayor
City Council of the City of Willits

ATTEST:



CATHY SANDERS, Deputy City Clerk

RESOLUTION NO. 2014-02

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WILLITS PROCLAIMING EXISTENCE OF A LOCAL EMERGENCY DUE TO DROUGHT CONDITIONS

WHEREAS, both Chapter 2.25 of the Willits Municipal Code (WMC), adopted as Ordinance No. 97-02 of the City of Willits and the California Emergency Services Act at Government Code Section 8550, et seq, empower the City Council to proclaim the existence or threatened existence of a local emergency when the City of Willits is affected by a public calamity or imminent conditions of disaster; and

WHEREAS, the City Council has been requested by the Director of Emergency Services of the City of Willits to proclaim the existence of a local emergency within the city; and

WHEREAS, the City Council does hereby find:

THAT conditions of imminent disaster and extreme peril to the safety of persons and property have arisen within the City of Willits due to prolonged conditions of drought and insufficient water storage levels to furnish necessary water to service the minimum requirements of the department's customers, thereby constituting an immediate hazard to the safety and welfare of City residents and other customers of the department, and resulting in the imposition of Phase V water emergency regulations pursuant to WMC Chapter 14.90; and

THAT the aforesaid conditions of imminent disaster and extreme peril warrant and necessitate the proclamation of the existence of a local emergency.

NOW, THEREFORE, IT IS HEREBY PROCLAIMED that during the existence of said local emergency the powers, functions, and duties of the Director of Emergency Services and the emergency organization of this City shall be those prescribed by state law, by ordinance and, resolutions of this City, and by the City of Willits Emergency Plan, as approved by the City Council on the day of 24th day of October, 2007 (Resolution No. 2007-40).

IT IS FURTHER PROCLAIMED AND ORDERED that said local emergency shall be deemed to continue to exist until its termination is proclaimed by the City Council of the City of Willits, State of California.

WHEREAS, the adverse environmental, economic, and social impacts of the drought pose an imminent threat of disaster and threaten to cause widespread harm to people, businesses, property, communities, wildlife and recreation within the City of Willits.

NOW, THEREFORE, BE IT RESOLVED that the Willits City Council declares that a local emergency and imminent threat of disaster exists within the City of Willits due to drought conditions.

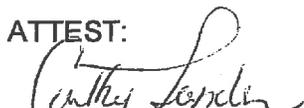
The above and foregoing Resolution was introduced by Councilmember Orenstein seconded by Councilmember Strong, and passed and adopted at a regular meeting of the City Council of the City of Willits, held on the 8th day of January, 2014, by the following vote:

AYES: Stranske, Strong, Burton, Orenstein, and Madrigal
NOES: None
ABSENT: None



HOLLY MADRIGAL, Mayor
City Council of the City of Willits

ATTEST:



CATHY SANDERS, Deputy City Clerk

Water shortage in California town stokes fears

By JASON DEAREN

— Feb. 6, 2014 1:34 PM EST

WILLITS, Calif. (AP) — In this small logging town in Northern California's redwood country, small blue signs urging water conservation are almost everywhere you look.

Just south of Willits, in one of the state's most verdant corners, crows and other birds peck at dry ground that should be covered in water at the city's Centennial Reservoir, which is less than a third full. The creek that feeds it has slowed to a trickle.

"It's common at this time of year for the water to be going over the cement wall right here. In fact, we'd be standing in water," said Bruce Burton, a Willits city councilman, gesturing toward the small cement dam in the creek. "In the 20 years I've been in local government, we've never experienced this kind of condition."

Though some rain was falling Thursday and predicted to last through the weekend in the north and central parts of the state, California remains in the midst of an historic drought. The state's Department of Public Health says 17 rural areas including Willits — a town of about 5,000 people that usually sees about 50 inches of rain a year — are dangerously low on water, and officials expect that number to grow.

In addition to declaring a drought emergency, California has canceled water deliveries beginning in the spring from the state's water system to farms and thirsty cities and shut down fishing in dozens of streams to protect imperiled salmon and steelhead.

The emergency has become a disruption to everyday life in Willits, a Mendocino County locale known as the final resting place of the racehorse Seabiscuit. City leaders have banned lawn watering and car washing, mandated all residents cut water use dramatically and asked restaurants to serve the precious resource only upon request and to conserve, such as by using paper plates.

Adrienne Moore, Willits city manager, said some relief is expected from the current storm.

"But we would need several similar storms to really pull us out of this drought crisis," he said.

While California sees cycles of drought normally, scientists say the dry weather since Oct. 1 appears to be unique in its severity.

"According to tree ring records, this water year, which began Oct. 1, really stands out as one of the worst single years in the last 500 years," said Lynn Ingram, author of "The West Without Water" and a University of California earth science professor.

"This year, the drought is impacting places more than we've ever seen, at least that I've come across in my research," she added.

Of the 17 water-starved rural agencies, three are in rainy Mendocino County and are districts that rely largely on rainwater to fill their reservoirs. Other areas include parts of Fresno, Kern and Santa Cruz counties.

After a record dry 2013, Mendocino County leaders were the first in California to declare a drought emergency, which they did on Jan. 7.

Things are so scarce that the sheriff's office is on alert for water bandits. During the 2009-10 drought, authorities caught thieves pumping water from Lake Mendocino into trucks. The reservoir is currently about 37 percent full, according to county officials.

"Water theft is a big concern, so we're doing public announcements and have a line to call for reports to the Sheriff's Department," said Carre Brown, a Mendocino County supervisor. "All deputies are on the watch."

Unlike many of the other communities facing water woes, Willits doesn't have readily accessible groundwater.

Officials are racing to develop two groundwater wells within city limits, but the water in both sources is polluted by naturally occurring arsenic and other minerals, so the city needs an expensive treatment facility to make it potable. The state public health department is testing the water to help determine what kind of treatment is needed.

Ron Owens, a spokesman for the state public health department, said officials are helping struggling towns like Willits identify other water options, like connecting with other water systems if need be. It also has some emergency funding available.

Meantime, officials say people in the bucolic town seem to be following the mandatory conservation orders.

Even the coin-operated car wash is only offering recycled water.

"We have been rationing severely. No plants get watered. That's over. Turned off the toilet. I haven't washed my hair for two weeks," said Willits resident Andrea Onstad, who was washing her car Monday afternoon.

A few blocks down at Gribaldo's diner on the city's Main Street, customers sat at tables with no water glasses. A sign on the wall warned of the drought emergency — water was only available upon request.

The water shortage has changed everything for people in Willits — even how they spend their free time at home.

At Jim Harden's house, his lawn is splotched with brown spots, and empty flower pots usually stuffed with colorful annuals are stacked high. He's even unhooked his drip irrigation system.

"We're very concerned. If we totally run out of water, what are we going to do? Go to another community?" Harden, 78, said, standing in his small greenhouse. "It's frightening."

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A Look at Willits, a Drought-Stricken Calif. Town

WILLITS, Calif. February 6, 2014 (AP)

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The Northern California town of Willits is one of 17 rural areas that face a severe water shortage. The California Department of Public Health says the town has less than 100 days of drinking water left.

LOCATION: Mendocino County, Northern California.

POPULATION: About 5,000.

CLAIM TO FAME: Final resting place of the racehorse Seabiscuit; also known as the "Gateway to the Redwoods." Willits hosts the annual "Frontier Days & Rodeo," which is billed as the "oldest continuous rodeo and Independence Day celebration in California."

ECONOMY: The town once had a thriving sawmill industry but now has only one left. Its other major industrial employer, Remco Hydraulics, closed in 1995 and left behind a polluted factory site that resulted in years of environmental litigation. Highway 101 cuts through the city's downtown, so new restaurants and boutiques have created some service jobs.

RAINFALL: Average is 51 inches, with historic high of nearly 92 inches in 1983; from July 1, 2013, to year's end Willits received about 5 inches.

WATER RESTRICTIONS: Residents are restricted to 150 gallons per day, per household of four; businesses are required to reduce usage by 35 percent. The city has restricted lawn watering and car washing, and restaurants are providing water only upon request.

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RECOMMENDED FOR YOU

Californians brace for year of 'mega-drought'

CALIFORNIA'S DROUGHT INTENSIFYING

With 63% of the state in "extreme" drought, farmers are hard hit. Cities and towns are suffering with water restrictions as reservoirs shrink.

U.S. Drought Monitor, California Data Exchange Center; U.S. Department of Agriculture, 2012 crop year; USA TODAY research; 1 - As of Feb. 2; data from Trinity Lake and New Melones as of Jan. 30, some of the major reservoirs shown.
Janet Loehrke and Karl Gelles, USA TODAY

By Julie Schmit and Elizabeth Weise, USA TODAY 12:21 p.m. EST February 5, 2014

Californians are stepping up efforts to conserve water in the face of their driest weather in decades.



(Photo: Martin E. Klimek, USA TODAY)

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TWEET

BROOKTRAILS TOWNSHIP, Calif. — One hundred days. That's about how much time this California community of 3,500 people has until it runs out of water, assuming no rain, local and state officials say.

Last month, the township ordered households to restrict water use to 110 gallons a day.

For Anthony Willcutt's family, that means showers every other day for everyone but 17-year-old Jordan.

Willcutt records the family's daily water use on a chart by his bedside. Water that would normally disappear

down the drain goes instead into 5-gallon jugs stored around the house in case the water does run out.

"It's scary," says Willcutt, a lifelong resident.

A foreboding is seeping across the state as Californians gaze on rain-starved reservoirs, parched pastures and arid orchards at the start of what could be the worst year of drought since the mid-1970s. Most at risk is the Golden State's \$45 billion-a-year agriculture industry, producer of nearly half of U.S.-grown fruits, nuts and vegetables. Farmers plan to plant fewer acres and some farmworkers are leaving for greener fields. Other financial effects are piling up. Ranchers are thinning cattle herds. Ski resorts have laid off workers. The state's Forestry Department says forest fire calls were up sixfold last month from past Januaries.

Gov. Jerry Brown warns 2014 could bring a "mega-drought" after last year saw only 7.48 inches of rain — the lowest amount in 119 years of record keeping. He's declared an emergency and asked Californians to voluntarily reduce water use by 20%. Mandatory residential or business cuts of 20% to 50% are in place for almost a dozen communities. The California Department of Public Health says 17 rural communities, including Brooktrails, may face severe water shortages in 60 to 100 days. The state said Friday that, for the first time in 54 years, it won't release water from reservoirs to 29 water agencies serving 25 million people, as it normally does.

"The whole state is in crisis mode ... but there will be serious pockets of pain," says Timothy Quinn, executive director of the Association of California Water Agencies.

At the same time, areas with large amounts of stored water stand to face less hardship, this year anyway.

Southern California, for instance, has enough water in storage to get through this year and into next without mandatory cutbacks, says Bob Muir, spokesman for the Metropolitan Water District of Southern California, a water wholesaler to others serving 19 million people. Still, the district has asked users for voluntary 20% cuts.

Not only does the region have multiple sources of water, snowpack from the Sierra Nevada mountains, Colorado River water, rainfall and groundwater, but the district has increased water storage by 1,300% since 1980, Muir says.

The San Francisco Public Utilities Commission has asked for 10% voluntary cuts but said mandatory ones may come if dry conditions persist.

The situation is more serious for rural areas such as Brooktrails, which relies on rainfall that feeds into two reservoirs.

The township, which normally gets 60 inches of rain a year, received just 5 inches last year. Its water storage is at 20% of normal, says Brooktrails General Manager Denise Rose.

In nearby Willits, pop. 5,000, the city had 89 days of water as of last week, assuming no major rain or forest fires, says City Manager Adrienne Moore.

It's set a 150-gallon-a-day limit for households, down from the normal 250 and required businesses to cut 35%. It, too, relies on rainfall that feeds reservoirs. A front door sign on Restaurant El Mexicano says, "Water served upon request." Down the street, a sign outside a health food store recently urged passersby to "visualize rain."

"It's that bad," says Tony Madrigal, El Mexicano owner.

There is still time for more winter rains. California gets 75% of its precipitation from November to March. A modest storm moved through parts of the state last week and Sunday. But the state has far to go.

At the end of January, California's 150 reservoirs were at about 65% of average levels, says Maury Roos, state hydrologist. The water content in the Sierra snowpack, which provides a third of California's water, is 12% of normal.



Anthony Willcutt records the figure on his water meter and adds it to his daily chart. Brooktrails Township has required households to limit use to 110 gallons of water a day in response to California's drought. For Willcutt's family of four, that means showers every other day and a bunch of other water conservation measures. (Photo: Martin E. Klimek, USA TODAY)

BROWN PASTURES, RISING HAY PRICES

Rancher Kevin Kester, 58, of Paso Robles plans month to month. His parched land no longer grows enough grass for his cattle to eat. He's bought hay to feed cattle since November. Normally, he doesn't buy any. Alfalfa prices in his area have soared 10% in recent weeks. Kester cut his herd by 20% and may sell them all next month unless it rains enough.

"Every day, more people are selling," Kester says.

Thousands of San Joaquin Valley growers will probably get none of their regular allocations of water from state and federal systems, says Tom Nassif, CEO of the Western Growers Association. That'll leave them to rely more on groundwater. In the drought in 2009, many growers got allocations of 10% to 20% of normal, he says.

Less water will cause farmers to idle 500,000 acres of irrigated land, about 6% of the state's total, says Mike Wade, executive director of the California Farm Water Coalition.

That doesn't necessarily spell catastrophe for California's economy. Idle acreage will cost California agriculture an estimated \$1.7 billion in lost production and an overall hit of \$5 billion to the state's \$2 trillion economy, according to the coalition.

"It's not like we'll fall into a recession as a state," because of the agricultural impacts of the drought," says Dan Sumner, an agricultural economist at the University of California-Davis.

The drought's effects on the nation's grocery bills may be slight. This year, national food and beverage prices are likely to rise just 0.4%. California's drought "might lift it up a little bit," says U.S. economist Chris Christopher of IHS Global Insight.

Many farmers will idle cotton, wheat and corn crops first, keep tree crops watered or shift crop production to other areas, says Jeffrey Michael, economics forecaster at the University of the Pacific in Stockton. Fewer almond orchards may be planted, but the impact won't be felt for years, Sumner says. Prices for melons and processing tomatoes could be affected, he says.

For fruit and nut growers, a prolonged drought can mean financial ruin. If trees die, it takes five to seven years to replace them.

Mark Borba of Huron, Calif., has farmed for 42 years and never seen water so scarce. He grows tomatoes, garlic, onions, lettuce, melons and almonds on 11,000 irrigated acres. He expects to idle a third of his land this year. He figures his almond orchards to be a \$12,000-an-acre investment. He recently spent \$800,000 on a well to help keep 300 acres alive.

"You do the math. ... Does that make sense? ... No. But it's a slower death," he says.

Fewer crops will mean lost jobs for farmworkers.

During the drought in 2009, the San Joaquin Valley lost an estimated 6,000 agriculture jobs, out of 200,000, Michael says. More agriculture-related jobs could be lost this year statewide, he says.

"Without any water, there are no jobs," says Baldomero Hernandez, principal of Westside Elementary in rural Fresno County. Most of his students belong to farmworker families. The school loses a few students every week as families move to look for work. "I'm hoping I don't have to lay off teachers," Hernandez says. The drought has "been devastating for a lot of our families."

Other pieces of the California economy will take a big hit.

The number of visitors to Tahoe region ski resorts is expected to fall to half of normal, says Bob Roberts, CEO of the California Ski Industry Association.

Less snowpack and rain also pose environmental challenges.

Last month, the California Department of Forestry responded to more than 400 fires vs. an average of 69 in the past five Januarys, says Ken Pimlott, California Department of Forestry and Fire Protection director.

In December and January, air pollution levels surpassed federal air quality standards on 47 days in the San Joaquin Valley, twice as many as last year at the same time, says Karen Magliano, assistant division chief for the California Air Resources Board.

Last week, the state closed some streams and rivers to fishing to protect steelhead and salmon suffering from low flow conditions. The closures affect less than 5% of the state's fishable rivers and streams, but more are possible should dry conditions persist, says Stafford Lehr, fisheries branch chief for the California Department of Fish and Wildlife.

GETTING USED TO MAKING DO

Some businesses and consumers can adapt to drought conditions.

In Willits, car wash owner Dennis Craighead shut down his automatic washer to conserve water. Customers wash by hand. He hopes to dig an underground well at a cost of \$10,000.

In addition to conservation, Willits is spending \$800,000 to get water from two underground wells used for agriculture. That could help Brooktrails Township, too. A worst case scenario? "We'd have to truck water in," City Manager Moore says.

"We've had serious conversations ... about where we would go," should the water run out, says retiree Jim Harden, who's lived in Willits since the mid-1970s. He and his wife, Marilyn, have let their yard "just die," he says.

The Willcutts have surprised themselves.

Jordan has gone from 25-minute showers to four-minute ones. Anthony, 44, a sheet metal worker, wears his pants two or three times before washing. Stephanie, 40, captures cold tap water – while waiting for the hot – to put on indoor plants. Austin, 13, concedes some of his shower time to his sister.

Their water use dropped from 220 gallons a day to 66-96 gallons a day.

"We want to do our part," Anthony says.

Contributing: Doyle Rice



The Willcutt family, from left, Stephanie, 40, Austin, 13, and Anthony, 44, visit Lake Emily in Willits, Calif., on Jan. 29. The lake supplies Willits with water. Amid one of the worst droughts in California's history, the water levels are extremely low. (Photo: Martin E. Klimek, USA TODAY)

Willits moving forward on drought relief

By Linda Williams/The Willits News The Willits News

Posted:

WillitsNews.com

Willits city staff continue to work feverishly to flesh out an emergency project to supply water to the city even if rains fail to arrive for the rest of the winter.

Construction is about half completed on a 3,100 feet of water pipeline around the city's sewer treatment wetlands needed to get the water from the Elias well to the sewage treatment plant. This project is expected to cost about \$65,000 and will complete by next week. Replacing the pump on the well is expected to cost another \$40,000.

Using the existing piping between the sewage plant and E. Commercial Street hit a snag this week when the California Department of Public Health told them it could not be used because it had been used at one time for reused water. Discussions are ongoing with public health to allow this. If this option is not permitted, the city will have to install a new pipeline from the sewer plant to Commercial Street. This will include bridging one of the area creeks.

Scoping out a portable water treatment plant also remains a significant issue. Sample results from the two wells were received Tuesday afternoon. The results confirmed the presence of arsenic in the park well at several times the post treatment standard. The city has been working with treatment vendors to design a system to remove the arsenic down to the level found in water from the city's reservoirs. The Elias well, located north of the sewer treatment plant, had non-detectable arsenic levels but 200 parts per million of manganese. City staff is hoping to have a recommended treatment option for the Jan. 22 city council meeting.

Two types of treatment options are under consideration each potentially costing about \$50,000 to set up with rental costs of \$50,000 per month.

Green-sand treatment is one option for removal of arsenic and other heavy metals. Green-sand is typically based on manganese glauconite. There are many varieties of green sand which can be matched to remove different water contaminants. The green sand acts similarly to a water softener, except it removes metal compounds.

Another possible option is molecular filtration which removes the undesirable materials, such as arsenic and manganese dissolved in the water.

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Cutting back as levels fall

Concern is that state is headed for major drought

January 16, 2014 | Bettina Boxall

Officials of the small Mendocino County town of Willits looked at their two municipal reservoirs last week, did some calculating and realized they had enough water to last only 100 days. It was time to adopt the toughest rationing measures they could.

The 5,000 residents of this former lumber town on the edge of redwood country are now on a crash water diet. A family of four isn't supposed to use more than 150 gallons a day. Outdoor watering, car washing and hosing down pavement are banned. Businesses have been ordered to cut water use 35%.

"The more we looked at the data, the more we realized the situation is bleak," Willits City Manager Adrienne Moore said.

As the winter progresses with no break from last year's parched conditions, concern is mounting that California may be headed for a replay of the big drought of the late 1980s through the early 1990s, or even worse, 1977.

The snow and rain could still come. Only about half the rainy season is over. But if monotonously sunny weather continues to curse the state, the pain of water shortages will spread, albeit unevenly.

"A lot of the smaller systems are going to be really hurting because they really don't have a lot of carry-over" of supplies from one year to the next, said Maury Roos, the state's chief hydrologist.

Water managers in Southern California, on the other hand, say they have enough reserves to get the state's most populous region through the year and even into 2015 without rationing. San Francisco's water stores are also in decent shape.

The huge Imperial Irrigation District in Imperial County — one of the nation's major sources of winter lettuce and vegetables -- will get its regular Colorado River deliveries this year. And growers with the most senior water rights on the Sacramento and San Joaquin rivers won't suffer more than a 25% cut in irrigation deliveries.

The story will be different for ranchers, communities that depend on local surface supplies and many San Joaquin Valley growers, particularly on the valley's south and west sides.

"I shudder to think if rain doesn't come," said Carre Brown, a supervisor in Mendocino County, which last week declared a drought emergency. "All our reservoirs are very, very low."

Willits officials plan to apply for emergency state funding to help cover the estimated \$850,000 cost of developing alternative supplies. Moore said a portable treatment system could be used to purify well water normally used to irrigate athletic fields. The town may also drill new wells or tap a local recreational lake.

Residents significantly cut water use even before the rationing went into effect.

"This is an area where people are good at conservation, so they're geared for that," Moore said.

But there's one local faction that could be a problem.

"Quite honestly, the elephant in the room in several different ways in this matter is the marijuana industry," she said. "They are heavy water users."

If pot growers don't cut back, they will be getting a knock on the door from local enforcement officers, who "will address the situation," she added.

Although 2013 was California's driest calendar year in 119 years of records, from a hydrological and water supply perspective, the state is just now tipping into drought. Gov. Jerry Brown has not yet issued an official drought proclamation but said Monday that he soon will. "It's really serious," Brown said, noting that 2014 could be California's third dry year in a row. "In many ways it's a mega-drought."

A drought declaration could speed up state assistance to local government, cut red tape for water transfers and set the stage for the State Water Resources Control Board to ease environmental requirements for dam releases.

Thanks to storms in late 2012, the last water year — a period that ended Sept. 30 and covered all of the last rainy season — was far from the worst. It ranks as the 29th driest water year on record, according to the California Climate Tracker at the Western Regional Climate Center in Reno.

Storage in most major reservoirs is well below average for the date and dropping when it should be rising. But several reservoirs, including Shasta and Lake Oroville, the state's two biggest, had less water in them in January of 2009 and 1991. "We're pretty low but there were worse" years, Roos said.

There's always a chance the weather could change and the stubborn, storm-blocking high pressure ridge parked off the West Coast could finally go away.

In early 2009, the state echoed with ominous drought warnings. Then a series of February storms fattened the snowpack and filled rain gauges. A "Miracle March" in 1991 brought triple the month's normal precipitation.

Some of the grimmest measurements this year are from Folsom Lake on the American River northeast of Sacramento. The reservoir is only 18% full, a near record low that has gotten the attention of places not known for their thrifty water ways.

"Folsom Lake -- it's pretty obvious there's a problem," said Shauna Lorange, general manager of the San Juan Water District, which delivers Folsom water to Sacramento suburbs where big landscaped lots and irrigated horse pastures drive the district's per capita water use to about 369 gallons a day. That is three times the rate in Los Angeles.

The district has asked customers to stop all outdoor watering and, if it remains dry, Lorange said the request probably would turn into an order.

In nearby Sacramento, which draws some supplies from the American River, the City Council on Tuesday approved mandatory rationing. "We're not going to have Gestapo-type tactics here, but we're asking all water users to reduce their usage by 20%," City Manager John Shirey said. "For an average residential customer, we think that's entirely attainable."

Situated on two rivers and toasted by Central Valley summers, California's capital city has traditionally been something of a water hog. It is only now installing water meters and about half of Sacramento's residences still don't have them, meaning they pay a flat rate for unlimited water.

Still, water use has dropped in recent years and Shirey said rainless seasons like this will further drive home the need to conserve -- all the time.

"With climate change occurring we have to assume that we could see long-term shortages of water in California," he said. "We just have to change, I think, the mind-set here and everywhere -- we're going to have less water to rely on."

In the meantime, the Catholic bishops of California have asked the faithful to pray for rain.

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Willits faces water crisis; only 100-day supply left

Wednesday, January 15, 2014

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WILLITS, Calif. (KGO) – The town of Willits in Mendocino County usually gets more than 50 inches of rainfall each year. This year, it's not even close. The city is down to a 100-day supply of water and could run out altogether before summer arrives.

The water now flowing into Centennial Reservoir, a major source of water for the small town of Willits, is just a trickle.

Willits city leaders announced they have about 100-days of water left; a number that's holding steady thanks to a huge conservation effort by the city's 5,000 residents.

"The message has gotten out to the community and they really have stepped up their conservation," Willits Mayor Holly Madrigal said. "So we actually have, since our last city council meeting, we have been saving 200,000 gallons out of the reservoir per day."

Still, this reservoir now sits at just 17 percent of capacity. There is dirt where the depth should be 40 feet. Centennial is almost to the point where city water managers can't pull any more out of it.

"We wouldn't want to take the water in this reservoir down much lower because we could create a fishkill which wouldn't give us good water quality," said Willits Water manager J.C. England.

Willits relies almost entirely on surface water, basically rainfall, to supply its two reservoirs. There's a spring and a few wells, but that's it. The emergency plan is to start pulling water from the wells and treating it to make it potable. As it is now, residential customers can use just 150 gallons a day. Commercial users must cut back by 35 percent.

The owner of this carwash is doing his part. He's shut down this automatic washer because it consumes about a third of his total water usage.

Crystal Car Wash owner Dennis Craighead says his other bays have actually been quite busy since residents are prohibited from washing their cars at home. But he worries about the future.

"Yeah, I might have to shut down," he said. "That's my livelihood and I won't have an income."

At the Brickhead Coffee House, plates have been replaced with paper.

"We go through a lot of dishes, typically, and we're required to fill our sinks with certain solutions, so switching to paper products has eliminated a lot of our use of water," said Farid Howard with Brickhouse Coffee House.

As it is now, the people of Willits have risen to the occasion, doing their part to keep water consumption low. But if Centennial Reservoir goes down much further, the difficult times could turn dire

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The Press Democrat

Willits contemplates stricter water restrictions

By **GLEND A ANDERSON**THE PRESS DEMOCRAT on December 16, 2013, 6:39 PM

With no rain in sight, Willits officials are contemplating imposing tough new restrictions on city water users.

It's either that or "send out a (request for proposal) for a rain dance," said Willits City Councilman Bruce Burton.

The nearby Brooktrails subdivision also is eyeing water restrictions as is the agency that manages Russian River water rights in the Ukiah Valley.

"By our January meeting we're going to have to do something" if there's no significant rainfall before then, said Sean White, manager of the Mendocino County Russian River Flood Control and Water Conservation Improvement District.

The city of Willits has about 100 days worth of water left in its two reservoirs, officials said. One is at about half capacity -- 345 acre feet -- while the other, with 48.4 acre feet, is almost out of usable water, officials said. An acre foot contains 325,851 gallons.

Barring significant rainfall, the council will consider imposing Phase 3, mandatory water restrictions at its meeting on Jan. 8, said City Manager Adrienne Moore. A special meeting could be called if the situation becomes drastic, she said.

Phase 3 restrictions include limiting water use to 250 gallons a day per residence. Daily per capita water use in California ranges from about 108 gallons to 472 gallons, according to a Sierra Club study.

Phase 3 also prohibits all non-essential water uses, such as washing sidewalks, parking lots and vehicles or filling swimming pools and hot tubs.

Commercial and industrial users would be required to reduce their water use by 15 percent.

Willits residents already are under Phase 2 restrictions, which limits outdoor watering. Water use was reduced by about 20 percent until temperatures dipped below freezing last week.

At that point, the city's water consumption quadrupled to about 1.2 million gallons a day, Burton said.

City officials suspect that either residents were running water to protect their pipes or that water was lost when pipes did break.

If water use drops back down to pre-freeze levels, it could eliminate the need for further water restrictions, Burton said.

"Then we have a little more of a buffer," he said.

You can reach Staff Writer Glenda Anderson at 462-6473 or glenda.anderson@pressdemocrat.com

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