BAY AREA WATER SUPPLY AND CONSERVATION AGENCY

BOARD OF DIRECTORS MEETING

June 10, 2015

Correspondence and media coverage of interest between June 12, 2015 and July 9, 2015

Media Coverage

Drought:

Date: July 9, 2015
Source: San Jose Mercury News
Article: California Drought: El Nino weather event is biggest since 1997, may trigger soaking winter storms

Date: July 8, 2015
Source: Columbus Dispatch
Article: As California's drought continues, spotlight turns to water czar

Date: July 8, 2015
Source: Recordnet.com
Article: Fish extinction 'increasingly likely'. Delta smelt index sinks to zero

Date: July 7, 2015
Source: Sacramento Bee
Article: Folsom Lake now being drained more slowly

Date: July 7, 2015
Source: Santa Cruz Sentinel
Article: Effects of the California drought on farming is regional and coastal farms are thriving

Date: July 7, 2015
Source: Capital Press
Article: Heat wave hastens crops, stresses scarce water resources

Date: July 5, 2015
Source: Associated Press
Article: California's Water Rates Rise

Date: July 1, 2015
Source: California Water Boards
Material: Media Release: State Reduces Water Use by Nearly 29 Percent In Advance of June Conservation Mandates

Date: June 30, 2015
Source: Public Policy Institute
Article: Drought Bills: Small Changes, High Impact

Date: June 24, 2015
Source: Daily Journal
Article: Regional poll: Drought is most pressing issue: Bay Area Council releases annual survey, residents support expanding sources

Date: June 21, 2015
Source: Fresno Bee
Article: Despite drought, some Valley cities still lack water meters

Water Rights:

Date: July 8, 2015
Source: Ag Alert
Article: More restrictions hit state's water supplies

Date: June 24, 2015
Source: Manteca Bulletin
Article: We were kidding. State water board tells court curtailment order has no teeth

Date: June 20, 2015
Source: Manteca Bulletin
Article: SSJID sues state over water rights

Date: June 12, 2015
Source: San Jose Mercury News
Article: California drought: In historic step, senior water rights curtailed

Conservation:

Date: July 7, 2015
Source: Capital Public Radio
Article: Some Urban Water Suppliers Far From Conservation Goal

Date: July 2, 2015
Source: Bay City News Service
Article: County's Rain Barrel Rebate Program Granted Extra Year

Date: July 1, 2015
Source: The Davis Enterprise
Article: UCD's new process: A perfect use of recycled water

Date: June 30, 2015
Source: Water World
Article: CA's "Save Our Water" program launches new public education campaign

Date: June 20, 2015
Source: Santa Cruz Sentinel
Article: Big difference in water use between wealthy communities, everyone else

Water Supply:

Date: July 9, 2015
Source: Sacramento Bee
Article: California unveils revised blueprint for Delta tunnels

Date: July 8, 2015
Source: Washington Post
Article: California city's desalination push sparks debate over costs, coastal impact

Date: July 8, 2015
Source: McClatchy DC
Article: California's Matsui wants to bypass Congress on water recycling projects

Date: July 8, 2015
Source: Mother Jones
Article: Airbnb For Water: How an obscure startup could help save California's water crisis

Water Supply, cont'd.:

Date: July 8, 2015
Source: Associated Press
Article: California regulators discuss water pricing in drought

Date: July 7, 2015
Source: Central Valley Business Times
Article: Governor's revised tunnel scheme to get two public hearings

Date: July 7, 2015
Source: McClatchy DC
Article: House panel will approve California water bill, but then what?

Date: July 6, 2015
Source: Mountain View Voice
Article: City eyes Superfund water for irrigation

Date: July 6, 2015
Source: Merced Sun-Star
Article: Our View: Losing faith in those managing our water

Date: July 6, 2015
Source: Napa Valley Register.com
Article: About time to meter groundwater wells

Date: June 30, 2015
Source: Capital Public Radio
Article: California Bill Could Allow Tax on Water Wasters in Drought

Date: June 20, 2015
Source: Sacramento Bee
Article: Government red tape holds up reliable water supply

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California drought: El Niño weather event is biggest since 1997, may trigger soaking winter storms

San Jose Mercury News | July 9, 2015 | Paul Rogers

As Pacific Ocean temperatures continue to warm and trade winds shift, federal scientists now say that the El Niño weather event that's emerging could be one of the strongest on record.

With California desperate for relief from its punishing four-year drought, the trend is significantly increasing the chances that storms will drench the state this winter, according to a new report released by federal scientists Thursday. And scientists say the conditions are lining up in ways not seen since the winter of 1997-98, when downpours filled reservoirs and sent rivers raging during the last major El Niño.

"That's good news for California," said Mike Halpert, deputy director for NOAA's climate prediction center in College Park, Maryland. "There are obviously no guarantees, but above-normal rainfall is becoming more likely."

The chances are now "greater than 90 percent" that El Niño conditions that began in March will remain through this winter, according to the monthly El Niño report from the National Oceanic and Atmospheric Administration.

That's up from 85 percent last month and 50 percent from four months ago.

"We are on the right path now. We want to see it continue to strengthen and build -- and certainly to not weaken any time before the new year," said California's state climatologist, Michael Anderson, who is with the state Department of Water Resources.

El Niño is a disruption in the weather patterns over the Pacific Ocean, when the ocean's surface warms more than normal. Those warm waters release heat, changing wind directions and the jet stream.

Strong El Niños, which occur when the Pacific Ocean is the warmest, have historically been linked to wet weather in California and South America -- and droughts in Australia and Asia.

As El Niño conditions have continued to grow this year, Peru in recent weeks declared an El Niño emergency, warning of flooding that could begin there this summer. Citigroup and the United Nations have issued warnings about potential price spikes in wheat and other food staples that would result from reduced harvests in Australia and other countries.

To be sure, California's next rainy season won't start in earnest for five more months.

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And many of those will be hot summer months with a high fire risk because the worst drought since California became a state in 1850 has left grasslands and forests bone dry. Scientists also caution that promising El Niños have fizzled out in the past -- most recently last year.

But with each passing month, many scientists now say, this year is looking more and more like 1997.

That year, an ocean area that scientists call the "3.4 region" along the equator near South America that is considered a key indicator of El Niño trends was 1 degree Fahrenheit warmer than normal from April to June. Over the same months this year, the water there was 1.6 degrees higher than average.

San Francisco received 47 inches of rain the winter of 1997-98, double its historic average and the most since 1862.

At the peak in the winter of 1997, the water along the equator was 4.1 degrees above average. And now supercomputers at NOAA, NASA and other world-leading scientific institutions are projecting the temperatures in that ocean region by November will hit close to that -- 3.6 degrees Fahrenheit -- the warmest since 1997.

John Lewis remembers that soaking winter of 1997-98. The owner of Commercial Gutter in Fremont was so swamped with calls from people needing gutter repairs during the relentless downpours that he had a six-month waiting list.

"It was a frenzy," he said. "My guys were working seven days a week, 10 to 12 hours a day. I had to turn people away."

Lewis, who also sells rain barrels and water storage tanks, said some homeowners are getting their gutters repaired now and mentioning the El Niño reports.

But could one soaking winter end California's drought in a year?

It's possible if the state receives 150 percent or more above average rainfall, filling Shasta, Oroville and the state's other largest reservoirs, said Anderson, the state's climatologist.

"The potential for runoff in the watersheds is larger than the storage capacity of the reservoirs," he said.

The state's biggest reservoirs have filled quickly before. In 1978, one wet year ended the 1976-77 drought, Anderson noted. And, he added, in 1993, heavy rains brought the 1987-92 drought to a close.

Last month's heavy storms in Texas dumped 11 inches of rain on Houston in one night, killing more than 20 people but ending a lengthy drought.

But to end California's entrenched dry spell, the rain would probably have to start around Thanksgiving, saturating the ground to allow steady runoff into rivers and reservoirs. And then the storms would have to be cold enough to bulk up the Sierra snowpack so that the melting spring snow will continue to fill reservoirs.

Even then, the rainfall deficits of the past four years wouldn't be completely erased, and groundwater that has been overpumped during the drought could take 10 years or more to replenish, Anderson noted. But the emergency situation now plaguing farms and cities would largely pass with full reservoirs.

So what became of last year's El Niño predictions, which never panned out? The water was warm, but it didn't trigger significant changes in wind directions or the jet stream in the atmosphere, experts say. But this year, those changes are already underway.

"It's well coupled with the atmosphere. That never happened last year," said Jan Null, a meteorologist with Golden Gate Weather Services in Saratoga. "We get our rain from the atmosphere, not from a warm ocean. The fact we are seeing the coupling is one of these checked boxes that is pointing toward a strong event."

# # #

As California's drought continues, spotlight turns to water czar
The Columbus Dispatch | July 8, 2015| Adam Nagourney

SACRAMENTO, Calif. — Felicia Marcus peered over her desk the other day as the State Water Resources Control Board came to order in a state office hearing room, bracing for another day of bad drought news.

There would be warnings about die-offs of birds and fish. An anguished farmer describing how he is being forced to fallow fields of crops. An economic report projecting $2.7 billion in drought-related losses in 2015.

Even during a break, Marcus couldn't catch a break.

As she tried to talk up a welcome whisper of good news — that after an "abysmal" March, urban Californians did a better job of conserving water in April — she found herself in a sobering conversation with a television cameraman, Mike Rhinehart of KCRA-TV, who had come to interview her.

He turned ashen when she informed him that people should "turn off their sprinklers and keep them off even when it gets dry."

"I just invested all this money in my landscaping," Rhinehart said. "I'd hate for it all to collapse and die."

When Gov. Jerry Brown chose Marcus two years ago to run this powerful if little-known board, it seemed a wonky niche of a job. Her career had led her from the East Asian studies program at Harvard to public-interest law to work as a regional administrator at the Environmental Protection Agency, appointed by President Bill Clinton.

She envisioned herself dealing with problems such as drafting a water-quality plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary.

That was then.

Three months after Brown ordered a 25 percent statewide reduction in urban water use, Marcus, 59, has become the face of California's crackdown on water abusers. She is a drought celebrity — running the board that is setting the rules for homeowners, municipal water districts, farmers, golf courses and people who just want to know whether it is OK to water their roses or top off their pool.

She is the lightning rod one day and the empathetic enforcer the next. The friendly scold on local news stations and the subject of a national interview by Gwen Ifill on PBS' NewsHour.

Suddenly, everyone is wondering what Marcus does to cut back her own water use: She does not wait for the water to warm up before dashing into the shower, and her car is caked with grime and grit. And they share with her the intimate details about their water lives.

"I see people, and the first thing ... they want to do is confess their water sins," Marcus said in her 25th-floor office in Sacramento, its shelves brimming with memorabilia such as photographs

of her with former Vice President Al Gore and her appearance as a kid saying the darnedest things on Art Linkletter's television show.

"Oh my God — I feel sort of bad about it."

At a casual party one Sunday afternoon, a friend dragged her daughter over to Marcus. "She was like, 'Will you tell her to take shorter showers?' " she said. "I've had people text me photos of some woman up the way who was overwatering her lawn. I'll text back and say: 'What water district are you in? Call them.' "

It has fallen to Marcus to help manage the competing anxieties of Californians as the vise of regulations tightens — and in the process, presumably, deflect some of the political heat from Brown as enforcement begins.

There will be surprise inspections of farms and penalties on water-wasting homeowners.

"The State Water Resources Board is the very powerful water cop — we've never had a time when they were more important," said Tim Quinn, the executive director of the Association of California Water Agencies.

"This is the first time a state regulator has ever imposed statewide requirements on water use, and I won't kid you, we had some serious disagreements with how they are going about it, and still do."

Quinn nonetheless praised Marcus.

"She doesn't have this imperious regulator attitude," he said. "She has a down-to-earth way of communicating with people without talking down to them."

Brown, who has had his share of crises during his years in government, can be dour on the subject of the drought. By contrast, Marcus is hardly a voice of gloom, or a strict schoolmaster.

"Go outside for a walk, it's a nice day," she said recently. She paused before adding, "I hate to say it's nice out when it's not raining."

A few moments later, as she strolled around the streets of Sacramento, Marcus considered the parade of bad news she had heard that day. "This is the challenge the drought presents us with: a host of choices between terrible outcomes."

Before her appointment to the Water Resources Control Board in 2012 — she took the helm the next year — Marcus' name was suggested to Brown by Mary D. Nichols, chairwoman of the California Air Resources Board, who has worked on and off with Brown for nearly 40 years.

"I could pretend that I knew that there was going to be a drought," Nichols said. "But I did know that even without the drought, the governor had an ambitious water plan that he wanted to move forward. And the one person I know who is best at bringing the various interests together, and getting them to accept the idea of compromise, was her.

"I knew the job was an important position," she said, but "I didn't think she'd be front-page news every day."

Marcus, who grew up in Los Angeles, now lives with her husband in Emeryville, outside San Francisco. They do not have a lawn.

“I have a plant,” she said. “I live in a loft building. I don’t even have a balcony.”

Paul J. Wenger, the president of the California Farm Bureau Federation, said Marcus, who has made it a crusade to push people to replace their lawns with drought-tolerant shrubbery or at least cut back watering to once a week, had made no secret of her views on that ubiquitous symbol of California life.

“She’s absolutely against lawns,” he said. “She talks about this all the time: ‘I better not see another green lawn!’ ”

Marcus said she focused on lawns “because that’s where the water is.”

“I love the smell of cut grass — it’s sort of like the best smell in the world,” she said. “I even have cologne that smells like cut grass.”

So far, Marcus — who made her reputation over the years more as a conciliator than as an advocate — has managed to keep peace among the factions that have a long history of animosity in the water wars.

Mel Levine, a commissioner with the Los Angeles Department of Water and Power and a former member of Congress, noted in particular that Marcus and the board had worked out a deal in which farmers in the Sacramento-San Joaquin River Delta agreed to cut their water use by 25 percent, a once unthinkable compromise of long-held water claims.

“One of the key conflicts is urban and rural,” Levine said. “And it’s going to get worse if the drought continues.”

More strikingly, she has kept the peace between environmentalists and agriculture.

“She’s been really great for us — she’s an environmentalist through and through,” said Dan Jacobson, the legislative director of Environment California, an advocacy group.

Are things really going to get worse?

“Well, yeah,” Marcus said. “The rainy season is over. We know we are in for an awful summer. Dealing with folks out of work. Communities running out of water. I mean the fish and wildlife outcomes alone are pretty horrendous.”

And if it rains this fall? “Some people will be very angry with us,” she said.

# # #

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Fish extinction 'increasingly likely'
Delta smelt index sinks to zero
Recordnet.com | July 8, 2015 | Alex Breitler

It's been nearly 60 years since a species went extinct in the Delta, but the latest survey of the diminutive Delta smelt makes their demise "increasingly likely" this year, a leading expert said this week.

Researchers found one smelt in a pair of weeklong surveys across the estuary in early June. Plugging that into a weighted mathematical formula, the state Department of Fish and Wildlife calculated an index of zero for the smelt — something that had never happened before.

Smelt live only one year. So it's critical that they are able to reproduce annually. The fact that so few were found in June suggests how difficult it will be for them to find each other next spring and propagate the species, which is found nowhere else on the planet.

"Can't get much lower than zero," said Peter Moyle, a professor of fish biology at the University of California, Davis. "This index shows that extinction of smelt is increasingly likely this year. It's not gone yet, but is close."

While the tiny smelt lacks commercial or recreational value, its health is considered an indicator of the health of the Delta as a whole.

The fish has been declining for decades, but the lack of freshwater flow through the Delta during the drought has exacerbated that trend.

Lower flow allows saltwater from San Francisco Bay to creep inland. Delta smelt need fresher water. So during a drought, they are forced to move from the Suisun Bay area farther inland, where the water may be too warm and where more predators may be lurking. Their habitat shrinks.

On top of the obvious lack of water due to the drought, state officials have temporarily loosened water flow and water quality rules in the Delta in order to hold back more water in reservoirs for human or environmental use later.

The most recent in a series of such decisions by staff at the State Water Resources Control Board acknowledged that holding back more water "will add to the already unfavorable conditions" for smelt. But the state concluded that the impacts on smelt were "not unreasonable," considering the many competing demands for water.

Environmentalists have criticized the state's management actions. "If the Delta smelt do survive this year, it's not because of anything we did to protect them," said Jon Rosenfield, a biologist with The Bay Institute.

The thicktail chub is the most recent Delta species believed to have gone extinct. It was last seen in 1957.

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Folsom Lake now being drained more slowly
Sacramento BEE | July 7, 2015 | Dale Kasler

Highlights

- *Regulators respond to Sacramento water agencies' fears*
- *Lake will still drop to record low level*
- *Oroville is getting drained* more quickly

An aerial view of Folsom Lake at Granite Bay looking toward the northeast in late June shows how far down the lake has been drawn.

Water regulators are easing off on plans to draw down Folsom Lake, responding to concerns from Sacramento-area water agencies about the availability of supply, officials said Tuesday.

The lake still will be drawn down to historically low levels this summer as part of a complicated plan to rescue the endangered winter-run Chinook salmon. However, the reservoir is being drained more slowly for the time being "to provide peace of mind to everybody who's watching this," said Les Grober, assistant deputy director of the State Water Resources Control Board. "Everybody's very concerned about Folsom."

Grober said additional water is being pulled out of Lake Oroville to compensate for the abatement of flows out of Folsom. Oroville, which is part of the State Water Project, is considerably larger than Folsom, one of the key reservoirs in the federal government's Central Valley Project.

Fears about Folsom Lake levels have spiked in recent weeks because of the four-year drought and water-temperature problems on the Sacramento River. To prevent a repeat of last year, when

95 percent of the juvenile salmon run was wiped out by warm water, federal and state officials have tentatively agreed to restrict flows out of Lake Shasta throughout the summer. That's designed to keep more cold water in the lake until late summer and early fall, the peak of the spawning season.

The temperature-control plan is expected to be finalized this week, but keeping more water in Shasta creates a slew of other problems. It's depriving farmers of more than 200,000 acre-feet of water during the height of the growing season. It also has led to more water being drained out of Oroville and Folsom to prevent salt water from intruding on the environmentally sensitive Sacramento-San Joaquin Delta, the hub through which billions of gallons of water are pumped to the San Joaquin Valley and Southern California.

Officials have said Folsom Lake levels likely will fall to 120,000 acre-feet by the end of September. That's well below last year's record low of 150,000 acre-feet. An acre-foot is almost 326,000 gallons.

In the Sacramento region, more than 200,000 people rely on water drawn from Folsom Lake, including residents in Folsom, Roseville and portions of Granite Bay, Fair Oaks, Citrus Heights and Orangevale. Officials in the region have expressed fears that a draw-down to 120,000 acre-feet would cut into the margin of error, bringing the lake below levels at which the valves that deliver that water would work.

"Folsom's going to be a true symbol of 'we're all in this together,' " said water board Chairwoman Felicia Marcus at a board meeting Tuesday.

Grober said the plan still calls for Folsom to be lowered to 120,000 acre-feet, but for the time being the reservoir is being drained more slowly. The water board also expects to issue an order later this week ensuring that 120,000 acre-feet represents a "hard stop" rather than a goal. That means the lake would not fall below that level.

Sacramento water officials said the revised approach is somewhat reassuring, but they will continue to watch the lake closely. Bringing the lake down to 120,000 acre-feet "is still worrisome, because we haven't experienced anything like that before," said Tom Gohring of the Sacramento Water Forum, an alliance of environmentalists and water agencies. "There are still a lot of uncertainties in the system."

As the drought worsens, managing California's dwindling water supply is requiring almost constant tinkering. At the same time officials are fine-tuning the temperature-control plan for the Sacramento River, the water board agreed last Friday to temporarily reduce the flow of water out of the Delta and into the ocean. While that could damage Delta smelt and other threatened species in the short term, the board said it leaves more water in upstream reservoirs, alleviating some of the pressure on Folsom and Oroville. Some of that water can be released later to help farmers as well as fish, the board said.

Reducing Delta outflows has proved controversial, however. Environmental groups have sued state and federal officials this year, saying the Delta's ecosystem is being sacrificed to bring more water to farms and cities that buy water from the Central Valley Project and State Water Project.

# # #

Effects of the California drought on farming is regional and coastal farms are thriving
Santa Cruz Sentinel | July 7, 2015 | Aaron Kinney

SALINAS >> It's prime strawberry-picking season, and field workers on this vast Salinas Valley farm are being paid for every plastic clamshell container they fill. Under a cool gray sky, men and women hustle up and down the narrow rows, plucking only the reddest, ripest fruit.

This Salinas farm is just 70 miles west of Central Valley communities that have been devastated by California's four-year drought. In western Fresno County, thousands of acres lie fallow, and hundreds of laborers can't find jobs. But the distance seems much greater. In Monterey County, whose fertile soil produces more strawberries and lettuce than any other county in California, the $4 billion agriculture industry is humming along rather nicely.

The disparity between the Salinas Valley and hard-hit areas of the San Joaquin Valley is the latest installment in this newspaper's series "A State of Drought." The tale of two farming regions illustrates how the effects of the drought are highly local, with dramatic variation from one place to another based on climate, weather, crops and, most importantly, access to water. And it shows that some regions are actually thriving despite historically dry conditions — at least for now.

"The drought's a marvelous time to grow stuff, if you have the water under full control, because you can take advantage of predictable weather and strong prices," said Richard Howitt, a UC Davis professor emeritus of agricultural and resource economics.

Central Valley farmers depend on state and federal water systems that divert dwindling Sierra Nevada snowmelt to their fields. With that spigot turned off, many farmers are frantically pumping groundwater or buying the precious resource on the open market. Those without access to groundwater or the means to buy it have suffered crippling losses.

The Salinas Valley — which runs about 130 miles northwest from San Luis Obispo County, following the Salinas River's path to the Pacific Ocean — relies entirely on water drawn from a deep groundwater basin. The enormous aquifer has shielded the region from the harshest effects of the drought.

But this basin and others on the Central Coast are being drained at rates that are unsustainable, risking long-term damage to the water supply. As groundwater levels drop, saltwater from the ocean creeps into the aquifers.

"The irony is that in the short run the Central Coast farmers are better off," said Howitt, a leading researcher on the economics of the drought. "But in the long run they've got to get their credit card under control."

Surviving, even thriving

If April Mackie wrote out a list of worries, not having enough water wouldn't be at the top. The director of safety and regulatory compliance for RAMCO Custom Harvesting is more concerned with finding enough workers to plant and harvest the fast-growing company's crops.

The family-owned operation farms about 3,500 acres of strawberries, lettuce, cauliflower and broccoli on the Central Coast, mostly in the Salinas Valley. The company has added about 800 acres over the past two years in Monterey County.

RAMCO also places workers with area farms. The total number of laborers the company either employed or placed with another farming operation in the region increased from about 3,900 in 2014 to 4,400 this year.

Mackie's experience bears out a recent study by Howitt and colleagues at UC Davis that found seasonal farm employment was up on the Central Coast and fallowed land was rare.

"In Monterey County, all the ground that can be planted is basically planted," Mackie said. "We don't let stuff sit."

About 50 miles southeast of Salinas, Rio Farms grows lettuce and other vegetables on about 6,000 acres in the King City area. Jocelyn Gretz, Rio Farms' program manager for sustainable agriculture, said the company decided not to plant about 100 acres the past couple years to help out a neighboring winery in a location where the groundwater is poor.

Otherwise, she said, it's mostly business as usual.

"We're still getting the yields," she said, "and we're still planting the same crops."

Known as the "salad bowl of the world" for the volume of lettuce it grows, the Salinas Valley also leads California in the production of broccoli, cauliflower, mushrooms, spinach, artichoke, cabbage and celery, according to the Monterey County Farm Bureau.

These crops are well-suited for the mild climate and rich soils of the valley, where groundwater has traditionally been replenished by the Salinas River and a pair of reservoirs, Lake San Antonio and Lake Nacimiento, that were constructed in the 1950s and 1960s on the southern boundary of Monterey County.

The reservoirs and other more recent water-conservation initiatives, including a wastewater recycling plant in Castroville that produces roughly 13,000 acre-feet per year of water for irrigation, have enabled Salinas Valley farmers to endure the drought and respond to growing demand for California crops.

In seizing this opportunity, however, Monterey County farmers have dug more wells and increased their groundwater pumping to make up for the lack of rainfall. That extra pumping has thrown the aquifers, which have been overdrafted for years, even more out of balance. The Salinas Valley basin, which contains about 16.4 million acre-feet of water, is being depleted by about 17,000 to 24,000 acre-feet per year, according to one recent study, and that figure could spike if dry conditions persist.

"Our concern is going to be if this thing lasts another three to five years, what then?" said Robert Johnson, deputy general manager of the Monterey County Water Resources Agency, which is tasked with bringing the basin back into balance. "With climate change, this thing could be the new normal."

Under laws passed last year, the Salinas Valley groundwater basin must be sustainable by 2042. Monterey County is already working on some new projects to balance its aquifers. A planned tunnel between Lake San Antonio and Lake Nacimiento, which are almost empty right now, would increase their storage capacity. But other projects will be needed, and farmers will need to cut back their water use — not increase it.

Norm Groot, head of the Monterey County Farm Bureau, claims the valley can withstand a long-term drought with only modest adjustments. Farmers are experimenting with new water-efficient technologies, such as computer-linked soil moisture sensors.

"You're not going to see a wholesale shift in the way we do business," he said.

Others say the low-hanging fruit of water conservation has already been plucked.

"We're pretty much already doing as much as we can," said Mackie. "I don't know how much more water farmers can conserve without stopping planting and letting our land go fallow."

Crop values increase

UC Davis researchers estimate that roughly 564,000 acres will be fallowed this year in California, mostly in the Central Valley, where farmers are devoting what water they have to the most lucrative crops.

These changes help explain some head-scratching statistics: Despite the worst drought in modern history, California agriculture brought in a record $46.4 billion in 2013, driven in part by U.S. economic growth and expanding international markets. When the state's crop report comes out later this year, the figure for 2014 may well be higher.

Employment numbers are up as well, even in the tough-luck San Joaquin Valley. From 2010 to 2014, the number of California crop production jobs increased by 5.37 percent.

UC Davis researchers say one reason for these increases is that farmers in the Central Valley are shifting toward crops that are not only more profitable — such as grapes and almonds — but also more labor-intensive.

But the jobs on which field workers typically rely — planting, weeding and harvesting from late winter to fall — are down in the Central Valley, Howitt and fellow researchers say.

And an increase in revenue does not necessarily mean farmers are pocketing big profits. Buying water, drilling wells and other increased costs are hurting some growers and putting others out of business.

“High commodity prices the last couple years have propped up the industry,” said Ryan Jacobsen, director of the Fresno County Farm Bureau. “But if we see lower prices and the drought becomes a long-term reality, the agricultural industry in the Central Valley is just not sustainable.”

# # #

Heat wave hastens crops, stresses scarce water resources

A hotter-than-average summer in California is putting more pressure on scarce water resources and causing crops to develop ahead of schedule.

Capital Press | July 7, 2015 | Tim Hearden

RED BLUFF, Calif. — A heat wave that's causing crops to develop quickly and putting more pressure on scarce water resources could last through the summer, forecasters say.

California's Central Valley and the rest of the West are likely to experience higher-than-normal temperatures over the next three months, according to the federal Climate Prediction Center.

The outlook comes as Red Bluff and other cities have already experienced two weeks of near daily triple-digit highs leading up to the July Fourth weekend, with temperatures here spiking at 113 degrees on June 30.

For many growers, rising temperatures mean having to use more water to irrigate, said Kevin Greer, who operates a mobile irrigation van for the Tehama County Resource Conservation District.

"It changes the irrigation schedule," said Greer, who counsels growers on how to make the most of their water. "The hotter it gets, the more water they have to put on."

In the Red Bluff area, most growers have nut or prune orchards or pasture land and rely on groundwater to sustain them, Greer said.

"The shallower wells are where some of the growers are having a little bit of trouble," he said, adding that one grower had to deepen his well from 85 to 200 feet. "I'm finding a lot of guys are having to call in well drillers and increase the depth of their wells dramatically."

At R and K Orchards in Corning, Calif., the heat has caused the peaches, apricots and other fruit to ripen quickly, co-owner Karen Mills said.

"The heat will cause anything that's close to ripe to drop," she said.

If it gets hot enough, peaches will cook on the tree, Mills said.

"That's only happened to us once," she said, adding that the fruit had to be discarded.

Some varieties of peaches, nectarines, plums and apricots are two to three weeks ahead of schedule, according to the National Agricultural Statistics Service in Sacramento. The heat has caused Valencia oranges to re-green, prompting growers to treat them and divert them to domestic markets, the agency reports.

Among other crops, according to NASS:

• Almond, walnut and pistachio orchards are being irrigated, with growers applying additional sun protection to walnuts.

• The warm days are causing abundant growth for summer vegetables, with the warmer coastal weather advancing the season for brassicas, celery, spinach and lettuces by nearly a month.

• Some growers have diverted water from irrigated pasture to permanent crops, causing a decline in available livestock feed and an increase in supplemental feeding. Some rangeland ponds have dried up, forcing ranchers to move cattle or truck in water.

The heat is expected to continue through the summer and possibly into October, said Cindy Matthews, a National Weather Service hydrologist in Sacramento.

“For the August, September and October timeframe … it looks like temperatures have a strong probability of being above normal,” Matthews said. She added that the Southwest could see above-normal precipitation later this summer and fall because of seasonal monsoonal moisture.

Forecasters still expect a strong El Nino to linger through the fall, possibly bringing more southern storms into California. But it’s expected to drop off again into the moderate category in early 2016, Matthews said.

“It’s going to take a significant precipitation winter to help alleviate the drought symptoms that we’ve got,” she said. “That means very heavy precipitation for most of the winter months … and we have to have a good snowpack in the spring.”

# # #

California's Water Rates Rise
Associated Press | July 5, 2015

Millions of Californians expecting relief on their water bills for taking conservation measures instead are experiencing higher rates and drought surcharges.

Water departments are increasing rates and adding fees because they are losing money as their customers conserve. They say they still have to pay for fixed costs including repairing pipelines, customer service and enforcing water restrictions—and those costs aren't decreasing.

The financial blow is only expected to grow because Gov. Jerry Brown's administration has ordered communities to slash water use anywhere between 8% and 36% from 2013 levels in response to the four-year drought. Those cuts are expected to leave agencies with a $1 billion hole in revenue, and they'll likely turn to customers to plug it, according to state estimates.

"Just because you use less water does not mean you have lower rates or a lower bill," said Lori Dolqueist, a water attorney who represents private utilities. "All of these agencies and private water companies are being told to sell less of what they do. It's a challenge financially."

While intensive conservation reduces strains on local water supplies, it can spell trouble for government budgets.

Santa Barbara, for example, expects to lose $5 million if residents hit the city's 20 percent water-use reduction target. Residents are going above and beyond and reached 37 percent in May. That's good for water supply but bad for financial stability.

This month, water bills in Santa Barbara rose between $13 and $120, depending on water use, to help the city recover lost revenue and activate a desalination plant.

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Media Release

STATE REDUCES WATER USE BY NEARLY 29 PERCENT IN ADVANCE OF JUNE CONSERVATION MANDATES

INDIVIDUAL WATER USE CONTINUES TO DECLINE; ENFORCEMENT EFFORTS GROW

For Immediate Release
July 1, 2015

Contact: George Kostyrko
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SACRAMENTO – As the State continues to experience near-record and record hot conditions, increasing the severity of the drought's effects on communities, agriculture and the environment, California's urban water suppliers reported the highest level of conservation achieved to date for the month of May.

The State Water Resources Control Board (State Water Board) announced today that statewide residential water use declined 28.9 percent in May, the steepest drop since Governor Jerry Brown called on all Californians to conserve water in the face of limited supplies.

"The numbers tell us that more Californians are stepping up to help make their communities more water secure, which is welcome news in the face of this dire drought," said State Water Board Chair Felicia Marcus. "That said, we need all Californians to step up--and keep it up--as if we don't know when it will rain and snow again, because we don't. If the drought continues beyond this year, we'll all be glad we did."

Enforcement and compliance statistics reported for the month of May also indicate that water suppliers are following up on water waste complaints and issuing formal warnings and penalties against alleged violators. Complaints are a very important tool for identifying leaks and overwatering that could go undetected for weeks resulting in millions of gallons of wasted water.

This latest information comes ahead of the June reporting period, the first month that the new statewide conservation standards are in effect and measured.

Encouraged by the newest data, State Water Board officials called on all Californians to continue conserving as the drought persists and further reduce their water use in the critical summer months of June, July, August and beyond. The Board remains cautiously optimistic, acknowledging that rain in some parts of the state during May likely contributed to the higher conservation rate. The conservation mandate leaves it up to locals to decide where to

conserve, but encourages water suppliers to focus on reducing outdoor irrigation because it can account for up to 80 percent of residential water use in hotter climates and is easy to do.

May Highlights:

- The amount of water saved by the State's large urban water suppliers increased from 13.6 percent in April to approximately 28.9 percent in May, in same-month water use comparisons of 2015 to 2013. The year 2013 serves as the baseline for determining water savings statewide. The cumulative statewide percent reduction for June 2014-May 2015 (12 months) is 11 percent.
- The statewide residential gallons per capita per day (R-GPCD) for May 2015 was 87.5 gallons, a decrease compared the April 2015 statewide average R-GPCD of 90.5 gallons.
- Between June 2014 and May 2015, approximately 237.3 billion gallons (728,136 acre-feet) of water were saved, as compared to the same time period for the year prior. This is enough water to supply approximately 2.38 million Californians for one year.

Enforcement Data Indicates Increased Awareness and Response

In April, water suppliers began reporting on their compliance and enforcement efforts to promote conservation and reduce water waste. The May statistics demonstrate community and water supplier commitment to identify and correct wasteful practices:

- 28,555 water waste complaints were reported statewide (by 346 suppliers);
- 36,159 formal warnings were issued for water waste statewide (by 269 suppliers);
- 1,786 penalties were issued statewide (by 49 suppliers), and
- as of the end of May, seven (2 percent) suppliers had not imposed mandatory irrigation restrictions and 60 (15 percent) suppliers reported that they still allow outdoor watering 7 days per week.

The May urban water supplier enforcement statistics can be found here.

Water Conservation Efforts Improve

Monthly residential water savings statewide were 28.9 percent in May compared with May 2013. That is up significantly from the 13.6 percent water savings in April compared with April 2013. Broken down by hydrologic region, the results, which show that all parts of the state showed improvements compared to April, can be found here.

The water use reports are a requirement of the drought emergency water conservation regulation adopted by the State Water Board in July 2014 and are provided to the State Water Board monthly by urban water suppliers. The complete report is posted here**.**

For additional information on water use, please visit the following resource:

- The State Water Board's Drinking Water Program has an urban water R-GPCD Calculator here.

May's Top Performers

"It is clear from this report that many communities have made a commitment as Californians to scale back outdoor watering and conserve – and the effort shows," said Marcus. "The hot summer months are here. Californians are creative. We can fix the leaks, let the lawn go brown, and take shorter showers while using just enough water to save trees and prevent disease."

"We urge other communities that are not meeting their conservation standards to join communities like Fresno and San Jose in water conservation leadership," said Marcus. "Collectively, we can do this."

Dozens of communities achieved conservation levels of upwards of, and more than 30 percent in May 2015. Some of the stand out communities include: California Water Service-Bakersfield (37 percent), Serrano Water District (Orange County, 43 percent), Lake Hemet Municipal Water District (Riverside County, 49 percent), Town of Hillsborough (San Mateo County, 49 percent), and Sacramento Suburban Water District (45 percent), San Jose Water Company (36 percent), City of San Diego (26 percent), City of Riverside (30 percent) and Cucamonga Valley Water District (35 percent).

These high achievers include both inland and coastal communities, proving that it can be done.

Communities that have accelerated their conservation efforts include:

- The City of Folsom, which in May achieved a 38 percent savings in water use, exceeding the City's 32 percent conservation standard. In May Folsom announced a plan to reduce water use citywide by 32 percent, as well as a comprehensive rebate program for its water customers. By June 1, the City planned to reduce watering in parks by 33 percent, remove turf and retrofit irrigation in more than 30 medians, and turn off irrigation on nearly one acre of ornamental streetscapes, among other actions.

- The City of Fresno achieved 33 percent savings in water use in May, surpassing its 28 percent conservation standard. The Fresno City Council recently passed an updated

Water Conservation Act that changed the spring/summer watering schedule to start two months later on May 1, and changed the watering times to run between 9 p.m. and 6 a.m.

- The Santa Margarita Water District, which had been averaging only 3 percent savings over the past 11 months, dramatically increased its level of conservation to 18 percent in May. To further reduce potable water use, the Lake Mission Viejo Association recently voted to switch from the use of potable water to advanced purified wastewater to refill Lake Mission Viejo. During June through August, the District limits outdoor watering to no more 3 days and 36 minutes total per week during the summer.

Background

In his April 1 Executive Order, Governor Brown mandated a 25 percent water use reduction for cities and towns across California.

In May, the State Water Board adopted an emergency regulation requiring an immediate 25 percent reduction in overall potable urban water use statewide beginning in June, in accordance with Governor Edmund G. Brown Jr.'s April 1 Executive Order. The Executive Order required, for the first time in the state's history, mandatory conservation for all residents and directed several state agencies, including the State Water Board, to take immediate action to safeguard the state's remaining potable urban water supplies in preparation for a possible fifth year of drought.

The regulation adopted by the State Water Board on May 5 uses a sliding scale for setting conservation standards, so that communities that have already reduced their R-GPCD through past conservation will have lower mandates than those that have not made such gains since the last major drought. The regulation places each urban water supplier into one of eight tiers which are assigned a conservation standard, ranging between 8 percent and 36 percent.

Beginning with the June conservation data submitted by the more than 400 urban water suppliers, water suppliers will be expected to meet or exceed their individual conservation tier.

Each month, the State Water Board will compare every urban water supplier's water use with their use for the same month in 2013 to determine if they are on track for meeting their conservation standard. Local water agencies will determine the most cost effective and locally appropriate way to achieve their standard. The State Water Board will be working closely with water suppliers to implement the regulation and improve local efforts that are falling short.

For more than two years, California has been dealing with the effects of drought. To learn about all the actions the state has taken to manage our water system and cope with the impacts of the drought, visit Drought.CA.Gov.

Every Californian should take steps to conserve water. Find out how at SaveOurWater.com.

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Drought Bills: Small Changes, High Impact
Public Policy Institute of California | June 30, 2015 |

As Californians continue to cope with the impacts of the ongoing drought, actions to improve the way we manage water are being taken at all levels of government. Last week Governor Brown signed into law Drought Trailer bill (SB 88) and Resources Budget Trailer bill (SB 83). These bills will improve the way we respond to the current drought and better prepare us for future droughts. Here are three ways they will do this:

•Consolidation of some small water systems with bigger ones to increase drinking water accessibility for at-risk communities. Many small, disadvantaged rural communities in California lack reliable and safe drinking water. These communities often lack economies of scale because the cost of improving and maintaining these systems is high and their customer base is small. Even when these small water systems are eligible for state funding for capital improvements like water treatment systems, they often lack the technical and operational capacity necessary to sustain them over time. In some cases, consolidation—the physical or administrative merging of drinking water systems—can be a cost-effective solution. The bill allows the State Water Resources Control Board to pursue consolidation when other solutions are not appropriate, and it provides protection against liability issues that may make larger agencies unwilling to consolidate. In our report Paying for Water in California we recommended consolidation as one of a suite of actions that could help address chronic safe-drinking water challenges.

•Better monitoring and reporting requirements for water diverters and some water rights holders. Earlier this year we recommended improving the state's water information system to effectively manage water resources during droughts. This bill takes California one step closer to this goal. For example, individuals who divert water under the most senior water rights were previously required to report their diversions to the Water Board every three years; now they'll be required to report annually. Surface-water diverters who use more than 10 acre-feet a year will also be required to install measuring devices. Well-drilling logs will also become public. The new reporting requirements reflect progress in modernizing California's water accounting capabilities. The next step is to integrate improved water information and resource planning tools to better manage water scarcity.

•Temporary environmental oversight exemptions for groundwater recharge projects, recycled water system standards, and local decisions to prohibit drilling of new groundwater wells. The California Environmental Quality Act (CEQA) can play an important role in evaluating the environmental impacts of projects or regulations, but the length and cost of the review process can discourage responsive policymaking. This bill streamlines review for projects and policy decisions that are low-risk and well-tested, but could immediately increase drought resiliency. California's regulatory framework is such that these projects will likely be reviewed in other forums, so this bill doesn't eliminate all oversight. As we heard from San Jose Mayor Sam Liccardo at our April "Water in Silicon Valley" event, this kind of streamlining would have real-

world impacts. San Jose is seeking an expedited process from CEQA to begin building a groundwater recharge system that would expand use of San Jose's existing recycled water system.

As the legislative year continues we can expect more statewide policy changes that address our stressed water system. We'll provide regular updates on key water legislation in this blog.

# # #

Regional poll: Drought is most pressing issue: Bay Area Council releases annual survey, residents support expanding sources
Daily Journal | June 24, 2015 | By Samantha Weigel

With widespread media and legislative attention turned toward managing the drought, it may be no surprise that Bay Area residents believe tending to their water supply is the most pressing issue facing the region this year. However, according to the Bay Area Council's 2015 Poll, many residents believe they're already conserving as much as possible and would prefer to expand the use of recycled water, invest in desalinization as well as upgrade aging infrastructure.

The Bay Area Council is releasing Wednesday, June 24, the results of its second annual poll that surveyed 1,000 residents across the region's nine counties. While looking at a broad range of topics, residents ranked supply of water as the most serious problem facing the Bay Area followed by the cost of living, housing prices and traffic, according to the poll.

"We were not surprised the drought surfaced as a top concern in the Bay Area this year. I think it's on the top of everyone's list of concerns, top of mind. And rightfully so given how serious the drought is, the lack of water and the importance of keeping this top of mind as we certainly work hard to try and meet the governor's statewide 25 percent reduction," said Rufus Jeffris, vice president of communications for the Bay Area Council.

An important aspect of the survey conducted by EMC Research, is that it revealed residents would be in support of a small drought fee, so long as they were assured the funds would be spent toward repairing and upgrading water infrastructure, Jeffris said.

While only 31 percent said they would support raising water prices as a strategy for combating the drought, educating consumers on how a $5 "drought fee" could be spent increased support from 35 percent to 52 percent, Jeffris said. Such information could ideally help cities and utilities understand the temperament of their customers as they proceed with considering drought-related policies, Jeffris said.

"Once we provided more information in a follow-up question about where your drought fee might go — including making repairs to our water system, replacing levees, modern water pipelines, fixing aging infrastructure, increasing our ability to store water — the support went up to 52 percent. So as long as people understand where the money is going to be invested, there is support for such a fee," Jeffris said.

Nicole Sandkulla, CEO of the Bay Area Water Supply and Conservation Agency, said she was interested to see how residents responded differently to the concept of raising rates versus a drought fee. The survey also highlights how people are apparently more conscientious about what goes into turning their faucets on, Sandkulla said.

"Water infrastructure is often hidden and people don't understand how important it is when it's always available. So to see support for those types of investments, is something I think water providers, we all need, to look at very closely and think about it very carefully and about how we

want to take advantage of that," Sandkulla said. "To have support expressed from the public for that, is just another helpful thing in moving what can be possible projects forward."

To improve the state's drought preparedness, nearly 88 percent supported expanding the use of recycled water and 58 percent favored adding appropriately treated recycled water to drinking supplies, according to the poll.

Sandkulla said she was impressed to see how open-minded residents were becoming when considering how to increase supply, particularly as technologies to purify water have advanced and recycled water programs are becoming more prevalent in Southern California.

"Until you learn about it, you kind of have a knee-jerk, instantaneous response," Sandkulla said. "It's definitely a new technology and the next level of investment that people are starting to look at. And I think it holds a lot of promise, especially if this drought continues. You have to find a new supply, and there's not a lot available."

The poll also revealed 75 percent supported desalination while 63 percent favored building new dams and reservoirs — a typically controversial concept, Jeffris said. But 88 percent of those surveyed indicated farms should be further restricted and 68 percent agreed with general mandatory restrictions that are subject to fines or penalties, according to the poll.

"Obviously, you've got people stressed about the drought and people feeling like they're doing a lot to conserve and want to see us develop some ways to increase water supply," Jeffris said.

Another notable result is that 38 percent of residents believed they're already doing everything they can to conserve while another 38 percent acknowledged they're trying hard, but could probably do a little bit more.

According to the State Water Resources Control Board's recent conservation data, San Mateo County residents and those served by the San Francisco Public Utility Commission's Hetch Hetchy reservoir system are adapting to the drought, Sandkulla said.

"We know this area is responding well to the conservation message. If you look at the state water board data from April for the area served by the San Francisco system, 2.3 million people, as a region they were the lowest in the state using 59 gallons per capita per day. That's a pretty low number and that really represents investment in water conservation," Sandkulla said.

Still, the drought is persisting and, with summer heating up, Sandkulla said it's critical people continue conserving indoors and outdoors.

"As a water supplier we look at that number and wonder, as some of the survey results, how much further can someone cut back?" Sandkulla said. "We know there's more that can be done and our push is really targeting outdoor water use and making people aware how much they can save outdoors. But at some point, our agencies must make investment in infrastructure and new technology as well."

The Bay Area Council is a business-sponsored public policy advocacy organization that aims to promote a strong economy, vital business environment and better quality of life for those in the region's nine counties. Visit bayareacouncil.org to review the results of the Bay Area Council's 2015 Poll.

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Despite drought, some Valley cities still lack water meters
Fresno Bee | June 21, 2015 | Lewis Griswold

Highlights

- *Water meters reduce consumption because customers pay by volume*
- *Most cities that have unmetered connections have a program to install water meters*
- *All urban water users must have meters by 2025*
-

Thousands of homes, businesses and apartments in the drought-stricken central San Joaquin Valley lack water meters, complicating efforts by city officials to reduce consumption as mandated by the state.

"How do you tell who's using too much water?" asked Kerman public works director Ken Moore.

Fresno and Visalia are fully metered, but many smaller cities still have large numbers of unmetered connections.

While Kerman, Chowchilla, Selma, Madera and Kingsburg have launched programs to get as many connections metered as possible, other towns are stymied by the high cost.

By state law, all urban water hookups in California must be metered by 2025, and the drought is prompting some communities to speed up their programs.

In Selma, California Water Service installed 1,000 meters this year and had planned to delay installing the remaining meters until next year.

"Due to drought, however, we now plan to install 500 more this year and the remaining 1,000 by the end of 2016," said Cal Water spokeswoman Yvonne Kingman.

Valley cities must reduce consumption by 28% to 36% under State Water Resources Control Board drought mandates.

Selma, for instance, must conserve by 32%.

Meters are a proven weapon in the battle against the drought.

In Fresno, overall per capita use dropped 22% after meters were installed between 2009 and 2014, and per capita household water use dropped even more.

In Visalia, household water use fell by 17% after meters went in, California Water Service said.

Kerman, where 39% of water connections lack meters, must reduce water consumption by 32%.

Starting next spring or possibly as early as this fall, Kerman will install meters on half of its unmetered connections. A Proposition 84 grant of $724,934 and matching city funds are paying for the $1 million project.

Unlike in some cities that have launched water meter installation projects, residential bills in Kerman won't get a surcharge, because water division reserves are covering the city's share.

"We need to reduce 32%. It'll be difficult to hit, especially when we're not fully metered.

Ken Moore, Kerman public works director

Last year, Kingsburg in southern Fresno County installed 1,400 meters and has only 81 connections to finish the job later this year, City Manager Alex Henderson said.

"Metering was the responsible thing to do in light of the drought and our future water use," and in meeting the 2025 deadline, he said.

Kingsburg must cut water use by 36%.

The water division borrowed about $1.2 million for the meter installation project. Homeowners can pay in full for the meter — $500 to $1,200, depending on the amount of work needed to install it — or put it on the monthly water bill for five years at $6 to $14 a month.

Madera, which must cut water use by 28% under the state mandate, is nearing the end of a multi-year program to get all homes metered.

About 12,000 meters were installed in the past three or four years, with about 105 residential connections still to go, the city said.

"We're getting very close," said city engineer Keith Helmuth.

The remaining connections are in gated communities for which the city must obtain written permission from the property owner due to lack of public right of way, he said.

The city issued a bond to pay for the installation, and increases on the residential water bill will repay the bond. It costs about $950 per meter on a 1-inch pipe, he said.

Madera has observed that after the meter goes in, consumption falls dramatically, but then tends to go back up, Helmuth said.

This may be because water rates are not tiered, he said. The city staff is requesting a rate adjustment that includes tiered rates, which is expected to encourage conservation.

In Chowchilla next month, officials will begin installing 400 meters out of 1,500 that are coming to the city.

The city borrowed $3.2 million from the state, and affected water bills will go up $6.51 a month, said Craig Locke, public works director.

The city welcomes metering to help cut consumption in the drought, but there are other reasons to want meters, Locke said.

“There’s the conservation end, but one of the biggest reasons is, we can figure out how much unaccounted loss we have,” because modern meters can detect evidence of leaks, he said.

Unlike cities that are installing meters, Corcoran, which is 50% unmetered, has no plans to install them — despite the pressures of drought — because of the costs.

“The council hasn’t felt the need to put a burden on the ratepayer,” said Corcoran City Manager Kindon Meik.

Corcoran water bills are already higher than in other cities due to the cost of paying the debt on a water treatment plant that removes arsenic and nitrates, he said.

But the city is looking into the possibility of obtaining a state grant, he said.

Meanwhile, Corcoran expects that tightened water use restrictions — it recently adopted twice-a-week lawn watering — and public cooperation will allow it to achieve the 36% water use reduction set by the state.

Hanford, which must cut water use by 28% and has about 2,500 unmetered connections and no program to get them metered, will also seek state grants, said public works director Lou Camarra.

Clovis has fewer than 500 unmetered connections, and all are in the Tarpey Village county island, said Lisa Koehn, assistant public utilities director. The city will install a meter if the customer requests one; the cost is a discounted $680 and is paid by the customer.

The city lowers the price from about $1,000 “to encourage them to get the meters,” she said.

For now, the city has no plans to install the meters and will wait until closer to 2025 to remind unmetered customers about the deadline, she said.

Unincorporated areas — such as London, East Orosi and Sultana in Tulare County — are often unmetered, but getting the funding to install meters is proving to be a challenge, said Paul Boyer, a community development specialist at Self-Help Enterprises, which helps poorer communities build water systems.

“We’ve been trying to get funding, but have been striking out,” he said. “Our water is relatively cheap compared to other parts of the state. If you do a cost-benefit analysis, it makes it hard for the Valley to compete for those funds.”

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More restrictions hit state's water supplies
Ag Alert | July 8, 2015 | Kate Campbell

New Melones Reservoir on the Stanislaus River held only 17 percent of its capacity—or about 26 percent of its average for the date—when this photo was taken, July 3.

As water supplies deteriorate around California, already-tight supplies are being cut further, some water-right holders are challenging curtailment of their supplies, agencies continue to assess the impact of unforeseen restrictions on Lake Shasta, and members of Congress are promoting legislation intended to make the state's water more reliable.

"The water situation continues to become more critical for many California farms and ranches, as water supplies become more restricted," California Farm Bureau Federation President Paul Wenger said, in announcing the organization's support for legislation introduced in the U.S. House of Representatives at the end of June.

"There's no time to waste," Wenger said, referring to a series of events that underscored the severe water shortages facing many parts of California.

For example, the State Water Resources Control Board has been issuing a stream of curtailment orders to senior water right holders to stop diversions.

Last week, the agency ordered diversions halted on the Merced River for senior water rights dating back to 1858; it also issued curtailments for all pre-1914 and post-1914 appropriative rights on the Upper San Joaquin River.

The announcements affected 16 water rights held by 11 owners. A curtailment notice was also sent to the city of San Francisco for four appropriative water rights on the Tuolumne River, dating back to 1903.

Officials said curtailment notices previously were sent to senior water rights holders during the 1976-77 drought, but they did not extend as broadly then as this year.

As of June 26, a total of 8,721 junior water rights and 297 senior water rights in the Sacramento-San Joaquin River watersheds and delta had been notified that there is insufficient water in the system to serve their rights.

CFBF Water Resources Director Danny Merkley urged right holders who receive curtailment notices to respond to all official notices when required to do so. He advised recipients of curtailment notices to ask for clarification of difficult-to-understand, bureaucratic language and official orders, to avoid what he called "complicated and costly misunderstandings."

"As supplies continue to decline through the summer, it's expected more senior rights will be impacted by limited water availability," the water board said in a statement announcing the latest round of cuts, adding that curtailments will be lifted in the autumn by priority of right as soon as appropriate.

Several irrigation districts are now challenging in court the curtailment of pre-1914 water rights—rights established before the state water board was created—saying the board doesn't have the authority to restrict these senior rights.

A miscalculation of water temperatures in Shasta Lake now casts doubt that a number of pending water transfer agreements can be fulfilled.

That unanticipated problem has the potential to create crop losses of $3.5 billion to $4.5 billion and lead to fallowing of an additional 485,000 acres, the California Farm Water Coalition said, citing estimates from water agencies in the Sacramento and San Joaquin valleys.

Releases from Shasta, the main reservoir serving the federal Central Valley Project, will be cut by about half of average for this time of year. Water retained behind the dam will be used to cool Sacramento River temperatures and support spawning by federally protected fall- and winter-run chinook salmon.

Sacramento River settlement contractors, who'd agreed to transfer water to farmers in need, will not have the water they'd contracted in advance to sell.

"Crops were planted with promises made for water deliveries," Farm Bureau's Merkley said, "but because of miscalculations, some crops with significant investment may not make it to harvest."

As of Sunday, Shasta held 60 percent of its historic storage for the date, or 48 percent of capacity. Lake Oroville, the main reservoir for the State Water Project, stood at 48 percent of average and 38 percent of capacity.

The period from now until Sept. 30 usually brings the heaviest demand on stored water supplies.

"We need solutions to this crisis and assurances that we are taking steps to ensure future supply reliability," Wenger said. "Californians and all Americans depend on the food and farm products grown in our state, and we all benefit from policies that add flexibility to California water management."

Wenger said CFBF supports federal water legislation introduced in the House—the Western Water and American Food Security Act of 2015.

"California's drought has devastated communities throughout the Central Valley and now the consequences are extending throughout the country," said Rep. David Valadao, R-Hanford, who introduced the legislation.

HR 2898 is designed to modernize water policies in California and throughout the western U.S. and make water supplies more reliable. It's supported by the entire California Republican delegation, the chairman of the House Natural Resources Committee and the chairman of the Western Caucus.

Wenger said Farm Bureau supports efforts to give water managers more options for benefiting protected fish species while maximizing water supplies for human needs. He also expressed support for a provision in the bill that would expedite federal studies of California water storage projects.

"Federal policies must move from fish-first priorities to a balanced program that seeks new ways to meet the needs of both people and protected species," Wenger said.

"As our current drought proves, it's time to move water storage projects from the drawing board to the construction stage," he said. "Accelerating storage projects just makes sense in a time of uncertainty about long-term weather patterns. The more places we have to store rain and snow when it falls, the better we'll be able to withstand the inevitable dry times."

Wenger also encouraged the California congressional delegation to cooperate closely on water legislation.

"All of California suffers from the impacts of drought, and we hope our congressional representatives from both parties and all regions can work together to address the federal government's role in easing the drought's impacts," Wenger said. "This bill is a good starting point."

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We were just kidding
State water board tells court curtailment order has no teeth
Manteca Bulletin | June 24, 2015 | Dennis Wyatt

The California Attorney General's office stunned senior water rights holders in San Joaquin County Superior Court Tuesday by stating State Water Resources Control Board curtailment orders have no teeth.

"They essentially said we were just kidding," noted South San Joaquin Irrigation District General Manager Jeff Shields of the state's threat June 12 that they would go after pre-1914 water right holders that continue to divert water and subject them to fines of up to $1,000 per day and prosecution in court.

The filing by State Attorney General's Office in the Banta-Carbona Irrigation District verses the California State Water Control Board argued that the Tracy-area water district had no legal standing to seek a cease and desist order for the state's curtailment order regarding pre-1914 rights because the order was only "advisory in nature."

That isn't what press releases that the state issued or directives they sent to irrigation district and senior water right holders less than two weeks prior stated.

In the filing Tuesday the state argues the notice did not create any penalty or fine for continued diversion of water. The state, however, said the exact opposite June 12 not just in printed news releases and Internet posts but also in interviews with electronic media.

It also stated that "before the State Water Board can impose civil liability under Water Code section 1052, or issue a cease and desist order under Water Code section 1831, against Banta-Carbona, it must file in superior court or hold an evidentiary administrative hearing, providing due process."

In other words, the Attorney General's office admits the state bureaucracy can't simply seize water rights because they feel like doing so.

It is also the argument SSJID and Oakdale Irrigation District leaders used in their initial response to the curtailment order.

The Attorney General's position has significant implications for SSJID as well as farmers in the South County and residents of Manteca, Lathrop, and Tracy plus the rest of California. As it stands now, the state is conceding they can't legally imperil water supplies held by those with pre-1914 water rights unless somehow they can prove someone is being injured under law.

The SSJID is one of five irrigation districts along with San Francisco that are due in Stanislaus County Superior Court today after filing a lawsuit challenging the state's authority to curtail their century-old water rights.

That order had prompted Bryon Bethany Irrigation District to serve notice to the Mountain House Community Services District that they would stop sending water to the community of 10,000 people northwest of Tracy to comply with the state edict as of midnight on June 22. The district is Mountain House's sole source of water.

A deal reached June 22 kept the water flowing after the Mountain House Community Services District agreed to cover all legal costs and fines Byron Bethany would incur fighting the state over diversion rights.

Meanwhile on Tuesday the SSJID board wrestled long and hard over a request from Mountain House to come to their rescue. After weighing the risk of penalties and litigation the board deiced to go ahead and commit to transferring 1,800 acre feet of water through Dec. 31 at the rate of five cubic feet per second.

That vote came even though at the time the SSJID board was operating under the state's threat that they would be fined and prosecuted for transferring water,

"It's unbelievable," Shields said of the state water board essentially telling all of California they were either usurping water rights without first running it by the Attorney General's office for an opinion or else knowingly knew they had no power to do so all along.

"This is not the way to handle an emergency," Shields said of the severe drought that is now well into its fourth year.

Shields pointed only 22 percent of those with post-1914 water rights have complied with state orders.

Shields said the state might be better served trying to enforce curtailment orders first with those agencies and individuals that have a lower legal standing.

# # #

SSJID sues state over water rights
Manteca Bulletin | June 20, 2015 | Dennis Wyatt

South San Joaquin Irrigation District is one of five irrigation districts along with San Francisco that have filed a lawsuit challenging the state's authority to curtail their century-old water rights.

The lawsuit filing in Stanislaus County Superior Court came Friday as Bryon Bethany Irrigation District officials served notice to the Mountain House Community Services District that they would stop sending water to the community of 10,000 people northwest of Tracy to comply with the state curtailment order.

SSJID, which had been working with Mountain House to see if the district could cover a projected shortfall of water later this year, informed the communities service district last week that the curtailment order was issued meant they would not be able to help the community keep water flowing through their taps.

Bryon Bethany Rick Gilmore noted the curtailment order expressly states that there is "no exception for public health and safety." Not having water would imperil both in Mountain House.

Attorneys for the San Joaquin Tributaries Authority – a group made up of the South San Joaquin, Oakdale, Modesto, Turlock and Merced irrigation districts, and San Francisco – are suing the State Water Resources Control Board.

The water board on June 12 issued drought-related curtailment notices to SSJID and more than 100 other "senior" rights holders whose claims on water pre-date the beginning of California's permitting process in 1914.

While the order won't impact the reduced water deliveries SSJID has committed to farmers as well as the cities of Manteca, Lathrop, and Tracy this year, it would have major consequences next year save for even older rights the district has for inflow to Donnells Reservoir that date back to 1853. The state could also suspend those rights eventually.

"The State Water Resources Control Board has a difficult challenge to manage a critically deficient water supply, but that challenge does not trump constitutional protections of due process and property rights," said Jeff Shields, SSJID's general manager.

The SSJID's issues with the state order impacting water rights secured between 1903 and 1914 include:

• SSJID property owners bought the water rights before 1914 when the state had no jurisdiction. The order essentially establishes jurisdiction 111 years after the fact.

• The state is essentially seizing water rights without due process.

• No one has filed a complaint that SSJID is violating their superior water rights. Actually, no such water rights exist on the Stanislaus River older than those held by SSJID and the OID.

“This is our water,” said OID General Manager Steve Knell. “We believe firmly in that fact and we are willing to take on the state bureaucracy to protect that right.”

Peter Rietkerk of the Patterson Irrigation District said the walnut and almond orchards of growers could wither and die, costing them $500 million.

George Kostyrko, a spokesman for the state Water Resources Control Board, declined to comment, saying the agency will respond in court.

California is enduring its driest four-year period in recorded history. The water board action marked the first time since a 1977 drought that California has directed a significant number of senior water rights holders to stop pumping.

# # #

California drought: In historic step, senior water rights curtailed
San Jose Mercury News | June 12, 2015 |Lisa M. Krieger

SACRAMENTO -- In a historic step, California is cutting water allotments to some of the state's most senior rights holders, who have depended upon essentially unlimited water from the state's rivers and streams for more than a century.

The State Water Resources Control Board announced Friday that it will curtail a total of 276 rights, once thought inviolable, held by more than 100 individuals and water agencies with long-standing access to the Sacramento and San Joaquin river basins and the Delta. Together, they use 1.2 million acre-feet of water a year -- about twice what the city of Los Angeles uses.

It was the latest dramatic action taken by state officials in the fourth year of a punishing drought -- and the reaction from agricultural interests was quick and angry.

The Oakdale Irrigation District, which serves farmers east of Manteca, said that the state order "is unjustified and likely illegal."

Steve Knell, the district's top official, said it was prepared to go to court to halt the state's action. Because their water rights are older than the state's water board, he said, it does not have legal authority to curtail these rights.

Calling the action "hyper-regulatory management at its worst," he asserted that water agencies in the San Joaquin River basin -- which runs from Stockton to Fresno -- have a long history of solving water shortages among themselves.

The Hetch Hetchy Regional Water System, which claimed rights on the Tuolumne River in 1901 and supplies water to the San Francisco Bay Area, is not on the list -- at least not yet.

"As we continue this process," adding new curtailments in future weeks, "we anticipate they will," cautioned Tom Howard, the state water board's executive director.

Friday's announcement targets those whose rights have been held since 1903. Senior water right holders in the affected watersheds who staked their claims earlier than that year can continue to divert water.

But as the long hot summer drags on, more curtailments are likely to affect those who hold even older rights, said Caren Trgovcich, the board's deputy director.

"We are continuing to evaluate the hydrology in watersheds. There could be additional action" as early as next Friday, she said.

"We have been waiting for the recent weather system to pass in hopes of adding water," she added. "It did stretch the timing a couple of days, but now we are at the point that demand exceeds supply."

The San Francisco Public Utilities Commission, which runs the Hetch Hetchy system, said too few details have been released to know how customers would be affected if the state curtails its allotments this summer.

Also on the list is the East Contra Costa Irrigation District, which pulls water from the San Joaquin River to irrigate the fertile Diablo Valley and provide raw water for treatment and delivery to the cities of Antioch, Brentwood, Oakley and Knightsen.

But a 1981 state contract signed by the district -- guaranteeing quantity and quality of water in exchange for payment -- protects it, attorney James M. Day Jr. said. This means its senior rights can't be infringed upon. "We're solid," he said.

But it might influence the irrigation's district ability to sell 4,000 acre-feet of emergency water to the Contra Costa Water District this summer, he added.

Senior water rights haven't been curtailed since the severe drought in 1977, but the state had less legal authority then, so the edict was never implemented after rights holders fought it in court. Those curtailments also targeted a smaller geographic area, focusing only the Sacramento River basin.

A senior waters right is called a "pre-1914" right because that's the year California established an official permit process for its chaotic and litigious water rights landscape.

Last month, the state for the first time ordered property owners to provide proof of these rights, triggering anger and a flood of historic and hastily retrieved documents from hundreds of farms, cities and irrigation districts.

Violators who don't abide by Friday's order will be subject to fines of $1,000 per day and $2,500 per acre-foot of water illegally diverted.

The drought already has forced cities and water districts to cut water use from 8 percent to 36 percent beginning in June -- or face fines of $10,000 a day. And Gov. Jerry Brown last week reiterated that the threatened fines were not "bluster."

About 9,100 holders of junior rights -- those established after 1914 -- already have been curtailed for the second consecutive year.

The massive Turlock and Modesto irrigation districts, which hold senior rights, will not be curtailed because their water is already stored in Don Pedro Reservoir, state water officials said. These irrigation districts say they have already captured and saved all the water that exists -- and they are no longer diverting snowmelt.

"Senior" water that is already stored in reservoirs is not affected by Friday's news, the board said.

The hardships will vary across the diverse California landscape, the water board's Howard said.

"Each water rights holder has a different situation, with different options available," he said. "When they run out of options, they'll have to abandon whatever crops are cultivated at the time.

"Some will see what other options exist and take advantage of stored water, groundwater, exchange with neighbors, those kinds of things. There is no question that some land will end up being fallowed as a result of this."

# # #

Some Urban Water Suppliers Far From Conservation Goal
Capital Public Radio | July 7, 2015 | Rich Pedroncelli

A close review of water conservation numbers shows some urban water suppliers in California still have a long way to go to meet mandatory conservation targets.

In May, Californians made the biggest conservation gains since voluntary cutbacks began last year, increasing their conservation rate to nearly 30 percent.

But a review of the last year shows more than half of urban water suppliers would have to conserve an additional 10 percent or more to achieve their mandatory conservation requirements. Agencies that supply water-intensive industries are struggling.

Max Gomberg with the State Water Resources Control Board says some agencies have asked for alternative ways to comply.

"So we've got one that has to do with prisons, one that has to do with a large petroleum refinery, one that has to do with food processing and another that has to do with a power plant," says Gomberg.

Gomberg says the board will work with those agencies to help them reach their conservation targets. At its next meeting, the board plans to discuss pricing mechanisms including higher water rates to help increase conservation.

# # #

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County's Rain Barrel Rebate Program Granted Extra Year

The popularity of the program prompted officials to extend the program for one more year.

Bay City News Service | July 2, 2015 | Alexander Nguyen

A rare bout of rain struck the Bay Area Wednesday night, despite temperatures verging on triple digits in some places.

While meteorologists do not expect the rain to continue this weekend, San Mateo County officials encourage residents to be prepared to make the most of any rainfall during the drought. As a result, they are extending the county's popular rain barrel rebate program through June 30, 2016, a full year longer than originally planned.

The program, according to San Mateo County officials, provides up to $100 for installed rain barrels, which can cost below $100 up to $250 depending on size and design.

Rain barrels are used to collect rainfall from buildings to be used in landscaping after the storm. According to county officials, a 1,000-square-foot roof can produce 625 gallons of water for every inch of rain that falls.

"Not only to rain barrels help limit the use of drinking water to keep our plants alive, they also reduce storm water runoff that washes pollutants like motor oil and litter into our storm drains, which flow directly to our creeks, bay, and ocean," Water Pollution Prevention Program coordinator Matt Fabry said in a statement.

So far, more than 500 rain barrel rebates have been issued in San Mateo County this year, according to officials. The program's popularity due to the drought and public interest encouraged San Mateo County government and the Bay Area Water Supply and Conservation Agency to fund the program for at least a year more.

More information about the program or how to install a rain barrel can be found at flowstobay.org/rainbarrel.

# # #

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UCD's new process: 'A perfect use of recycled water'
The Davis Enterprise | July 1, 2015 | Tanya Perez

David Phillips, director of utilities at UC Davis, points out the newly laid pipeline that carries recycled water from the wastewater treatment plant to the cooling towers at the Thermal Energy Storage Facility. Once cooled, the water will be transported via pipeline throughout the campus, delivering chill to air handling systems. Use of the recycled water, which does not mix with potable water, saves the university 16 million gallons of potable water per year. Sue Cockrell/Enterprise photo

Continued drought conditions in California have prompted many clever minds to think about how best to use one of our most precious resources: water. Thanks to some ingenuity and $20,000, UC Davis has just begun using clean wastewater to cool its buildings.

UCD, with its own campus wastewater plant, has a steady supply of recycled water that can be used in a variety of ways. David Phillips, director of utilities, said this recycled water is used for things like landscape irrigation, agriculture and dust control during construction projects. And now, for cooling buildings.

"It's the perfect use of recycled water," he said Tuesday at a news conference to unveil the new project.

And possibly most impressive is the fact that his team, in collaboration with a couple of other UCD departments, was able to complete the modifications to the cooling system in about two weeks.

"Amazing things happen when you have a clear goal," Phillips said.

He explained that the need to save water was the obvious motivation for this project. Although the idea for using recycled water through the cooling system had been around for a while, the implementation was fast and effective.

Phillips said his team had the advantage of already having "an existing pipeline with highly treated water" right near the current cooling system. This system, which resembles a large bank of swamp coolers, was using potable water for cooling before the recycled wastewater pipes were attached. University officials estimate they will be able to save 61 million gallons of potable water annually with the new system.

Phillips, a civil engineer who graduated from UCD, described the utilities division as "basically a public works department." Because the university is a "living laboratory," he said, it is more

incumbent on UCD to think beyond its own uses. He is hopeful that projects like this will prompt "an expanded use of recycled water in the state."

Dave Lawlor, vice chancellor and chief financial officer in charge of campus finance, operations and administration, said UCD thrives on finding new ways to solve problems.

"This is definitely a clever way to save big on water," he said in a news release. "Credit goes to David and his staff for putting this plan into action, and for doing it so quickly."

How it works

Chilled water circulates all over the UCD campus via a closed pipeline system. By the time the chilled water completes the loop, the water has warmed and needs to be rechilled. This happens in two ways: via electrically powered chillers and by heat exchange with a cooler water supply.

The second supply recirculates through cooling towers — the giant swamp coolers. These towers require a lot of makeup water to account for evaporation and the water that is drained regularly to guard against mineral deposits in the towers. Until mid-June, the university used well water to fill four of the campus' six towers.

Now, UCD is using treated water from the campus' sewage treatment plant. Instead of releasing the treated water into nearby Putah Creek, as the state allows, the campus is putting the water in the cooling towers.

Phillips said because of the water that needs to be discharged from the system — mainly to get rid of a build-up of salt — there will not be a real change in the amount of water that is released into the Arboretum waterway.

With this project and other conservation measures, UCD has cut potable and nonpotable water use by 13 percent over 2013 levels, and expects to achieve a 20 percent reduction by the end of 2015.

"I think it is a great example of UC Davis' taking a leadership position on water management in response to the drought," Phillips said in a news release. "If this works as well as we anticipate, we plan to keep this system in place long after the drought ends."

— UC Davis News contributed to this story.

# # #

CA's 'Save Our Water' program launches new public education campaign
WaterWorld | June 30, 2015

Campaign elements include billboards, outdoor media, traditional and digital radio, digital and social media, theatre ads, and on-the-street efforts that will be seen and heard throughout areas of the state facing the highest water use reduction targets set by the State Water Resources Control Board.

"For the first time ever, we have an overall mandatory statewide goal to reduce water use by 25 percent, with some communities facing targets up to 36 percent," said Mark Cowin, director of the California Department of Water Resources. "The Save Our Water campaign is designed to help Californians find new ways to conserve this summer, especially outdoors."

SOW's website is available in both English and Spanish and is filled with tips, tools and inspiration to help every Californian find new and creative ways to conserve. From tips on how to keep trees healthy during the drought to an interactive section allowing users to visually explore how they can save water both inside and outside the home, SOW has a wealth of available resources. This week, the campaign will be featuring tips to help Californians prepare for the summer fire season.

# # #

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Big difference in water use between wealthy communities, everyone else
Santa Cruz Sentinel | June 20, 2015 | Paul Rogers and Denis Cuff

Only 24 miles separate the East Bay communities of San Lorenzo and Diablo. But when it comes to California's relentless drought, they are a world apart.

Both communities receive their water from the same source — the East Bay Municipal Utility District — and both are bound by the same conservation rules and rates. But the residents of San Lorenzo, a working-class Alameda County suburb along Interstate 880, use a mere 51 gallons of water per person a day. In Diablo, an affluent community just over the hills in Contra Costa County known for its country club and tree-lined private streets, residents use nearly seven times more water — 345 gallons per person per day.

The massive difference highlights an issue that has become more clear across California as the drought has worsened: Wealthy areas are using dramatically more water than lower-income areas.

Whether it's East Palo Alto and Hillsborough, Beverly Hills and Compton, or Richmond and Orinda, a huge disparity in residential water use is posing a challenge for water agencies as they try to curb consumption and write rules that treat all customers fairly. The divide is the focus of the latest installment in Mercury's series "A State of Drought."

"If I moved to Diablo tomorrow on a similar or even a slightly larger lot, I cannot conceive how I could use 350 gallons of water today with what I have learned about saving water," said San Lorenzo resident Steve Kirk, who has cranked down water use at his three-bedroom house to 26 gallons a day.

The pattern shows up throughout the state. A study released last year of residential water use in Southern California found wealthier Los Angeles neighborhoods consumed three times more water than less affluent ones. Although local climate and landscape type also played a role, a homeowner's income was a primary factor in how much water he or she used, the study found.

"Wealthy communities are using more water because they can. They have bigger houses and bigger lots. They can pay for it," said Stephanie Pincetl, a UCLA professor who worked on the study. "It's a historic pattern. People change habits reluctantly."

While the disparity between communities has become clear in monthly water consumption reports that the State Water Resources Control Board now requires from more than 400 water providers across California, EBMUD reports its water use as one overall number for 1.3 million people in Alameda and Contra Costa counties.

But this newspaper requested a breakdown of residential use by community, revealing for the first time the chasm here from one area to the other.

Wealthy use more

Overall, the analysis showed that in 2014, all 27 communities in the district averaged 73 gallons per person per day. But the more affluent neighborhoods in warmer suburbs are using far more.

Diablo, with 345 gallons per person per day, was the heaviest user, followed by Alamo with 250, Lafayette with 181 and Danville-Blackhawk with 163. Among the lowest residential users were San Lorenzo, with 51 gallons, Berkeley with 52, San Pablo with 54 and Oakland with 57.

To be sure, weather plays an important role. The further inland an area is from San Francisco Bay and its fog, the warmer the temperatures. That explains some of the disparities, but not all of them.

"The same square footage of turf will need about 30 percent more water east of the hills than west of the hills," said Abby Figueroa, a spokeswoman for EBMUD. "But we're seeing per-capita use five or seven times higher in some places. We'd like to see those numbers come down."

Even near the bay, wealthy communities use more. Upscale Piedmont used 110 gallons per person in 2014, nearly double what working-class Richmond used, just 12 miles away.

Residents of Diablo, a community of 1,200 people where homes are for sale for $4 million, say there's a good reason for their water use.

"If you have less people per acre, your water use is going to be higher," said Dave Mackesey, a Diablo resident and local historian. "Part of the appeal of the area is the large lots and the mature landscaping. That's why people live here."

Ray Brant, a retired fire captain who lives in Diablo, said his neighbors have cut back during the drought.

"The folks I've talked to, are all very concerned," he said. "Lawns are drying up. One of my neighbors just took out his lawn."

But there's a lot at stake, he noted.

"Nobody, no matter where you are, wants to lose all your landscaping," he said. "It's expensive to replace it."

Rail barons

Diablo grew in the shadow of Mount Diablo when 19th century railroad barons Leland Stanford, Charles Crocker, Collis P. Huntington and other businessmen opened a ranch there in the 1870s. With a golf course in 1914, it became a place for summer country homes for Oakland and San Francisco residents to escape the fog

To the west, in San Lorenzo, the scenery is quite different. Small one-story homes built in the 1940s and '50s for shipyard workers line neat cul-de-sacs. Homes are for sale around $400,000.

“The yards are small in the first place, and I have stopped watering the lawn,” said Kirk, the San Lorenzo resident who has worked hard to conserve. “All my backyard plants are in pots and I water them with water from buckets I put in the shower.”

Kirk said he’s not surprised Diablo residents use so much because of their large lots, but he believes they can irrigate less and shrink lawn sizes. Experts say there are options to persuade — or force — affluent communities to use less water.

Starting July 1, EBMUD will begin charging an “excessive use penalty” on homes using more than 984 gallons a day, or four times the district average. Although that affects fewer than 1 percent of customers, they are clustered in Diablo, Lafayette, Alamo and other wealthy areas, Figueroa said. The penalty is $2 per unit of water, which critics say is too lenient.

“People who are using that much water are oblivious to their use in the first place,” said Sonia Diermayer of the Sierra Club. “The penalty is a mild slap on the wrist.”

Court makes ruling

Charging sky-high water rates for excessive use is now legally in question, however, after a recent Southern California court ruling that said government can only charge for water what it costs to provide it, under Proposition 218, a ballot measure voters approved in 1996.

Water districts also have the option of putting a flow restrictor on the meter of any home that is violating water-wasting rules, although few ever resort to that. Then there are fines. Last month, Beverly Hills imposed a $1,000 fine for washing cars, filling pools or watering lawns more than two days a week.

One East Bay lawmaker, state Sen. Bob Wieckowski, D-Fremont, has introduced a bill to allow water agencies to levy a 300 percent tax on the purchase price of water for excessive use.

“Water is a common good,” he said. “I love individualism, but when it comes to combating this emergency, we all have to do our fair share.”

Diermayer said water districts need to overhaul bills and clearly inform customers how much water they use, and then offer household “water budgets” suggesting reasonable amounts of inside and outdoor water use.

“Many people have no idea much they use in the first place,” she said. “It’s awkward to give clear information about reasonable use when you’re telling everyone to use 20 percent less, and some are saving enormous amounts and others are not.”

Peter Gleick, president of the Pacific Institute, an Oakland think tank that studies water efficiency, said the evidence is clear and more needs to be done “to get wealthier, big water wasters to cut their use.”

The best approach may be for water agencies to show rich people positive examples, he said.

“We can point the finger at the big water users who don’t care,” he said. “But it might also be nice to point out wealthy individuals who are doing the right thing, who can set an example for their peers. Sort of ‘if I did this, you can do it, and my garden is prettier than yours.’”

# # #

California unveils revised blueprint for Delta tunnels
Sacramento Bee | July 9, 2015 | Dale Kasler and Ryan Sabalow

Highlights
- *Massive environmental review spells out project changes*
- *Environmentalists still not swayed*
- *Funding for project remains unclear*

Gov. Jerry Brown's administration took a significant step toward building a pair of water tunnels through the Delta on Thursday, unveiling the fine print on a redesign that state officials say would reduce impacts on the landscape, improve conditions for endangered fish and enhance water supplies for millions of Southern Californians.

The state Department of Water Resources released hundreds of pages of documents, known as an environmental impact statement, spelling out details of changes that have been previewed by the governor in recent months.

The environmental documents released by DWR didn't appear to change anyone's mind. Opponents continued to dismiss the effort as a Southern California "water grab" that would worsen, not improve, the Delta's damaged ecosystem. Proponents said the project is desperately needed to fix California's man-made water-delivery network.

Either way, release of the documents marks a milestone in the $15 billion project, which has been in the works since 2006. The statement, the product of a lengthy study required by law, provides the most detailed blueprint yet.

"It's a big deal," said Jeffrey Kightlinger, general manager of the Metropolitan Water District of Southern California, one of the agencies pushing for the tunnels.

But completion of the documents hardly guarantees the controversial tunnels will get built. Federal and state environmental agencies still must sign off, and opponents could file lawsuits to block construction. While the plan doesn't need the Legislature's approval, political opposition from Northern California could interfere. Some of the cities and farm districts paying for the system have hesitations about steep costs.

The tunnels would have a dual mission: to help stabilize the environmentally fragile Sacramento-San Joaquin Delta, and improve delivery to customers of the State Water Project and the federal government's Central Valley Project.

"There is an urgent need to improve the conditions for threatened and endangered fish species within the Delta," the environmental statement said. "Improvements to the conveyance system are needed to respond to increased demands upon and risks to water supply reliability, water quality, and the aquatic ecosystem."

Known formally as the Bay Delta Conservation Plan, the project calls for construction of two 30-mile-long tunnels that would draw water from the Sacramento River and deliver it to the pumps and government-operated canals near Tracy. From there, the water would be pumped, as it has for decades, to 25 million Southern Californians and 3 million acres of farmland.

Brown has made the project a centerpiece of his final term, going so far as to tell critics to "shut up" until they study it further.

Officials say decades of pumping water south through the complex tidal ecosystem has harmed the Delta's wildlife and habitat, driving some fish species to the brink of extinction. Delta levees have become vulnerable to a major earthquake, which could flood the Delta with ocean saltwater and force a halt to the pumping of fresh water south.

Currently, water deliveries to areas south of the Delta vary dramatically at certain times of the year to protect fish, and the problem has worsened as the four-year drought has constricted supplies.

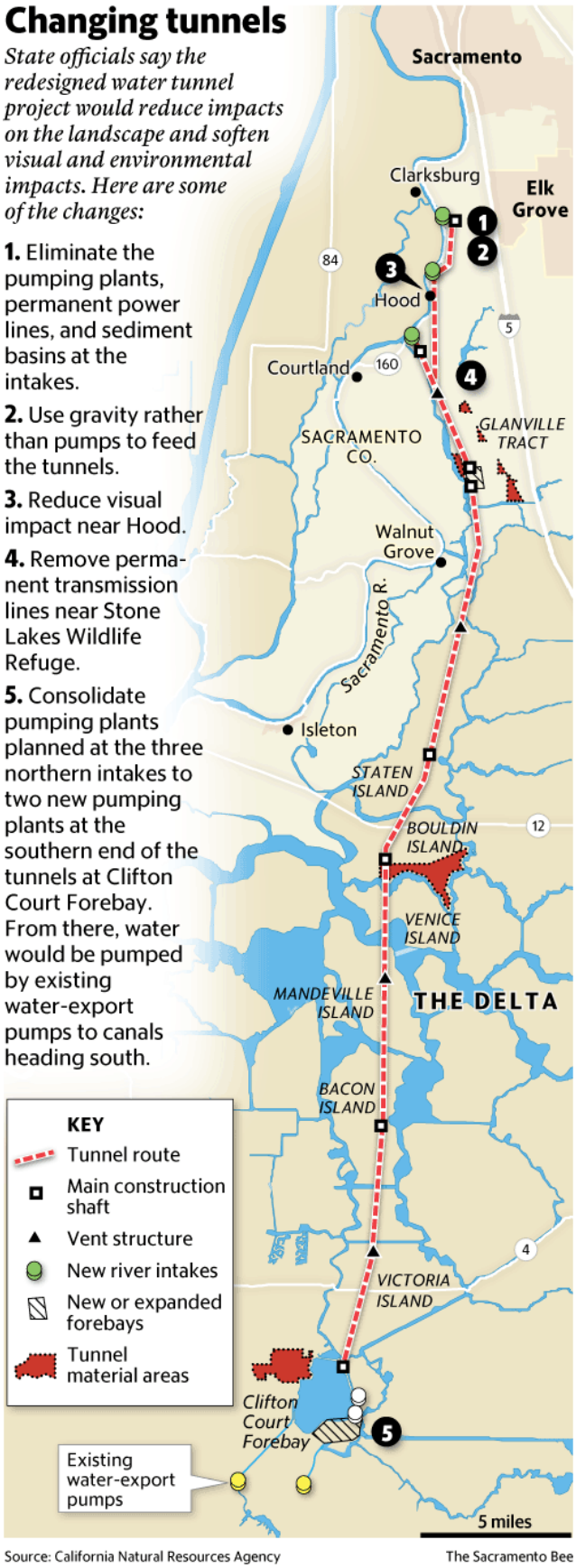
"We've got to find a way to address the water supply uncertainty in the Delta," said Jason Peltier, chief deputy general manager at Westlands Water District, the sprawling agricultural agency near Fresno that would be one of the chief beneficiaries of the tunnels. Westlands' water supplies have been curtailed by problems in the Delta, and the drought has triggered the fallowing of thousands of acres.

While the plan is supposed to improve deliveries, the environmental statement said there are no guarantees that south-of-Delta agencies would get specific amounts of water.

The documents shed more light on a change disclosed last December: Officials propose eliminating the pumping plants originally planned for the tunnel intake facilities on the east bank of the Sacramento River between Clarksburg and Courtland. Instead, the water would travel via a gravity-fed system into the tunnels and be routed into two new pumping plants built on state land near Clifton Court Forebay, near Tracy. From there, the water would be sent to the existing pumps that deliver water via canals to the San Joaquin Valley and Southern California.

The revision would eliminate the need for large buildings and "help preserve the views" from Highway 160 between Hood and Walnut Grove, a state-designated scenic highway through the Delta, the report said. DWR said it has "sought to minimize potential disruption and dislocation of Delta residents."

Nancy Vogel, a spokeswoman for the California Natural Resources Agency, the parent of DWR, said the latest revisions reflect an effort to shrink the environmental footprint of the project, including its construction, by minimizing energy use, emissions, noise and air pollution.



As previously announced, the Brown administration now is proposing to restore some 30,000 acres of habitat in the Delta, about one-third of the original proposal. That restoration would constitute a distinct project, separate from the tunnels. Brown has called the new plan more realistic; environmentalists say it places habitat as a lower priority.

"There's really no benefit … to the environment. It's really an infrastructure project to reroute the Sacramento River," said Osha Meserve, a lawyer for environmentalists.

By pushing huge volumes of fresh water through the tunnels, the project would degrade the quality of water still coursing through the Delta, said George Hartmann, a lawyer for many Delta farmers. That also would affect the quality of drinking water in the East Bay and northern San Joaquin Valley, environmentalists say.

"They're going to leave millions of people up here with dirty, contaminated and salty water," said Barbara Barrigan-Parrilla of the advocacy group Restore the Delta.

A coalition of elected officials from counties in and around the Delta also voiced concern. The project "really doesn't fix anything," Sacramento County Supervisor Don Nottoli said in a prepared statement.

The revised plan drops earlier efforts to obtain a 50-year permit for the project, after federal agencies indicated they wouldn't support such a plan. The new proposal calls for a permit "of far less than 50 years," without specifying a time period. Vogel said an unspecified permit would give regulators greater flexibility in operating the tunnels in case environmental conditions worsen.

Such assurances did little to sway enviromentalists, who argue the tunnels would be run full bore no matter what.

Abandoning the 50-year permit also could cause anxiety for the water agencies that are expecting more reliability in their water deliveries in exchange for paying to build the system.

Jim Beck, general manager of the Kern County Water Agency, said now “there’s less assurance” that enough water would flow through the system to justify the expense.

“Does this project have sufficient yield to make it work? Is it affordable?” he said. He said Kern contractors, including some of the biggest farms in the state, need to study the project more.

Other agencies indicated their continued support. Kightlinger said Metropolitan believes a 50-year plan “was a better deal for California.” But he doesn’t think the shortened permit is a deal-breaker.

# # #

California city's desalination push sparks debate over costs, coastal impact
Washington Post | July 8, 2015 | Darryl Fears

Reverse osmosis filters are shown as construction continues on the Western Hemisphere's largest seawater desalination plant in Carlsbad, Calif., near San Diego. Santa Barbara is thinking about taking its old desalination plant, built during the last major drought, out of mothballs to combat water shortages amid another prolonged drought. (© Mike Blake / Reuters/REUTERS)

SANTA BARBARA, Calif. — The slumbering desalination plant that rests off the Ventura Freeway in a seedy area called the Funk Zone might one day be the answer to this coastal city's desperate need for water.

But for now, it's the butt of a small joke.

When a group of visitors arrived to inspect the plant's abandoned control room recently, they found an eerie scene: yellowed desktop computers with cathode-ray-tube screens and a dusty dot matrix printer that hadn't been used in nearly two decades. The air was stale and their voices echoed off the bare walls.

"They said it reminded them of the Dharma Initiative" from "Lost," said Joshua Haggmark, the city's water resources manager. On the TV show, survivors of an airplane crash discover the outdated gadgets of a fictitious research group in an old bunker.

The Charles E. Meyer Desalination Plant has sat in limbo since 1992, when it was cranked up for testing and quickly shuttered when the rain suddenly returned. With California sizzling again, city officials want to bring the plant back to life to turn millions of gallons of ocean water a day into fresh, drinkable water.

But the cost — to the taxpayers and the environment — is raising concerns throughout this coastal community. The plant, which cost $34 million to build, will cost $50 million to restart and another $5 million a year to run. Opponents warn that the process, which involves pulling ocean water through a pipe, could kill untold numbers of fish eggs and tiny organisms.

Each side of the debate accuses the other of being foolhardy. Critics, mostly conservation-minded environmentalists, say city officials were too quick to embrace a solution that can disturb the ocean's ecology while releasing copious amounts of greenhouse gases resulting from the plant's heavy reliance on electricity. Less intrusive steps to maximize the water supply, such as capturing rainwater, should be tried first, they say. Besides, they add, the drought could end at any time.

"Desalination is the most environmentally harmful and expensive source of water there is," said Kira Redmond, executive director of Santa Barbara Channelkeeper, a nonprofit environmental group that focuses on water issues.

"I don't know why people don't think the same thing won't happen again," she said, referring to 1992, when the facility was closed before producing a drop of water.

Supporters, including city officials and some residents, say Santa Barbara needs more water now and insist that California can't possibly capture enough rainwater to cope with the most severe drought the state has ever faced. The city of 90,000 has already cut its water use by more than 35 percent, officials say.

"We just need to be prepared," says Helene Schneider, the city's mayor. With water levels reaching record lows at two reservoirs that provide the city's potable water, the city could experience a severe shortage as soon as next year, she said, adding, "It takes 12 to 15 months to recommission the plant."

Environmental risks

Desalination, which is used worldwide, from Israel to Australia, isn't new. There are at least 200 plants in the United States, including nearly 150 in Florida that produce more than 500 million gallons of fresh water each day.

In California, where cities are increasingly desperate as the drought drags into its fourth year, 21 plants are in operation and another 17 are proposed, according to the Pacific Institute, a research group based in Oakland. San Diego is putting the finishing touches on a $1 billion plant, which will be the largest in the Western Hemisphere.

In Santa Barbara, officials are hoping to restart the plant next year so it can provide the city with 30 percent of its water supply by 2017. A pipe would extend three quarters of a mile into the Pacific Ocean and draw in about seven million gallons a day.

The salt, algae, seaweed and debris in the water would be removed by a membrane with tiny filters. What's left over — a salty brine mixed with treated wastewater — would be dispatched back to the ocean through a second 8,700-foot-long pipe. Small holes in the last 600 feet of the pipe would allow the brine to flow back into the water.

Critics such as Channelkeeper and the California Coastal Protection Network say there hasn't been enough scrutiny of the impact of the plant on the coast about a mile from the Stearns Wharf

where the water will come and go. Pulling enormous volumes of salt water from the Pacific and spitting back saltier brine, they say, will likely kill millions of fish eggs at the start of the process and possibly damage the ecology at the end.

Moreover, opponents say, removing salt from ocean water requires a major power output; electricity accounts for as much as half of the cost of operating a plant. The resulting greenhouse gas emissions are so high that plants are required to aggressively seek ways to offset the carbon output.

Before resorting to desalination, said Redmond of Channelkeeper, city officials should be more aggressive about water conservation. "There are lots of things the city could be doing, like building a stormwater-capture system," she said.

City officials such as Haggmark counter that a fine strainer will guard against fish and their eggs being swept into the intake pipe. The city took great care in designing the plant to minimize the discharge, he said, adding that various methods to offset carbon emissions are already being sought.

Research on the impact of desalination is mixed. A 2010 study by the University of New South Wales in Australia found that "desalination plants may adversely impact the ecology of marine ecosystems." However, the study said, the harm can be reduced by mixing brine with water, which the city plans on doing.

Last month, Santa Barbara's city council voted to spend about $4 million on the plant's redesign, the first step in bringing it back online.

subhead

Montecito, an unincorporated municipality next to Santa Barbara, is watching its effort to restart desalination with envy.

In Montecito, where talk-show stars Oprah Winfrey and Ellen DeGeneres maintain huge estates, there's only enough water to last another two years, said Tom Mosby, director of the Montecito Water District. Unlike Santa Barbara, Montecito has no groundwater to rely on for part of its supply.

During the drought from 1987 to 1992, the water district entered into an agreement with Santa Barbara to provide it with water from the desalination plant. The contract money paid half the cost of building the plant, Mosby said. But when rain returned in the so-called March Miracle of '92, the district walked away, washing its hands of the effort.

Although Santa Barbara shut down the plant, it pursued the state operating permits just in case of another drought. Montecito did nothing.

Now, as its water supply dwindles, Montecito is alone. Officials there asked the state if they could partner with Santa Barbara again, but the request was denied because it lacked permits.

Montecito's water district has only a few options left: Take steps to build its own desalination plant for about $100 million; hope the state takes pity and provides the city with a special waiver to join Santa Barbara to avoid a catastrophe; or pray for rain.

“They did the right thing,” Mosby said of Santa Barbara.

Getting creative

Santa Barbara resident Nancy Black isn’t so sure. “I remember when they opened this plant years ago,” she said. “Many people felt they were swindled in that deal.”

Black thinks the city and state should aggressively pursue capturing and using rainwater as she has done at her three-bedroom, two-bath mid-century modern house on a third of an acre.

Although Santa Barbara allows the little rain it gets to run into the Pacific Ocean, Black, who writes a syndicated astrology column for newspapers, spent about $3,000 to capture any water that falls on her property with gutters and direct it to avocado, apple, orange and lemon trees.

[With water running dry, Californians brace for a new way of life]

“It’s not very expensive to do,” she said. A basin filled with mulch soaks rainwater and holds it like a sponge. “It’s a little oasis. I have a fabulous garden.” Black paid another $1,000 to collect her shower water to irrigate plants and for household chores.

“We’ve cut our water use dramatically,” to 50 gallons per day for her family of four from about 250, she said. That compares to 350 gallons per day for the same-size household in Los Angeles.

That success hasn’t convinced most of her neighbors, who are reluctantly pinning their hopes on desalination, she said. “In the community I live in, it’s really cool to have a green lawn, and it’s like [forget] everyone.”

Unlike some other cities, Santa Barbara hasn’t restricted the watering of grass to two days a week. “We tried that,” Haggmark said. “People way over-watered their yards on those days. It was a disaster.”

As a soft morning rain fell around the desalination plant she visited on a recent Tuesday, Schneider’s mouth curved into a wry half smile. “This,” said the city’s mayor, “is such a tease.”

It was a reminder of why desalination was shelved two decades ago. Could the same thing happen to the $50 million effort to restart the plant — if the drought suddenly ends?

“That’s a conversation we need to have, and have not had yet,” she said. “What is the role of desalination without drought?”

# # #

California's Matsui wants to bypass Congress on water recycling projects
McClatchy DC | July 8, 2015 | Curtis Tate

Highlights

- *California has received millions in federal funds for wastewater recycling facilities*
- *A bill by Rep. Doris Matsui could accelerate the construction of such projects*
- *Recycled water can be used for agriculture, easing pressure on groundwater*

WASHINGTON — New legislation in Congress could help accelerate the construction of wastewater recycling facilities in California in a bid to improve severe drought conditions in the state.

In May, California received $23 million from the Interior Department for seven water reclamation and reuse programs throughout the state. But a $180 million project in Sacramento, one of the state's largest, couldn't receive any of those funds without approval from Congress.

Under a bill sponsored by Rep. Doris Matsui, a Sacramento Democrat, the department's Bureau of Reclamation could approve eligible projects in states with a federal drought declaration without congressional approval.

"Waiting for Congress to vote to authorize each project simply does not work when we are facing the worst drought in generations," Matsui said in a statement.

She has been trying for several years to get Congress to authorize a Sacramento Regional County Sanitation District project that would produce 50,000 acre-feet of recycled water a year, which could be used to irrigate 16,000 acres of farmland.

An acre-foot is about 326,000 gallons, what two average households use in a year.

The Bureau of Reclamation provides as much of 25 percent of the cost of such projects through its water recycling and reuse program.

Recycled wastewater is a cost-effective and environmentally sound way to alleviate pressure on groundwater supplies, supporters say. It's already used in California to provide water for agriculture and habitat management. In the future, it may become a source of drinking water.

The Sacramento project could give farmers a reliable water source and conserve groundwater for human consumption, whether drought conditions exist or not.

“Recycled water is a drought-proof water supply,” said Prabhakar Somavarapu, district engineer for the Sacramento Area Sewer District.

Water recycling is one tool California is using to weather the drought. Though California doesn’t currently allow human consumption of recycled water, there are pilot projects. Orange County, for example, uses 70 million gallons a day of recycled water to replenish groundwater supplies. San Diego recently approved a similar facility.

Unlike those projects, however, facilities like the one in Sacramento would use recycled water for watering crops, golf courses, parks, lawns and even cemeteries.

Nitrogen, potassium, calcium, magnesium and boron may be present in the recycled water, according to the Inland Empire Utilities Agency, a recycled water supplier in southern California. Those nutrients can act as natural fertilizers for irrigated crops.

Last year, the State Water Resources Control Board approved $800 million in low-interest loans to build water recycling facilities within three years. Somavarapu anticipates moving forward with the Sacramento project next year after environmental reviews are complete and state permits are issued. The facility could be operational by 2021.

While the federal funding isn’t absolutely necessary to build it, Somavarapu said it helps make things go faster.

“There’s a role for the federal government in this,” he said. “This can’t be done entirely at the local level.”

# # #

Airbnb For Water: How an obscure startup could help solve California's water crisis.
Mother Jones | July 8, 2015 | Josh Harkinson

Could the sharing economy help solve California's water woes? Don't laugh. A new tech startup has come up with a way to let farmers lease their extra water, much in the same way Airbnb enables homeowners to rent out their spare bedrooms. It's being tested statewide this month in a joint venture with Western Growers, a trade group whose farmer-members produce half the nation's fruits and vegetables.

"It is scarily similar to the sharing economy we've seen in other areas," says Kevin France, CEO of Sustainable Water and Innovative Irrigation Management (SWIIM), the startup behind it all. "You are in essence quoting the availability of water and providing it to someone who needs it."

By allowing farmers to sell their water more easily, SWIIM may have found a way to fix one of the most vexing problems with the California water crisis: Even as urbanites and some farmers have been forced to severely cut back, many other farmers, typically those who hold the most senior water rights, flood their fields with little regard for efficiency. SWIIM estimates that farmers in California and Colorado on average waste 25 percent of their water, enough to supply all of the city-dwellers, and then some.

Some farmers already sell their water during droughts, but they usually face a choice between completely fallowing a field while leasing out the water it would have needed, or continuing to farm it and leasing out no water at all. Using proprietary software and a network of soil moisture sensors, SWIIM offers farmers an attractive third option: They can keep farming while implementing efficiency measures such as drip irrigation or deprivation growing, and then lease out the water they save for profit—or, as SWIIM's promotional video puts it, they can boost income "by farming their water, as opposed to just farming their land."

The new software makes it easier for farmers to sell water they save, giving them an incentive to conserve.

If you're surprised that this requires remote sensors and software applications, well, welcome to the screwy world of Western water law. Under the doctrine of "beneficial use," water-rights holders can permanently lose access to whatever portion of their water that they don't consistently consume. That's one reason farmers are notoriously resistant to conservation. Conserving water does count as a "beneficial use," but calculating the amount conserved from, say, switching from flood irrigation to a drip system is incredibly complicated. The portion of the water that has historically seeped off the farm into an aquifer or river actually belongs to someone else and can't be counted as "conserved." In other words, slashing a farm's water use by 20 percent doesn't necessarily mean you can lease out that amount to someone else.

That's where SWIIM comes in. Using data from irrigation districts, field instruments, weather reports, satellites, and low-altitude flights, its software calculates in real time how much of a farm's water is consumed and how much returns to underground flows—ensuring that farmers don't jeopardize their rights if they choose to sell their conserved water. The software also crunches data on water prices and a farm's soil and crop types to recommend the most profitable mix of crops and leasing in a given year. In dry years when demand for is high, it might suggest

freeing up water by installing drip irrigation, growing different crops, reducing the water allocation for certain crops, or fallowing the least productive fields.

Once a farmer plugs in how much water he wants to unload, that information becomes available to water managers, who can then offer the water to farmers, companies, or urban water districts. (SWIIM makes its money by taking a commission per unit sold.) The farmers earn $200 to $450 per acre-foot—the volume of water that would submerge one acre of land by one foot. "It provides an incentive for conservation," France says, and "that is probably one of the biggest things missing from this equation."

When "land comes out of production, it affects the sprinkler manufacturer, it affects the grocery store guy, it affects the local auto repair shop,"

France got the idea while working as a water broker in 2008, when he helped an investment group purchase permanent rights to a billion gallons of water from farmers in a small town in northeastern Colorado. The practice, known derisively in farming circles as "buy and dry," removed those fields from cultivation forever, devastating the local economy. More recently, large-scale farm-to-city water leases from California's Imperial Valley been equally contentious.

"When that land comes out of production, it affects the sprinkler manufacturer, it affects the grocery store guy, it affects the local auto repair shop," France says. "I saw it with my own eyes. I thought that there was a better way to do it. That's what led me to start SWIIM, to find a solution that wasn't black and white."

Developed in partnership with the US Department of Agriculture and Colorado State University, SWIIM started out in Colorado, where it's been deployed on about 10,000 acres. With the West Coast drought in full swing, the company is now putting some 80 percent of its resources into California. It will roll out pilot projects this summer in Kern County and in the Sacramento, Coachella, and Imperial valleys. As with Airbnb, the proof of concept will be in the paychecks: "The goal," France says, "is to get it deployed, use it, and allow these users to actually be paid."

# # #

California regulators discuss water pricing in drought
Associated Press | July 8, 2015 | Fenit Nirappil

SACRAMENTO, Calif. (AP) - California water regulators heard proposals for a statewide drought fee and hefty fines for water-guzzling homeowners as part of a Wednesday workshop discussing how to implement Gov. Jerry Brown's order for water pricing to maximize conservation.

Officials at the State Water Resources Control Board said they weren't looking at a total overhaul of water bills across the parched state dealing with its four-year dry spell.

"The state is not rushing out here to supplant local authority and local control," said Max Gomberg, a senior scientist at the board.

Joe Grindstaff, general manager of the Chino-based Inland Empire Utilities Agency, suggested the California could set a state standard for reasonable residential water use and impose fines on local agencies whose customers use too much.

"The truth is you can have a really nice lawn and really nice life living within those standards," Grindstaff told the board.

Members of the state water board appeared cool to the idea, with one quipping Grindstaff would need police protection because so many people would hate the idea.

The board didn't take any actions Wednesday and didn't indicate any future plans for increasing the price of water.

A law accompanying the California budget allows agencies to slap the worst water wasters with fines up to $10,000. Another bill, SB789, that would have allowed water departments to impose a 300 percent tax on the heaviest water users' bills has stalled because it lacked support.

Conservation experts agree the price of water is among the best ways to encourage savings, but the legality of such tactics have come under scrutiny after a court struck down punitive rates in the Orange County city of San Juan Capistrano.

The 4th District Court of Appeal said charging heavy users incrementally more per gallon without showing it cost more to provide violated a 1996 voter-approved law that prohibits government agencies from overcharging for services.

Lester Snow, who leads the California Water Foundation, says that law, Proposition 218, should be reformed because it's deterring water-saving efforts.

"We are pushing people to conserve, and we have systematically withheld some of the tools they need," he said.

Two-thirds of water districts use some form of tiered water pricing to encourage conservation. Many say their rates are legal because higher water use requires them to tap more expensive supplies.

While the governor's order calls for the board to help develop water rates and penalties to maximize conservation, the workshop discussion also veered into a statewide water fee that would help pay for infrastructure projects during the drought.

# # #

Governor's revised tunnel scheme to get two public hearings
Central Valley Business Times | July 7, 2015

The plan being pushed by the governor to build two mammoth water tunnels to drain water from the Sacramento River before it flows into the Delta will get two public hearings.

Both are set for late this month. One will be from 3:00-7:00 p.m. on July 28 at the Sacramento downtown Sheraton Hotel and the other from 3:00-7:00 p.m. on July 29 at Jean Harvie Community Center in Walnut Grove.

They are the only hearings set for the so-called "recirculated" Bay-Delta Conservation Plan Environmental Impact Report/Environmental Impact Statement on the Preferred Alternative 4A.

The governor's new plan is to build the tunnels and try to fix the Delta's environment in some other plan instead of trying to combine the two efforts.

If built, the tunnels, each 40 feet in diameter, would snake 30-35 miles beneath the Delta to dump the fresh water into the State Water Project and federal Central Valley Project systems without being mixed with the Delta's more turgid waters.

No additional water would be created. Instead, those buying water from the two projects would have lower treatment costs.

But the cost of the tunnels, including interest on the money borrowed to build them, has been estimated as high as $68 billion. Water costs would be increased to pay that bill.

Environmental groups have decried the tunnels, saying keeping fresh water out of the Delta spells doom to endangered species.

There will be a 52-day public comment period on the new scheme. It starts this Friday, July 19, with deadline to submit on Aug. 31. The new documents are expected to be posted on the BDCP website this Friday.

# # #

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House panel will approve California water bill, but then what?
McClatchyDC | July 7, 2015 | Michael Doyle

Highlights

- *California Republicans unite behind 170-page water bill*
- *Package resurrects ideas favored by San Joaquin Valley farmers*
- *The big question mark for water bill resides with the Senate*

An ambitious California water bill will pass a key House committee this week and soon will sail through the Republican-controlled House of Representatives on a near party-line vote.

Then it will crash into the Senate, where negotiators may or may not be able to craft a package acceptable to enough Democrats that it can become law.

It's a familiar Capitol Hill script, where the ultimate plot twist for California water legislation would be bipartisan compromise that leads to relevant, real-world success.

"I know we're never going to get 100 percent buy-in on this, but it's a good place to start the conversation," the House bill's lead author, Rep. David Valadao, R-Calif., said in an interview.

Co-sponsored by 25 House members, with Rep. Jim Costa of California the only Democrat, the legislation introduced June 25 resurrects ideas that passed the House last year over objections from the Obama administration and Northern California Democrats.

This year's 170-page bill, for instance, repeals a San Joaquin River salmon-and-habitat restoration program, replacing it with something smaller. Between Fiscal 2007 and Fiscal 2014, the federal government committed about $169 million to the river restoration program. More than $860 million will be required over the next decade, the program estimates.

While it's expensive, the current river restoration program settled a lawsuit and was approved by a federal judge, so the attempted congressional repeal could get complicated.

The House bill also directs the Bureau of Reclamation to negotiate a transfer of the New Melones Dam on the Stanislaus River, the state's second-largest earth-filled dam, to local water districts. It steers more irrigation deliveries to San Joaquin Valley farms and speeds completion of five water storage project studies.

In some cases, it's an unabashed GOP wish list, packaging together requests presented by California's House Republicans. It has little, if anything, in common with a 140-page draft water bill floated by Democrats.

"I'm not going to negotiate from their position," Valadao said. "I'm going to negotiate from my position."

The House Natural Resources Committee has not held a hearing on the legislation, nor has it had an oversight hearing this Congress devoted to the California drought. On Wednesday, committee

members will deliver opening statements. On Thursday, they will consider amendments and vote.

Beyond a shadow of a doubt, the committee will approve the measure. Republicans enjoy a 26-18 advantage over Democrats on the Western states-dominated panel. Some of California's leading advocates for the legislation, like Westlands Water District General Manager Tom Birmingham, are on Capitol Hill this week.

There is also no doubt the legislation will pass the House, where its leading patrons include Majority Leader Kevin McCarthy of Bakersfield and where Republicans command a 246-188 advantage. It's after that the serious doubts and potential deal-making will arise.

"It will be the same movie we've seen in the last few years," Rep. Jared Huffman, a California Democrat who serves on the Natural Resources panel, predicted in an interview. "Most of this bill doesn't have a great chance of becoming law."

Huffman said the House GOP bill "puts the thumb on the scale for the San Joaquin Valley" in the redistribution of water, and further criticized Republicans for locking out Northern California Democrats in the bill's drafting.

Costa, who expects to be the committee's sole Democrat to support the bill Thursday, countered in an interview that his "hope is that it will be the basis for conversations" with Democratic Sen. Dianne Feinstein of California and that it will "continue to focus attention on the crisis, as a way to get a response from the Senate."

Valadao agreed that "it falls a lot on Sen. Feinstein" to determine the water legislation's ultimate fate. Practically speaking, House Republicans have written off hopes of winning over Feinstein's California colleague, Democratic Sen. Barbara Boxer. Assuming no GOP defections, Republicans will need at least six Democratic senators to prevail.

The Obama administration has not yet formally weighed in, though it opposed last year's similar legislation. Brown administration officials in California offer cautionary words, taking note of the $7.5 billion California water bond that passed last fall.

"We welcome any efforts that match with federal assistance what the state voters overwhelmingly backed, so long as it does not weaken state and federal environmental protections, does not pre-empt state law and does not favor one region or economic sector of the state over another," Nancy Vogel, deputy secretary of the California Natural Resources Agency, said in a statement.

# # #

City eyes Superfund water for irrigation
Ongoing drought gives new value to TCE-contaminated groundwater
Mountain View Voice | July 6, 2015 | Mark Noack

Brown lawns and dried-out river beds are ubiquitous in California's severe drought, but one place in Mountain View where water isn't in short supply is Stevens Creek. Year-round, the waterway near Highway 101 remains a lush oasis of running water.

One of the reasons for this urban oasis is the thousands of gallons of treated groundwater that are dumped into the creek each day. But few would dare drink this water since it originates from the Middlefield-Ellis-Whisman Superfund site, where the underground aquifers contain a 30-year-old toxic plume of industrial solvents.

For years, an ongoing cleanup effort to purge this industrial waste has mostly consisted of pumping and treating the groundwater and then sending it out to stormwater channels to be taken out to the Bay. Just the water going into Stevens Creek totals about 120 million gallons per year, according to one tally.

But with every drop of water becoming more important than ever before, the underground aquifer in the Superfund site is being seen by some officials not as a toxic hazard but as an untapped resource. Rather than dumping it into Stevens Creek and other waterways, a group of city officials and environmental advocates are making the case that this water could irrigate gardens and lawns, potentially saving millions of gallons of potable water being drawn from the Hetch Hetchy system.

The idea has gained momentum at recent Mountain View public meetings. Council members Pat Showalter and Lenny Siegel have brought up recycled water during recent reviews of housing projects and encouraged private developers to plan ahead for the day when recycled water is readily available.

"Everyone's aware of the water shortage, and recycled water is a major untapped source of water for the state," said Siegel. "It would be beneficial to use this water, but it's not a simple matter of just snapping your fingers."

Showalter, who works as a senior project manager for the Santa Clara Valley Water District, said it wouldn't be difficult to make the water clean enough for landscape irrigation.

"Right now, we're extracting groundwater and for the most part it's going right into the storm drains and into Stevens Creek," Showalter said. "One of my personal goals on the council is to get as much of Mountain View's landscaping on recycled water as possible."

In fact, this idea is nothing new. All the water within the MEW Superfund site was supposed to be reclaimed for other uses, according to the Environmental Protection Agency. When the Superfund site was originally created in 1989, EPA officials set a goal to eventually reuse 100 percent of the water after it was treated to remove its contaminants. But the idea never really got off the ground, reportedly due to cost constraints.

Nevertheless, the idea was already well researched by Fairchild Semiconductor, Intel and Raytheon, the three companies responsible for funding the clean-up of trichloroethene (TCE). Alana Lee, EPA site manager for the MEW Superfund site, pointed out that recycling this water for other uses was gaining new attention given the drought, although it is still in the early stages of consideration.

"It's always been part of our vision to assess the feasibility to reuse this water," she said. "It may be that once the TCE is removed, the water doesn't have any other contamination issues and would be suitable for irrigation."

So far, the only party to successfully reuse the contaminated groundwater has been NASA Ames Research Center. Starting around 2010, facility engineers began investigating ways to lower water consumption at the Arc Jet Complex, the one-of-a-kind simulator to test how spacecraft materials perform under the intense heat and stress resulting from atmospheric entry. The facility uses about 20 million gallons of water, most of which is boiled to create steam to simulate high-heat conditions, said Kenneth Kono, Arc Jet project manager. Given that huge demand, the NASA team began looking to secure a new water source as the drought worsened.

"We needed a water supply that would sustain us through the drought," Kono explained. "Back in 2009 we were using Hetch Hetchy water, so every gallon we save now is a gallon we save from the potable system."

To treat the water, the Ames Center installed a reverse-osmosis system, which purifies water so it ends up distilled. Along with supplying the Arc Jet building, the water is also used for limited irrigation around some of the campus buildings. Kono explained that one of his priorities is to find more uses for this water around the research park.

In comparison, the city of Mountain View is just beginning its study of how recycled groundwater could offset drinking water consumption. City staff members have begun meeting with EPA representatives to discuss what clearances would be required, said Public Works Director Mike Fuller. City officials need to consider how to deliver the water. An environmental study could also be necessary to examine Stevens Creek and determine whether redirecting large quantities of water would harm the habitat or protected species, such as the steelhead trout.

"Just starting out, we'd have to see what the impact would be of diverting that water away from its current location," Fuller said. "We also need to know how much demand is out there and how we'd pipe it."

What hasn't been a big concern is the health risks of recycling water contaminated with TCE, which the EPA classifies as a known carcinogen that's harmful through any means of transmission. City and EPA officials have expressed confidence that the current water treatment of carbon filters and oxidation is sufficient for removing the toxic chemicals.

"So far, what we know is there's little reason to worry about people being exposed to the contaminants," Councilman Siegel said. "Once people are informed, I don't think they'll have any objections."

# # #

Our View: Losing faith in those managing our water
Merced Sun-Star | July 6, 2015 | Editorial

Highlights

- *Bad readings from a faulty gauge cascade throughout water system*
- *Bureau of Reclamation miscalculated water temperatures in Shasta*
- *Feds released 35,000 acre feet, but fish didn't move*

U.S. Bureau of Reclamation officials, who operate the Central Valley Project, relied on a faulty gauge in April and overestimated the amount of cold water behind Shasta Dam.

U.S. Fish & Wildlife biologists insisted that twin pulses totaling 35,000 acre-feet – enough for 12,000 acres of almonds or to supply 90,000 homes with water for a year – be sent down the Stanislaus River in April to push juvenile Chinook salmon toward the sea. But no Chinook salmon went with that water, according to a report from FishBio, which monitors our region's rivers.

The release of so much water from New Melones was faulty judgment. The Shasta error was based on faulty equipment. Neither instills a great deal of confidence in those attempting to manage our water system through a time of extreme drought.

The Shasta mistake is cascading through the entire water system. Federal and state officials are compensating for the "instrument calibration error" by drastically reducing water being released from Shasta into the Sacramento River. Scientists say they must hold onto what's left of the cold water in California's largest reservoir until the fall to be used in a pulse flow to entice spawning salmon up the river.

But by cutting Shasta's releases, downstream water system operators are being forced to release more from Lake Oroville and Folsom Lake. Those releases protect crops and water destined for Southern California by preventing salt water incursion into the Delta. By the end of this summer, Sacramento's Folsom reservoir, about the size of Lake McClure, is expected to fall to 120,000 acre-feet – well below last year's historic low. Oroville, which can hold 3.5 million acre-feet, will be at a quarter of capacity.

Meanwhile, to the south, the 2,500 landowners in the San Joaquin River Exchange Contractors Water Authority have fallowed more land this year than ever before – 40,000 acres. The authority is made up of four irrigation districts encompassing 240,000 acres in Fresno, Madera, Merced and Stanislaus counties. They planted crops based on Bureau of Reclamation commitments that they'd get 350,000 acre-feet this year, or 40 percent of what would be a full allocation.

July is when the need to irrigate is greatest. But water system operators cannot transport water south if they hope to preserve what remains of the Delta ecosystem. That leaves farmers who planted annual crops with a choice: pump more groundwater, or let crops shrivel.

Farmers can lose a crop of tomatoes or alfalfa and rebound next season. But with the cost of water having risen steadily over the past decade, many have switched to permanent crops like almonds to recoup those added costs.

California's role as leading farm state must be protected, but water use must be rethought

In 2010, the San Joaquin River authority had 23,962 acres planted in fruit, nuts and vines. By 2014, that number was up to 45,000 acres – primarily almonds, walnuts, pistachios and pomegranates, said executive director Steve Chedester. Without CVP water, growers will tap groundwater to save their trees. That means more drilling, more costs, more potential subsidence.

This is leading many people – especially non-farmers – to call for wholesale revision of the state's water laws.

Before tossing aside 230 years of laws, rules and court decisions, it must be recognized that small farmers are at a horrible disadvantage when competing for water against larger, more well-funded entities. It also must be recognized that the best soils frequently have the most long-standing water rights, and to divorce the water from those soils will not only ruin family farms, but result in a waste of one of the state's great assets.

In this drought, water managers have no room for faulty equipment or faulty judgment. Don't compound the mistake with a hasty revision of our water laws.

# # #

About time to meter groundwater wells
Napa Valley Register.com | July 6, 2015 | Thomas D. Elias

Water flows downhill. It's a basic reality now playing out 500 feet below the surface of California's farmland everywhere from the fertile Central Valley to the citrus orchards of Riverside and San Diego counties.

But it's a physical fact to which government so far pays no apparent heed. That's one big reason crops from Valencia oranges to nectarines, Santa Rosa plums and both yellow and white peaches seem smaller than usual this year.

Here's what's happening: As surface supplies from the State Water Project and the Central Valley Project grow ever more scarce, farmers who can afford to are drilling their wells lower and lower, to the point where many bores now stretch more than 550 feet below the surface, reports the U.S. Geological Survey.

Because most older wells reach depths between 50 and 150 feet below the surface, when deeper wells are installed, water from shallower aquifers flows to them when geologic formations permit.

With well drilling costs now reaching about $225 per foot, and some wells as deep as 1,200 feet, a new well can cost much more than $200,000, far more than many family-owned farms can pay. Which means large corporate farms are hogging a lot of water, decreasing crop sizes and yields from smaller operations.

Under current law, there's nothing any farmer can do about it when a deeper well is sunk under nearby property, draining supplies that in some cases have lasted generations.

"They're taking my water," says Jack Balama, a longtime fruit farmer on the west side of the San Joaquin Valley. "Basically, they're drilling under my wells and I can't stop them. So my nectarines and peaches are sweet this year, but not nearly as big as usual. It's sad."

That's why there's a distinctly hollow ring when Gov. Jerry Brown touts California's new groundwater regulation law as one of the signal achievements of his second run as the boss in Sacramento.

Not only does the timetable for the 2014 law mean that significant limits on pumping groundwater won't be enforceable until about 2030, when supplies could well be even more depleted than today's, but at least until then no one will know who is using the most of this essentially irreplaceable resource.

Which highlights the need for another new groundwater law, this time one that forces quick metering of groundwater use. If the public knew for sure who is drawing the most water from the state's limited underground streams, lakes and ponds, better known as aquifers, customers could react in whatever way they want, from boycotting water hogs to gravitating to their more conservation-minded neighbors.

But this won't happen soon. Corporate farmers are often big political donors; they saw to it that not a single legislator from the Central Valley region voted for even the weak groundwater law passed last year.

Plus, there has long been resistance to water metering of any kind in the Central Valley. Many valley communities have just begun metering water use in homes and businesses, and some don't have meters yet, even though they will soon be everywhere.

The drought this year will see farmers around the state fallow 560,000 acres, the most in recent history, report researchers at UC Davis. This will mean 19,000 fewer jobs than without the drought. It means drivers traveling the major north-south highways through the Central Valley, I-5 and U.S. 99, will see vast vistas of bleak and vacant brown earth, some dotted with political signage casting blame for the scene on just about everyone but the farmers themselves.

The signs indicate conflict, but this time it's not just cities vs. farms or fish vs. people, as drought battles are often cast by political spin doctors, but it's farm against farm.

The trouble is that farmers whose wells suddenly run dry can't always tell where their water has gone. All they know is that it has flowed downhill somewhere away from them, and the lack of any metering means no one can be held responsible.

Which makes it high time for politicians from the governor on down to stop bragging about passage of a very meek law and start acting to pass a tough one that might actually bring some equity to California's water scene.

# # #

California Bill Could Allow Tax On Water Wasters In Drought
Capital Public Radio | June 30, 2015 | Associated Press

Earlier this month, a California court ruled that a city can't charge large water users more unless the higher charges are directly related to cost of services.

A bill authored by Democratic Senator Bob Wieckowski would allow water districts to tax excessive water users up to 300 percent of the purchase price. But districts would need approval from two-thirds of voters.

Wieckowski says the bill would give agencies another enforcement tool during the drought.

"I got a district that's reducing their water use aggregately by 18-percent," says Wiecowski. "But I still have some bad users that if they just were normal users we'd be down to 25 percent. So this helps with that."

Wieckowski says some agencies likely won't impose new taxes. But he says agencies' ability to fine water wasters isn't working.

# # #

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Government red tape holds up reliable water supply
Sacramento Bee | June 20, 2015 | Kristin Olsen

Highlights

- *Carlsbad desalination plant took nearly 20 years to start construction*
- *State regulators recently acted to impose even more roadblocks*
- *Legislature, administration should rework misguided laws and regulations*

California's drought affects us all. Lack of water hurts those who live in urban and rural communities, work in a high-tech company or on a farm. Water shortages impact job opportunities, economic growth and our health and well-being.

Wells in communities across our state have literally run dry. This drought emergency isn't a drill – precious lives and whole industries are on the line right now, waiting for state bureaucrats to act.

Meanwhile, government red tape continues to hold up the construction and completion of much-needed water projects across our state.

One example involves proposed desalination plants.

Desalination turns salt water from the ocean into clean drinking water for Californians. It is an increasingly popular source of water for many cities since it is a "drought-proof" supply. We can go years without much rain, but the ocean will always have water.

One plant is under construction in Carlsbad. When fully operational, the Carlsbad project will turn as much as 56 million gallons of water from the Pacific Ocean into drinking water each day. For just half a penny per gallon, or less than $1 a day to meet an entire household's water needs, the project will provide as much as 7 percent of San Diego County's water supply by the year 2020.

Sadly, the project took nearly 20 years to start construction, as it was the target of 14 legal challenges and duplicative bureaucracy, subject to environmental reviews from the Regional Water Quality Control Board, the California Coastal Commission, the state Department of Health, the city of Carlsbad and numerous local agencies.

Astonishingly, state regulators recently acted to impose even more rules, restrictions and roadblocks on desalination plants. It is estimated that this will increase the cost of building and operating such facilities by hundreds of millions of dollars. This is foolish.

Another dozen desalination projects are currently on the drawing board in our state. We need to expedite the construction of these plants, not continue to tie them up in endless years of bureaucracy and litigation.

At the same time, we need to speed up new water storage projects that were approved by voters in the water bond measure last fall.

Right now, two surface water storage projects are on the table – Temperance Flat near Fresno and Sites Reservoir near Colusa. These projects have undergone significant planning and review at the local, state and federal levels. Sites Reservoir was first proposed in the 1980s. More than two decades later, no shovels have turned.

Assembly Republicans recently proposed legislation, Assembly Bill 311, to streamline the approval process for water storage projects like Sites and Temperance Flat, in the same way as was done for the new Sacramento Kings basketball arena. Unfortunately, our proposal was blocked by the majority party.

State government should be doing everything it can to alleviate our current drought emergency and prevent future droughts from devastating our economy and hurting California families.

We must modernize laws and streamline permitting regulations that are standing in the way of more storage, desalination, water recycling and other projects that will increase water supply for communities throughout all of California – north, south, east and west.

California is in the midst of a water crisis. It's time for the Legislature and administration to rework misguided laws and regulations that are standing in the way of generating the water we need. People are tired of endless, bureaucratic delays. They deserve better.

Kristin Olsen of Modesto is the Republican leader of the California Assembly. She represents the 12th Assembly District.

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