

How low can Lake Mead go?

Tony Davis Arizona Daily Star | Posted: **Wednesday, November 17, 2010 12:00 am**

With Lake Mead at its lowest level since 1937, the odds of near-term Central Arizona Project water shortages affecting Tucson and other Arizona cities are on the rise, officials in charge of the project say.

In January, CAP officials said that it's unlikely that urban users will face shortages until the mid-2020s at the earliest. But now, they and Bureau of Reclamation officials say in the worst-case drought scenario, municipal shortages could come as soon as six or seven years, if authorities take no steps to obtain more or use less water and the dry weather continues.

More probable scenarios show a 20 to 25 percent chance of the lake dropping low enough to cause municipal shortages by 2019 or 2020 at the earliest, according to Bureau of Reclamation forecasts.

Officials are expected to take some short-term steps in the next few years to try to keep lake levels high in the meantime. But those efforts would only stave off future shortages for a few more years. Today, the CAP staff will meet in Phoenix to look at other ideas, including desalinization of salty groundwater and buying water rights from Colorado River farmers, aimed at getting more water to help it cope with CAP shortages.

It's possible the outlook this decade for the lake levels and the water project could be worse than the bureau predicts, if climate change is a factor underlying the current drought, a question for which there is no scientific agreement today. But if the drought that's now lasted 11 years in the Colorado River basin turns around, the outlook for CAP and the river in general will get better.

Here are some questions and answers on Lake Mead and the prospects for CAP shortages.

Q: Why is Lake Mead so low?

A. Drought. On Oct 17, the lake dropped below 1,083.19 feet, its record low since the lake was filling in 1937. It is currently at 1,082.21 feet above sea level. It has dropped 132 feet since January 2000. That's due to an extended drought in which only about 8.25 million acre-feet of water flows into Mead from Lake Powell annually while more than 10 million acre-feet goes to Arizona, Nevada, California and Mexico on the average each year. An acre-foot is enough water for about three homes for a year.

Q. At that rate, how long before the city of Tucson's main water supply, the Central Arizona Project, has a shortage?

A. The earliest shortage, in which Arizona loses about 288,000 acre-feet, could come as early as 2012 when the lake reaches 1,075 feet. That's the level triggering a shortage affecting what's called "excess" CAP users, including some farms, mines and others who are buying CAP water that other entities have contracts for but currently aren't using. A shortage wouldn't affect municipal water users at least until the lake hits about 1,025 feet.

Q. Can this shortage be forestalled?

A. Yes, say bureau and CAP officials. Next year, for instance, the bureau is likely to release extra water from Lake Powell into Lake Mead to hold off a shortage until 2013. Arizona and other river basin states have other plans to try to keep Mead higher a little longer, led by a proposal for Mexico to keep 200,000 acre-feet in Mead for a few years because an earthquake has damaged some of Mexico's water-supply equipment.

Q. How soon might the lake hit 1,025 feet?

A. If the lake keeps dropping at 11 feet a year as it has in recent years, 1,025 could arrive in as few as six years. But at that level, municipal shortages aren't a sure thing. The only certainty is that officials of the seven river basin states would have to meet to reconsider the 2007 shortage-sharing agreement under which they set the current ground rules for how shortages in the river affect the three lower basin states of Arizona, Nevada and California.

CAP general manager David Modeer said he hopes those states can also push the 1,025 water level time frame back another three to four years with the short-term measures.

Q. What are the odds of the drought continuing and of the lake hitting 1,025 soon?

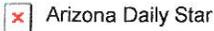
A. The upcoming winter is predicted to be influenced by a La Niña weather pattern in which the Southwest and lower Rocky Mountains are usually dry and the Pacific Northwest is usually wet. That pattern could remain through the 2011-2012 winter.

Q. What is the official forecast for the river and lake's potential to hit troublesome or crisis levels in the future?

A. The Bureau of Reclamation recently issued predictions that differ because they are based on two sets of data. One is historical river-flow data dating back 102 years. The other is tree-ring data developed by the University of Arizona, dating back 1,200 years. Generally, the predictions based on historical data are more pessimistic than those based on tree-ring data. By 2015, the historic data-based forecast is for a 25 percent chance that Mead hits 1,075 feet, an 8 or 9 percent chance that it hits 1,025 feet and a less than 5 percent chance of dropping below 1,025 feet.

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 Arizona Daily Star

CAP describes costly future water options

Tony Davis Arizona Daily Star | Posted: **Thursday, November 18, 2010 12:00 am**

PHOENIX - High-cost desalinated brackish groundwater, Western Arizona groundwater and Colorado River water owned by farmers surfaced on Wednesday as the state's next potential watering holes.

Central Arizona Project officials laid out these options as ways to provide more water in case CAP supplies run short and to serve population growth.

In a meeting with a host of water-interest leaders, including a Tucson Water official, the CAP proposed buying about a total of 300,000 acre-feet of additional water over the next 30 years.

That's one-fifth of the CAP's current supply of 1.5 million acre-feet, enough to provide about 4.5 million families a year's worth of water. To carry the extra water, the CAP's concrete canal, which carries the water uphill from the Colorado River to Tucson and Phoenix, would need upgrading at an estimated \$100 million cost, officials said.

If the demand outstripped the supply at any point, the three-county agency that runs the water project would auction the water to the highest bidder, CAP officials said. In short, the proposal amounts to water marketing, a method long proposed by many water experts to ensure that as water becomes more scarce, it is sold on the open market so it achieves its economically highest and best use.

"We wanted a system to help people believe and understand there will be water in the future over the coming decades," Tom McCann, an assistant CAP general manager, said about the water-purchase options.

The proposal comes at a time when concerns about future CAP shortages have reached an all-time high because of the recent drop in the level of Lake Mead, where most of the water comes from. The lake is at its lowest level in 73 years.

The idea of finding additional water supplies was thought of two years ago by CAP officials and users at a time when a bigger concern was finding more water to serve future growth. But now the shortage question is looming larger.

The prospect of what one observer called "sticker shock" from higher water costs compared with current CAP water costs made some predict that conservation-based technologies such as water harvesting, gray water and low-flow toilets will get more popular.

More than 50 representatives of cities, farms and development groups greeted the presentation by CAP official McCann with a flood of questions, some friendly and some skeptical.

Afterward, Tucson Water Chief Counsel Chris Avery said that while the proposal raises questions, city of Tucson officials are interested in obtaining additional supplies of CAP water despite the cost.

"This is our next renewable water supply. The costs are expected to be high, but it's something we expected in any renewable supply. It's something we have to do prudently," Avery said.

David Modeer, the former Tucson Water director who now is CAP's general manager, said the additional supplies' costs aren't known for sure today. But desalinated brackish groundwater could cost \$500 to \$600 an acre-foot, for instance. Buying water from farmers along the Colorado could cost up to \$3,000 to \$6,000 an acre-foot, he said.

"Modeer said he didn't know exactly how much more the costly water would increase a utility customer's monthly bill.

CAP water, for instance, costs users of the water about \$120 per acre-foot. But he said the extra water would exponentially increase the cost to cities and other users.

"You'll notice it. If you have an increase in costs of several million dollars to acquire it, for instance, it will raise water rates maybe in the 5 to 10 percent range," Modeer said.

Val Little, director of the Water Conservation Alliance of Southern Arizona, said, "I think we're about to have a big, big episode of sticker shock."

Contact reporter Tony Davis at tdavis@azstarnet.com or 806-7746.

GREEN VALLEY NEWS AND SUN

NEWS

Study: Santa Cruz River is rebounding

Print Page

By Wren Abbott
Nogales International

Published: Saturday, November 20, 2010 10:11 PM MST

When the Friends of the Santa Cruz River conducted their annual fish study in 2008, they found only two fish in the murky water.

However, one invertebrate species was thriving: the bloodworm.

Bloodworms are actually the larvae of a type of fly, and are so named because they contain blood-red hemoglobin that shows through their translucent skin. Especially under the Rio Rico bridge, the river was teeming with hand-sized clumps of the worms, which can survive in very low-oxygen water.

"That's a real marker for poor quality water, and there were just clusters of them," FOSCR president Sherry Sass told the Nogales International at this year's fish study on Nov. 11.

"It was like something out of a science fiction movie."

There are probably still bloodworms dispersed through the river, but small fish, rather than worms, are the river's most noticeable wildlife these days. Just two years after they found only two fish, FOSCR volunteers tallied more than 1,000 during this month's study. Experts say the totals illustrate the river's steady rebound since the updated Nogales International Wastewater Treatment Plant (NIWWTP) went into operation 18 months ago.

"A healthy river has healthy fish," said Benjamin H. Grumbles, director of the Arizona Department of Environmental Quality.

Last year's November fish survey was held only a few months after the newly renovated plant went online. And after the bleak 2008 survey results, FOSCR was excited to find a total of 298 fish at five sampling spots between Amado and Rio Rico.

At last week's survey, FOSCR volunteers found more fish at the first sampling spot – near Chavez Siding Road in Tubac – than they found in 2009 at all five sampling areas combined. Overall, FOSCR found more than three-and-a-half times as many fish this year than in 2009, even though the volunteers skipped one sample spot because the big numbers of fish took so long to count.

"This is good news based on the significant investment in the wastewater treatment plant," Grumbles said, "but we all know that we have a lot more work to do to reduce metals and other harmful pollutants."

Native fish holds its own

North of Rio Rico, the dominant source of the Santa Cruz River's water is treated effluent from the NIWWTP – about 15 million gallons per day. Precipitation and groundwater discharge also contribute, and years with meager monsoon seasons can cause high concentrations of pollutants in the water. But there were more than eight additional inches of rain in 2008 than in 2009, making it even more significant that the river's fish population was able to recover as well as it did in 2009.

Of the 1,051 fish FOSCR caught, counted and released this year, more than half (56 percent) were a native species called Longfin Dace, and the rest were a guppy-like invasive species, the Western Mosquitofish. Last year the Mosquitofish was slightly dominant in FOSCR's sample, making up 52 percent of all fish caught.

The Mosquitofish is native to the U.S. southeast, but is estimated by some scientists to be the most widely-distributed freshwater fish in the world. State Fish and Wildlife biologist Doug Duncan said the Mosquitofish owes some of its deleterious success to its name, which derives from its taste for mosquito larvae. But the name is misleading because it's one of many fish that control mosquito populations equally well.

As Duncan picked through handfuls of Mosquitofish and Dace last week, he was hoping to find a specimen of the Gila Topminnow, a federally-listed endangered species that used to thrive in the Santa Cruz River.

Mosquitofish and the Gila Topminnow share a similar ecological niche, and when the more-carnivorous invasive species was introduced it edged out the Topminnow, partly by eating the native fish's young and chewing on the adults' tails. The Topminnow still survives higher up in the watershed, and although FOSCR didn't find any last week, scientists are hoping that as the Santa Cruz improves, it will repopulate.

"Sometimes it's just a matter of time, the correct flooding events, just the perfect timing of everything for them to get back into the system," said Claire Zugmeyer, a biologist with an environmental research group called the Sonoran Institute.

Hard work



Wren Abbott | Nogales International
Arizona Fish and Wildlife biologist Doug Duncan (left) helps count fish in the Santa Cruz River on Nov. 11.

Although wading in thigh-high galoshes along the cottonwood-lined banks of the Santa Cruz River may look fun, completing the fish study is difficult, meticulous work for the activists and scientists that undertake it every year.

In areas with smooth, open banks, they drag nets called seines along the riverbed and comb through the algae, rocks and mud that accumulate to find the tiny fish that get swept up with them.

In rockier areas, they use an electroshocker to stun the fish momentarily with about 400 volts of electricity so they can be scooped up in smaller nets and put into buckets. This year, as in years past, that task fell to Lisa McDonough, a University of Arizona doctoral candidate.

The process was much more laborious in 2010 than in any recent year because so many more fish were found and had to be counted.

Meeting standards

The growing fish population in the Santa Cruz is indicative of improvements in two important factors influencing the river's aquatic life. One is dissolved oxygen, and the other is ammonia, a breakdown product of many sewage treatment plants that, in excessive concentrations, kills fish. In addition, high concentrations of ammonia encourage the growth of bacteria that deplete the water's oxygen supply, making it hard for fish and other oxygen-dependent animals to survive.

The Santa Cruz River actually met ADEQ's minimum standard for dissolved oxygen in effluent-dominated water in 2008, but since the plant opened, the dissolved oxygen increased significantly, Zugmeyer said. The Sonoran Institute monitored the ammonia levels in the river 12 times in 2008 and 14 times in 2009. In 2008, the water exceeded the maximum acceptable level set by ADEQ 100 percent of the time; in 2009 it exceeded the maximum 43 percent of the time. The Sonoran Institute's report for 2010 isn't available yet, but the results of the fish study suggest the positive trend is continuing.

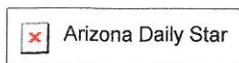
ADEQ doesn't set acceptable population numbers for fish in effluent-dominated waters like the Santa Cruz, so FOSCR's surveys provide a crucial baseline that the river's progress can be measured against. The overall health of the river is indicative of the health of the larger ecosystem in this area, because 75-80 percent of all wildlife in the southwest rely on riparian (riverside) environments for some part of their life cycle, Sass said.

Everything from the javelina to the Sonoran Desert Toad (famed for the hallucinogenic properties of its skin secretions) relies on the waterways, even though non-scientists may think of them as "desert" animals. Mule Deer hoofprints and shallow heron prints spotted on the riverbank during the survey last week provided a snapshot of the fauna that depends on the river, and tiny hand and foot prints in the soft mud near a Tubac river crossing testified to a raccoon's recent visitation.

"There's a huge impact of this environment on things that aren't endemic, that don't have to stay here all the time." Sass said.

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Marana must pay county's legal fees in sewer fight

Posted: Thursday, November 25, 2010 1:49 pm

The town of Marana has been ordered to pay about \$170,000 to Pima County to cover its legal fees from a protracted battle over a sewer plant.

A Maricopa County judge ordered Marana to pay about \$170,000 because it brought the action and ultimately lost on the major issues.

Marana wanted to take over its sewer system and a \$25 million sewer plant outside town so it could control the wastewater coming from the plant. Even though it is reclaimed water, controlling the effluent would allow the town to offset increased pumping by using the plant's discharge to percolate into the ground.

Such disputes are expected to become more common as growing populations in Arizona stress groundwater supplies. State law regulates groundwater pumping to prevent overdrafts that would deplete the supply.

Superior Court Judge Kenneth Mangum ruled in June that Marana can control its sewer lines, but not the plant because it was intended to serve the larger region. The Arizona Daily Star in Tucson reported on the legal fees ruling in its Thursday editions.

Marana decided in 2007 to cut short a decades-old intergovernmental agreement calling for the county to provide service to Marana residents. It then sued the county.

Marana town manager Gilbert Davidson said he is still absorbing the ruling. "We will be looking at different options moving forward," he said, which could include ending it at this point or making an appeal.

Marana is already working to obtain an amendment to the federal Areawide Water Quality Management Plan and is pursuing status as a designated management area, which would allow the town to obtain ownership of its effluent.

"We're certainly willing to continue to work with Marana," said Pima County Administrator Chuck Huckelberry. "We understand their need for renewable water resources but we also feel that establishing their own wastewater system is a costly and unnecessary venture."

Huckelberry said he was pleased with the judge's decision.

"We obviously did not begin the litigation and only defended ourselves, so we should be entitled to recover our ratepayers' costs in the litigation," he said.

Davidson said Marana simply wants the ability to fully manage its water resources. Treated wastewater could be used for irrigation or to recharge the area's aquifer, he said, leading to more future stability.

Davidson doesn't agree with the judge's assessment the lawsuit was substantially a win for Pima County and a loss for Marana.

"The bottom line was that the ruling said the town of Marana, like any other city, has the ability to be in the wastewater business," Davidson said. "The vast majority of the infrastructure was turned over to the town of Marana, so in terms of what we set out to do _ to manage our water resources _ we're on track."

Huckelberry said he's not buying that argument. The judge said they can have the pipes, but the plant itself was the golden key, since whoever treats the effluent, effectively owns it. As for the right to operate a wastewater system, he noted that right already exists according to state law.

EXPLORER

EL SOL

Running on turkey

Print Page

County partners with companies to collect spent oil for bio-fuel

By **Dave Perry, The Explorer**

Published:

December-01-2010 12:11am

It's easy to take the sewer system for granted — just dump some stuff down the drain, and it's gone for good.

But that's not necessarily true, especially when grease and cooking oils are disposed.

That out-of-sight, out-of-mind attitude has made Thanksgiving a busy day for residential sewer problems.

Pima County, along with the Town of Sahuarita and private-sector partners, collected post-Thanksgiving grease in an effort to prevent sewer-system backups and to put the collected material to good use.

"Over time, grease collects in our pipes," said Laura Hagen Fairbanks, community relations manager with Pima County Regional Wastewater Reclamation Department.

Hagen Fairbanks said accumulated grease and oil becomes a magnet for other debris and waste, and cause sewer blockages — with disastrous impacts.

"The worst-case scenario is someone's house is flooded with raw sewage," she said.

In still-worse cases, long-term dumping of grease down drains can cause larger blockages further down the system, impacting more than a single household.

The Friday grease collection effort brought in 4,400 pounds of spent oil, about 12 barrels full of grease, all of which will be used again. Last year, the county collected about 2,500 pounds on Black Friday.

"All the oil we collect gets recycled into biodiesel," Hagen Fairbanks said.

Biodiesel, a clean burning alternative fuel made from non-petroleum oils, has been around for some time. In recent years, its use has grown in popularity.

Traditionally, used cooking oils were not used for fuel. Anyone who's worked in a restaurant knows that companies collect used cooking oils for tallow processors. Most of that oil gets processed for ingredients in livestock feed.

"About 90 percent of oil goes back into the food stream," said Mike Kazz of Greecycle, a Tucson company that partnered with Pima County to collect the oily Thanksgiving offerings.

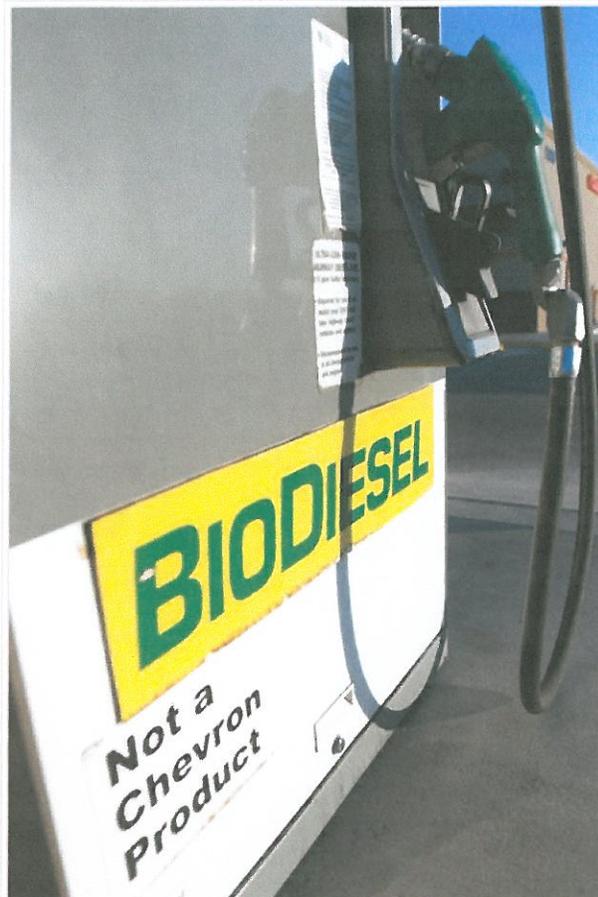
Called "yellow grease" in the industry, the cooking oils are strained of food particulates and separated from residual water before being processed into biodiesel fuel.

"In any diesel engine, there's no conversions required," Kazz said.

Blends of the fuel vary from 5 percent up to 100 percent biodiesel.

Kazz said the increasing use of oil to make fuel over the past several years has helped create a domestic market that could reduce the need to import petroleum.

In less than 10 years, production of biodiesel in the U.S. has grown from almost zero to more than 700 million gallons in 2008, according to the National Biodiesel Board. That's the equivalent of about 16 million barrels of oil. It's impressive



Randy Metcalf/The Explorer, Catalina Mart at Dove Mountain Boulevard and Tangerine Road sells biodiesel. The B-20 fuel was priced at \$3.28 a gallon on Monday.

growth, but hardly puts a dent in the more than 6.8 billion barrels of petroleum consumed annually in the U.S.

Grecycle processes enough biodiesel to fuel its own small truck fleet. It's also partnered with the University of Arizona to research more uses for biodiesel.

"It's valuable to us and it's valuable to Pima County," Kazz said.

Proponents say biodiesel is a better alternative than other renewable fuels because it can be used in most diesel engines without modifications.

Because it's oil-based but not petroleum, biodiesel emits fewer toxins than standard diesel. That's good for the environment, and potentially good news for the area sewer system, which has seen a multi-year decrease in overflows.

"We do have fewer sanitary sewer overflows," Hagen Fairbanks said, and she attributes some of the decline to grease collection and other county efforts.

For more info

The National Biodiesel Board

www.biodiesel.org

Environmental Development Group

www.edgroup.us

Grecycle

www.grecycle.com

Pima County Regional Wastewater Reclamation Department

www.pima.gov/wwm

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EXPLORER

NEWS

Wins, losses for parties in wastewater case

Print Page

By Dave Perry, The Explorer

Published:
December-01-2010 12:11am

Pima County and Marana are sorting wins and losses from the latest ruling on Marana's long-running lawsuit against the county regarding wastewater treatment.

There are wins and losses for each.

In a Nov. 17 ruling, Maricopa County Superior Court Judge J. Kenneth Mangum writes, "the county argues that it prevailed on all or most cases. The town argues in response that it prevailed at the Motion for Summary Judgment stage, and that its right to take control of the non-pass-through sewer system was not conceded by the county. The Court concludes that overall, the county was the successful party ..."

"I think the documents are pretty self-evident," County Administrator Chuck Huckelberry said Tuesday. The ruling reads, "the county substantially prevailed in the litigation. I think that's the words of the judge, and not us. I would say that's probably correct."

"I think we won," Marana Town Attorney Frank Cassidy said Monday. "Really, the whole point of this was to set off on our own way, to have our own wastewater system. Most of the system has been determined to be ours, we are acknowledged to have the right to operate a wastewater system, and that gives us the green light to move forward."

"We are entitled to be in the wastewater business," Cassidy said.

The lawsuit is all about water, Cassidy said. Marana wants to accept sewage, clean it up and use the effluent to recharge aquifers, gaining credits that help it assure potable water supplies moving forward.

"We understand their quest for water and water resources, but we believe the option they're pursuing will ultimately be very costly to Marana residents," Huckelberry said. "I wouldn't declare victory on anything, because we've unnecessarily wasted ratepayer and taxpayer money. That itself is a loss."

Mangum denied Pima County's motion for a new trial in the case. Any decision to appeal that ruling "will be before" the board of supervisors "at a future executive meeting," Huckelberry wrote in a Nov. 24 memo to the board.

"The county's motion for a new trial sought to undo the main part of the case, which was our right, if you will, to have a divorce," Cassidy said Monday. "The county tries to play that down, and says 'oh, that's no big deal.' They've tried four times to undo that ruling, and every time they were denied."

Each party made claims of the other for reimbursement of legal fees. Marana's claims were all denied; Pima County has been awarded \$170,282 for reimbursement of some of its expenses (see related story).

Cassidy acknowledges "the county's done well" on the division of property. The county gets to retain the Marana Wastewater Treatment Plant off Lockett Road, and retains possession of the "spine" pipes, the major lines moving sewage and treated effluent through the community.

"In terms of the number of pipes and miles, it's a small percentage of the overall pipes in Marana," Cassidy said. While Marana would have ownership of smaller feeder lines into the main pipes, "we didn't expect for the county to get the spine pipes."

Marana's control of smaller pipes that don't "flow through" are "exactly what the 1979 intergovernmental agreement said they could have, and nothing more," Huckelberry said. "We were always prepared to give that to them. They wanted the flow-through pipes, and systems, which are pumping stations, as well as the treatment plant. And we said 'no.'"

The court denied Marana's motion that would require the county to continue providing treatment services at regional system rates. Mangum ruled that, currently, there is not discriminatory treatment of Marana residents.

"When we first filed the suit, we were concerned that by filing the suit, the county would immediately begin charging ... increased rates for Marana residents," Cassidy said.

"As it turns out, the county didn't start to charge a differential rate," Cassidy said.

All of Pima County, with the exception of Sahuarita, is within a wastewater designated management area. For Marana to serve customers, "we would have to be the DMA," Cassidy said, and the town has begun a federally established process to create its own designated management area for wastewater treatment. Marana's federal 208 permit amendment has been opposed by Pima County government.

"That's a participatory process, where the region makes the decision, not Marana," Huckelberry said.

Over the last several years, there have been "20 meetings of subcommittees" from the Pima Association of Governments negotiating with Marana on its 208 application. "We expect to finish that process in the next couple of months," Cassidy said.

If Marana operates its own treatment facility, "the resource is advanced ... because we will get ownership of all of that effluent," Cassidy said.

"We're not in a position to let that much water be wasted," Cassidy said. "We need to take care of every drop we can."

What happens next?

"We don't really know," Huckelberry said. "We're still, as we've indicated, willing to provide service to the town at, frankly, no extra cost. But if they cause us to incur cost by separating the systems, or by doing other things ... we'll obviously have to have that reimbursed by Marana residents, and that's unnecessary."

Huckelberry maintains there is room to talk. "Always has been. Continues to be."

Marana must pay \$170K to county

Marana has been ordered to pay Pima County \$170,282 in legal fees incurred by the county for part of its defense of Marana's lawsuit concerning wastewater.

In a Nov. 17 ruling, Maricopa Superior Court Judge Kenneth Mangum concludes that amount of fees claimed is "reasonable, especially because of the lowered hourly fee."

Any appeal of the \$170,000 award "would be up to the mayor and council," Marana Town Attorney Frank Cassidy said. "We will have an executive session of our own on that point," he said.

Pima County had asked for greater reimbursement of its legal expenses, but Mangum denied. On certain items within the case, "Marana's claims were made in good faith and were substantial," Mangum writes, and thus reimbursement was not mandated.

Marana had asked the county to pay "in the neighborhood of \$450,000" in legal fees it incurred for prevailing arguments, Cassidy said. The court did not award those fees.

"We recognized we did not win all stages of the litigation, and asked for reimbursement of attorneys fees pursuing the portions of the litigation we won," Cassidy said. Cassidy said Marana has spent "in the neighborhood of \$1 million" on legal fees in the case.

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 Arizona Daily Star

Latest suit to halt effluent use at Snowbowl gets thrown out

Howard Fischer Capitol Media Services | Posted: Thursday, December 2, 2010 12:00 am

PHOENIX - A federal judge has thrown out the latest legal bid to block the use of treated sewage to create snow on the San Francisco Peaks.

In a ruling released Wednesday, Judge Mary Murguia said the challengers to the plan to make artificial snow at Snowbowl waited too long to file their lawsuit. She said while members of the Save the Peak Coalition first registered their objections in 2005, they waited until last year to sue.

Even if that were not the case, Murguia rejected the contention the U.S. Forest Service did not properly consider the fact skiers and others playing at the resort might get a mouthful of effluent-created snow.

The judge pointed out the state Department of Environmental Quality has specific rules on the use of effluent treated to the standards at issue here. Swimming is out, as is the use in misters and evaporative coolers.

But skiing is OK.

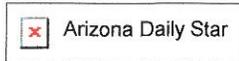
That, Murguia said, indicates DEQ believes swallowing some small amount is safe.

"It is inconceivable the state would approve the use of Class A and A-plus reclaimed water for snowmaking without considering the likelihood of exposure, including some ingestion, that comes with recreation associated with snowmaking," the judge wrote.

The ruling drew criticism from Jeneda Benally, one of the lawsuit's plaintiffs.

"We insist that our children not be used as guinea pigs for the profit of a single private business operating on our public lands," she said in a prepared statement.

And Howard Shanker, attorney for the challengers, promised an appeal.



County could OK \$240M contract this week for Roger Road facility

Decision pending on major new sewer plant

Andrea Kelly Arizona Daily Star | Posted: Monday, December 6, 2010 12:00 am

The Pima County Board of Supervisors is poised to approve a contract worth as much as \$240 million for a new wastewater-treatment plant at Roger Road.

New state and federal standards for treated wastewater require such an extensive overhaul of the 60-year-old facility that it will cost less to build a new treatment facility on the same west-side site near Interstate 10, said Michael Gritzuk, director of the Pima County Regional Wastewater Reclamation Department.

The construction, along with upgrades at the Ina Road treatment plant, are part of a \$720 million plan to bring both sites into regulatory compliance for the amount of nitrogen in treated wastewater, as well as other anticipated changes in the next decade and beyond, Gritzuk said.

Two companies - CH2M Hill Engineers Inc. and EPCOR United Water LLC - have prepared competing proposals to design and to build the new facility, and then operate it for 15 years. Having a private operator has raised questions.

The bidders have prepared qualification justifications, cost estimates and detailed technical plans for the proposed facility, and each component was scored separately to rank the competitors. The Board of Supervisors is scheduled to make a decision on the contract at its meeting on Tuesday.

Sewer customers are paying for the improvements in rate increases for the next 3 1/2 years. An average residential customer paid about \$29 a month for sewer services before the first increase in July. By 2013, that bill will stabilize at about \$40 per month.

Though the board approved the rate increases for the project, Supervisor Richard Elías said he thinks environmental and public-safety responsibilities ought to remain under county control and not be privatized.

"I think that's something we should be doing," Elías said, and referred to the TCE contamination discovered in Tucson's water supply in the 1980s. He compared the wastewater privatization to that of private prisons, which have been under scrutiny after an Arizona inmate escape earlier this year.

"I think when you talk about things that are directly related to environmental issues or public-safety-related, you're making a big mistake," he said about privatization.

Supervisor Ray Carroll said the private company building and operating the facility also should have to finance it, for increased accountability.

"When we talk about design, build, operate, funding, we talk about privatizing and putting the entire thing in the hands of someone who's going to be accountable and responsible for the item no matter what side of government we're attempting to privatize," Carroll said.

He said he worries that with public financing of a private project, construction costs will increase.

But having a private company finance the project would have cost a lot more than publicly funding it through sewer rates, Gritzuk said. Because public-sector financing is tax-free, the interest rate is lower than with private financing, he said.

The new treatment facility at Roger Road must be completed by August 2014, and the treated effluent must meet federal and state standards by January 2015.

The Ina Road facility must meet similar deadlines a year in advance, Gritzuk said.

Contact reporter Andrea Kelly at akelly@azstarnet.com or 807-7790.

 Arizona Daily Star

County could face protest from second bidder; board also OKs \$1/year building lease with UA

\$164M sewer-plant deal is OK'd

Andrea Kelly Arizona Daily Star | Posted: Wednesday, December 8, 2010 12:00 am

Pima County will spend about \$164 million to reconstruct its Roger Road wastewater-treatment plant after awarding the contract Tuesday to Denver-based CH2M Hill Engineers Inc.

The bid came in about 32 percent lower than the county's estimate and spending cap of \$240 million for the project. It follows the trend of other lower construction bids in the slumping economy.

The other bidder, Epcor United Water LLC, indicated Tuesday that it plans to file a formal protest of the decision, as allowed by state law and county policy. If the protest is denied by the procurement department, the Board of Supervisors could revisit the decision on appeal from Epcor.

Supervisors Richard Elías and Ray Carroll voted against the contract. Elías objected because the contract calls for CH2M Hill to not only design and build the facility, but to operate it for the next 15 years. He believes a county-run facility better safeguards the public's health, referring to the discovery of TCE in city wells.

"I have not forgotten that. I will not forget that, and I will stand up as a voice for those folks who are no longer with us and can't be with us today to make sure we have those clear lines of accountability," Elías said.

Carroll said he wanted the contract to go one step further and require the company to not just design, build and operate the facility, but also to finance the construction.

Funding for the project is coming from increases to wastewater bills over the next three years, the first of which took effect in July.

The supervisors also approved a \$1-a-year lease for the University of Arizona to rent the county's Roy Place building downtown - a former Walgreens store - which was designed by the noted architect. Plans for the site, to be called University of Arizona-Downtown, include a UA bookstore and classroom space for the public administration, geography and architecture programs.

Carroll, the lone dissenter, said he opposed the decision because the building was never offered for rent to other businesses or tenants.

"The deal they did was closer to a Rio Nuevo decision than a Pima County board decision. Downtown is a hot market, and I'm concerned about that," Carroll said.

The contract calls for the University of Arizona to spend \$400,000 on improvements to the building. Given that expenditure in the first five years of the lease, Supervisor Ann Day said she is comfortable with the \$1-a-year rent. But after the first five years, she said, she'd like to see any tenant in the building paying market rent.

Day referred to the city of Tucson's numerous \$1-a-year leases, which have been criticized. "That hasn't worked for them," Day said.

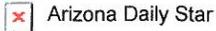
The other supervisors hailed the decision as a benefit to downtown.

"This does more for downtown and downtown redevelopment than has been done in a very long time in this community," Supervisor Sharon Bronson said.

A downtown business owner asked the board to make sure the plans for a UA bookstore in the building won't compete with her business, Desk Couture, which sells pens and specialty writing instruments across the street from the building to be leased.

County Administrator Chuck Huckelberry told Helen Gutierrez that the university does not intend to compete with existing downtown businesses such as hers.

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 Arizona Daily Star

In new post, Jenkins to oversee rebuilding of Roger Road plant

Deputy to replace wastewater director

Andrea Kelly Arizona Daily Star | Posted: Friday, December 10, 2010 12:00 am

Pima County's next wastewater director will take over just as the department undertakes the largest construction project in the county's history.

Regional Wastewater Reclamation Department Director Mike Gritzuk is retiring Feb. 1. He'll leave the department in the hands of now-Deputy Director Jackson Jenkins, who begins as director at the same time, according to a news release from the department.

Jenkins has worked with the county for six years, all of them in as deputy director of the treatment division of the Wastewater Reclamation Department. Before that, he worked for more than 20 years in mining-industry management. He'll make \$135,000 a year in the director position.

Gritzuk, who makes \$137,000 a year, joined the department in 2005. Before that, he spent 17 years as director of Phoenix's Water Services Department. He'll continue to work part time after he retires, overseeing the Regional Optimization Master Plan, which includes a \$164 million reconstruction of the wastewater treatment plant at Roger Road and upgrading the Ina Road treatment facility.

The Roger Road work is expected to start in February or March, though construction will proceed in phases as design continues, Gritzuk said this week. The Pima County Board of Supervisors hired Denver-based CH2M Hill to design, build and operate the new Roger Road treatment plant to meet state and federal standards for wastewater quality.

Jenkins' hiring comes after a national search for Gritzuk's replacement. The county plans to fill Jenkins' deputy-director position after he becomes director.

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Research: SW must reduce its water use

Tony Davis Arizona Daily Star | Posted: **Tuesday, December 14, 2010 12:00 am**

With Lake Mead falling and the drought showing no sign of abating, it's time for the Southwest to start doing more of less: Do more to cut water use instead of simply chasing new supplies for thirsty cities and farms.

That's the conclusion of several researchers in a special presentation in a national journal on this area's problems and future concerns with water supplies, growth, drought and climate change.

The researchers wrote that the Southwest needs to consider everything from limiting swimming pools to building more rainwater- harvesting and gray-water systems to installing low-flow toilets, shower heads and washing machines.

Several authors said it's time to look more closely at limiting and managing population growth. That includes the building of more high-density subdivisions instead of current Sun Belt-style developments with large lots containing lots of grass.

One reason the changes are needed is that regardless of whether global warming makes our drought worse, it is unlikely that this region will ever return to the moist climate of the two decades ending in about 1998, one of the papers said. Another paper, reporting on Phoenix, said that if the region grows as expected by 2030 without water-use limits, there's no way to prevent major groundwater depletion no matter what happens with the weather.

The articles were published this week in the Proceedings of the National Academy of Sciences.

"I don't know what will be needed to push water managers and policymakers to take more aggressive and sustainable actions to solve our water problems in the Southwest, but something must be done to avoid the coming crisis," said one of the authors, think-tank director Peter Gleick, in an interview. Gleick is president of the Pacific Institute for Studies in Development, Environment, and Security in Oakland.

"We're in a car heading for a brick wall, and there is little indication that we've even taken our foot off the gas, much less applied the brakes."

At a very immediate level, anyone who stands on Hoover Dam and looks out at Lake Mead, which is now drained of over 60% of its water, "can see we have a water problem right here and now," the special issue's lead author, geography professor Glen MacDonald, who directs UCLA's Institute of the Environment, told the Star. "This does not take models, graphs or anything else to demonstrate."

MacDonald said he hopes the issue will help water officials to make informed decisions about water.

"It is going to require that kind of broad cooperation to keep our region vibrant. It is also going to require new approaches beyond more dams and canals. It is also going to require us to consider what is the real value of water as it becomes a even more stretched commodity."

Two articles in the issue strongly agree that this region is very likely to get drier this century, although they disagreed on whether the Southwest's current drought is caused by climate change.

A paper written by a federal researcher and a Columbia University researcher reported that the drier air is due to La Niña, a condition caused by natural sea-surface temperature variations.

A second paper argued that the region's changes in hydrologic conditions over the past 50 years can't be fully explained by national variability, and instead show signs of impacts by climate change. It was written by researchers at Scripps Institute for Oceanography and the U.S. Geological Survey.

The usual Western attitude for dealing with water problems - finding new supplies - has run its course and is no longer sustainable environmentally, Gleick and MacDonald wrote.

The push for new supplies goes back centuries to the days when the Hopi, Zuni, Rio Grande Pueblo, Hohokam and other tribes built irrigation canals and irrigated crops along the Santa Cruz, the Rio Grande and other rivers, MacDonald wrote. In the 20th century, the instruments of Western development were dams, canals, pipelines and other projects, Gleick wrote.

Now, however, ecosystems around the West are collapsing from the effects of the dams and water-diversion projects, Gleick wrote.

"Unconstrained and unmanaged growth" can no longer be accommodated with water supplies, and new thinking and management approaches are needed, he wrote.

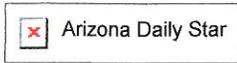
Looking at Phoenix as an example, two Arizona State University researchers concluded after running a series of computer models that without limits on growth or water use it's not possible to stop the area's overdrafting of groundwater no matter what happens with the weather.

The water table's drop would become severe under the most pessimistic possible climate-change scenarios, the researchers said.

But if Phoenix cut its future growth rate in half and eliminated all irrigated outdoor landscaping and backyard pools, a sustainable water system can be achieved "for all but the most severe climate futures," ASU researchers Patricia Gober and Craig Kirkwood wrote.

"Designing a system to supply enough water for business as usual in the most pessimistic climate-change scenarios would be very expensive and perhaps physically impossible," they wrote. "Ignoring those scenarios and designing for a best-guess case could leave Phoenix vulnerable to a water shortage with little time to adapt."

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Basin for flood detention latest step on Arroyo Chico project

Posted: Tuesday, December 14, 2010 12:00 am

Workers are excavating a flood-control basin between Highland and Cherry avenues south of East Broadway as part of a long-term drainage project.

It's part of a broader work along the Tucson Arroyo, or Arroyo Chico Wash, from Alvernon Way to the Santa Cruz River, and is spearheaded by the Pima County Flood Control District.

This \$11 million phase of the project includes new flood-detention basins between Park Avenue and Cherry Avenue; realignment of the High School Wash box-culvert along Third Avenue and Eighth Street; larger culverts under Campbell Avenue at the Arroyo Chico; and an improved drainage channel along the Arroyo Chico between Campbell and Parkway Terrace.

The work is scheduled to be finished by the end of 2011. A previous phase involved a new detention basin at Cherry Field.

 Arizona Daily Star

High-altitude forests face bleak future here

Tom Beal Arizona Daily Star | Posted: Tuesday, December 14, 2010 12:00 am

The effects of drought are most visible at the tops of our mountains.

Fires that destroyed much of the forest atop Mount Lemmon and the bugs that ate the top of Mount Graham were abetted by hot, dry conditions that scientists predict will recur in the coming years, making it difficult for forests to recover.

Catastrophic fire and insect outbreaks claimed up to 18 percent of the high-altitude forests in Arizona and New Mexico in the past 24 years, according to a report published this week by researchers at the University of Arizona and elsewhere.

A century of forest mismanagement is partially to blame, the report says, but a decade-long drought and rising temperatures are probable contributors, and the future looks bleak, the report says.

More than half of the Southwest's high-altitude forests could be gone by mid-century, under a worst-case scenario for continuing drought outlined by other UA researchers in a series of papers published this week in the Proceedings of the National Academy of Sciences. The eight papers sound warnings about the effects of drought on the region's ultimate sustainability.

The report does not predict that half our forests will disappear, said lead researcher Park Williams, a geographer at the University of California-Santa Barbara.

"We should not expect half the forest to be gone by 2050, but we should expect high levels of mortality," he said.

"We suggest it is time to accept that warming is going to continue, that trees in the Southwest are particularly sensitive to the warming and forests are going to change," he said.

Authors of the study, "Forest Responses to Increasing Aridity and Warmth in the Southwestern United States," include Tom Swetnam and Steven W. Leavitt of the UA's Laboratory of Tree-Ring Research.

"The Southwest is really the microcosm of these multiple factors coming together to create the perfect firestorm - increases in fuels and invasive species and expansion of homebuilding out in wildland areas - on top of that an extraordinary drought and higher temperatures," Swetnam said.

The trees' defensive reactions to drought and high temperatures make them vulnerable to pests, Swetnam said. They close their stomata - pores underneath their leaves - more often, stopping the respiration that transforms carbon dioxide into needed chlorophyll. That makes these "carbon-starved" trees more vulnerable to beetle and other insect attacks and it could lead to massive die-offs even without the pests.

The study analyzed aerial and satellite data gathered by U.S. Forest Service researchers to determine the extent of the forest damage.

The measurements are "coarse" said Swetnam, the director of the tree-ring lab, but they are conservatively estimated. Swetnam believes the numbers are even higher than the report indicates.

They are drawn from U.S. Forest Service satellite surveys of fire damage since 1984 and the same agency's aerial surveys of beetle kill over a decade ending in 2008.

They indicate 7.6 percent, or 7,018 square miles, of tree mortality in all forest and woodland types due to bark beetles, and a 2.7 percent mortality, or 2,479 square miles, from fires. That broader measurement includes lower-elevation woodlands, characterized by piñon and juniper.

When limited to the high-altitude forests, characterized by ponderosa pine and Douglas fir, the percentage figure rises to 18 percent.

The study then analyzed precipitation and tree growth recorded in 1,097 tree-ring records (each representing 10 to 30 trees) in the U.S., concluding that that the Southwest region and the Colorado Rockies are the most likely to experience "widespread decreases in growth" as temperatures rise.

The Southwest region, for this paper, is Arizona, New Mexico and the southernmost portions of Utah and Colorado.

Drought and rising temperatures aren't the only things contributing to fire and insect death in Southwestern forests, the paper says. Grazing, fire suppression and invasive species all lend a hand. But the period of greatest forest loss coincided with the highest temperatures of the past 100 years, and the historical record shows a direct correlation between drought and tree mortality.

The paper calls for forest management that recognizes damaged forests may not be capable of returning to their former structures. Forests may convert to grasslands at lower elevations and change tree types higher up.

"Managing to resist undesired change" may be necessary for "highest-value resources," within or near forests, the paper says, but are "stopgap measures in the face of projections of rapid climate change."

Managers need to recognize that some of the changes of recent years are permanent and work with them, said Swetnam - introducing or allowing fire, for instance, to keep some previously continuous forest in its post-fire patchwork configuration.

Landscape-scale programs in Arizona's forests are good steps toward preparing for future drought, he said. They include the Coronado National Forest's Firescape Initiative and the 4 Forests Restoration Initiative, in the ponderosa pine forests of the Apache-Sitgreaves, Coconino, Kaibab, and Tonto national forests.

Drought will recur, says another of the papers from a team led by Connie Woodhouse of the UA's School of Geography and Development.

The current drought is worse than anything in the 150-year historical record, but it "pales" in relation to others reconstructed from paleontological records of temperature and stream flow, the paper says.

The "worst case" - a two-decade long drought in the mid-12th century - was "more extensive and much more persistent than any modern drought," the report says.

That drought occurred during a period of warm temperatures across much of the globe, but temperatures in the Southwest, though elevated, did not reach the level of the last two decades. With predictions of even warmer temperatures to come, the next drought may have no analog in the past, the study says.

This is not just a problem for the forests. The conifer-studded highlands are the primary watersheds for a rapidly growing region of the country that has yet to come to terms with its future water supply.

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