Colorado River flow reduction predicted

by Mike Lee

Climate change and soaring population growth across the Southwest threaten to overwhelm the main water source for tens of millions of people, the National Research Council said Wednesday in a major report that synthesized decades of research on the Colorado River basin.

The potentially affected areas include San Diego County, which received about 60 percent of its water from the river last year. The region gets most of its remaining water from Northern California rivers, which are expected to suffer from similar climate conditions.

Historically, droughts across the desert Southwest may have been longer and more severe than scientists understood, the report's authors said. With the addition of global warming, the evidence strongly suggests that gradual temperature increases will further reduce the Colorado's flows, they wrote.

The combination of factors "will inevitably result in increasingly costly, controversial and unavoidable trade-off choices," the council's researchers wrote. They are part of the congressionally chartered National Academies, which advises the government on science issues.

The council's findings were underscored by warnings in the report that conservation and technology likely won't be enough to offset the Colorado River's dwindling volume in coming decades, and that future weather patterns could force substantial changes in how water is divvied up.

For one thing, the report suggested the possibility of transferring more water from agricultural to urban areas. San Diego County already has tapped this option, although the arrangement still generates stiff opposition in rural areas such as Imperial County.

The council also highlighted the need for ways to deal with climate change while reducing its impacts. However, it steered away from policy recommendations, saying that more study was needed.

"We better be prepared. That is the message," said Ernest Smerdon, chairman of the committee that wrote the report. He is a retired dean of the College of Engineering and Mines at the University of Arizona.

The gloomy conclusions substantiate concerns among water managers in California and other states as they plan how to jointly shoulder future reductions in water taken from the Colorado River.

The waterway's basin is showing the effects of a drought that started in 2000. Water managers don't predict supply shortages for this year, but it's harder to forecast beyond that.

Meanwhile, a 2006 report on the State Water Project - and the Northern California rivers that are the other main source of San Diego County's water - also forecast increasing difficulty in meeting the competing needs of fish, farmers and cities in the face of global warming.

"It's not something that we can bide our time (on) until we retire," state water chief Lester Snow said at a climate-change conference a few weeks ago in San Francisco. "We need to manage it now. We're not doing a particularly good job."

Statewide, water officials are ramping up several efforts to address the West's changing water dynamics. Some of the plans are generating controversy due to environmental impacts. Others are expensive and would drive up the cost of water in California.

The Metropolitan Water District of Los Angeles, the leading wholesale water supplier for San Diego County, already expects to increase its rates over the next few years. It said long-term climate patterns could accentuate the pricing trend.

"If you lose part of your water supply, then you need to replace it and (that's) almost always at a higher cost," said Roger Patterson, the agency's assistant general manager.

In Sacramento, Gov. Arnold Schwarzenegger is proposing new dams to store mountain runoff in Northern California. His plan is part of a multibillion-dollar water program for the state.

Down south, the San Diego County Water Authority is diversifying its portfolio by, for instance, purchasing more water from Imperial County and looking for ways to increase the use of groundwater and recycled water. It's also promoting a new outdoor water-conservation program.

"We are trying to prepare for the time that could come when there are shortages on the river," said Gordon Hess, director of imported water for the county water authority.

In San Diego city, two major facilities recycle water for irrigation and industrial uses. A plan to turn the city's

wastewater into drinking water is stalled because Mayor Jerry Sanders opposes it.

And in Carlsbad, a private company is pushing for a major sea-water desalination plant as a way to reduce the county's reliance on imported water supplies.

Wednesday's report was put together using dozens of research papers on the Colorado River basin, which covers some 240,000 square miles in seven states and Mexico.

Studies of tree rings show that the Colorado River's ancient history includes long periods when water levels were lower than they have been in modern times.

Specifically, the report mentioned the 1922 agreement that apportions the river's water among the states that now share it. The researchers said that pact was based on exceptionally wet years, while recent years have been notably dry.

Global warming is likely to compound historic water variations, said Connie Woodhouse, a geography professor at the University of Arizona and a contributor to the report.

Several climate models suggest a hotter future for the Colorado River basin, where temperatures have risen markedly in recent decades.

"Droughts ... could get worse," Woodhouse said.

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