Study: Water recycling key to U.S. future

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Treating municipal wastewater and reusing it for drinking water, irrigation and other applications could significantly increase the nation's water security, particularly in coastal areas such as San Diego that are facing water shortages, according to a report released Tuesday by the the National Research Council.

It said reusing purified sewage, also known as reclaimed or recycled water, to boost drinking water supplies has significant potential for helping meet future needs. And it cited new analyses suggesting that the possible health risks of exposure to chemical contaminants and disease-causing microbes from reuse do not exceed -- and in some cases may be significantly lower than -- the risks of existing water supplies.

"Wastewater reuse is poised to become a legitimate part of the nation's water supply portfolio given recent improvements to treatment processes," said a statement by R. Rhodes Trussell, chair of the committee that wrote the report and president of Trussell Technologies in Pasadena. "Although reuse is not a panacea, wastewater discharged to the environment is of such quantity that it could measurably complement water from other sources and management strategies."

The study comes as San Diego city officials are polishing their own report on the topic and assessing a demonstration project for water purification technology. For more than a decade, city residents and elected officials have debated the idea. While it was politically unpopular for years, recent public opinion polls suggest residents increasingly accept the technology.

"I ... think it will help move the dialogue on advanced treated recycled water use in the region along," said Ann Tartre, executive director of the Equinox Center think tank in Encinitas. "The study, published by a world class group of scientists at the (National Research Council), corroborates Equinox Center's findings that recycling water could significantly increase our region's access to an available local water supply, and that advanced treated water processes are safe."

San Diego County imports almost all of its water from the Colorado River and the Sacramento-San Joaquin River Delta, leaving the region vulnerable to shortages.

Tuesday's report highlighted local efforts. "Comparative cost data considering O&M costs and annualized capital costs for San Diego's water supply alternatives show that nonpotable reclaimed water is comparable to the cost of seawater desalination, largely due to the high cost of the distribution system," said the report. "Estimated potable reuse costs are lower than nonpotable reuse and desalination but substantially larger than conservation and the current costs of imported water.

"However, the cost of importing water is anticipated to rise faster than the other supplies, such that by 2030, the cost of potable reuse is anticipated to be comparable to imported water," it said.

To read the report, go to http://books.nap.edu/catalog.php?record_id=13303.