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Cities looking for ways to make brine drinkable

By B. Poole

Researchers and cities across the West are scrambling to find ways to deal with salty water.

Our limited water supply forces us to turn to drinking water options other parts of the nation aren't considering, such as brackish groundwater and effluent, said University of Arizona Professor Robert Arnold, who is about to start a two-year study aimed at improving desalination.

"In the West there's a lot of interest in using water of diminished quality, but to serve it to people you have to remove the salt," he said.

Arnold will try to find ways to reduce water loss during reverse osmosis, the most common way to remove minerals from water. Local towns and water providers, including Tucson Water, collectively pledged \$100,000 for the work, said Arnold of the UA department of chemical and environmental engineering.

The researchers will try to maximize reverse osmosis by pushing membranes to their limits and adding anti-scaling agents to cut membrane clogging, Arnold said. Traditionally the brine left over after desalination has been considered waste, but it might be possible to use it, said Martin Yoklic of the department of soil, water and environmental science.

He will try to figure out if the brine could irrigate crops or turf.

"This is the first step toward finding some productive use for that brine stream," Yoklic said.

UA has at least two other salinity-related studies under way or about to start - one seeking a cheaper way to desalinate water and one studying effects of salty irrigation water on soil.

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