

# Local Opinion: Desalinating Sea of Cortez is the wrong path

Richard C. Brusca and Omar Vidal Special to the Arizona Daily Star 1 hr ago



**T***he following is the opinion and analysis of the writers:*

We have witnessed firsthand the damaging impacts of human excess on the Sea of Cortez's natural resources — and on the well-being of its coastal communities. Overfishing, illegal fishing, coastal urban and agricultural development, corruption, organized crime, pollution and climate change all imperil this sea. Because of these menaces, in 2009 UNESCO included the Sea of Cortez on its List of World Heritage in Danger.

Now another menace looms over this sea, also known as the Gulf of California, that would add even more pressure to the fragile ecosystems already under siege. This new idea is being championed by Arizona Gov. Doug Ducey and state legislators. They propose building multiple desalination plants on some of the most pristine coastlines left in Sonora, from Desemboque to Puerto Peñasco in the northern Gulf. Ducey wants to remove salt from seawater to deal with Arizona's ever-growing freshwater demand. Something that would have unknown, but probably large, negative impacts on the environmental resources that tens of thousands of Mexicans in this region rely on.

The idea is to produce up to 200,000 acre-feet per year of fresh water, from multiple plants along the coast. The desalinated water would be delivered to farmers in Baja California by pipeline and canal. That delivery would offset a small fraction of the U.S. legal requirement to allow 1.5 million acre-feet of Colorado River water to flow to Mexico annually, thus freeing up as much as 200,000-acre feet of river water for use in Arizona.

Arizona's Central Arizona Project (CAP) has estimated construction costs at between \$4.5 and \$4.9 billion, and annual operation costs at \$293 million to \$319 million. Staggering figures by any measure. And this, to recover just 13% (or less) of Mexico's annual river allotment. There is something fundamentally wrong with this picture.

Desalination removes salts from water and produces brine that would be pumped back into the gulf. This brine is known to disrupt seagrass ecosystems, reefs, and soft-sediment communities. Brine is polluted with chlorine and copper, and it can also increase seawater temperature, salinity, and turbidity, all of which can injure sea life.

In addition, the intake pipes for such systems suck in thousands of marine creatures every day of operation, impacting aquatic biodiversity and killing huge amounts of plankton, fish eggs and larvae, and myriad other organisms that are key to the marine food chain that sustains life in the oceans. Gov. Ducey's planned sites are all along a well-documented migration route for larval and juvenile coastal fishes, many of which are important to local fishing communities or are endangered.

There is also the environmental impact of the needed infrastructure — getting highways and massive electrical delivery to the remote sites. Desalination by reverse osmosis (the planned technology) is one of the most expensive and energy-demanding processes known, not to mention carbon release into the atmosphere from the generation of all that energy. In fact, it's likely new fossil fuel power plants would need to be built to supply the enormous energy needs of these desalination facilities.

Gov. Ducey's plan just has too many unknowns; particularly how he would avoid further damage to a sea that is already under heavy pressure from other human activities.

We believe there are far less expensive, and less environmentally threatening ways to capture 200,000 acre-feet of water annually in Arizona. These include banning grass lawns in this desert environment, requiring golf courses to use only gray water, more efficient capture of rainwater to recharge water tables, shifting away from water-bingeing crops like cotton and alfalfa in Arizona, and numerous other simple, proven practices.

Why doesn't Gov. Ducey follow this more sensible, sustainable path? One that will not cost billions of Arizona taxpayer dollars, and one that would do no further harm to the Sea of Cortez.

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