Paciorek and Stokes: Can Texas get desalination right?

BY: PAULA PACIOREK AND BOB STOKES
THE HOUSTON CHRONICLE
JULY 15, 2016

Photo: Melissa Ward Aguilar

Despite numerous logistical challenges, desalination of ocean water does hold real promise for Texas as a supplement to existing water supplies. The real issue is whether state rules for development of desalination plants will provide sufficient protections for our bays and coastal wildlife.

Sometimes it seems Galveston Bay can't buy a break. During the 2010–2015 drought, the vital flow of fresh water from our rivers and bayous to our bay slowed to a trickle, imperiling commercial fisheries and wildlife as salinity levels rose. In recent months, we have seen the opposite. Historic floods have upset the balance of fresh and salty water that most bay creatures depend on, killing oysters with too much fresh water and washing tons of pollutants into the bay.

Despite these recent floods, the last drought still haunts our imaginations. All across the state, reservoirs dried up, wild fires raged and agricultural losses ran into the billions of dollars. State leaders worried about the long-term implications for the Texas economy; how could we grow and produce jobs if we run out of water?

Against this backdrop, the idea of desalinating water from the Gulf of Mexico seems like a very tempting idea. After all, the Gulf offers a near limitless supply of just what we need and it is right there in our backyard. However, we should look before we leap into the desal pool. Desalination, done poorly, will not be the answer to our water prayers.

There are multiple reasons why Texas did not rush into desalination during the drought. Desal plants are expensive to build and are also extremely energy-intensive to operate. In short, the economics of desalination remain an obstacle. That may well change, but it hasn't changed yet.

In addition to the economics, there are location-related issues to be addressed when it comes to desalination. Both the intake of water into the plants and the discharge of the super-salty byproduct are fraught with perils if located in fragile coastal environments. Without adequate measures to protect the highly productive fisheries and bays of Texas, desalination could be a disaster of our own making.

Despite this, we believe that desalination of ocean water does hold real promise for Texas as a supplement to existing supplies. The real question is: Can Texas get desalination right?

In response to recent legislation, the Texas Commission on Environmental Quality (TCEQ) has proposed rules streamlining the process to authorize diversions and discharges for desalination facilities. The proposed rules are a good start, but do not include adequate protections and must be strengthened to protect our bays and coastal wildlife before they are finalized.

Texas' bays need both fresh and salt water to be productive. Essential fresh water inflows into our bays from rivers are already greatly reduced by upstream dams and use. Bays serve as "nurseries" for the vast majority of marine fish caught by both sports-fishermen and commercial

fishing operations. Desalination diversions and discharges improperly located in bays could seriously damage these critical nurseries.

Desalination plants should not be allowed to withdraw water from our bays because of the damage these in-take "straws" could do to our nurseries. And we should prohibit the highly salty discharge from desalination plants to our bays as well. Finally, a desalination withdrawal or discharge operation should not be exempt from permit requirements unless it is located at least 3 miles seaward from any point on the coast.

Desalination done right can provide us additional drought-proof water supply. That's a good thing, but let's make sure we don't sacrifice our coastal fisheries and natural heritage in the process. We need to make sure we get these rules right to give us a needed source of new fresh water, but still protect our bays in the process.

Paciorek, is Water Resources coordinator for the Galveston Bay Foundation, of which Stokes is president.