

# Here's how we can protect our drinking water from rising seas

Over sea walls. Up through storm drains. And even into wells needed to keep your faucets flowing.

Sea-level rise isn't just a flooding threat to South Florida. The invading sea is also seeping in underground and coming for your drinking water.

Decades of too much pumping and draining to provide both drinking water and flood control leave South Florida susceptible to "saltwater intrusion" — when the ocean moves in and contaminates underground freshwater sources.

Now in some of South Florida's most vulnerable spots, sea-level rise is expected to push that underground line of saltwater inland at twice the rate it would otherwise move, according to U.S. Geological Survey projections.

Facing this growing threat requires investing in costly alternative water supplies and making better use of the freshwater sources we often take for granted.

Cities from Miami to Fort Lauderdale to Jupiter already sit within or near the line of saltwater pushing farther inland into the Biscayne Aquifer, which most communities rely on for

## THE INVADING SEA CAN SOUTH FLORIDA BE SAVED?

drinking water.

Miami-Dade County already relies on western wells to keep providing fresh water. Broward County within 50 years expects to lose 41 percent of its coastal well field capacity to the underground push of saltwater.

It's a saltwater invasion expected to get worse. South Florida's sea level is projected to rise about 2 feet by 2060 as the atmosphere gets warmer, primarily from carbon dioxide from the burning of fossil fuels.

"As the seas rise, that saltwater front moves farther inland," Broward's Chief Climate Resilience Officer Jennifer Jurado said. "It is already happening."

Just as South Florida must raise its seawalls and boost its pumping power to ease flooding, more must be done to limit seawater from contaminating our drinking water. That should include:

### MOVE WELLS, BUILD BETTER TREATMENT PLANTS

Establishing new inland wells provides a better shot at maintaining reliable freshwater supplies.

In Broward, the cities of Pompano Beach and Hollywood opened western well fields and Hallandale Beach is trying to do the same. Palm Beach County's western wells make it less vulnerable to saltwater intrusion and also able to sell water to coastal cities where freshwater supplies are at risk.

Likewise, some South Florida communities, such as Deerfield Beach and Lake Worth, are paying for new water plants and costlier treatment processes capable of turning saltier water into drinking water.

Desalination plants like those

tap into deeper, more plentiful water supplies and use the reverse-osmosis treatment process to produce drinking water. But the high-pressure filtering is expensive and probably will get passed along to water customers.

More municipal utilities have to make those costly investments in buying western land for new well fields and building plants capable of treating saltier water. And to make it happen, water customers will have to get used to paying more for what comes out of our faucets.

### DEVELOP ALTERNATIVE WATER SOURCES

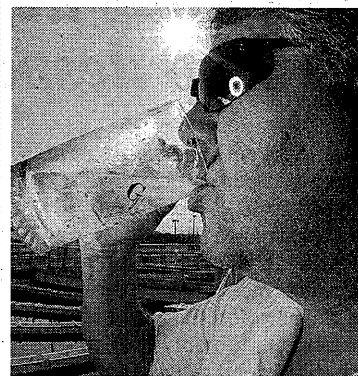
Tapping into alternative drinking water sources reduces the need for pumping as much water out of the ground, which helps avoid saltwater intrusion.

Storing and using more of the water that rains down on South Florida is one way to do that. South Florida needs more reservoirs to hold water that otherwise gets drained out to sea.

Reservoir construction and bolstering wetlands are part of a slow-moving \$16 billion Everglades restoration. Getting more water to the Everglades helps struggling wetlands. It also enables more freshwater to seep into the ground and replenish drinking water supplies.

Congress should give that effort a boost by approving a \$1.4 billion reservoir proposed to make use of Lake Okeechobee water that now drains to the east and west coasts. The Army Corps of Engineers recently gave its blessing to moving forward with consideration of the reservoir plan proposed by the South Florida Water Management District, while also raising questions about design and water quality issues. After more federal review, Congress will decide whether to share the cost.

But Congress dragging its feet on delivering the federal share of Everglades restoration — which is supposed to be a 50/50 split with



Miami Herald File

Sea-level rise will eventually threaten out drinking water which may require communities to seek costly alternatives.

the state — has slowed efforts through the years. Any lingering concerns about the Lake Okeechobee reservoir and other restoration plans should be addressed quickly so Congress can act.

Also, after years of debate, South Florida utilities should finally decide whether they are willing to team up to pay for a proposed reservoir near Wellington that could replenish well fields in Miami-Dade, Broward and Palm Beach. If the potential \$400 million price is too high, it's time to focus on other water-storage alternatives.

"By storing and redirecting water ... we increase the resiliency of our ecosystem and we reduce the vulnerability of our (drinking) water supply in South Florida," said Stephen Davis, wetlands expert for the Everglades Foundation. "We continue to recharge the aquifer."

### INCREASE WATER CONSERVATION

Cutting back water use leaves more fresh water in the aquifer to hold back salt water. One way to do that is to stop using so much water to feed thirsty lawns.

About half of South Florida's public water supply goes toward keeping lawns and other landscaping green.

Planting more Florida-native trees and shrubs that don't require much watering reduces the strain on the water supply.

Actually enforcing South Florida's year-round, lawn-watering rules would help. Those rules allow up to twice-a-week watering for most of Miami-Dade and Broward and three times a week for most of Palm Beach County.

Also, making better use of the water we flush away could mean pumping less out of the ground to feed our sprinklers. Using more treated wastewater for irrigation requires extending re-use water lines into more communities.

### PURSUE REGIONAL COLLABORATIONS

Protecting our drinking water requires regional cooperation to share the costs and spread the benefits of new reservoirs, well fields and treatment plants.

Rising seas don't care about the boundaries between utility service areas or who gets the water bill proceeds. Cities and counties shouldn't try to go it alone when it comes to holding back the sea.

And making matters more difficult, the demand for South Florida's drinking water keeps growing. More than 3 million people are expected to move to South Florida by 2025 — boosting drinking water needs about 22 percent, according to the South Florida Water Management District.

We need more stringent state and local standards about whether there's enough water to meet future needs, before continuing to approve developers' building plans.

The salt water is coming, and we must do more to meet the threat growing beneath us.

*"The Invading Sea" is a collaboration of four South Florida media organizations — the South Florida Sun Sentinel, Miami Herald, Palm Beach Post and WLRN Public Media.*