MIGRATING MANGROVES

Mission-Aransas
Research Reserve
Texas

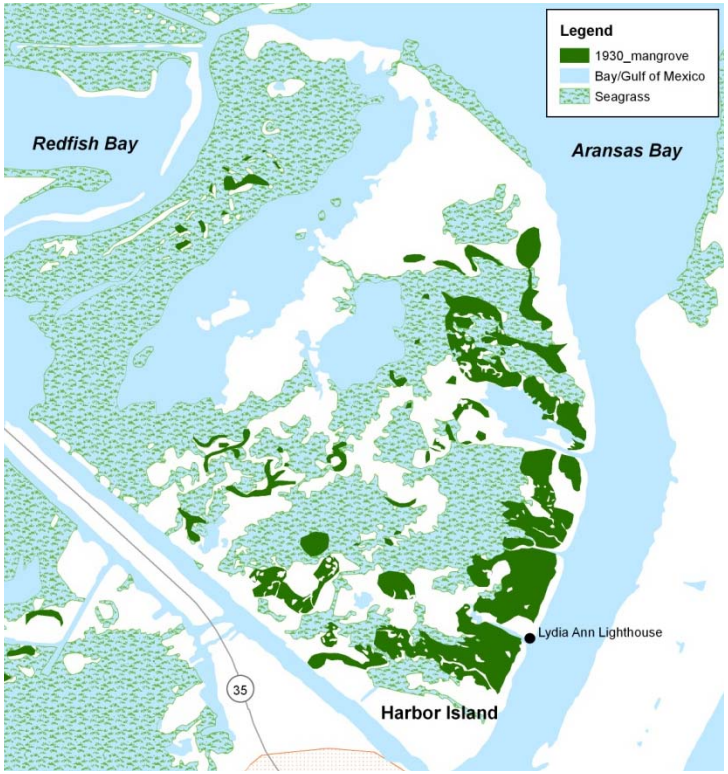
Apalachicola Reserve
Florida

One of the largest populations of black mangroves (*Avicennia germinans*) on the Texas Coast resides within the Mission-Aransas Research Reserve.

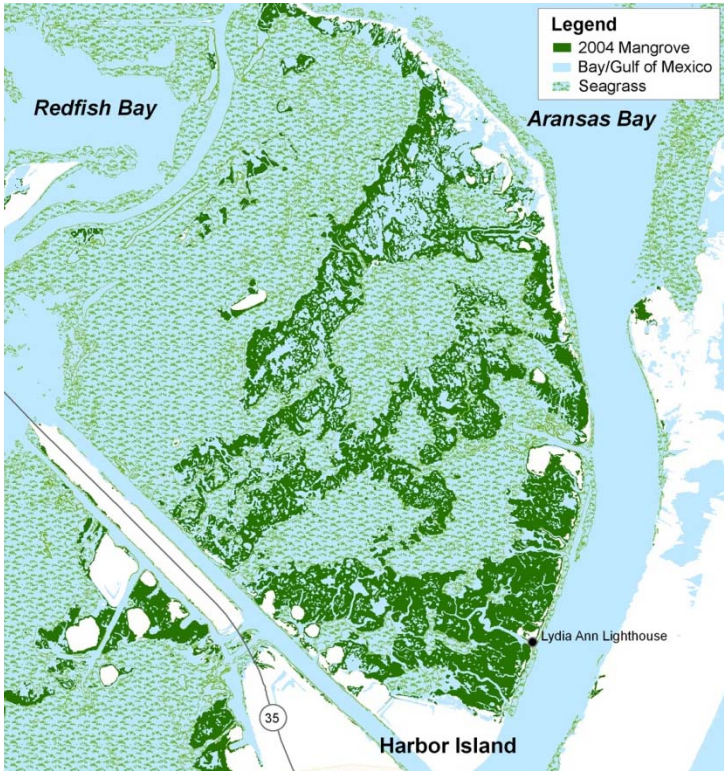
These mangroves are living indicators of climate change because they cannot tolerate hard freezes.

Their sensitivity to freezing temperatures limits their distribution to relatively warm regions.

However, maps of black mangrove distribution on Harbor Island, in the Mission-Aransas NERR, show that mangroves are migrating north and increasing their range within the Reserve.



Black Mangrove Distribution in 1930



Black Mangrove Distribution in 2004

Texas's "blue northers" periodically freeze mangroves back, so they seldom reach heights above eight feet in Texas.

But, even short, shrubby mangroves are too tall to suit some species ...

The black tips on these mangrove leaves are frost-burned, the result of a hard freeze.

Wildlife biologists are concerned that an invasion of black mangroves might harm the endangered Whooping Cranes that winter within the Reserve.

Whooping Cranes prefer to feed in open areas where they can keep an eye out for predators, so migrating mangroves could reduce the feeding territory of this endangered species.

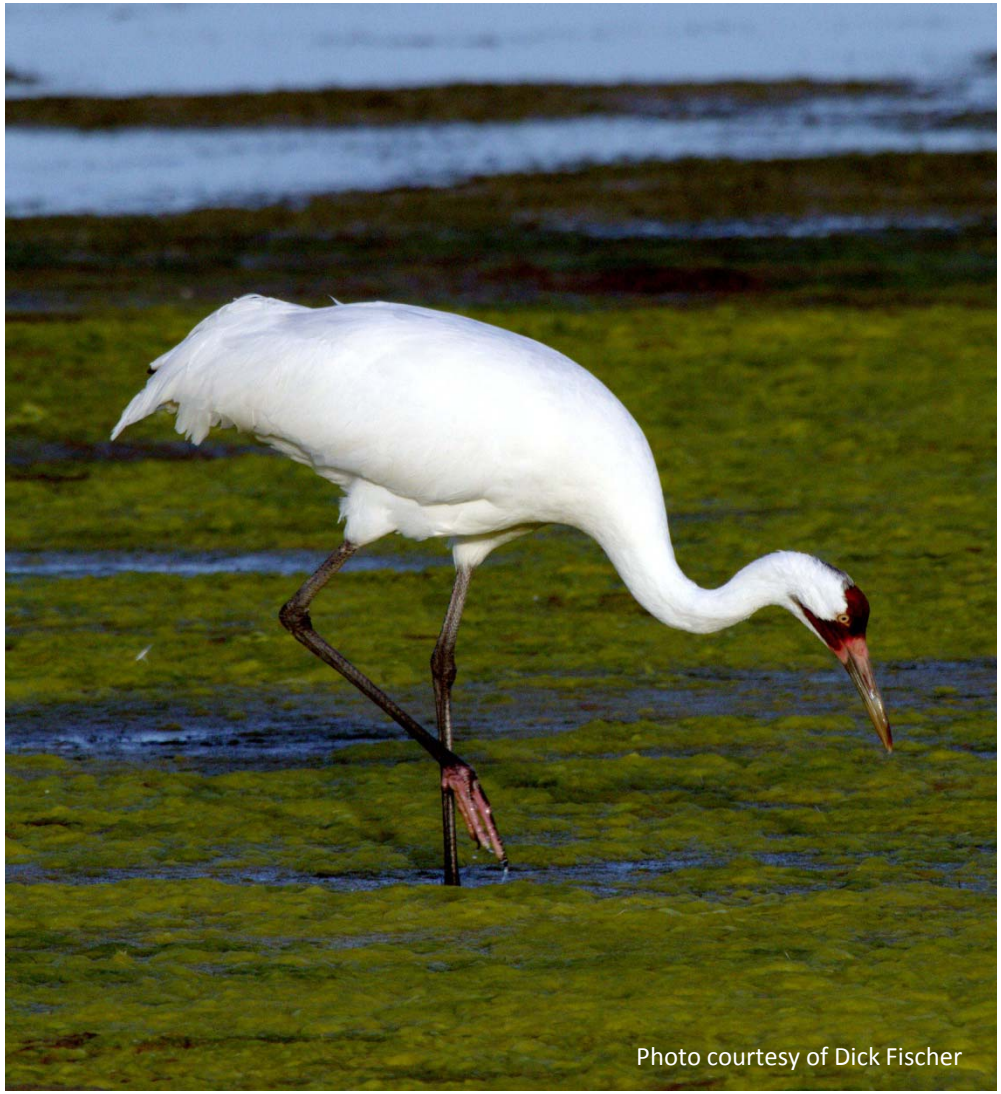


Photo courtesy of Dick Fischer

Source:
Montagna, P.A., J. Brenner, J. Gibeaut, and S. Morehead. 2009. Coastal impacts. In: *The Impact of Global Warming on Texas*, 2nd Edition. Jurgen Schmandt, Judith Clarkson and Gerald R. North (eds.), University of Texas Press. Chapter 4 (In Press).

Mangroves are also migrating north into the Apalachicola Reserve. Currently, there is a well-established patch of black mangroves on Little St. George Island. Up until the mid-1990's, the farthest northern occurrence of black mangroves on Florida's Gulf Coast was further south, near Cedar Key.

Red mangroves are even more intolerant of freezes than black mangroves, but within the past 10 years several red mangroves have popped up on St. George Island in the Reserve.

Red mangrove from the Apalachicola Reserve, revealing its "prop roots."