

Saving Spoonbills: A Look Through Roseate-Tinted Glasses

By: Nick Grosso

The shrill cry of the first cicada announced the end of the day at the Anhinga Trail, a popular spot for visitors in the heart of Everglades National Park. My mom suggests the family head back to the car, and I oblige, half-disappointed to leave one of my favorite places, half-relieved to dodge the evening bugs. As the sun begins to settle down into a distant tree island I look to the sky. I'm lucky to choose this exact moment to do so, because as my gaze shifts upward a pair of odd, rose-colored birds are soaring toward the horizon. I alert my parents and they look, too. Now, the Everglades is full of delicately-colored wading birds in all sizes, but these birds, roseate spoonbills, are always a special treat to see. It's a combination of their unique spoon-shaped faces, their light pink plumage, and the fact that they're one of the Everglades' rarer species that make any one of the members of my family shout out when one is spotted. However, hidden beneath our exclamations and fingers aimed at the sky is a sense of relief, that with each bird seen is a pleasant reminder that they're still here. Coming from a family that has deep roots in the 'Glades, I understand the importance of the spoonbill in our South Florida ecosystem and the way it, as a species, can indicate the health of the ecosystem as a whole. The problem is, climate change appears to be impacting their population – and if they're disappearing, it means their home, my home, is disappearing as well.

Native residents also of Central and South America, the roseate spoonbill is an omnivorous wetland-dwelling bird that feeds on small fish, shrimp, and insects. It is one of six species of spoonbill, who get their name from the rounded tip of their bill, which makes the whole head look like a kitchen utensil. Spoonbills take advantage of these front-leading ladles by swishing their heads back and forth in



pictured: female roseate spoonbill on the left, male on the right, courtesy of <http://tpwd.texas.gov/huntwild/wild/species/spoonbill/>

shallow water to disrupt the ground, scooping up small organisms in the process. In Florida, spoonbills are most commonly found in the southernmost portion of the state, in and near Florida Bay. While on a global scale, spoonbills are not currently a threatened species, in south Florida their populations are sensitive to a number of stressors. Florida spoonbills were first threatened during the late nineteenth century, when plumage was the highest trend in women's fashion. Spoonbills were hunted with little to no regulation until the mid-twentieth century, and, unlike their ecosystem partner the Florida alligator, recovery has not been easy for them. Now, spoonbills face a new threat, and it's not so easily addressed as resigning to buy a faux feather hat.

Climate change is one of the most serious environmental issues on the planet, with dire consequences for species, habitats and people. Sea level rise, a consequence of climate change, particularly threatens low lying areas like south Florida. People like me who live in such vulnerable areas

get front-row tickets to the effects of climate change – and for us, those effects aren't off in the distance future. For us, and for the roseate spoonbill, the future is now. Every year for thousands of years, weather conditions in Florida Bay have made it a primed location for spoonbill breeding. During Florida's dry season, freshwater levels are just low enough to create shallow pools full of tiny organisms with no escape – perfect practice for fluffy spoonbill chicks just learning their way around. On top of that,



agreeable weather conditions and minimal predatory presence made Florida Bay the perfect nursery.

A roseate spoonbill nest. Picture courtesy of the Audubon Society

So, spoonbills would flock here every year to raise a new generation of little dippers. However, during the twentieth century, agriculture and development destroyed over 50% of the once-massive Florida Everglades. Since then, the continuous operation of flood control and water supply infrastructure (as well-intentioned as it is) has damaged the remaining natural ecosystem. Artificial flood control paired with sea level rise has seriously altered the traditional water patterns of the Florida Everglades, delivering the wrong amounts of water to the remaining natural system at the wrong times of the year. Much of the breeding ground spoonbills rely on has been made deeper and deeper, too deep for little legs to wade in. Today, on top of significantly reduced numbers from historical plume hunting and seven decades of artificial water management, spoonbills now face a rising sea that threatens what little habitat they have left. The population in Florida Bay is dwindling more and more, and it's got researchers worried – both for the bird, and for the ecosystem.

But what's the big deal? Why does the disappearance of this one bird from part of its range have so many people worried? The simple answer is that the spoonbill is a very important indicator species in Florida. Because of how delicately the roseate spoonbill is adapted to the natural hydrologic rhythms of the Everglades, they are among the first indicators that something in the ecosystem has gone wrong. The most common cause of dwindling spoonbill populations nowadays is a reduction in birth rates – the birds simply aren't breeding in large enough numbers to maintain a healthy population. The biggest reason for this is sudden changes in the Everglades water level. When the birds begin to disappear, we know that the water levels are not what they should be – which, we also know, has dire consequences for far more than this one species of wading bird. The Everglades is known around the world as one of the unique environments on the planet and is one of the most biodiverse ecosystems in North America. Every species in the Everglades has adapted to the water cycle to thrive. Rising seas threaten to

inundate vital freshwater wetlands with salt water, converting coastal wetlands into other types of habitat to which native species are not adapted. Because much of the Everglades is only a few feet above sea level salt water inundation due to climate change-induced sea level rise threatens a large percentage of important habitat. The spoonbill is not the only species under threat by sea level rise. The Everglade snail kite, for example, is a bird of prey whose main diet consists of native apple snails. Apple snails are highly dependent on a certain freshwater habitat and certain water levels to lay eggs and survive. When the water is either too high or too low, they cannot reproduce, and they cannot reproduce when if they don't have the proper freshwater habitat. This is the case for most species in the Everglades, like the American crocodile or the American alligator. The roseate spoonbill is commonly used by researchers to predict alterations in the water level because of their predictable breeding patterns. A noble position to be held by such a curiously-beaked bird.

So, what can be done? Well, it turns out, a whole bunch of things. Cutting down on fossil fuel consumption is one of the most important actions individuals, businesses and countries can take that will lead directly to the slowing of polar ice melt and sea level rise. Unfortunately, realizing the benefits of reduced carbon emissions could take quite a long time – time that species like the Florida Bay spoonbills can't afford. In the meantime, it is very important for habitats and ecosystems to be as healthy as they can be, so that they stand a better chance of surviving the climate change crisis. Scientists call the ability of a species or an ecosystem to face adverse conditions "resilience". Because the Everglades and species like spoonbills have been abused for more than a century, both lack sufficient resilience to weather the threat of sea level rise. So how can we make the spoonbill and its habitat more resilient? Well first, those of us who live in and visit south Florida can reduce our water consumption. Every drop of water that we don't use can stay in the Everglades. We can support efforts to restore the Everglades, which is the largest ecosystem restoration effort in history by educating ourselves and holding our elected officials accountable if they do not support the effort. We can be educated and responsible residents and consumers by using native plants to landscape our yards and by withholding support from industries that harm the Everglades. For example, we can avoid consuming sugar grown in the Everglades and we can demand that our elected official refuse to accept campaign contributions from the sugar industry. The sugar industry, which occupies approximately 450,000 acres of Everglades land, is a major physical and political impediment to restoring more natural flows of water through the Everglades to waiting spoonbills in Florida Bay. Our roles as consumers and voters may be



pictured: sugar farm in Florida. Courtesy of The Tampa Bay Times

the most important roles we play when it comes to conservation. Being mindful of consumption habits is an effective thing an individual can do, from the comfort of their own home, to combat climate change and protect natural landscapes like the Everglades. On top of all the things you can do, however, is to educate others! In the age of social media, word of mouth has never been a more powerful and driving force. Research the issues and share them with those close to you, and multiply the effects of your efforts! I admit, however, that my favorite method of conservation education needs no power switch or wifi signal, since nothing argues “I matter” more convincingly than nature itself. Take a visit to Everglades National Park and you’ll see what I’m talking about – the place definitely speaks for itself. Convincing others to take a look and see the natural landscape firsthand gives them a sense of just what it is people are trying so desperately to protect. It’s a land of adventure, that I’ve spent my entire life exploring – in the winter of course, because Everglades in the summer can pack a serious bite!

When I think about the Everglades, I think about vast expanses of sawgrass stretching out like a giant blanket over the landscape. I think of murky water rich with black peat that agriculturalists value like gold. I think of the stillness of herons and other majestic wading birds whose unique sizes and shades of white and blue and green have inspired me to know each of them by name. I think of paddling in a canoe down ancient canopied rivers and getting suspicious looks from the box-turtles sunning themselves on bedraggled logs. I think of evenings at the Anhinga Trail, the cicadas announcing the evening ball and the rest of the ecosystem awakening at the call. But the best part has got to be those sunsets - peeking through trees to find some rare specimen, such as an alien-looking bird whose beautiful plumage seems to be my reward for looking closely enough. A reward it is indeed to spot a spoonbill, a reminder and a glimmer of hope that the place of my childhood and nursery to my imagination is still alive. The Everglades has always been my home. It is a delicate paradise, one that could easily be lost to the sea should humanity continue to consume without limits. The last flight of the roseate spoonbill would be the tolling of the bell for the Everglades, and that’s a reality I’m not ready to live in. So I watch the pair of spoonbills as they fly across the evening sky, undeterred by the cicadas screech, and I gaze until they disappear, beyond the tree island where the sun has set and the sawgrass shifts. I don’t want to return to the car just yet.



pictured: a spoonbill in a mangrove tree. Courtesy of Everglades National Park

Citations:

http://hendry.ifas.ufl.edu/pdfs/overview_of_florida_sugarcane.pdf

<https://www.nps.gov/ever/learn/nature/animals.htm>

<https://fcit.usf.edu/florida/lessons/everglades/everglades.htm>

<http://www.miamiherald.com/news/local/environment/article139196198.html>

<http://www.assct.org/florida/flenviron.htm>

<http://archive.naplesnews.com/community/history-buffs-look-back-at-floridas-plumage-era-ep-399001999-331781411.html>