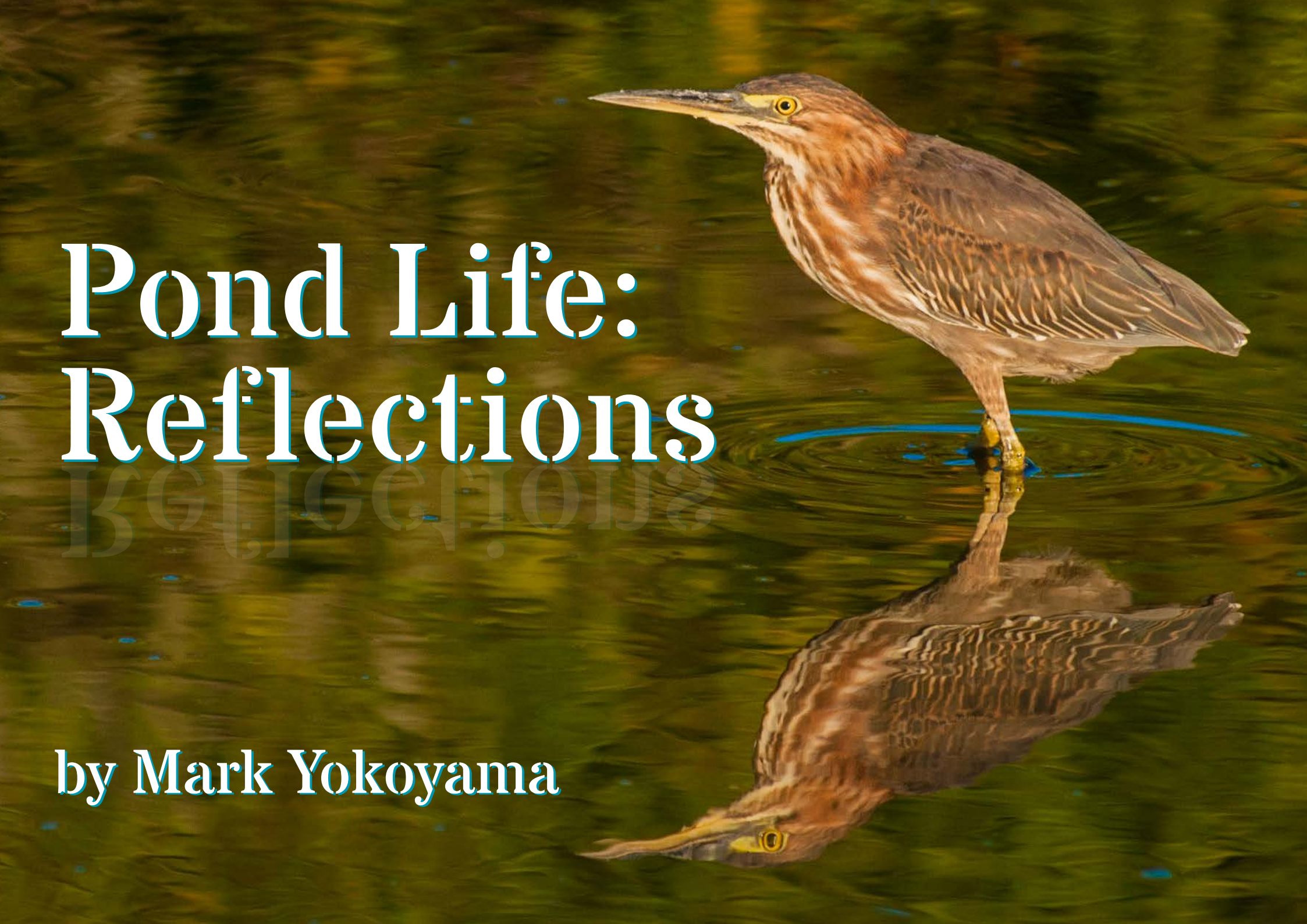

Pond Life:
Reflections
by Mark Yokoyama

Fluid Landscapes

You can draw them on a map, or stop time for a moment in a photo, but the ponds of St. Martin are ever-changing. Shorelines shift and water rises up and down. Mudflats expand as water drops during the dry season and grasses race to cover the new ground. People fill in the ponds—a bit at a time from the edges, or sometimes all at once.

The ponds change with regular cycles, like the wet and dry seasons. More unusual events also impact them: drought, flooding and hurricanes. They are perhaps the most dynamic wild places on the island. Even when they reflect the hills and sky during a windless moment, ponds are never truly still.

Ponds are also much more than water. There are entire communities of plants and animals that depend upon them, and these communities also change. Fall brings birds from far away in search of food. Drought strands fish in shrinking puddles. Spring rings with the sound of newly-hatched chicks and the warning calls of watchful parents.

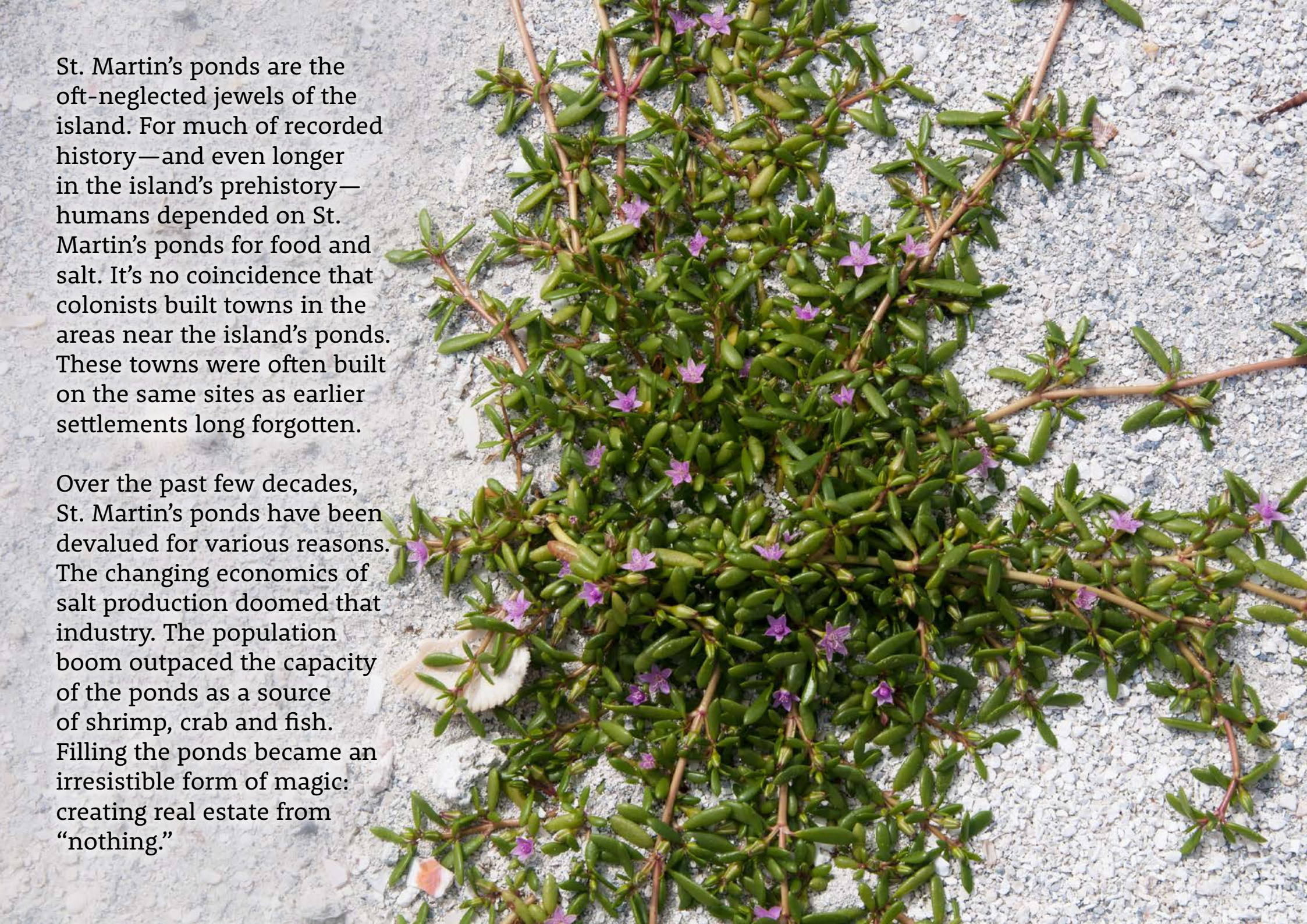
Watch these fluid landscapes and you will feel the pulse of the island.

Between Land and Sea

Ponds exist as the ever-shifting border between land and sea. They are the buffer that protects each from the other, and the bridge that connects the two. They exist in flux, from day to day and year to year. They are incredibly rich and alive.

St. Martin's ponds are the oft-neglected jewels of the island. For much of recorded history—and even longer in the island's prehistory—humans depended on St. Martin's ponds for food and salt. It's no coincidence that colonists built towns in the areas near the island's ponds. These towns were often built on the same sites as earlier settlements long forgotten.

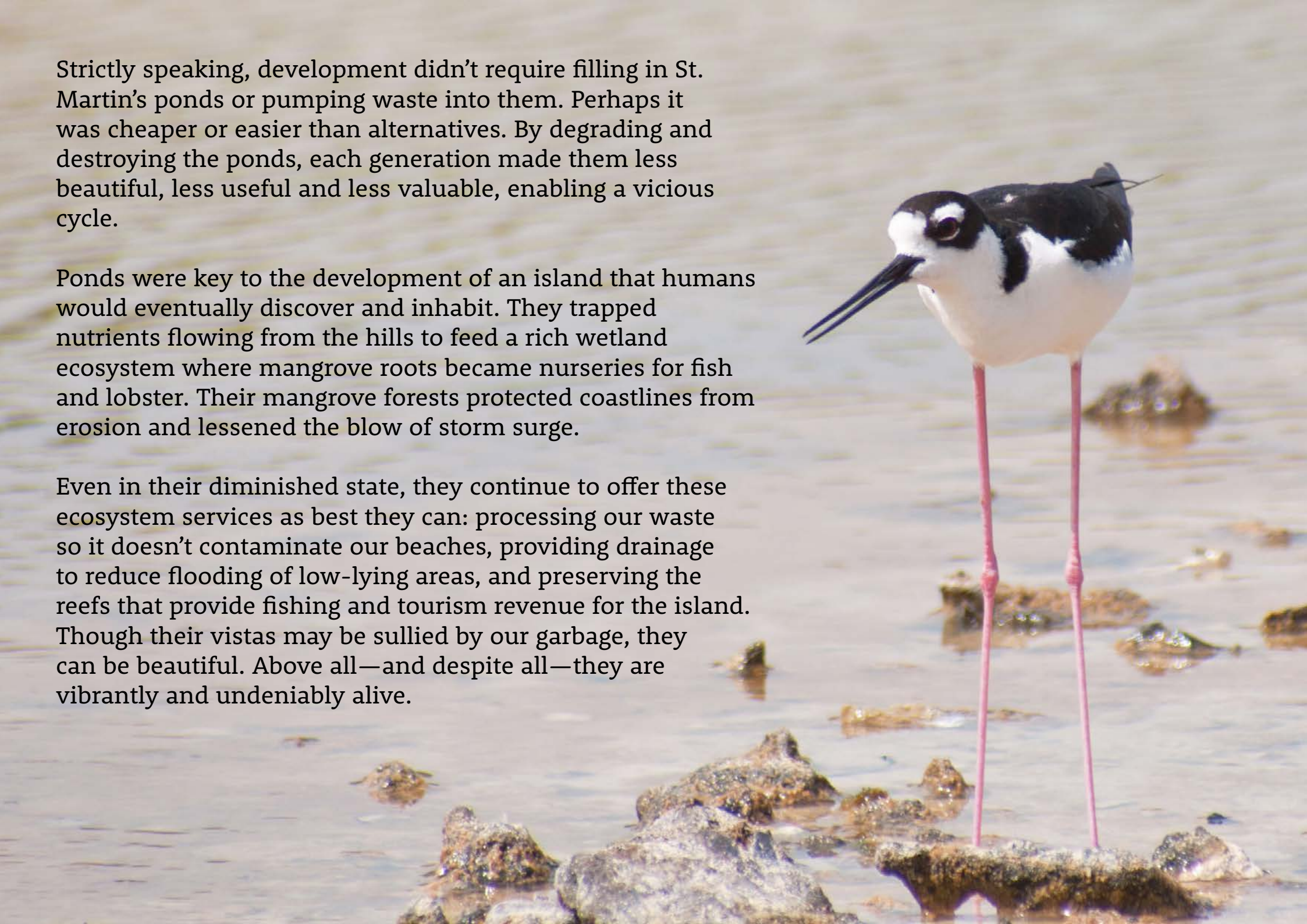
Over the past few decades, St. Martin's ponds have been devalued for various reasons. The changing economics of salt production doomed that industry. The population boom outpaced the capacity of the ponds as a source of shrimp, crab and fish. Filling the ponds became an irresistible form of magic: creating real estate from "nothing."

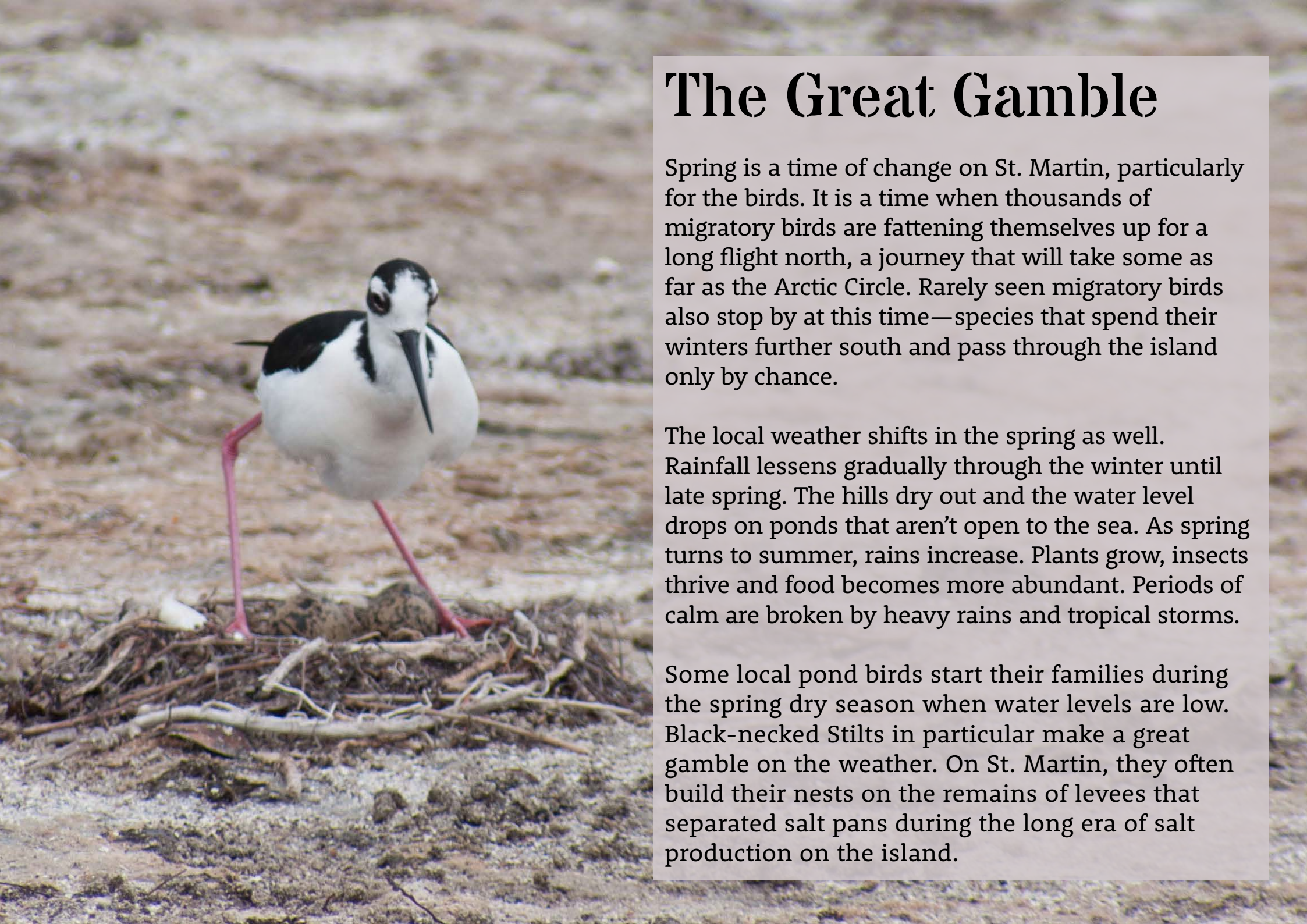


Strictly speaking, development didn't require filling in St. Martin's ponds or pumping waste into them. Perhaps it was cheaper or easier than alternatives. By degrading and destroying the ponds, each generation made them less beautiful, less useful and less valuable, enabling a vicious cycle.

Ponds were key to the development of an island that humans would eventually discover and inhabit. They trapped nutrients flowing from the hills to feed a rich wetland ecosystem where mangrove roots became nurseries for fish and lobster. Their mangrove forests protected coastlines from erosion and lessened the blow of storm surge.

Even in their diminished state, they continue to offer these ecosystem services as best they can: processing our waste so it doesn't contaminate our beaches, providing drainage to reduce flooding of low-lying areas, and preserving the reefs that provide fishing and tourism revenue for the island. Though their vistas may be sullied by our garbage, they can be beautiful. Above all—and despite all—they are vibrantly and undeniably alive.





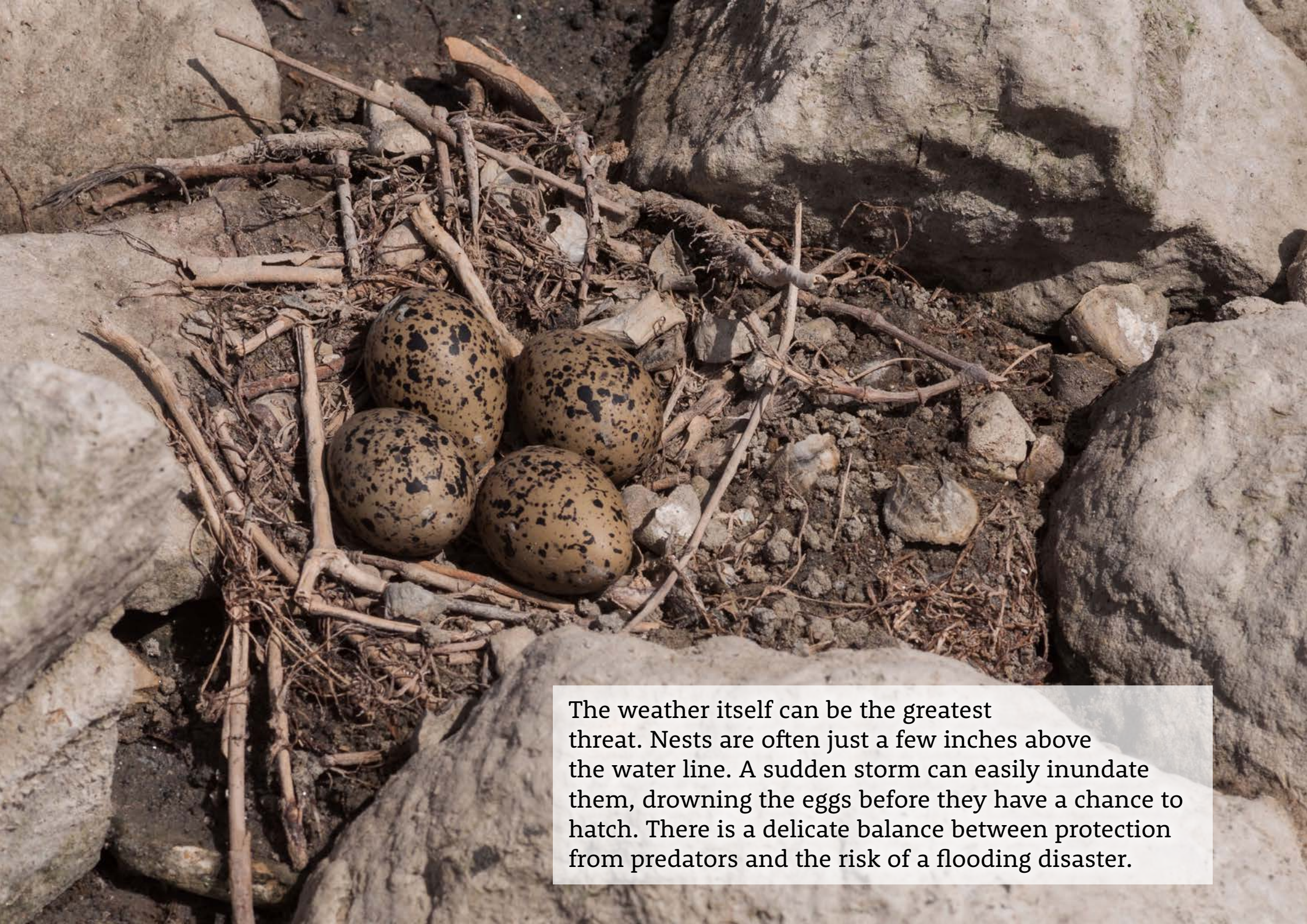
The Great Gamble

Spring is a time of change on St. Martin, particularly for the birds. It is a time when thousands of migratory birds are fattening themselves up for a long flight north, a journey that will take some as far as the Arctic Circle. Rarely seen migratory birds also stop by at this time—species that spend their winters further south and pass through the island only by chance.

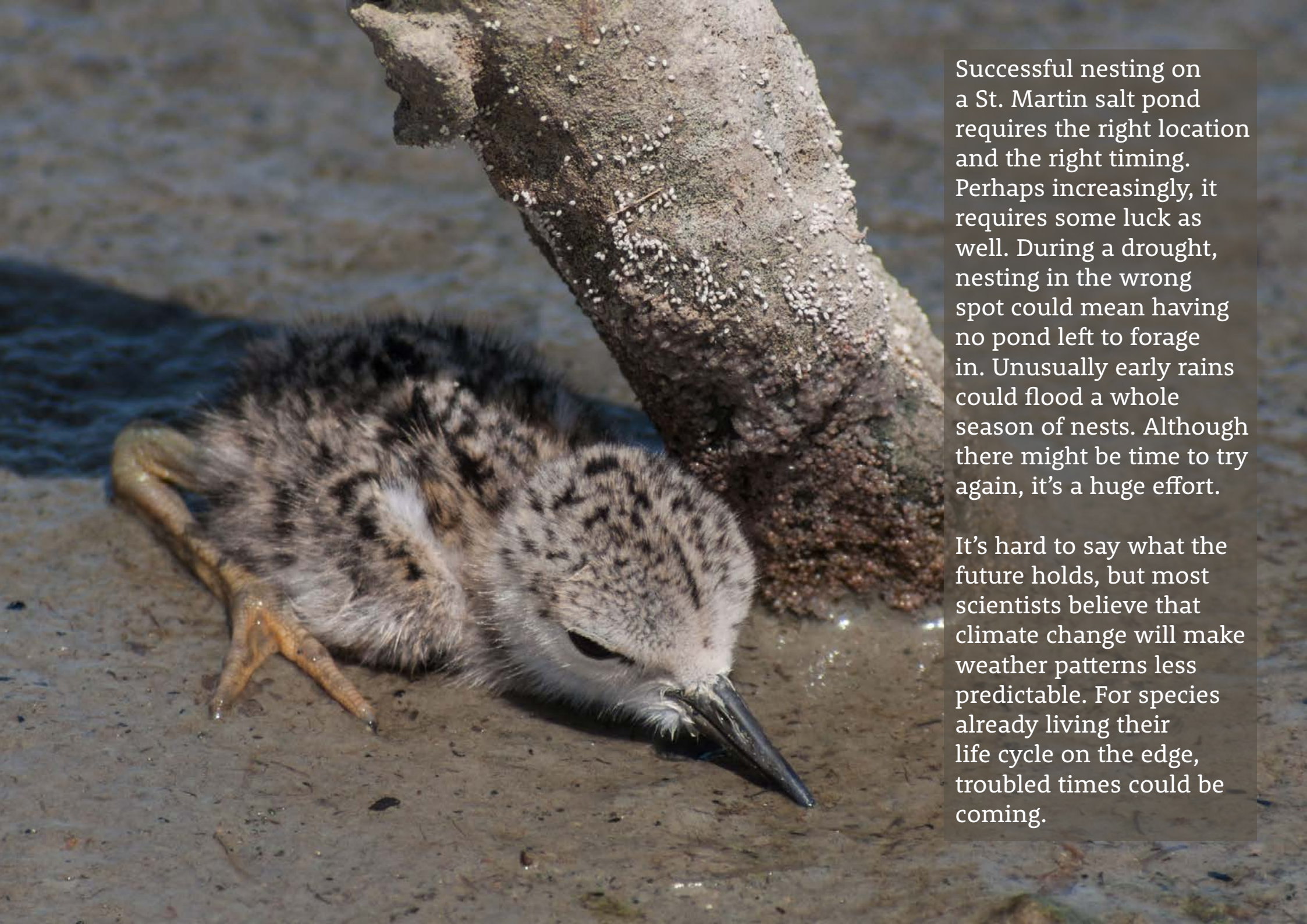
The local weather shifts in the spring as well. Rainfall lessens gradually through the winter until late spring. The hills dry out and the water level drops on ponds that aren't open to the sea. As spring turns to summer, rains increase. Plants grow, insects thrive and food becomes more abundant. Periods of calm are broken by heavy rains and tropical storms.

Some local pond birds start their families during the spring dry season when water levels are low. Black-necked Stilts in particular make a great gamble on the weather. On St. Martin, they often build their nests on the remains of levees that separated salt pans during the long era of salt production on the island.

In some ways, these levees are the safest place for a nest. Well out over the water, they are protected from predators. The mongoose, for example, loves eggs but hates water. These spots also offer excellent views of incoming threats. Black-necked Stilts are fierce protectors of their nests. When approached, they put on elaborate displays to distract and confuse.

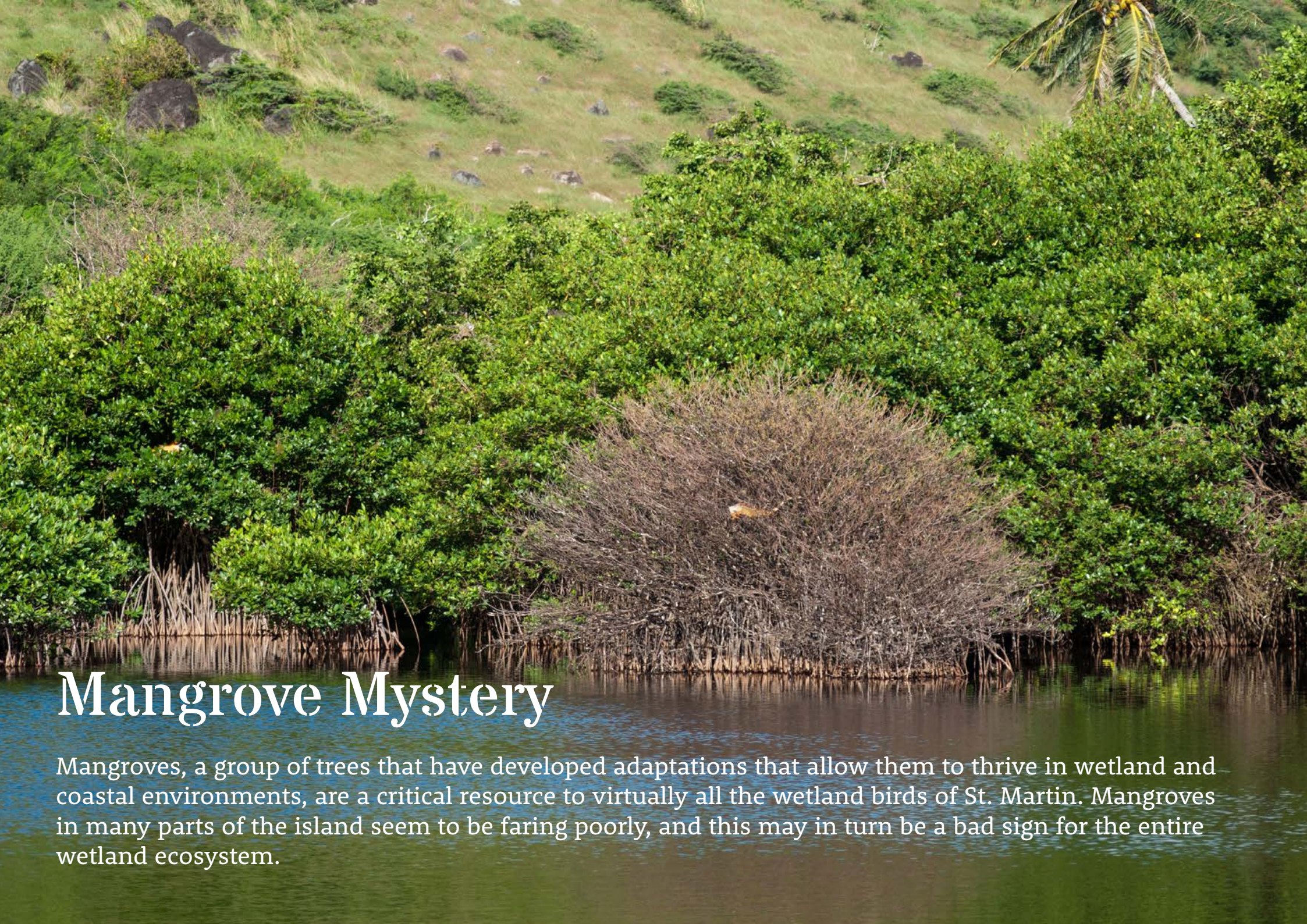


The weather itself can be the greatest threat. Nests are often just a few inches above the water line. A sudden storm can easily inundate them, drowning the eggs before they have a chance to hatch. There is a delicate balance between protection from predators and the risk of a flooding disaster.



Successful nesting on a St. Martin salt pond requires the right location and the right timing. Perhaps increasingly, it requires some luck as well. During a drought, nesting in the wrong spot could mean having no pond left to forage in. Unusually early rains could flood a whole season of nests. Although there might be time to try again, it's a huge effort.

It's hard to say what the future holds, but most scientists believe that climate change will make weather patterns less predictable. For species already living their life cycle on the edge, troubled times could be coming.



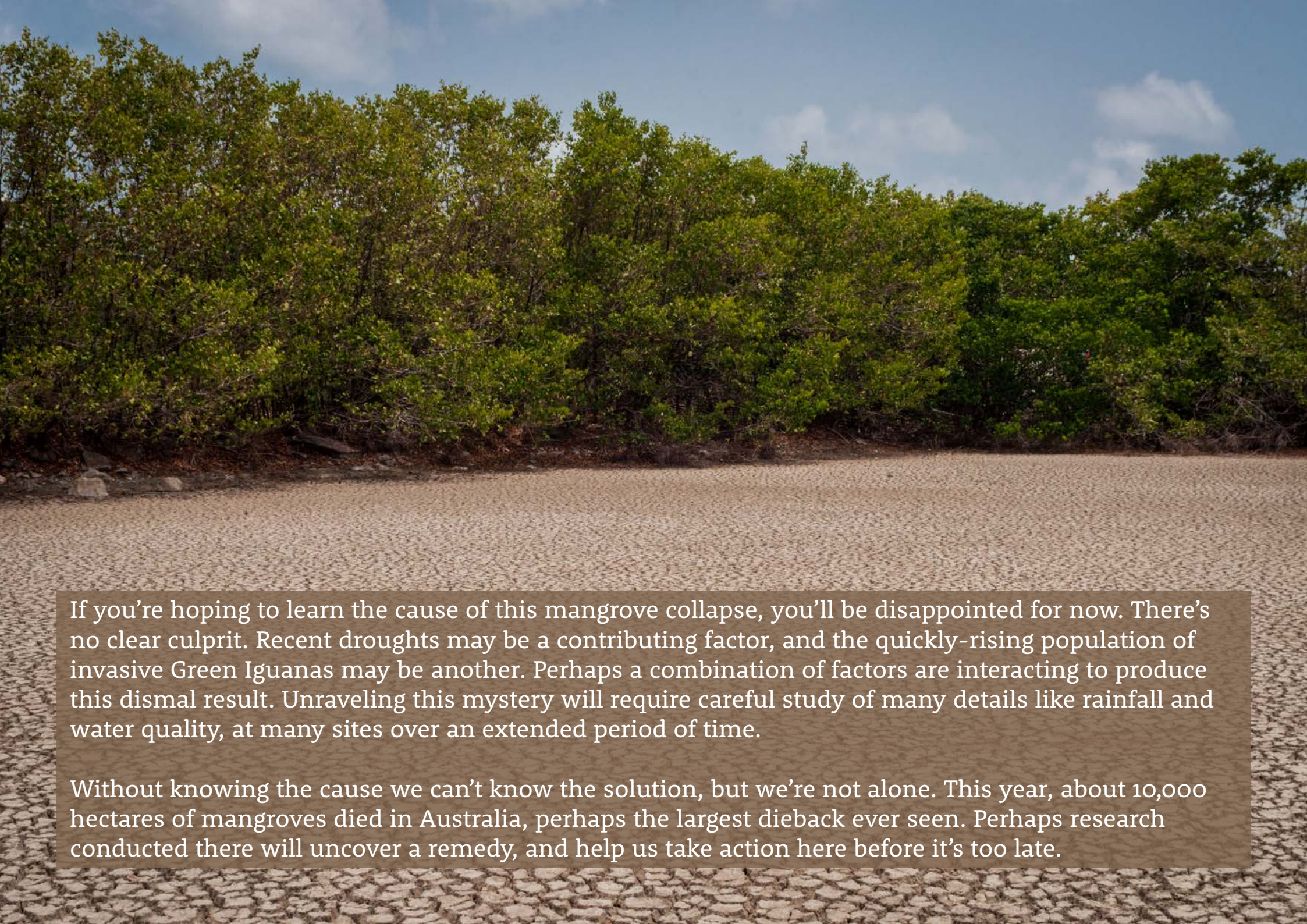
Mangrove Mystery

Mangroves, a group of trees that have developed adaptations that allow them to thrive in wetland and coastal environments, are a critical resource to virtually all the wetland birds of St. Martin. Mangroves in many parts of the island seem to be faring poorly, and this may in turn be a bad sign for the entire wetland ecosystem.

From Grand Case to Coralita, troubling scenes ring many of St. Martin's ponds. Mangrove trees, which once formed a green wall around most ponds, have transformed into collapsing piles of dead branches. Why is this happening, and what can be done about it?

Over the last few centuries, people have diminished and destroyed most of the mangrove wetlands on St. Martin to make land available for farming and development. In many cases, mangroves form a thin curtain around ponds, perhaps just a few meters deep. However, until recently these last fringes of mangrove seemed to be doing well: lush, green and dense.

A few years ago, mangroves began dying noticeably around the cemetery pond in Grand Case, where a thriving colony of egrets nested each year. Within a short period of time, dead mangrove trees surrounded much of the pond. Soon, mangroves were dying at the airport pond in Grand Case, Étang Chevrise, and Étang de la Barrière, where a beautiful birding boardwalk was suddenly surrounded by dead branches.



If you're hoping to learn the cause of this mangrove collapse, you'll be disappointed for now. There's no clear culprit. Recent droughts may be a contributing factor, and the quickly-rising population of invasive Green Iguanas may be another. Perhaps a combination of factors are interacting to produce this dismal result. Unraveling this mystery will require careful study of many details like rainfall and water quality, at many sites over an extended period of time.

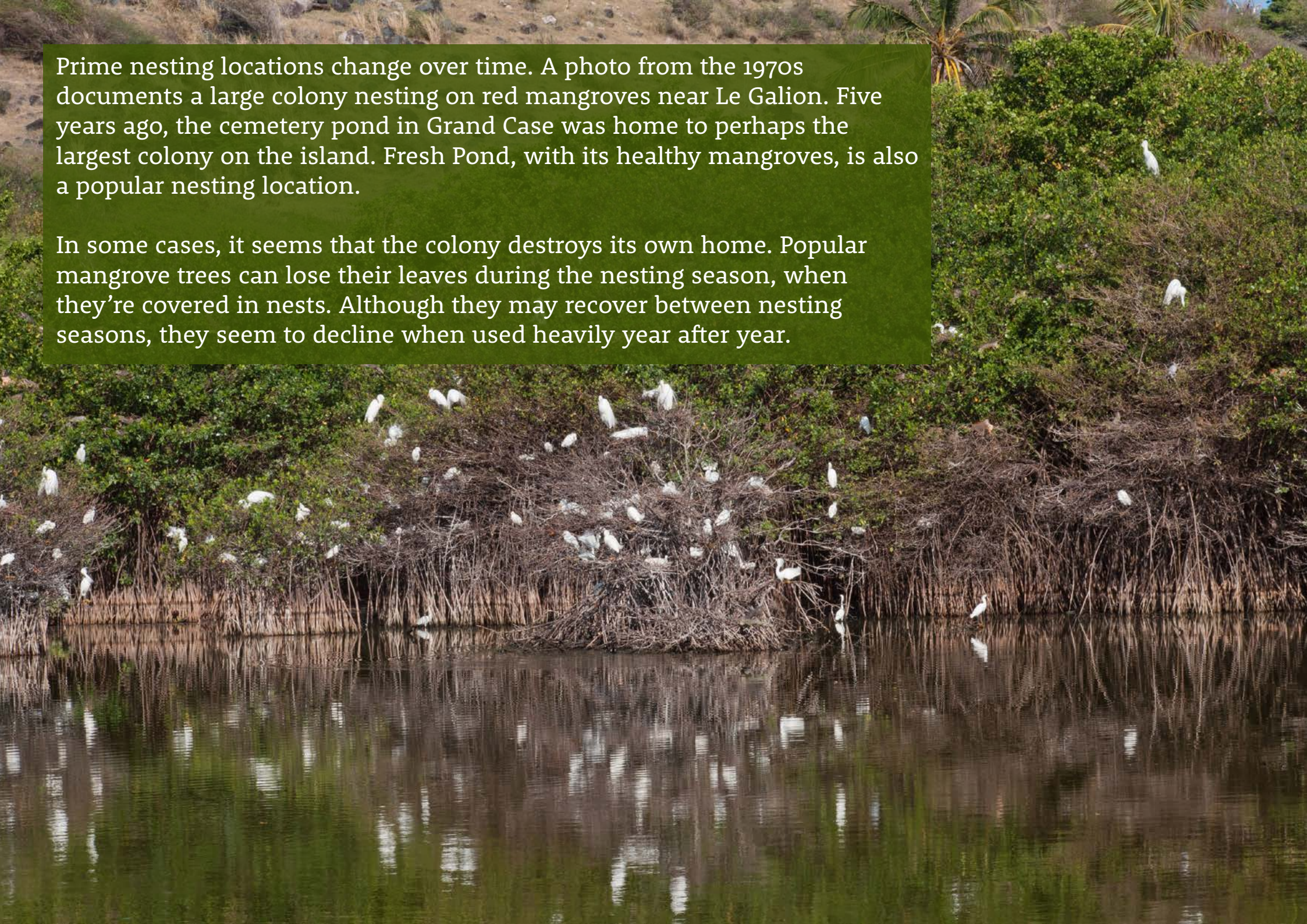
Without knowing the cause we can't know the solution, but we're not alone. This year, about 10,000 hectares of mangroves died in Australia, perhaps the largest dieback ever seen. Perhaps research conducted there will uncover a remedy, and help us take action here before it's too late.

Where Are They Now?

Egret nesting colonies are loud and bustling with activity. On St. Martin, they also seem to be on the move year-to-year as some of their prime locations collapse.

The nesting season for the island's egrets—Great Egrets, Snowy Egrets and Cattle Egrets—usually starts in January. They typically nest in colonies that feature a mix of all three species. Great Egrets tend to start the process a bit earlier than the others, giving them responsibility for selecting prime nesting locations.

Favored locations are almost always in mangrove wetlands, with the birds building their nests in the mangrove trees. They are particularly fond of locations at the water's edge—or better yet, in mangroves surrounded entirely by water. It's impossible to hide a colony of dozens of noisy birds, but the water does give them some protection from predators.



Prime nesting locations change over time. A photo from the 1970s documents a large colony nesting on red mangroves near Le Galion. Five years ago, the cemetery pond in Grand Case was home to perhaps the largest colony on the island. Fresh Pond, with its healthy mangroves, is also a popular nesting location.

In some cases, it seems that the colony destroys its own home. Popular mangrove trees can lose their leaves during the nesting season, when they're covered in nests. Although they may recover between nesting seasons, they seem to decline when used heavily year after year.

Greater forces are also at work shaping mangrove wetlands and potential nesting areas. Over the last few years, mangroves have died around many of St. Martin's ponds: the cemetery pond in Grand Case, Étang de la Barrière in Cul-de-sac, Étang aux Poissons in French Quarter, and many more. Hardest hit are the mangroves at the water's edge, the favorites for nesting egrets.

In the late 19th century, Great Egrets and Snowy Egrets were driven to the brink of extinction—hunted so their feathers could adorn hats. Their plight inspired early conservationists, and their recovery over the last hundred years has been miraculous. Although they're now safe from feather hunters, the 21st century may pose new challenges for egrets. Where will they nest this year, and will there always be a place for them on St. Martin?

Natural Misfortunes

Natural disasters that are vast in scale and broad in their impact grab our attention. Names like Exxon Valdez and Deepwater Horizon are seared into our collective consciousness and remembered for decades. But these big events are far from the only threats to our environment.

The phrase ***natural misfortune*** seems like a good way to label the smaller environmental problems that aren't on the scale of something we would call a natural disaster. Almost by definition, we don't know as much about these smaller, under-the-radar incidents. But while they are less visible, are they less problematic than the natural disasters that capture the spotlight?

Many natural misfortunes are probably never noticed at all, or perhaps just as a passing smell or a distracting piece of garbage on an otherwise lovely landscape. Improper disposal of oil—be it motor oil or fryer grease—might go unnoticed as well until an unwitting bird becomes a victim.

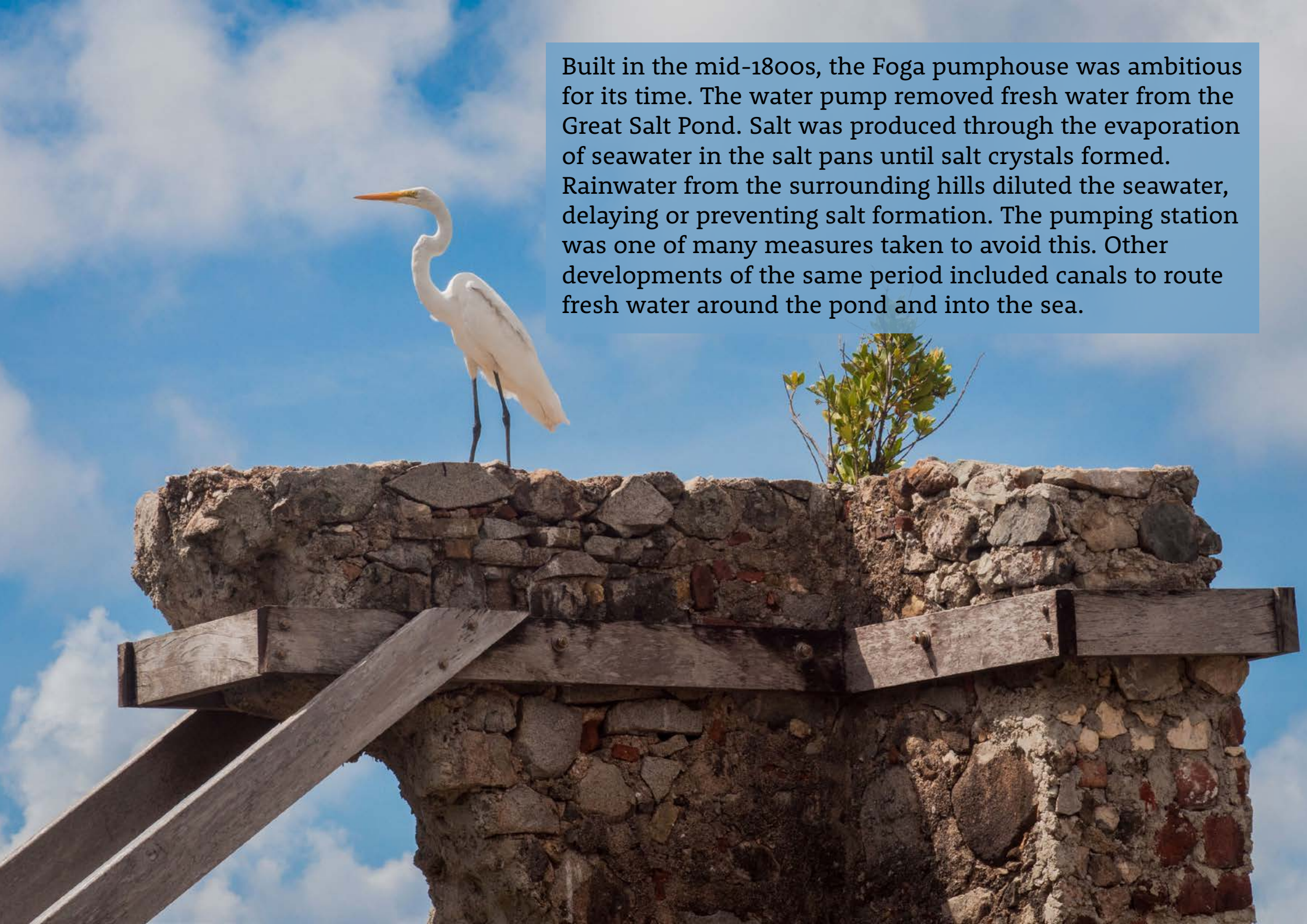
On the pond in Grand Case, a young Snowy Egret hides during the day, foraging in the morning and evening hours. As its oiled feathers get a little cleaner it can almost fly again, but for now it is very vulnerable. Once a brilliant white, its feathers show the rusty orange of oil and clump together around the neck, exposing bare skin.

Over by the Great Salt Pond, an oiled Killdeer gradually starts getting a little fluffier after weeks of cleaning oil from its feathers. Somehow, it has managed to avoid being eaten by a stray dog or cat. It can't reach its own neck to clean the feathers there, so they're still thick with oil.

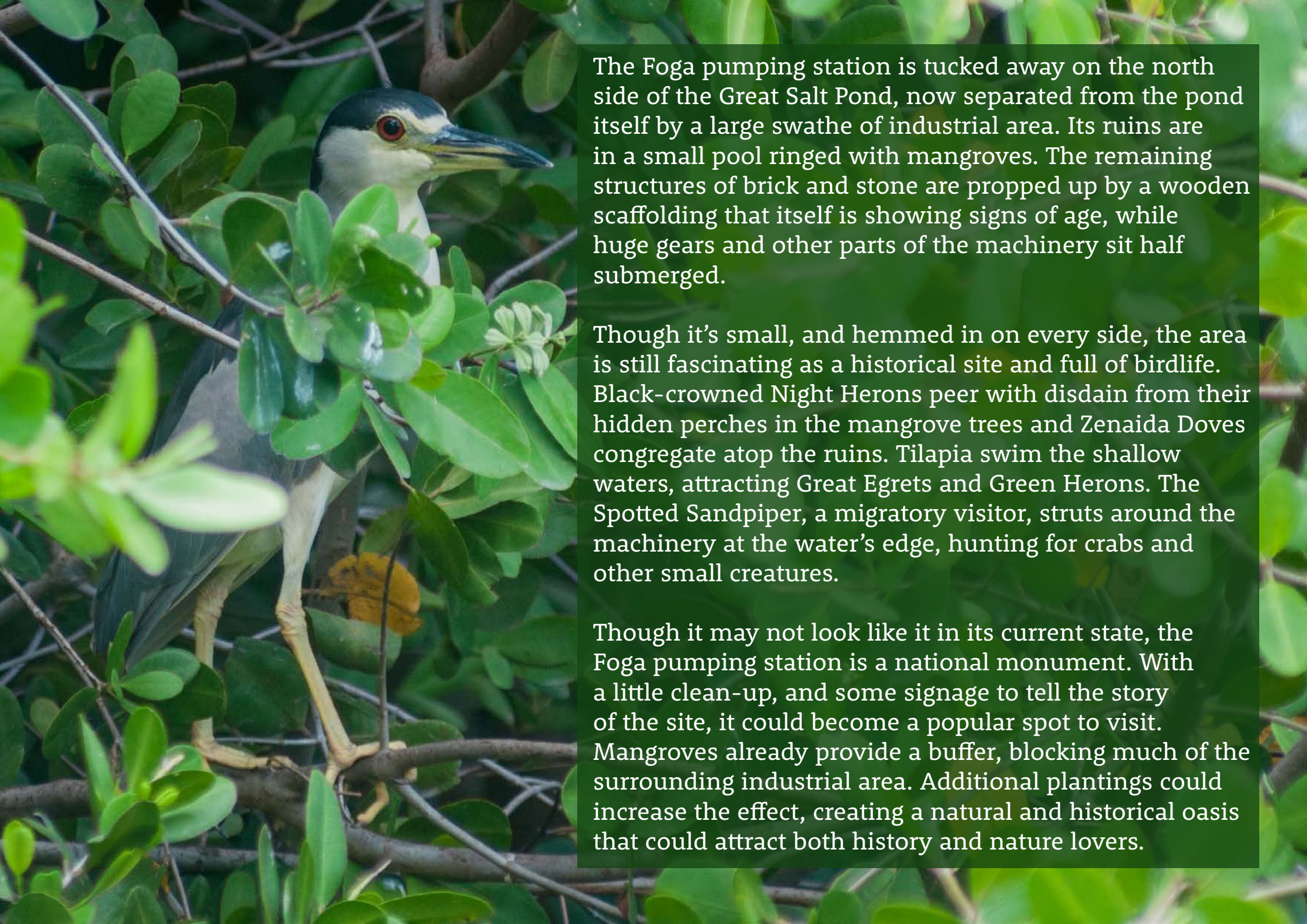
Natural misfortunes don't lay waste to whole ecosystems, but they do deserve our attention. In some ways, it may be more practical for us focus on them. After all, it can be hard to predict and prevent the occasional disaster, but smaller environmental problems can often be averted by taking a little more personal responsibility. Perhaps the term *natural misfortune* should make its way into our conversations, and preventing them should be a part of our culture.

Living History

It's hard to think of a historical site more abandoned and ignored than the Foga ruins at the Great Salt Pond. While we may have deserted it, the birds have not.



Built in the mid-1800s, the Foga pumphouse was ambitious for its time. The water pump removed fresh water from the Great Salt Pond. Salt was produced through the evaporation of seawater in the salt pans until salt crystals formed. Rainwater from the surrounding hills diluted the seawater, delaying or preventing salt formation. The pumping station was one of many measures taken to avoid this. Other developments of the same period included canals to route fresh water around the pond and into the sea.



The Foga pumping station is tucked away on the north side of the Great Salt Pond, now separated from the pond itself by a large swathe of industrial area. Its ruins are in a small pool ringed with mangroves. The remaining structures of brick and stone are propped up by a wooden scaffolding that itself is showing signs of age, while huge gears and other parts of the machinery sit half submerged.

Though it's small, and hemmed in on every side, the area is still fascinating as a historical site and full of birdlife. Black-crowned Night Herons peer with disdain from their hidden perches in the mangrove trees and Zenaida Doves congregate atop the ruins. Tilapia swim the shallow waters, attracting Great Egrets and Green Herons. The Spotted Sandpiper, a migratory visitor, struts around the machinery at the water's edge, hunting for crabs and other small creatures.

Though it may not look like it in its current state, the Foga pumping station is a national monument. With a little clean-up, and some signage to tell the story of the site, it could become a popular spot to visit. Mangroves already provide a buffer, blocking much of the surrounding industrial area. Additional plantings could increase the effect, creating a natural and historical oasis that could attract both history and nature lovers.

Egret Against the Odds

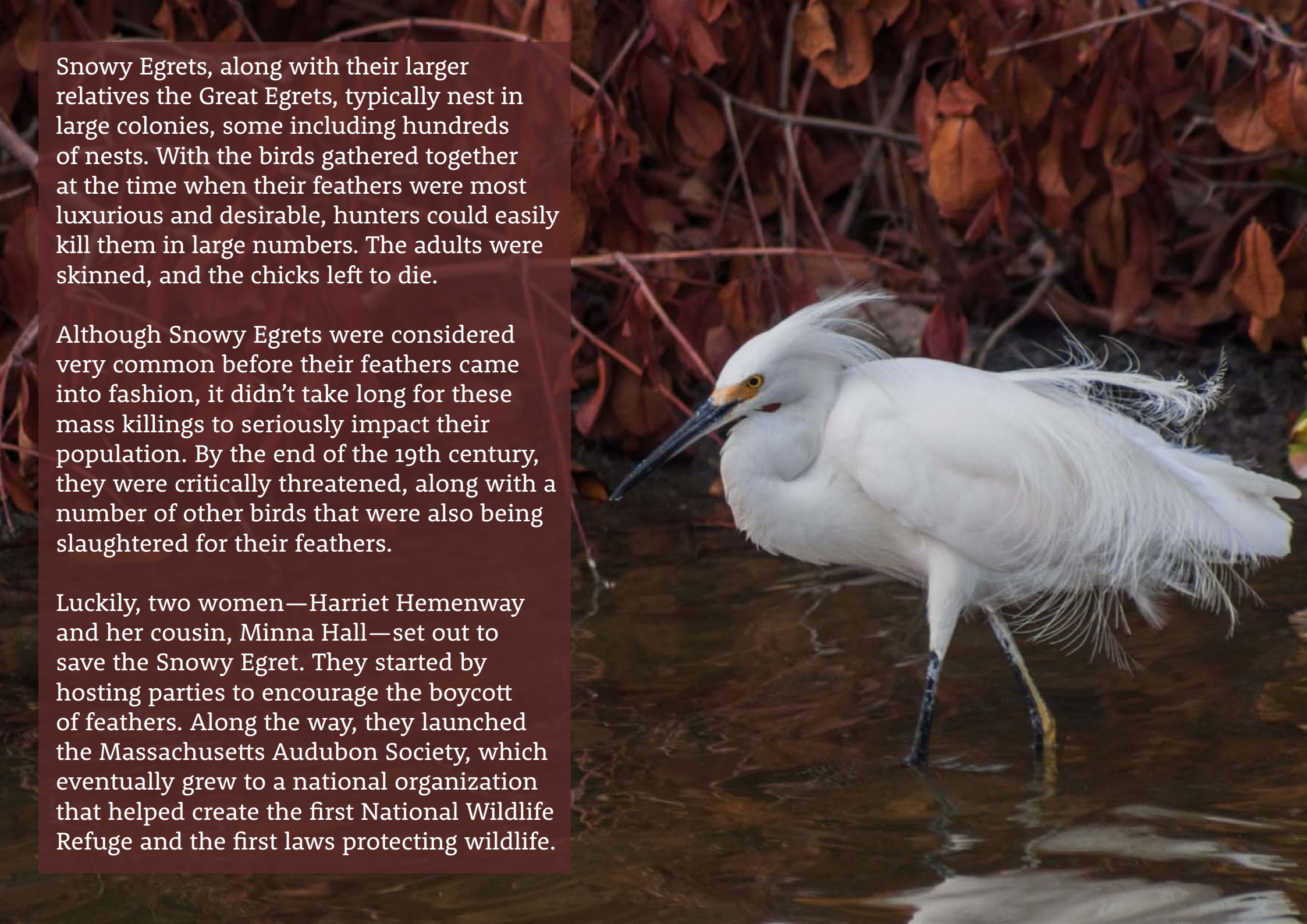
Although we are living in what has been called the sixth mass extinction, the perseverance of many species against formidable odds is both astounding and hopeful.

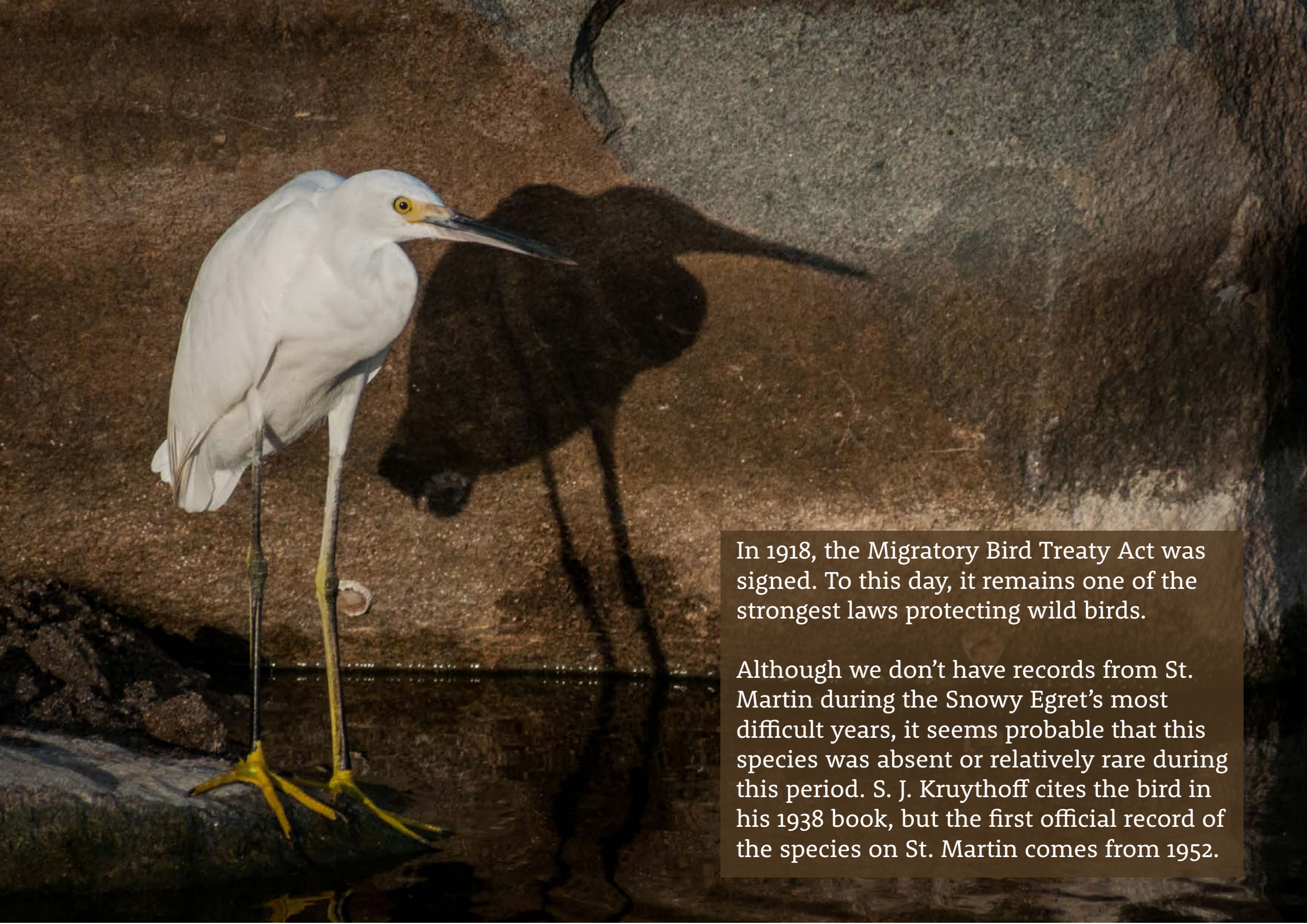
About 100 years ago, the tide was just beginning to turn for the Snowy Egret. These beautiful birds had been hunted mercilessly for their feathers. Their long plumes—particularly those grown during the breeding season—were used in military uniforms and were highly prized in the fashion world. The feather trend became so extreme that hats and fans were often decorated with full wings, or even entire birds.

Snowy Egrets, along with their larger relatives the Great Egrets, typically nest in large colonies, some including hundreds of nests. With the birds gathered together at the time when their feathers were most luxurious and desirable, hunters could easily kill them in large numbers. The adults were skinned, and the chicks left to die.

Although Snowy Egrets were considered very common before their feathers came into fashion, it didn't take long for these mass killings to seriously impact their population. By the end of the 19th century, they were critically threatened, along with a number of other birds that were also being slaughtered for their feathers.

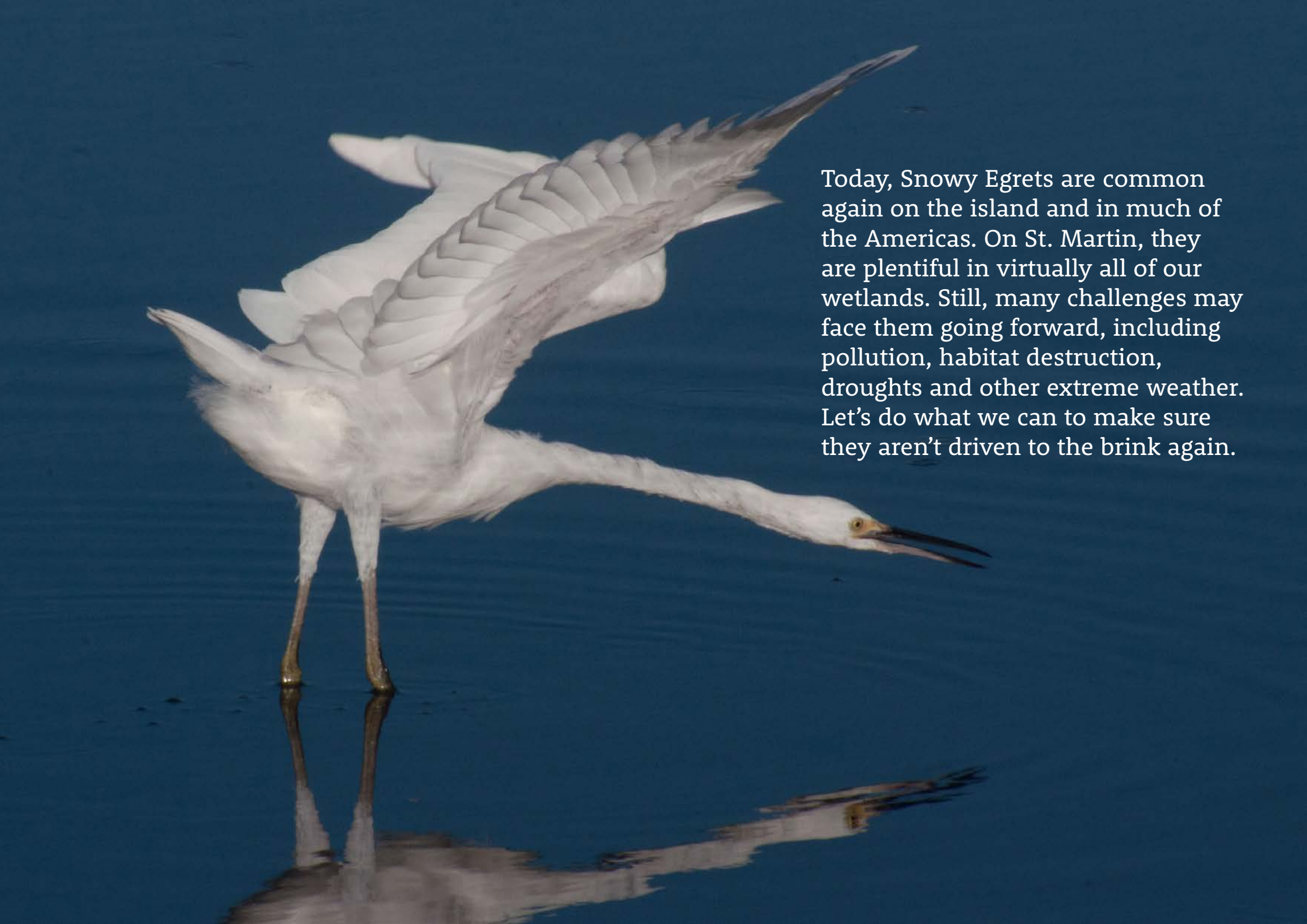
Luckily, two women—Harriet Hemenway and her cousin, Minna Hall—set out to save the Snowy Egret. They started by hosting parties to encourage the boycott of feathers. Along the way, they launched the Massachusetts Audubon Society, which eventually grew to a national organization that helped create the first National Wildlife Refuge and the first laws protecting wildlife.





In 1918, the Migratory Bird Treaty Act was signed. To this day, it remains one of the strongest laws protecting wild birds.

Although we don't have records from St. Martin during the Snowy Egret's most difficult years, it seems probable that this species was absent or relatively rare during this period. S. J. Kruythoff cites the bird in his 1938 book, but the first official record of the species on St. Martin comes from 1952.



Today, Snowy Egrets are common again on the island and in much of the Americas. On St. Martin, they are plentiful in virtually all of our wetlands. Still, many challenges may face them going forward, including pollution, habitat destruction, droughts and other extreme weather. Let's do what we can to make sure they aren't driven to the brink again.

This book was created for the 2017 Migratory Bird Festival. The chapters were adapted from Bird Watch SXM articles originally published in the Weekender section of *The Daily Herald*.

The annual Migratory Bird Festival is a free, public event where residents and visitors alike can see, celebrate, and learn about the marvelous migratory birds that travel thousands of miles each year to visit or spend the winter in St. Martin. These amazing birds connect the Americas with their incredible journeys, and St. Martin plays an important role in their life cycle.

In 2017, the festival is our way of saying “Welcome back!” to these birds and to our natural spaces as they recover from Hurricane Irma.

Learn more about Les Fruits de Mer at: http://www.lesfruitsdemer.com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