

The Turtle Coast: So Excelente a Coast

By Thomas T. Ankersen

Every night, every summer, on every beach in Florida, a ritual repeats itself; as it has since Florida's barrier islands formed themselves in the wake of the last great climate change. Huge lumbering reptiles emerge from sea and deposit their eggs in the sand. They return to the sea as mysteriously as they emerged, their navigational skills as great a mystery as ever. Less than two months later hatchlings emerge. Those not blinded by civilization's glare find their way back to the sea. Some float helplessly, hidden in rafts of seaweed, returning as adolescents to the comfort of Florida's lagoons and estuaries. Eventually they all leave Florida, returning only as sexually mature adult sea turtles driven by ancestral instincts to once again deposit their eggs in the same sand. More tropical than temperate sea turtles represent a Florida schizophrenia, appended to a northern mainland of harsh winters and continental land mass but yearning south toward tropical lassitude and trade winds.

Beaches and their associated nearshore waters, lagoons and estuaries - personify Florida. Florida pioneered the form of tourism we now call "sun and fun," turning South Florida into an urban beach from Palm Beach to South Beach. Yet Florida's extensive system of barrier islands and lagoons played an even more important role in Florida's unique natural history. Geologically, the Florida peninsula is for the most part no more than one barrier island pushed against another. The ridges of Florida's interior are relict dunes, evolved into unique associations of flora and fauna, sandhill and scrub, found no place else on the planet. Florida's current islands from Amelia on the East Coast, to Sanibel on the Southwest Coast, to the Panhandle's Perdido are no more than the latest iteration of this age old evolutionary process of erosion and reliction, the rise and fall of the ocean.

The necklace of barrier islands that adorns the Florida peninsula represents a relatively new geological phenomenon, forming only after sea level began to stabilize roughly 5,000 years ago. Until then, sea level rise from melting glaciers was too rapid to allow the formation of the highly productive dune-lagoon system that nurtures nature's nearshore bounty. Inside Florida's emerging barrier islands coastal lagoons developed where freshwater meets tidewater. South from Cape Canaveral on the East Coast, and from Tampa Bay on the West Coast, tropical mangrove forests took root, growing larger and taller as the waters grow warmer. Mosquito lagoon, the Indian River Lagoon, Lake Worth and Biscayne Bay on the East; Sarasota Bay, Charlotte Harbor and Naples Bay on the West, all largely the product of coastal barrier island processes. These meet and reach their apex in Florida Bay at the tip of the Florida peninsula where the River of Grass meets the tidewater, forming one of the most spectacular and productive mangrove forests in the world. North of the mangrove line, the coastal estuaries are dominated by equally productive spartina salt marsh, acre after acre of monotonous, yet serenely spectacular, estuarine savannah punctuated by coastal hammocks of maritime forest. For the timeless turtle, Florida's coastal lagoons are refugia against the perils of the sea, a vital part of their life history. For Florida's first human inhabitants they were an inland sea for sustenance and safe passage.

Florida's earliest peninsular settlers sustained themselves on freshwater snails, only later migrating

to the coasts to feast on the oysters, clams, shrimp and fish of the brackish lagoons newly trapped behind emergent barrier islands. Eventually, Florida's pre-Columbian beachcombers moved to the coasts, creating the landforms that dominated the pre-condo skyline, shell mounds like Turtle Mound at Canaveral, the Crystal River temple site on the central Gulf Coast and Mound Key in Estero Bay. These landfills we revere; while deploring latter day landfills - like affectionately named Mount Trashmore in South Dade County - that now dot the South Florida horizon. Northeast Florida coastal aborigines also consumed coquina, the tiny delicate and ubiquitous shoreline shellfish that forms the fossil substrata on many Florida beaches. Coquina rock became a construction staple for the Spanish settlers, represented its boldest architectural form by the Castillo de San Marcos at St. Augustine, one of the largest Spanish forts east of Mexico.

For all their modern lure for the leisure class Florida's barrier islands proved inhospitable to both aboriginal Floridians and to the pre-condo working class. One of the most compelling glimpses of early coastal Florida came from the account of Jonathan Dickinson, an English sailor shipwrecked near present day Jupiter at the end of the seventeenth century. Dickinson, his family and crew were stripped naked by coastal Indians but permitted to work their way up the coast from South Florida to St. Augustine. Dickinson's journal recounts a voyage by foot and by dugout canoe that captures the hardships of life along the insect infested, storm prone Florida coast. Centuries later these hardships would be ameliorated by another South Florida pioneer. The Barefoot Mailman made his place in Florida beach lore using the same beaches Dickinson traversed to deliver mail to settlers between Palm Beach and Miami Beach. Those hardy aborigines and settlers that chose to endure the Florida coast found one reliable staple year in and year out. "Turtling" became a time honored coastal tradition that provided a dietary staple of meat and eggs until it was finally outlawed in the middle of the twentieth century.

Desert like dunes devoid of surficial fresh water, hurricanes and northeasters, biting insects and limited access all conspired to keep coastal human populations low until humans found ways to keep nature at bay - and the time to sunbathe. Biologists discovered they could interrupt the life cycle of the salt marsh mosquito by ditching and diking for mosquito control, engineers learned to stabilize inlets and fortify buildings against cyclonic winds and storm tides, first steamboats then causeways and bridges allowed for easy access and food to be imported from the mainland. By the turn of the twentieth century coastal tourism had moved from prototypical ecotourism by the adventuring class to the mass tourism of the leisure class. Henry Flagler capitalized on the changing technology and human habits. Flagler began the beach tourism boom with luxury hotels in St Augustine and Palm Beach; a boom that culminated in the Art Deco skyline of South Miami Beach. Critical mass had been reached. Soon it was not enough to visit Florida's coasts; one had to live there. Retirement entered the American lexicon.

The Chambers of Commerce got into the act. Florida's coastlines required evocative names to lure tourists and residents alike. First there was the Gold Coast of Southeast Florida. Daytona Beach, whose flat sands pioneered the sport of automobile racing, became the self-anointed "World's most Famous Beach." The Tampa Bay area became the Sun Coast. The area around Cape Canaveral called itself the Space Coast. To the south, site of sunken offshore galleons, lies the "Treasure Coast." To the North, Jacksonville invites visitors crossing into the state to Florida's "First Coast." The Panhandle has even gotten into the act, eschewing its cracker roots

and crass moniker -“redneck riviera” - for the more seductive “Emerald Coast,” evoking the Gulf’s shimmering waters. But the beach-less Big Bend has nothing of this sort to sell. It is instead the coast the others no longer are - the “Nature Coast” - without cities, causeways or condos, for the most part, for the time being.

Florida’s barrier islands have pitted man against nature in an epic battle whose outcome remains uncertain. We aspire to live as close to the shore as possible and we seek routes to the sea steadied against shifting sands and longshore currents. This aspiration puts us at odds with evolutionary processes that compel sands to shift and inlets to open and close, both gradually and in the face of catastrophic forces - hurricanes and nor’easters. It also puts us at odds with the very real phenomenon of accelerated sea level rise from human induced climate change - global warming. Along the increasingly concrete and steel shorelines of the Florida coast nature can no longer deplete its energy against the stockpile of sand stored in the dunes. These sands now support the condo canyons that dominate the landscape. Instead, exemplifying both the arrogance and the ingenuity of our species, we make new beaches, pumping sand from the sea, accelerating nature’s processes. We call this renourishment and even Sea Turtles now depend on it in some places, those that aren’t chewed up and spit out by sand dredges.

Dune vegetation has been stripped and strip-malled, leaving only isolated fragments of once nearly continuous coastal scrub and maritime forest, with habitat dependent species clinging by their claws. School children from around the state petitioned the Florida legislature to name the dune dependent Florida Scrub Jay as the state bird. The legislature balked, fearful of raising the profile of an endangered species, or perhaps fearful of the inescapable irony when the state bird joins Florida’s Dusky Seaside Sparrow on the darkest of lists - the one that represents extinction.

Florida’s lagoons and estuaries are also troubled. While diking and ditching for mosquito control may have made the coastline habitable, it robbed the estuaries of the very basis of the food chain. At the same time, diking and ditching of another sort began. The engineers launched the massive inland drainage programs of the mid-twentieth century designed to rush freshwater to tide, with little regard for the delicate salinity regime of the coastal estuaries. Sediments, nutrients, pesticides and fertilizers all began to pour into the lagoons, along with sewage and industrial effluent from cities and industry. Causeways interrupted circulation, inhibiting the flushing that could mitigate some of these insults. In the troubled, causeway-ed Indian River lagoon, the nation’s most biologically diverse estuary, sea turtles began to show up with a mysterious papaloma virus that slowly robs them of their vision. The assault on Florida’s coastal systems has reached continental proportions as the Panhandle’s Apalachicola Bay, one of the nation’s most productive oyster grounds, has sued the State of Georgia to prevent thirsty, sprawling Atlanta from diverting its headwaters for water supply. In the quiet coastal waters of the Big Bend, one of the world’s most extensive sea grass savannahs is interrupted by a “dead zone,” the result of pulp mill discharge from the Steinhatchee River. In the winter of 2001-02 fishermen described a huge “dark stain” in Florida Bay. It was also visible from space, if anyone had thought to look.

Despite the cumulative insults of a century of human development sea turtles continue to make their way to Florida through fishing nets and human debris, only to face diminishing sand, polluted lagoons, human-subsidized predators and increasing glare from beachfront condos. Doggedly

they put up with it. Humans too continue to make their way to Florida's enduring turtle coast; each new immigrant confounding the state's capacity to absorb them. One can only wonder who will be forced to leave first. Some might bet on the turtles; but the better money might be on the humans.