

## INTRODUCTION



### *The Ship's Bell*

*Throughout each four-hour watch, hours and half-hours are struck by a ship's bell. The time is described as "one bell" for the first half hour, "two bells for the second half hour, and so on, up to eight bells.*

Perhaps nowhere else in Florida are manmade alterations to the natural landscape more visible than in the Southwest, along the coast between Placida Harbor and Marco Islands and east through the Caloosahatchee Valley to Lake Okeechobee. This 184-mile stretch of barrier island shore and riverine valley waterways, fishing villages, and small scattered agricultural communities in the pre-development, early 20th century era — is today a bustling chain of waterfront communities and thriving cities.

The coastline includes large estuaries, such as Charlotte Harbor, Pine Island Sound, and San Carlos Bay; smaller embayments; and hundreds of miles of manmade channels and canals linking the massive developments of Punta Gorda, Cape Coral, and Marco with the bays and, ultimately, the Gulf of Mexico. It also encompasses the Caloosahatchee, a riverine system that is part of the Okeechobee Waterway, the only water link across Florida, from the Gulf to the Atlantic Ocean.

The peaceful communities and cities of today give little indication of recent conflicts in the region. In fact, few locations in the nation have received as much attention from federal, state, regional, and local managers and regulators of waterway and coastal development as has Southwest Florida.

Pressure from developers to dredge and fill vast tracts of land for home construction behind seawalls and embankments prompted statewide attention and federal action, which resulted in the curbing of permits that allowed growth and caused massive changes in the way Florida's leaders — and the developers — viewed and permitted development.

Some interests favored waterway construction to benefit navigation and riverine commerce. Meanwhile, land-oriented interests advocated waterways as great drainage ditches for quickly removing unwanted water from valuable agricultural acreage. The result was heated debate and dramatic changes in the ways rivers were viewed and used throughout Florida.

Lessons learned through these historical conflicts may bode well for future discussions of Southwest Florida development. National attention is currently focused on South Florida in the wake of a federal-state-regional program to preserve and protect the Everglades from development pressure and ensure water flow to sensitive areas far downstream in the "River of Grass."

This book, *A Historical Geography of Southwest Florida Waterways, Volume Two*, offers a glimpse of the changes that have occurred along this Southwest Florida coast since the late 19th Century. Undoubtedly, the biggest alterations to the natural landscape have occurred through manmade changes in the waterways, by the creation of the Gulf Intracoastal Waterway (ICW) and the Okeechobee Waterway and by development of waterfront communities upon submerged land.

Before development, this stretch of coastline was an area of "wild" Florida, where natural barriers of shoals separated embayments and blocked passage of vessels. (See Boating Geography chapter.) As settlements began to flourish in the region in the late 1800s, the demands for transportation of goods grew, and dredging began in the region. In the 1880s, the lower course of the Caloosahatchee was the first waterway in the region to be "channeled." Dredging of passes in Charlotte Harbor, and Pine Island Sound followed. The early 1960s saw completion of the ICW from the mouth of the Caloosahatchee to Gasparilla Sound and points north. (See Dredging History chapter.)

With the region opened to the easy transport of goods and services, and with an immense demand for Florida housing after World War II, access channels and canals were deemed the easiest way to create homesites from "worthless swampland." The end of the development boom saw 1,136 miles of boat channels completed from Placida Harbor to Marco Island, totally changing the face of Southwest Florida. (See Access Channels chapter.)



Little Gasparilla Island, view north. Gasparilla Pass on lower left, abandoned railroad trestle and causeway to Placida on right, Placida Harbor and Cape Haze development in midground.

An effective way to comprehend the changes in the region is through photographs and maps showing the pre- and post-development settings at selected locations, as depicted in the Photographic Record chapter. The Land Use Changes chapter highlights, community-by-community, the physical alterations in the area through housing development, railroad line creation, and dredging of the ICW.

Tidal inlets are a vital part of the landscape of Southwest Florida. The exchange of saltwater from the Gulf with freshwater of streams and rivers in the bays is facilitated through the passes between barrier islands. Inlets provide recreational opportunities for tens of thousands of boaters and fishers, and the Inlets chapter is devoted to their importance for navigation, recreation, and the environment.

The Caloosahatchee [Caloosa= indigenous Native Americans who inhabited Southwest Florida, Hatchee= Seminole for river] chapter chronicles the history of the Caloosahatchee Valley, which may serve as a harbinger for the future of at least several elements of the ongoing multi-billion dollar Everglades restoration effort. The river is an extreme case of altering land and water for coastal development and, in the process, irrevocably changing its form and function. The historic river, a valuable asset to pioneers as a commercial artery for transporting goods and providing services, had a meandering, shifting course sometimes drastically affected by floods and droughts. Today, it is the straight-channel, dredged, Okeechobee Waterway, used by resource managers for flood control and by boaters transiting between the Eastern Seaboard and the Gulf Coast. Questions on how to manage the historic river and its water in the future, constrained by its historical and ecological niche in South Florida, will provide a challenge in the years ahead.

The Charting Waterway Changes chapter describes how Geographic Information System computer programs enable source material from different eras to contribute to the creation of the maps in this book. Cartographers place maps and charts in reference systems that evolve as knowledge of the Earth's true shape improves. A major problem is bringing them all into a common system, so that investigators can accurately measure and display historic changes in study area parameters of interest.

The future of Southwest Florida's vast system of bays, inlets, rivers, sleepy fishing communities, waterfront suburban tracts, and bustling urban cores is unknown. A growing awareness exists among residents that their paradise could easily be lost without widespread adoption of a stewardship ethic and continuing public efforts to restore and maintain the region's unique ecological and cultural treasures. The balance between people and nature will continue to be the challenge for Southwest Florida and its waterways.

This book is part of a series of publications on the boating geography of the region. *A Historical Geography of Southwest Florida Waterways, Volume One*, similarly treated the adjoining area to the north, from Lemon Bay to Anna Maria Sound (south of Tampa Bay).

While similar waterway conditions prevail in the northern (Volume One) region, several differences in the coastal development process between the northern and southern regions are noteworthy. First, the federally authorized ICW navigation channel was dredged much earlier in the north, reaching south from Tampa Bay to Sarasota in 1896 and from Sarasota to Venice in 1907. The ICW segment from Venice to Lemon Bay was dredged in the 1960s, coinciding with the ICW improvements covered in Volume Two.

Canal development occurred in the northern region much earlier as well, spurred on by entrepreneurs like John Ringling of Sarasota. Though canal development in the northern region was widespread, most canal systems there were smaller in scope and shorter in length. (A notable exception was Siesta Key's Grand Canal system.) The filling of bay water to create residential property was relatively more common; as a result, conversion of *water to land* predominated in the northern region. Thus, Volume One included the chapter "Land and Water Changes along the Waterway."

Volume Two  
 Volume One



Where Volume One and Volume Two meet, at the south end of Lemon Bay, with Stump Pass in the foreground, lower Lemon Bay in midground on left, The Cutoff (boundary) at dash line, Charlotte Harbor in background, looking south.

In contrast, the change from *land to water* along the pre-development shoreline largely defined coastal development in the southern region. Dredging vast networks of waterways landward of the shoreline created immense, canal-based communities like Punta Gorda Isles, Cape Coral, and Marco Island. Relatively much less con-

version of water to land by filling of bay water took place in the southern region. Hence, this volume presents a chapter highlighting canal development case studies, rather than the regional land-water change analyses of Volume One.



Placida Harbor and Cape Haze canal development in foreground, looking north over Coral Creek towards Rotunda West.



Punta Gorda Isles in midground, looking north towards the Peace River, with Port Charlotte in background, Burnt Store Isles canal development in lower right.



Map 1.  
Regional map presentations in the  
Access Channels and Land Use Changes chapters.

A map-based approach is ideal for quantifying, displaying, and understanding the changes wrought by both man and nature along the southwest Florida coast. An analysis of the mapped features helps explain the present state of waterway conditions and the changing nature of the coastal environment. Where historic depth data are available as point soundings throughout areas of open waters — such as in Charlotte Harbor, Pine Island Sound, San Carlos Bay, and the Caloosahatchee (below Beautiful Island) — chloropleth maps show average depths interpreted from the soundings. However, historic charts of Estero Bay and the Naples–Marco region — where large areas of navigable bay waters are less abundant — provide only channel centerline depths. This precludes analyses of bathymetric change over much of the mapped region to the south.

Where region-wide maps are displayed, as in the Access Channels chapter and the Land Use Change chapter, the study area is segmented into five areal zones (Map 1).

1. Western Charlotte Harbor, including Pine Island Sound and western San Carlos Bay.
2. Eastern Charlotte Harbor, including Matlacha Pass and eastern San Carlos Bay (with the area 1 and 2 boundary following State Road 767 along Pine Island).
3. Caloosahatchee (upstream to Beautiful Island).
4. Estero Bay and Wiggins Bay.
5. Naples–Marco.

The intent of the volumes in this series is to increase the knowledge about coastal change in the region and to inspire public stewardship for a healthy environment in a growing community. Since the 1999 publication of Volume One, resource planners and elected officials have used information in the historical geography analysis to formulate prescriptive policies and actions to deal with waterway management needs. Habitat restoration of spoil islands, anchorage planning, and an innovative method of general permitting for maintenance dredging are some of the issues where an application of the principles and information contained in these books have been applied.

Digital map data contained in both volumes of this series will be incorporated into *A Coastal Data Server System for the Gulf Intracoastal Waterway and Adjoining Bay Waters of Southwest Florida*, to be hosted by the GeoPlan Center of the University of Florida. The NOAA Coastal Service Center, Charleston, SC, is supporting this effort through a grant to Florida Sea Grant.