

CRITICAL BEACH EROSION AREAS ***IN*** ***FLORIDA***



March 1999



REPORT NO. BCS-99-02
BUREAU OF BEACHES AND COASTAL SYSTEMS
DIVISION OF WATER FACILITIES
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF FLORIDA

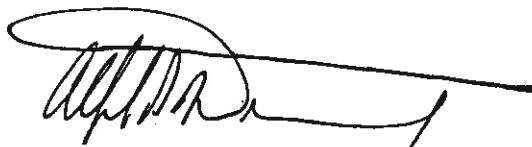
Foreword

This report provides an inventory of Florida's erosion problem areas fronting on the Atlantic Ocean, Straits of Florida, Gulf of Mexico, and the roughly seventy coastal barrier tidal inlets. The erosion problem areas are classified as either critical or noncritical and county maps and tables are provided to depict the areas of designated critical and noncritical erosion.

This report is periodically updated to include additions and deletions. A county index is provided on page 12 which includes the date of the most recent edition. Each county map and discussion is likewise dated as to the most recent update. All information is provided for planning purposes only and the user is cautioned to obtain the most recent erosion areas listing available.

This report is also available on the following web site –
<http://www2.dep.state.fl.us/water/beaches>.

APPROVED BY

A handwritten signature in black ink, appearing to read 'Alfred B. Devereaux, Jr.', is written over a horizontal line.

Alfred B. Devereaux, Jr., Chief
Bureau of Beaches and Coastal Systems

Introduction

In 1986, pursuant to Sections 161.101 and 161.161, Florida Statutes, the Department of Natural Resources, Division of Beaches and Shores (now the Department of Environmental Protection, Bureau of Beaches and Coastal Systems) was charged with the responsibility to identify those beaches of the state which are critically eroding and to develop and maintain a comprehensive long-term management plan for their restoration. In 1989, the first list of erosion areas was developed based upon an abbreviated definition of critical erosion. This list included 217.6 miles of critical erosion and another 114.8 miles of noncritical erosion statewide.

In 1990, the erosion areas list was revised to include minor changes in the erosion problem areas for Nassau, Martin, and Gulf Counties plus major changes for Monroe County as a result of a more detailed study of the Keys beaches conducted during 1989. A 1991 revision included minor changes in Nassau, Brevard, Sarasota, Charlotte, Lee, and Collier Counties and major changes in Pinellas County as a result of new studies conducted during 1990 and 1991. Notably, Anclote Key was divided between Pinellas and Pasco Counties and the recent barrier islands of Three Rooker Bar, North Bunces Key and South Bunces Key were included. In addition, due to action taken by the 1991 Florida Legislature, an eastern portion of Escambia County was added to Santa Rosa County. The 1991 list included 227.5 miles of critical erosion and 122.1 miles of noncritical erosion statewide.

In 1992, the erosion areas list was revised to include beaches which had been authorized for restoration. This change had the effect of adding some peripheral segments and gaps between identified problem areas which, although they were stable or slightly erosional, require nourishment for the design integrity of an authorized beach restoration project. The major changes at the time included the Manatee County projects on Anna Maria Island and Longboat Key. Also added to the 1992 revision are a peripheral erosion area in Martin County and an erosion gap segment in St. Lucie County. The 1993 revision included minor changes in Wakulla, Taylor, Hernando, Levy, and Sarasota Counties as a result of new studies in 1993. The 1993 list included 232.9 miles of critical erosion and 122.6 miles of noncritical erosion statewide.

Major storms in 1994 and 1995 and again in 1998 caused significant changes in Florida's shoreline. Three tropical storms and a tropical depression impacted Florida in 1994 and three hurricanes and a tropical storm caused more impact in 1995. Following Hurricane Opal on October 4, 1995, an updated listing was put together for northwest Florida that specifically identified areas which not only had critical erosion but where there remained a high degree of poststorm vulnerability.

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An updated critical erosion list was finalized in October 1998, as a result of new investigations conducted in 1997 and 1998. Subsequently, a post-Hurricane Earl and Georges Recovery Plan was prepared in January, 1999. This current critical erosion list includes changes resulting from the impacts of Hurricanes Opal, Earl and Georges, and other less impactful storms.

Some discretion was applied when identifying the open water coastal beaches of Florida. Only those beaches were included which were exposed to the open water of the Gulf of Mexico, Atlantic Ocean, or Straits of Florida, and were not sheltered by a coastal barrier or island shoal. The Gulf fronting beaches of Monroe County including the Cape Sable region and the distal sand keys west of Key West (e.g., Marquesas Keys, Tortugas Keys) have insufficient historical data to identify the erosion problem areas at this time. The current 1999 list includes 319.1 miles of critical beach erosion, 8.8 miles of critical inlet shoreline erosion, 109.4 miles of noncritical beach erosion, and 2.7 miles of noncritical inlet shoreline erosion statewide.

Definition of Critical Erosion

The earlier statewide inventories of critical erosion areas included only those erosion problem areas where the threat existed to development or recreational interests. The current inventory of critical erosion areas was formulated based upon an updated and modified definition of critical erosion. The following definition has been adopted by the Bureau to identify areas of critical erosion:

Critical erosion area is a segment of the shoreline where natural processes or human activity have caused or contributed to erosion and recession of the beach or dune system to such a degree that upland development, recreational interests, wildlife habitat, or important cultural resources are threatened or lost. Critical erosion areas may also include peripheral segments or gaps between identified critical erosion areas which, although they may be stable or slightly erosional now, their inclusion is necessary for continuity of management of the coastal system or for the design integrity of adjacent beach management projects.

It is important to note, that for an erosion problem area to be critical there must exist a threat to or loss of one of four specific interests – upland development, recreation, wildlife habitat, or important cultural resources. Of all the erosion problem areas around Florida, many areas have significant erosion conditions, yet the erosion processes do not currently threaten public or private interests. These areas are therefore designated as noncritical erosion areas and require close monitoring in case conditions become critical.

In contrast, in some areas the erosion processes are not particularly significant except to the extent that adjacent public or private interests may be threatened. Whether erosion is critical results from the existence of a threat to interests in need of protection. Lacking any threat an erosion condition is not a critical problem.

Discussion

The listing of critical and noncritical erosion areas in this report are identified by the Bureau's reference movement system (R numbers) or by virtual stations (V numbers). A few areas are not identified by either the R or V numbers because they are not included in the coastal construction control line program nor have virtual stations been designated. These areas without R or V numbers are usually inlet shoreline areas, Florida Keys erosion areas, Coastal Bend erosion areas, and a few barrier islands in Pinellas, Hillsborough, and Collier Counties.

Tables are provided with listings of the erosion areas for each coastal county fronting on the Atlantic Ocean, Gulf of Mexico, and Straits of Florida. Following the tables, which list all the erosion areas, maps are provided for twenty-eight coastal counties. Maps are not provided for the following six counties which have less than two miles of erosion: Taylor County (0.2 mile), Dixie County (0.6 mile), Hernando County (0.5 mile), Pasco County (1.3 miles), and Hillsborough County (1.6 miles). These maps are intended to provide general location guidance to the user.

Atlantic Coast Erosion Areas

		BEACH		INLET	
		critical	noncritical	critical	noncritical
NASSAU COUNTY					
St. Marys R.	Critical Inlet Shoreline	0	0	2.5	0
R9 – R33	Critical	4.4	0	0	0
R61 – R80	Critical	<u>3.1</u>	<u>0</u>	<u>0</u>	<u>0</u>
		7.5	0	2.5	0
DUVAL COUNTY					
Big Talbot Is., Nassau Sound					
	Noncritical Inlet Shoreline	0	0	0	1
R21 – R23	Critical	0.3	0	0	0
R23 – A1A	Critical Inlet Shoreline	0	0	0.7	0
V501 – R80	Critical	<u>10.1</u>	<u>0</u>	<u>0</u>	<u>0</u>
		10.4	0	0.7	1
ST. JOHNS COUNTY					
R110 – R117	Critical	1.4	0	0	0
R132 – R150.5	Critical	3.5	0	0	0
R194 – R195	Noncritical	0	0.3	0	0
R197 – R209	Critical	<u>2.4</u>	<u>0</u>	<u>0</u>	<u>0</u>
		7.3	0.3	0	0
FLAGLER COUNTY					
R1 – R4	Critical	0.6	0	0	0
R77 – R90	Critical	<u>2.3</u>	<u>0</u>	<u>0</u>	<u>0</u>
		2.9	0	0	0
VOLUSIA COUNTY					
R57 – R77	Critical	3.6	0	0	0
R95 – R103	Critical	1.4	0	0	0
N.Shore, Ponce Inlet	Critical Inlet Shoreline	0	0	0.6	0
R161 – R208	Critical	8.4	0	0	0
R208 – R214	Noncritical	<u>0</u>	<u>1.1</u>	<u>0</u>	<u>0</u>
		13.4	1.1	0.6	0
BREVARD COUNTY					
V020 – V066	Noncritical	0	8.7	0	0
V117 – V136	Noncritical	0	3.6	0	0
R1 – R137.5	Critical	<u>24.6</u>	<u>0</u>	<u>0</u>	<u>0</u>
		24.6	12.3	0	0
INDIAN RIVER COUNTY					
R1 – R17	Critical	3	0	0	0
R17 – R37	Noncritical	0	3.8	0	0
R37 – R40	Critical	0.4	0	0	0
R40 – R51	Noncritical	0	2.1	0	0
R70 – R86	Critical	3.1	0	0	0
R101 – R103	Noncritical	0	0.4	0	0
R103 – R107	Critical	<u>0.8</u>	<u>0</u>	<u>0</u>	<u>0</u>
		7.3	6.3	0	0

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ST. LUCIE COUNTY		BEACH		INLET	
		Critical	Noncritical	Critical	Noncritical
R34 - R46	Critical	2.3	0	0	0
R46 - R70	Noncritical	<u>0</u>	<u>4.5</u>	<u>0</u>	<u>0</u>
		2.3	4.5	0	0
MARTIN COUNTY					
R1 - R25	Critical	4.1	0	0	0
R45 - R111	Critical	11.5	0	0	0
R126 - R127	Critical	<u>0.2</u>	<u>0</u>	<u>0</u>	<u>0</u>
		15.8	0	0	0
PALM BEACH COUNTY					
R3 - R10	Critical	1.2	0	0	0
N&S Shore, Jupiter Inlet	Critical Inlet Shore	0	0	0.8	0
R12 - R38	Critical	5.0	0	0	0
R38 - R40	Noncritical	0	0.4	0	0
R58 - R60.5	Noncritical	0	0.5	0	0
R60.5 - R69	Critical	1.7	0	0	0
S.Shore, Lake Worth Inlet	Critical Inlet Shore	0	0	0.2	0
R76 - R121	Critical	9.5	0	0	0
R133 - R137	Critical	0.7	0	0	0
R152 - R168	Critical	3.3	0	0	0
R176 - R190	Critical	2.9	0	0	0
R204 - R212	Critical	1.7	0	0	0
R223 - R227	Critical	<u>1.0</u>	<u>0</u>	<u>0</u>	<u>0</u>
		27	0.9	1	0
BROWARD COUNTY					
R6 - R23	Critical	3.2	0	0	0
R25 - R77	Critical	10	0	0	0
R86 - R128	Critical	<u>8.1</u>	<u>0</u>	<u>0</u>	<u>0</u>
		21.3	0	0	0
DADE COUNTY					
R1 - R27	Critical	5.1	0	0	0
R27 - R74	Critical	9.4	0	0	0
S.Shore, Norris Cut	Noncritical Inlet Shore	0	0	0	0.3
R84 - R88	Noncritical	0	0.8	0	0
R89 - R92	Noncritical	0	0.6	0	0
R101 - R113	Critical	<u>2.5</u>	<u>0</u>	<u>0</u>	<u>0</u>
		17	1.4	0	0.3
TOTAL ATLANTIC COAST		156.8	26.8	4.8	1.3

Florida Keys Erosion Areas

MONROE COUNTY

		BEACH	
		critical	noncritical
Long Key	Critical	1.0	0
Coco Plum Beach	Noncritical	0	0.6
Key Colony Beach	Critical	0.9	0
Sombrero Beach, Vaca Key	Critical	0.3	0
Bahia Honda Key	Critical	2.0	0
Long Beach, Big Pine Key	Noncritical	0	1.0
Sugarloaf Beach, Sugarloaf Key	Noncritical	0	0.6
Boca Chica Key	Noncritical	0	1.3
Key West	Critical	2.8	0
Ft. Zachary Taylor	Critical	0.3	0
		<u>7.3</u>	<u>3.5</u>

Gulf Coast Erosion Areas

ESCAMBIA COUNTY

		BEACH		INLET	
		critical	noncritical	critical	noncritical
R30 – R32	Critical	0.4	0	0	0
R32 – R65	Noncritical	0	6.4	0	0
R79 – R107	Noncritical	0	5.3	0	0
R107 – R139	Critical	<u>5.9</u>	<u>0</u>	<u>0</u>	<u>0</u>
		6.3	11.7	0	0

SANTA ROSA COUNTY

R192.5 – R210	Critical	3.4	0	0	0
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OKALOOSA COUNTY

R1 – R15	Critical	2.8	0	0	0
V612 – V621	Noncritical	0	1.7	0	0
Norriego Pt.	Critical Inlet Shoreline	0	0	0.8	0
R17 – R32	Critical	2.9	0	0	0
R39 – R50	Critical	<u>2.1</u>	<u>0</u>	<u>0</u>	<u>0</u>
		7.8	1.7	0.8	0

WALTON COUNTY

R1 – R19	Critical	4.3	0	0	0
R41 – R48	Critical	1.4	0	0	0
R109 – R127	Critical	<u>3.5</u>	<u>0</u>	<u>0</u>	<u>0</u>
		9.2	0	0	0

BAY COUNTY

R1 – R97	Critical	18.6	0	0	0
R98 – V009	Noncritical	0	6.1	0	0
V016 – V030+2000	Noncritical	0	2.8	0	0
V036 – V041	Noncritical	0	1.2	0	0
R127.8 – R144	Critical	<u>2.8</u>	<u>0</u>	<u>0</u>	<u>0</u>
		21.4	10.1	0	0

GULF COUNTY

R1 – R5	Critical	0.8	0	0	0
R41 – R83	Noncritical	0	8.3	0	0
R83 – R85	Critical	0.4	0	0	0
R85 – R95.5	Noncritical	0	1.9	0	0
R95.5 – R111.5	Critical	3.1	0	0	0
R111.5 – R114	Noncritical	0	0.5	0	0
R150 – R162	Noncritical	<u>0</u>	<u>2.6</u>	<u>0</u>	<u>0</u>
		4.3	13.3	0	0

FRANKLIN COUNTY

		BEACH		INLET	
		critical	noncritical	critical	noncritical
V17 – V34	Noncritical	0	3.2	0	0
R15 – R19	Noncritical	0	0.8	0	0
R19 – R23	Critical	0.7	0	0	0
R23 – R24	Noncritical	0	0.2	0	0
R34 – R51	Noncritical	0	3.3	0	0
Sike's Cut, E&W Shores	Noncritical Inlet Shores		0	0	0.5
R53 – R69	Noncritical	0	3.3	0	0
R110 – R142	Critical	6.3	0	0	0
R147 – R149	Noncritical Inlet Shoreline	0	0	0	0.5
R154 – R179	Noncritical	0	4.7	0	0
R179 – R186	Critical	1.3	0	0	0
R194 – R196	Noncritical	0	0.4	0	0
R210 – R216	Critical	1.1	0	0	0
R220 – R225	Critical	1.0	0	0	0
R225 – R232	Noncritical	<u>0</u>	<u>1.6</u>	<u>0</u>	<u>0</u>
		10.4	17.5	0	1.0

WAKULLA COUNTY

Mashes Sands, South	Critical	0.3	0	0	0
Mashes Sands, North	Noncritical	0	0.4	0	0
Shell Point	Critical	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>
		1.3	0.4	0	0

JEFFERSON COUNTY

no erosion areas		0	0	0	0
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TAYLOR COUNTY

Dekle Beach	Critical	0.2	0	0	0
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DIXIE COUNTY

Shired Island	Critical	0.2	0	0	0
Bird Island	Critical	0.2	0	0	0
Cotton Island	Critical	<u>0.2</u>	<u>0</u>	<u>0</u>	<u>0</u>
		0.6	0	0	0

LEVY COUNTY

Cedar Key	Critical	0.5	0	0	0
Atsena Otie Key	Critical	0.2	0	0	0
Seahorse Key	Noncritical	<u>0</u>	<u>1.2</u>	<u>0</u>	<u>0</u>
		0.7	1.2	0	0

CITRUS COUNTY

no erosion areas		0	0	0	0
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HERNANDO COUNTY

Pine Island	Noncritical	0	0.5	0	0
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PASCO COUNTY		BEACH		INLET	
		critical	noncritical	critical	noncritical
Hudson Beach	Critical	0.2	0	0	0
Anclote Key	Noncritical	<u>0</u>	<u>1.1</u>	<u>0</u>	<u>0</u>
		0.2	1.1	0	0
PINELLAS COUNTY					
S. Anclote Key	Noncritical	0	0.3	0	0
R6 - R12	Critical	1.4	0	0	0
R17 - R20	Noncritical	0	0.5	0	0
R37 - R39	Critical	0.4	0	0	0
R47 - R49	Critical Inlet Shoreline	0	0	0.5	0
R56 - R115.4	Critical	11.3	0	0	0
R126 - R143	Critical	3.5	0	0	0
R144 - R166	Critical	4.1	0	0	0
N. Bounces Key	Noncritical	0	1.4	0	0
S. Bounces Key	Noncritical	0	2.2	0	0
R176 - R178	Critical	<u>0.3</u>	<u>0</u>	<u>0</u>	<u>0</u>
		21	4.4	0.5	0
HILLSBOROUGH COUNTY					
Egmont Key	Critical	1.6	0	0	0
MANATEE COUNTY					
R2 - R41	Critical	7.3	0	0	0
R42 - R67	Critical	<u>4.8</u>	<u>0</u>	<u>0</u>	<u>0</u>
		12.1	0	0	0
SARASOTA COUNTY					
R1 - R29	Critical	5.4	0	0	0
R30 - R43	Critical	2.3	0	0	0
R44A - R45	Critical Inlet Shoreline	0	0	0.8	0
R46 - R47.5	Critical	0.3	0	0	0
R64 - R77	Critical	2.4	0	0	0
R81 - R96	Critical	2.9	0	0	0
R116 - R143	Critical	5.1	0	0	0
R168 - R183	Critical	<u>2.9</u>	<u>0</u>	<u>0</u>	<u>0</u>
		21.3	0	0.8	0
CHARLOTTE COUNTY					
R1 - R15.4	Critical	2.7	0	0	0
R15.4 - R19	Noncritical	0	0.7	0	0
Stump Pass, S. Shore	Critical Inlet Shoreline	0	0	0.3	0
R28 - R39	Critical	1.8	0	0	0
R47.5 - R49.5	Critical	<u>0.4</u>	<u>0</u>	<u>0</u>	<u>0</u>
		4.9	0.7	0.3	0

LEE COUNTY		BEACH		INLET	
		critical	noncritical	critical	noncritical
R7 - R26	Critical	4.1	0	0	0
R27 - R33	Noncritical	0	1.1	0	0
R46 - R52	Noncritical	0	1.2	0	0
R60 - R65	Noncritical	0	1.0	0	0
R66,east 1000'	Critical Inlet Shoreline	0	0	0.2	0
R66 - R71	Critical	1.0	0	0	0
R75 - R81	Noncritical	0	1.7	0	0
R81 - R82	Critical	0.4	0	0	0
R83 - R84	Critical Inlet Shoreline	0	0	0.2	0
R84 - R109	Critical	5.0	0	0	0
R109 - R112	Critical	0.4	0	0	0
R112 - R118	Noncritical	0	1.3	0	0
R129 - R133	Critical	0.9	0	0	0
R176 - R200	Critical	4.8	0	0	0
R208 - R210	Critical Inlet Shoreline	0	0	0.4	0
R211 - R213	Noncritical Inlet Shoreline	0	0	0	0.3
R215 - R221	Critical	1.1	0	0	0
R222	Noncritical Inlet Shoreline	0	0	0	0.1
R223 - R226	Noncritical	0	0.7	0	0
R226 - R230	Critical	0.8	0	0	0
		18.5	7	0.8	0.4
COLLIER COUNTY					
R22.3 - R30.5	Critical	1.6	0	0	0
R50.65 - R57.5	Critical	1.3	0	0	0
R57.8 - R89	Critical	5.6	0	0	0
R90 - R111	Noncritical	0	3.9	0	0
Sea Oat Island	Noncritical	0	0.9	0	0
Coconut Island	Noncritical	0	0.1	0	0
H3 - H11	Critical Inlet Shoreline	0	0	0.8	0
R134.5 - R139	Critical	0.8	0	0	0
R143 - R148	Critical	0.9	0	0	0
Kice Island	Noncritical	0	2.5	0	0
Morgan Island	Noncritical	0	2.1	0	0
		10.2	9.5	0.8	0
TOTAL GULF COAST		155.4	79.1	4.0	1.4
TOTAL ATLANTIC COAST		156.8	26.8	4.8	1.3
TOTAL FLORIDA KEYS		7.3	3.5	---	---
STATEWIDE		319.5	109.4	8.8	2.7

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Nassau County

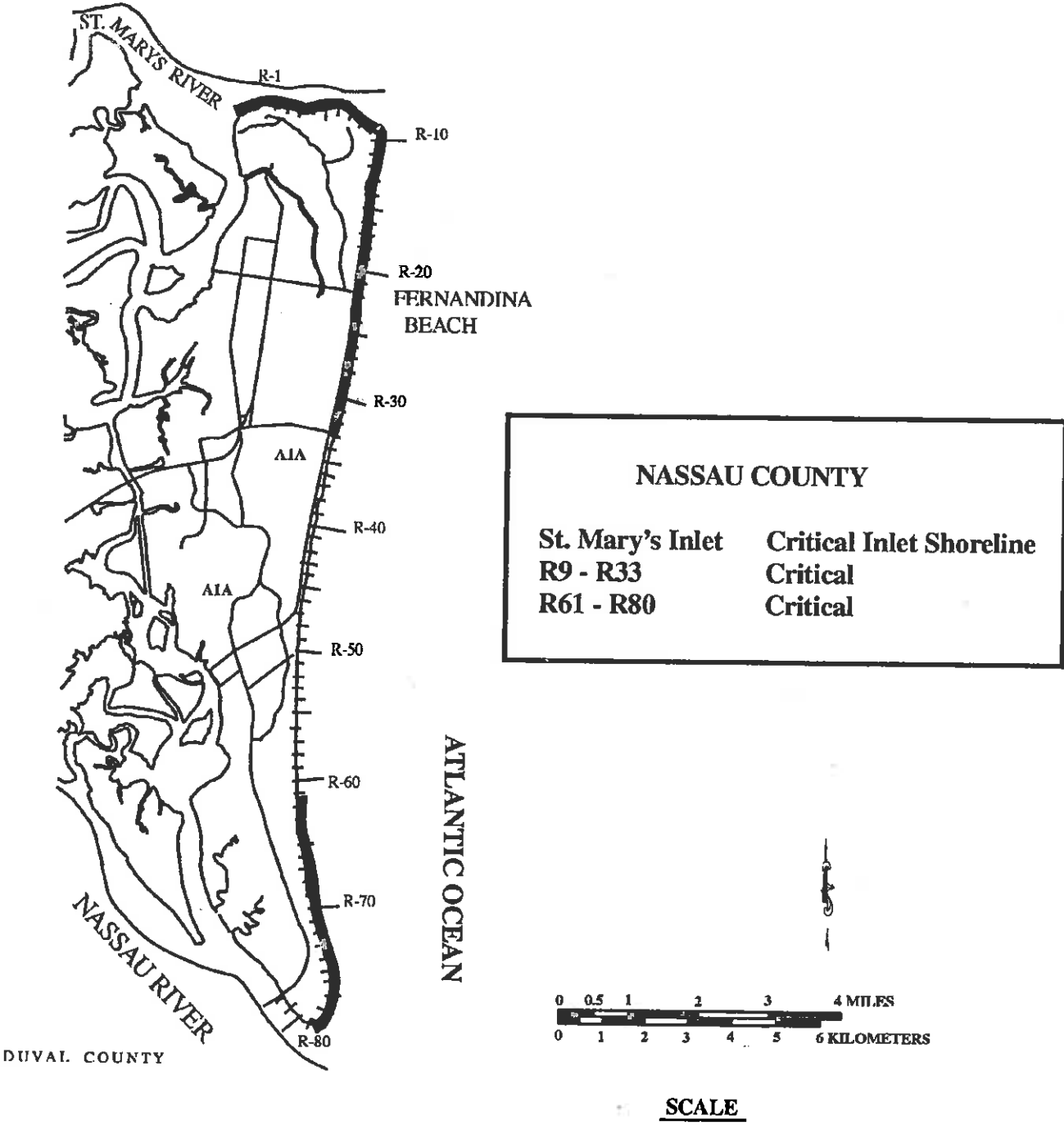
There are two critical beach erosion areas (7.5 miles) and one critical inlet shoreline erosion area (2.5 miles) in Nassau County.

The critical inlet shoreline erosion area (2500 ft. west of R1-R9) extends 2.5 miles along the south shoreline of the St. Mary's River entrance on Amelia Island. Along this shoreline, threatened are the historic Ft. Clinch and recreation beaches of the Ft. Clinch State Park.

The northern 4.4 miles of Atlantic Ocean fronting beaches of Amelia Island (R9-R33) have critical erosion. This area has an ongoing beach management project involving the transfer of sand dredged from the St. Mary's River Entrance to the eroding beaches. Threatened are development and recreational interests along Fernandina Beach and Ft. Clinch State Park.

The southern 3.1 miles of Atlantic Ocean fronting beaches of Amelia Island (R61-R80) have critical erosion threatening development and recreational interests. A beach restoration project has been constructed along much of this area.

CRITICAL EROSION AREAS MAP - March 1, 1999



Duval County

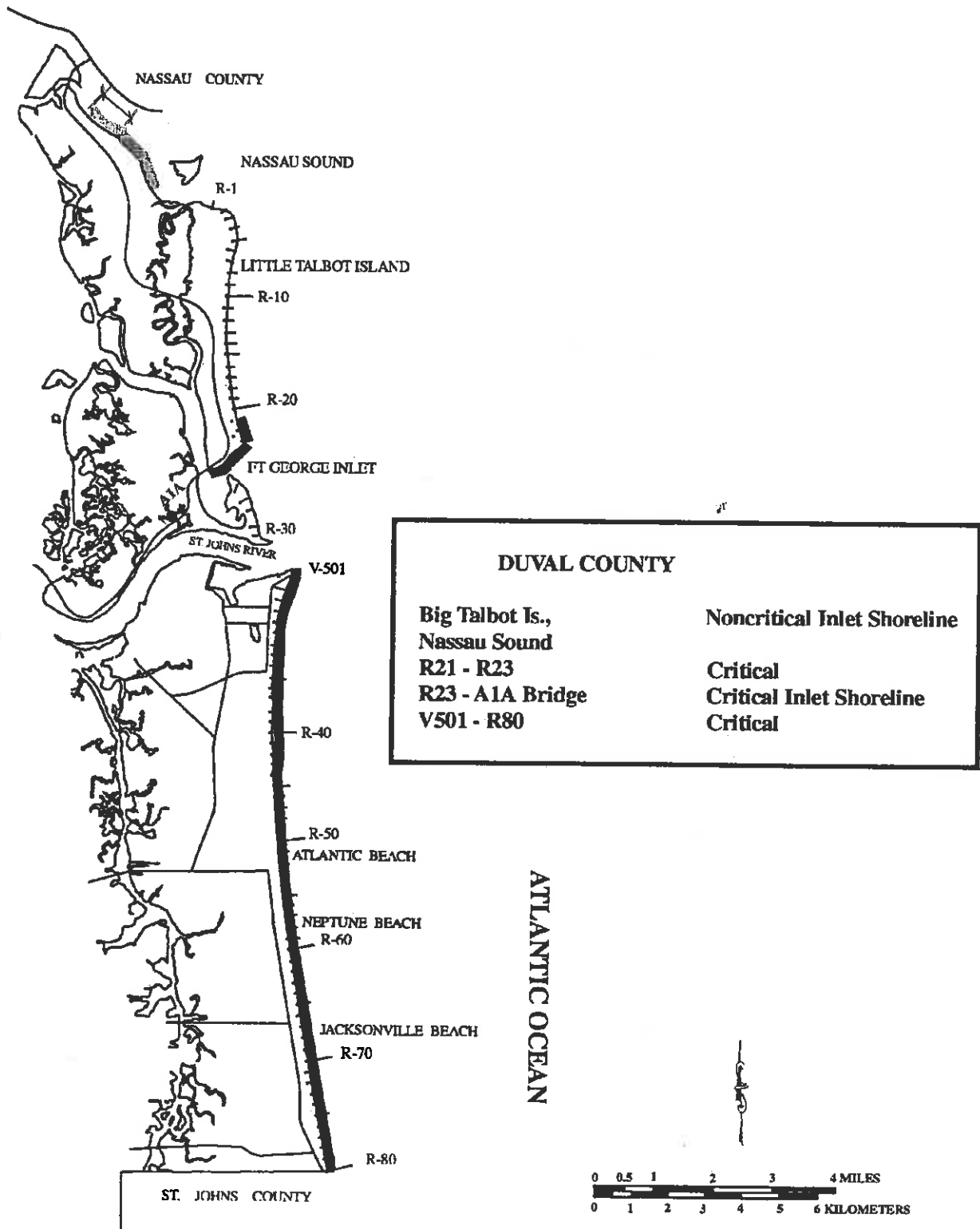
There are two critical erosion areas (10.4 miles), one critical inlet shoreline erosion area (0.7 mile), and one noncritical inlet shoreline erosion area (1 mile) in Duval County.

The noncritical inlet shoreline erosion area extends one mile along the Big Talbot Island shoreline of Nassau Sound. Although dramatically eroding a portion of Big Talbot Island State Park, this area is still considered noncritical.

The southern 0.3 mile of Atlantic Ocean fronting beach on Little Talbot Island (R21- R23) has critical erosion, as does (R23-AIA Bridge) extending 0.7 mile along Ft. George inlet. These critical beach and inlet shoreline erosion areas resulting from the northward migration of Ft. George inlet are experiencing a threat to recreational interests at Little Talbot Island State Park and state road AIA.

The southern 10.1 miles of Atlantic Ocean fronting beaches in Duval County (V501-R80) are designated as critical erosion due to past threats to development and recreational interests. This area is part of a Federal and State beach restoration project, which is continually maintained.

CRITICAL EROSION AREAS MAP - March 1, 1999



St. Johns County

There are three critical erosion areas (7.3 miles) and one noncritical erosion area (0.3 mile) in St. Johns County.

Near the center of the county north of St. Augustine Inlet at Vilano Beach (R110-R117) are 1.4 miles of critical erosion threatening private development as well as State Road AIA.

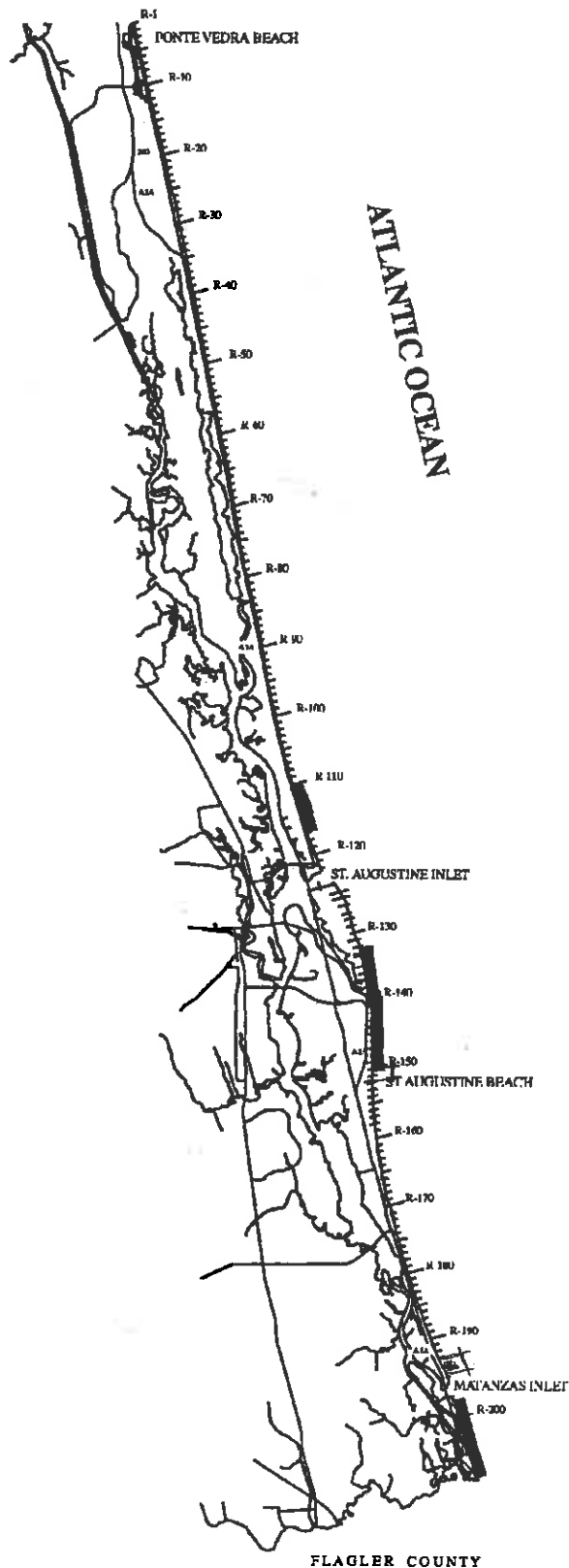
South of St. Augustine Inlet, 3.5 miles of beach (R132-R150.5) along Conch Island and Anastasia Island through St. Augustine Beach are critically eroding threatening development and recreational interests. Some wildlife habitat in the Anastasia Island State Recreation Area is also threatened. Much of this area has been armored and inlet channel maintenance dredging disposal is being conducted.

At the south tip of Anastasia Island (R194-R195) is a 0.3-mile segment of noncritical erosion north of Matanzas Inlet within the Fort Matanzas National Monument.

The southern 2.4 miles of St. Johns County beaches (R197-R209) are critically eroding between Matanzas Inlet and the Flagler County line. The northern portion threatens State Road AIA and private development. Although the State Road AIA roadbed has been abandoned along the southern segment, wildlife habitat within the Matanzas River lagoon is being threatened. This area is to receive nourishment from Intracoastal Waterway dredge disposal.

CRITICAL EROSION AREAS MAP - March 1, 1999

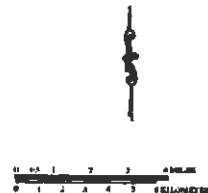
DUVAL COUNTY



FLAGLER COUNTY

ST. JOHNS COUNTY

R110 - R117.5	Critical
R132 - R150.5	Critical
R194 - R195	Noncritical
R197 - R209	Critical



SCALE

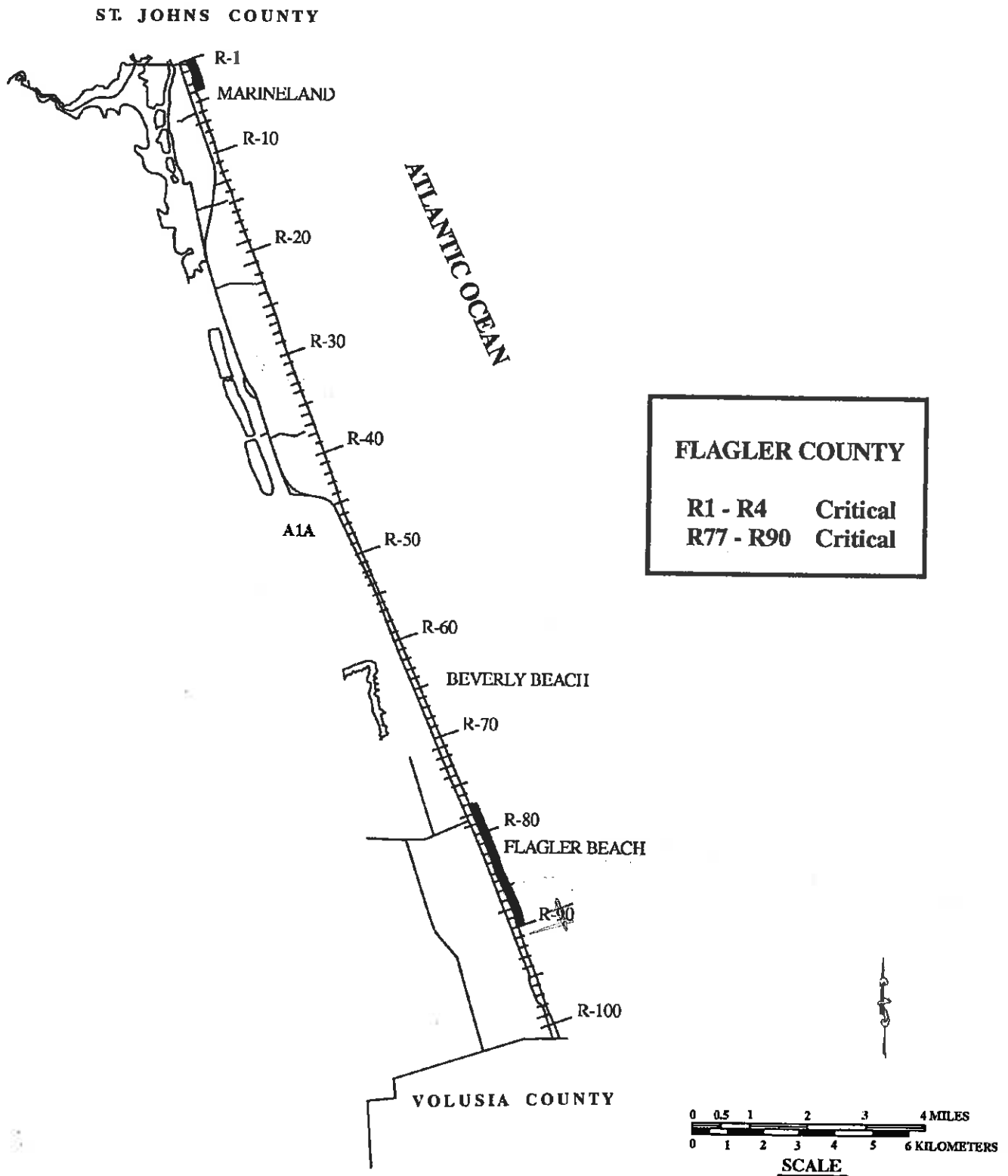
Flagler County

There are two critical erosion areas (2.9 miles) in Flagler County.

Erosion at the northern 0.6 mile of beach (R1-R4) is threatening development and recreational interests at Marineland. This area has been armored with a rock revetment and groins.

The 2.3 miles of critical erosion at Flagler Beach (R77-R90) threatens State Road A1A. A portion of this area has been armored with a rock revetment.

CRITICAL EROSION AREAS MAP - March 1, 1999



Volusia County

There are three critical erosion areas (13.4 miles), one noncritical erosion area (1.1 miles), and one critical inlet shoreline erosion area (0.6 mile) in Volusia County.

A 3.6-mile segment of beach (R57-R77) along Ormond Beach and Daytona Beach is now critically eroded threatening development and recreational interests, as the beach has become very narrow.

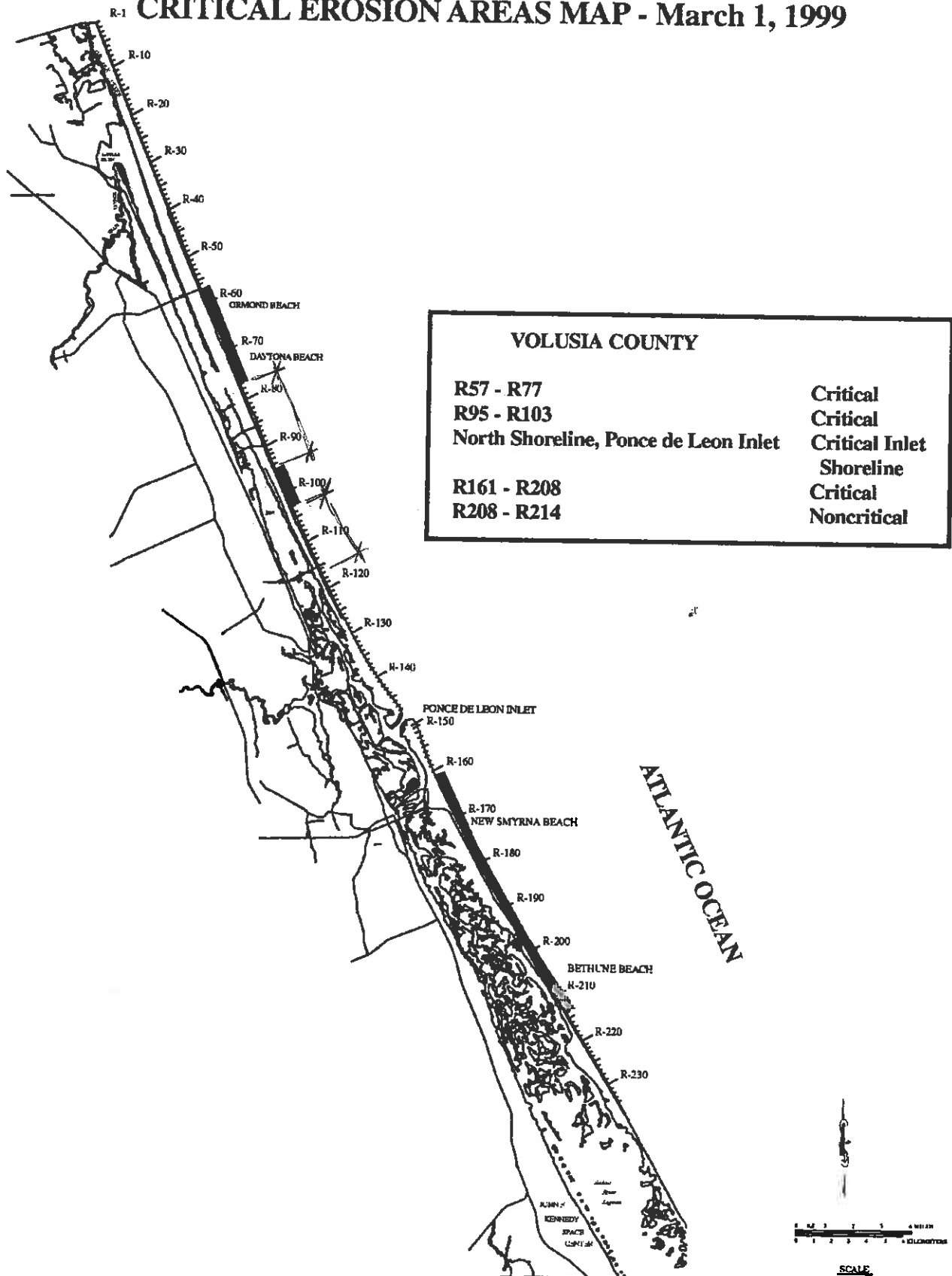
Another 1.4-mile segment of beach (R95-R103) along southern Daytona Beach is also now critically eroded threatening development and recreational interests, as the beach has become very narrow.

The north shoreline (0.6-mile) of Ponce de Leon Inlet is critically eroding and threatens recreational interests at the State Park.

The 8.4 miles of beaches (R161-R208) south of Ponce de Leon Inlet within New Smyrna Beach and Bethune Beach are critically eroding. Threatened are private development and recreational interests. Much of Bethune Beach has been armored by a rock revetment and the New Smyrna Beach area is to receive inlet sand transfer material from dredging within Ponce de Leon Inlet.

A 1.1-mile segment of the Canaveral National Seashore (R204-R214) south of Bethune Beach is also eroding without any threatened interests at this time.

CRITICAL EROSION AREAS MAP - March 1, 1999



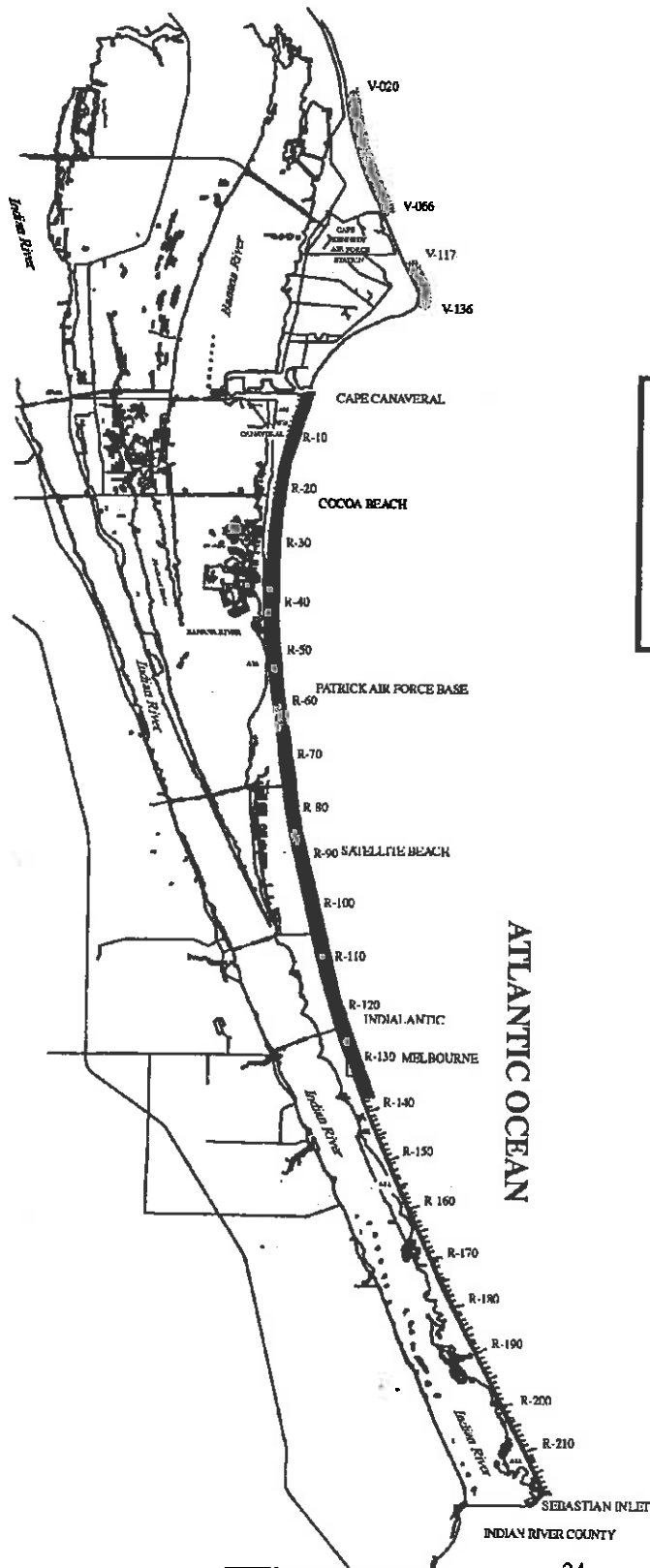
Brevard County

There is one long critical erosion area (24.6 miles) and two noncritical erosion areas (12.3 miles) in Brevard County.

Two areas along the Canaveral National Seashore (V020-V066 and V117-V136) are erosional. Both areas are located north of Cape Canaveral and are not monitored.

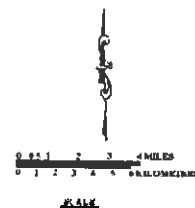
From Canaveral Inlet extending 24.6 miles to the south is a long coastal segment (R1-R137.5) designated as critical. Threatened are development and recreational interests. Beach restoration projects have been conducted in Canaveral, Indiatlantic, and Melbourne Beach. New projects are proposed for Cocoa Beach, Indiatlantic, and Melbourne Beach.

CRITICAL EROSION AREAS MAP - March 1, 1999



BREVARD COUNTY

V020 - V066	Noncritical
V117 - V136	Noncritical
R1 - R137.5	Critical



Indian River County

There are four critical erosion areas (7.3 miles) and three noncritical erosion areas (6.3 miles) in Indian River County.

The northern 3 miles (R1-R17) south of Sebastian Inlet has critical erosion threatening State Road AIA, Sebastian Inlet State Recreation Area facilities, the Maclarty State Museum, and private development. The museum has been armored with a rock revetment and inlet sand transfer is conducted south of the inlet.

A 3.8-mile segment of coast (R17-R37) continues to erode with no immediate threat. The area is being monitored.

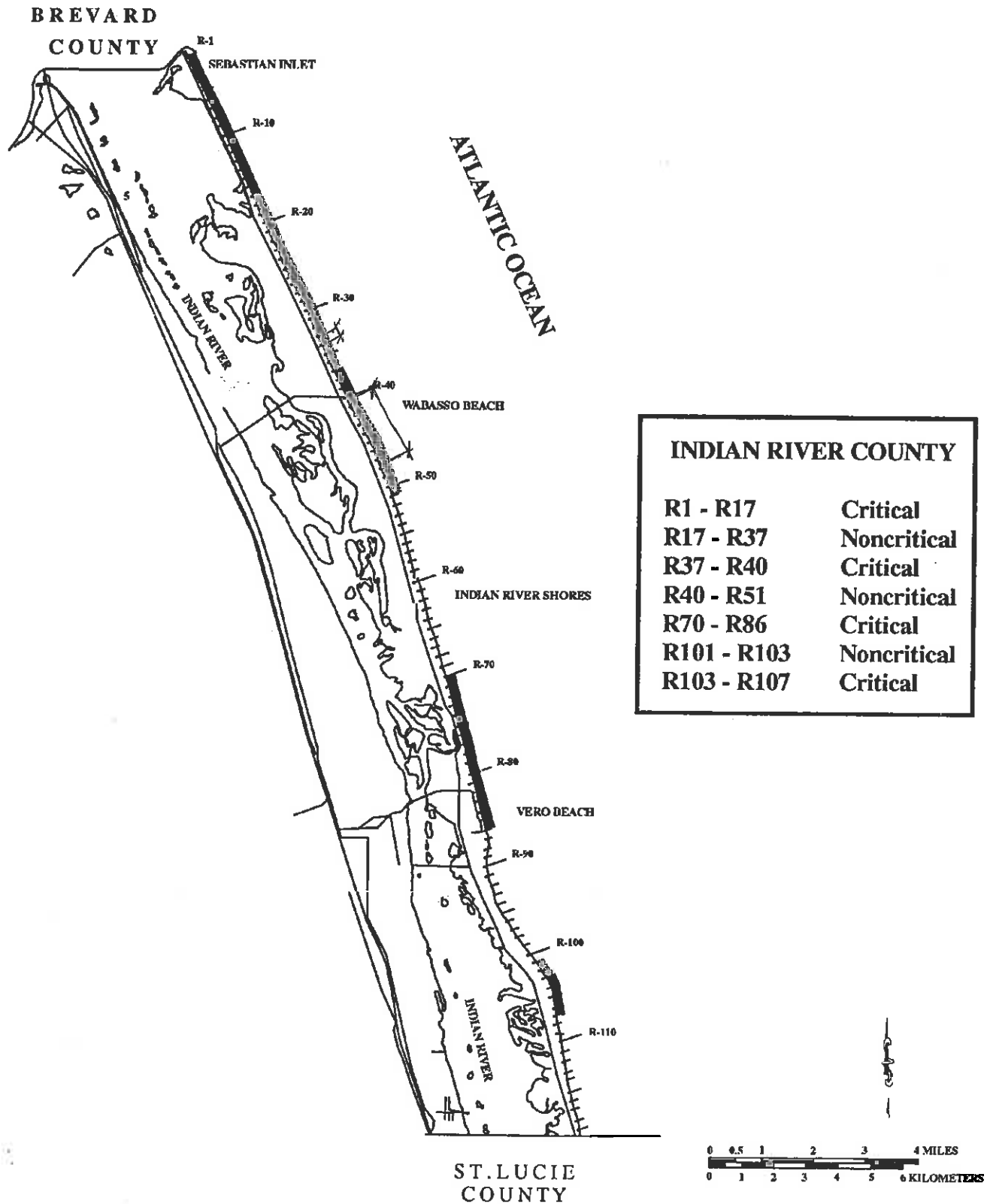
The 0.4-mile erosion segment at Wabasso Beach (R37-R40) has critical erosion threatening development and recreational interests.

South of Wabasso Beach, a 2.1-mile segment of coast (R40-R51) continues to erode and is being monitored.

The northern 3.1 miles of Vero Beach (R70-R86) is critically eroding with development and recreational interests being threatened. Much of this area has seen armoring, dune restoration, and small nourishment projects, although a major beach restoration has not yet materialized.

In southern Indian River County along Floralton Beach a 0.4-mile noncritical segment (R101-R103) and a 0.8-mile critical segment (R103-R107) exists. Development is now threatened in the critical portion.

CRITICAL EROSION AREAS MAP - March 1, 1999



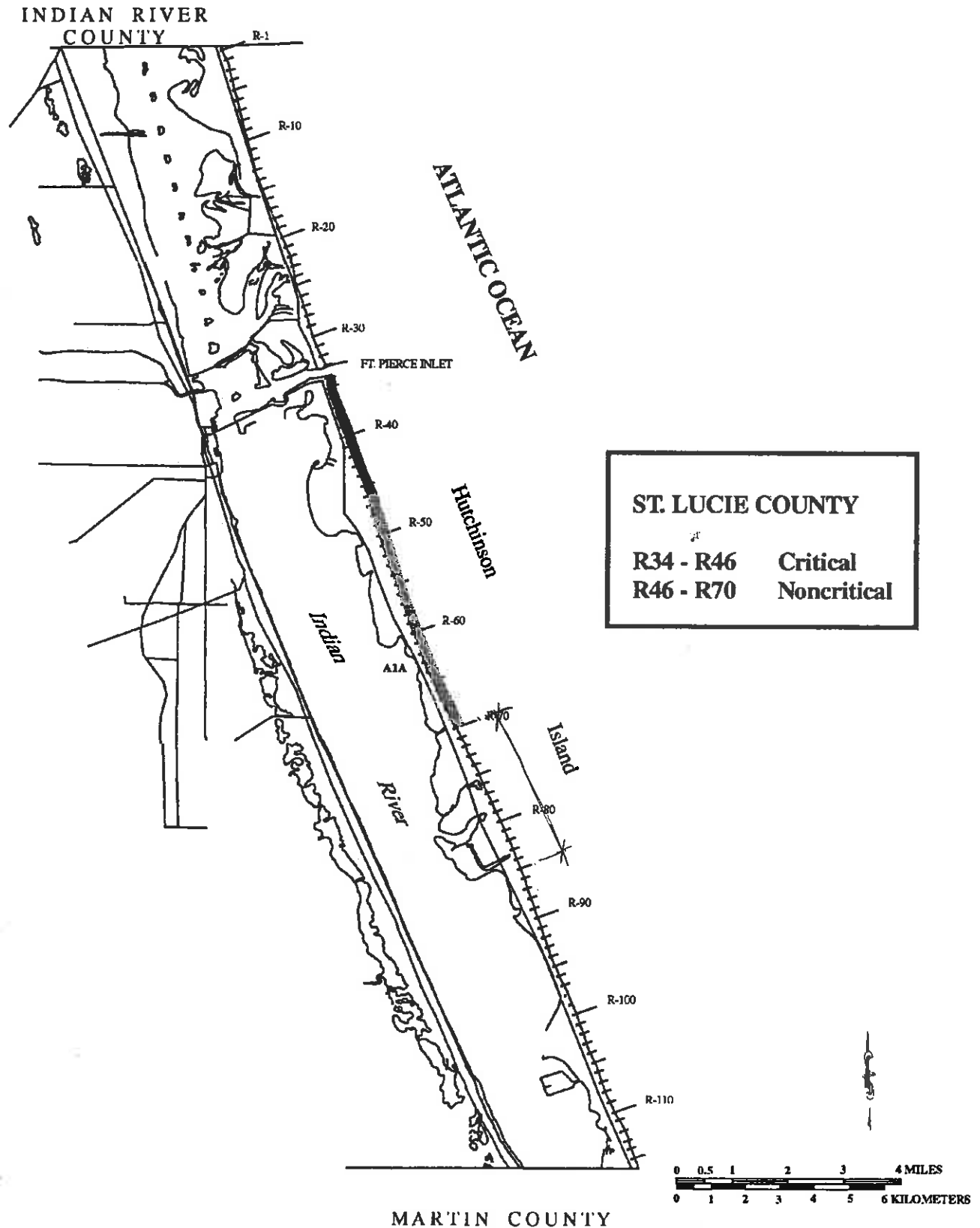
St. Lucie County

There is one critical erosion area (2.3 miles) and one noncritical erosion area (4.5 miles) in St. Lucie County.

The critical erosion area (R34-R46) extends south from Ft. Pierce Inlet threatening recreation and development interests. This area is a State and Federal beach restoration project.

Extending south from the critical erosion area is an additional 4.5 miles of noncritically eroding shoreline, which lacks any current threat.

CRITICAL EROSION AREAS MAP - March 1, 1999



Martin County

There are three critical erosion areas in Martin County (15.8 miles.)

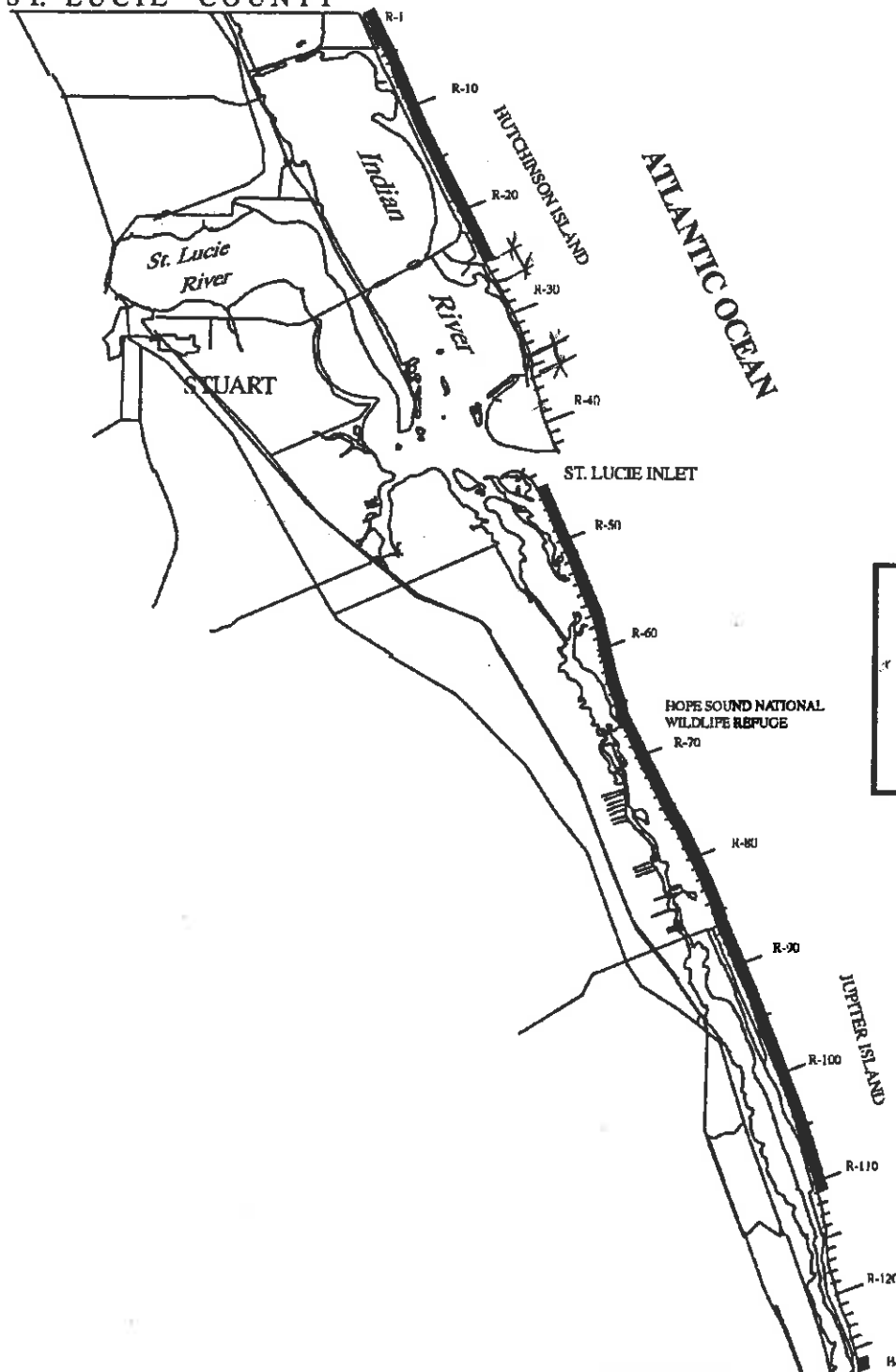
The northern 4.1 miles of Martin County on Hutchinson Island (R1-R25) has critical erosion threatening development interests. This segment is a State and Federal beach restoration project.

Most of Jupiter Island (R45-R111) south of the St. Lucie Inlet is considered critical erosion for 11.5 miles. The northern half of this erosion area extends along St. Lucie Inlet State Preserve and Hobe Sound National Wildlife Refuge. The erosion along this stretch threatens wildlife habitat, including the potential to break through the barrier island at Pecks Lake. Also threatened and already half destroyed is the Joseph Reed Mound archeological site which appears to have been constructed during the late Archaic period (2250 B.C.-1000 B.C.) The entire Town of Jupiter Island is also within this long critical erosion area where development and recreational interests are threatened. Inlet sand transfer is being conducted along northern Jupiter Island and a beach restoration project exists at the Town of Jupiter Island.

South of Blowing Rocks Preserve is another small critical erosion area (R126-R127) extending 0.2 mile and threatening private development.

CRITICAL EROSION AREAS MAP - March 1, 1999

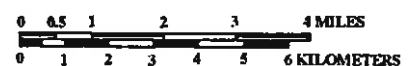
ST. LUCIE COUNTY



MARTIN COUNTY

R1 - R25 Critical
R45 - R111 Critical
R126 - R127 Critical

PALM BEACH COUNTY



SCALE

Palm Beach County

There are nine critical erosion areas (27 miles), two noncritical erosion areas (0.9 mile), and two critical inlet shoreline erosion areas (1 mile) in Palm Beach County.

At the north end of Palm Beach County, a 1.2-mile segment of Tequesta and Jupiter Inlet Colony (R3-R10) has critical erosion threatening private development in those communities as well as recreational interests at Coral Cove Park. A dune restoration project exists at Coral Cove Park and armoring has been conducted along private development in Tequesta.

The north and south shoreline inside Jupiter Inlet have experienced critical erosion threatening development to the north and recreational interests to the south.

Extending for five miles south of Jupiter Inlet is a critical erosion area (R12-R38) which threatens Jupiter Beach County Park, Carlin Park, State Road A1A, and development in the communities of Jupiter and Juno Beach. Inlet sand transfer has been conducted immediately south of Jupiter Inlet and beach restoration has been conducted at Carlin Park.

At the south end of Juno Beach (R38-R40) the erosion area continues south for 0.4 mile with no current threat. Another noncritical segment (R58-R60.5) extends 0.5 mile along John D. MacArthur State Park.

Along northern Riviera Beach on Singer Island (R60.5-R69) south of MacArthur State Park is 1.7 miles of critical erosion that is threatening private development and recreational interests at a county park.

On the south interior shoreline of Lake Worth Inlet critical inlet shoreline erosion threatens private development. This area has a gap in what is generally an armored shoreline.

Extending south of Lake Worth Inlet along the town of Palm Beach (R76-R121) are 9.5 miles of critical erosion threatening private development and State Road A1A. Most of this stretch of coast is armored with seawalls, bulkheads, and revetments. There are also numerous groins, a small beach nourishment project referred to as the Mid-Town project, and an inlet sand transfer project south of Lake Worth Inlet.

The town of South Palm Beach (R133-R137) has 0.7 mile of critical erosion threatening private development. This critical erosion area is armored.

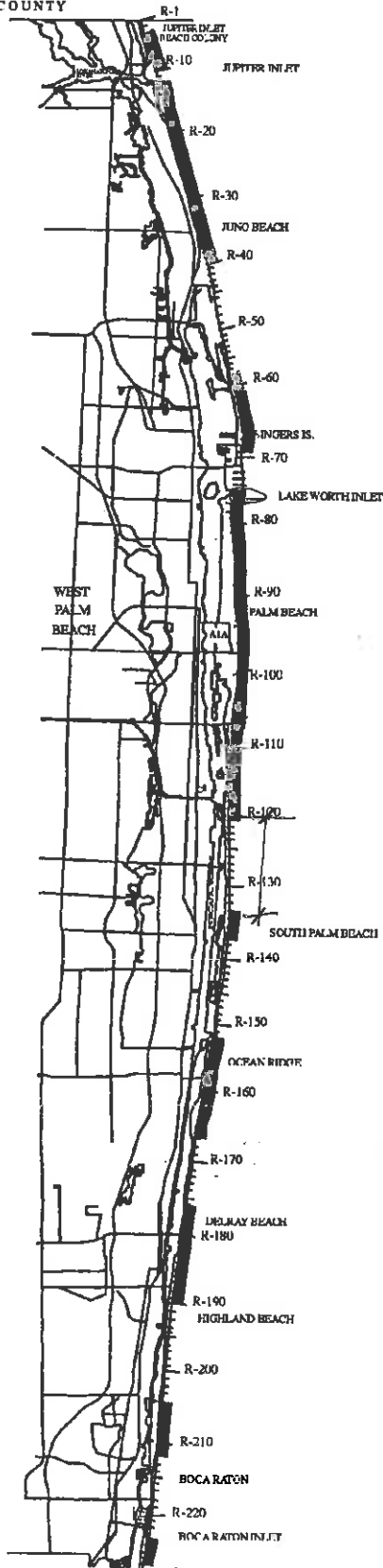
Extending south of South Lake Worth Inlet for 3.3 miles is a critical erosion area (R152-R168) which threatens development along the communities of Ocean Ridge, Briny Breezes, Boynton Beach, and Gulf Stream. Inlet sand transfer is being conducted immediately south of South Lake Worth Inlet.

Along the City of Delray Beach (R176-R190) is a 2.9-mile critical erosion area which threatened development and recreational interests as well as State Road A1A. This area is a State beach restoration project.

The City of Boca Raton at the south end of Palm Beach County has two critical erosion areas. The northern segment (R204-R212), extending 1.7 miles, threatens recreation interests at Spanish River Park and Red Reef Park as well as State Road A1A and some private development. The southern segment (R223-R227) extends for 1 mile south of Boca Raton Inlet and threatens South Inlet Park and private development. A beach restoration project has been constructed along the northern critical erosion area and inlet sand transfer and armoring exists along the southern area.

CRITICAL EROSION AREAS MAP - March 1, 1999

MARTIN COUNTY



ATLANTIC OCEAN

PALM BEACH COUNTY

R3 - R10	Critical
North & South Shore, Jupiter Inlet	Critical Inlet
	Shoreline
R12 - R38	Critical
R38 - R40	Noncritical
R58 - R60.5	Noncritical
R60.5 - R69	Critical
South Shore, Lake Worth Inlet	Critical Inlet
	Shoreline
R76 - R121	Critical
R133 - R137	Critical
R152 - R168	Critical
R176 - R190	Critical
R204 - R212	Critical
R223 - R227	Critical



BROWARD COUNTY

Broward County

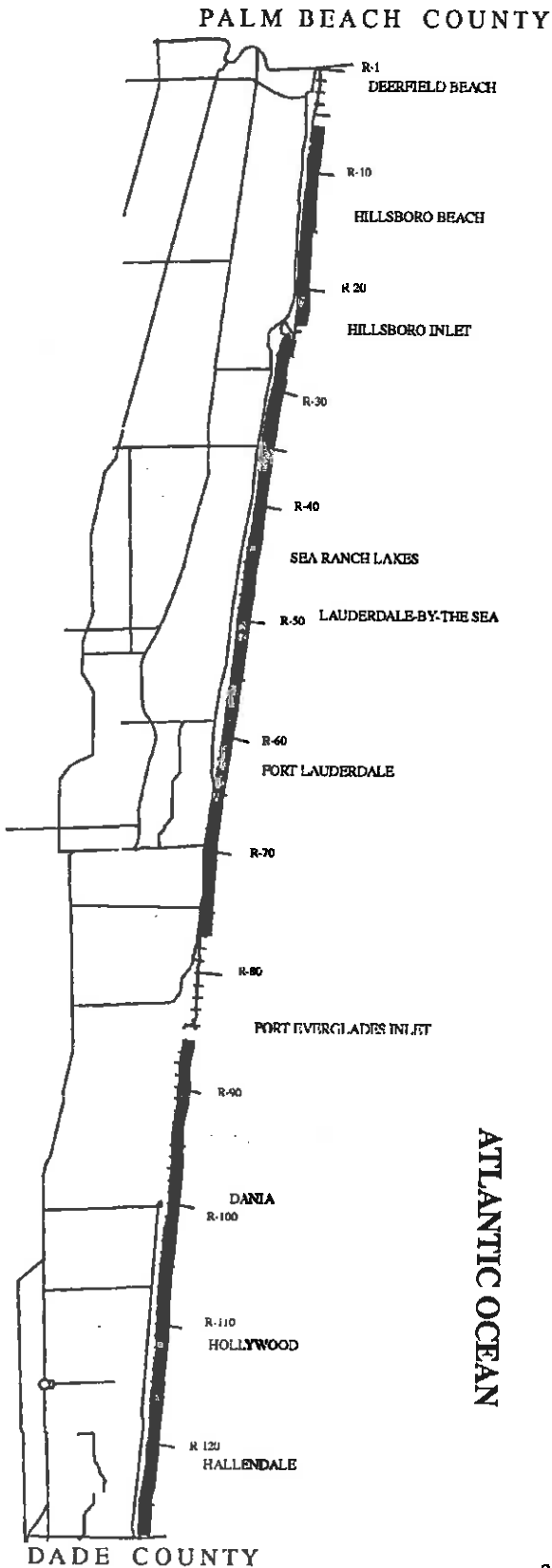
Nearly all of Broward County is critically eroding. Three critical erosion areas (21.3 miles) are specifically identified.

The south end of Deerfield Beach and the entire City of Hillsboro Beach along northern Broward County is a 3.2-mile long critical erosion area (R6-R23). Private development is threatened throughout this area. Some armoring exists in Hillsboro Beach and a boulder mound and groin project exists in Deerfield Beach.

South of Hillsboro Inlet and extending for ten miles along Pompano Beach, Sea Ranch Lakes, Lauderdale-by-the-Sea, and Ft. Lauderdale is a continuous critical erosion area (R25-R77) which threatens development and recreational interests including State Road A1A. A beach restoration project has been conducted at Pompano Beach and inlet sand transfer is ongoing immediately south of Hillsboro Inlet. Numerous bulkheads and retaining walls also exist along this stretch of coast.

Along the southern 8.1 miles of Broward County south of Port Everglades Entrance is a critical erosion area (R86-R128) which threatens recreation interests at John U. Lloyd State Recreation Area and development and recreation interests along the communities of Dania, Hollywood, and Hallandale. Beach restoration projects are ongoing at Lloyd State Recreation Area and at Hollywood and Hallandale. Armoring also exists along the private development.

CRITICAL EROSION AREAS MAP - March 1, 1999



BROWARD COUNTY

R6 - R23	Critical
R25 - R77	Critical
R86 - R128	Critical



SCALE

Dade County

Most of Dade County's barrier island coast north of Cape Florida is critically eroding. The erosion is identified by three critical erosion areas (17 miles), two noncritical erosion areas (1.4 miles), and one noncritical inlet shoreline erosion area (0.3 mile).

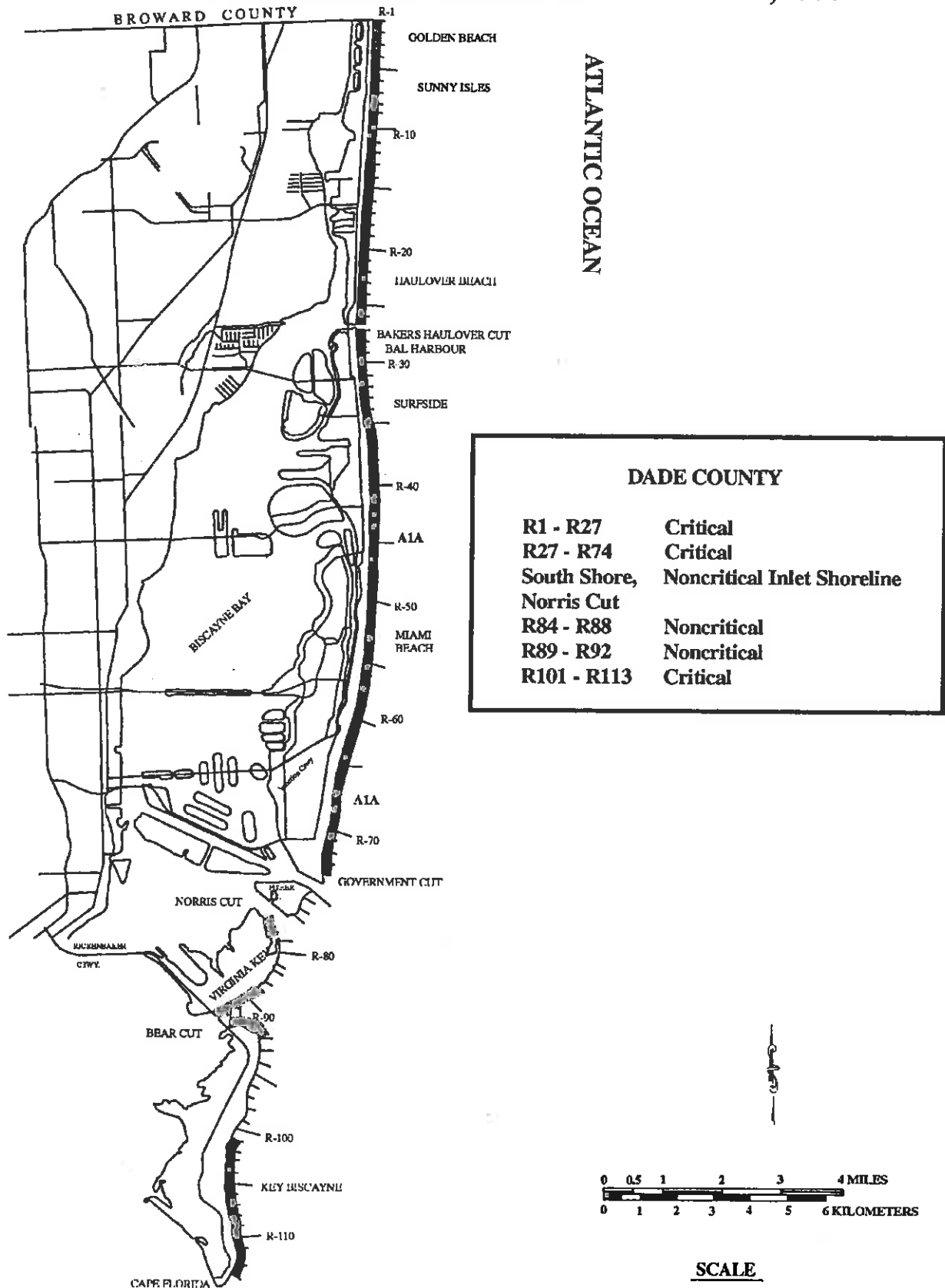
The northern 5.1 miles of Dade County (R1-R27) has critical erosion threatening development along Golden Beach and Sunny Isles and recreational interests at Haulover Beach Park. This stretch of coast has a State and Federal beach restoration project along Sunny Isles and Haulover Beach Park.

Between Bakers Haulover Inlet and Government Cut (R27-R74) are 9.4 miles of critical erosion, which threatened development and recreational interests along Bal Harbour, Surfside, and Miami Beach. This reach is a State and Federal beach restoration project.

The northern end of Virginia Key along the south shoreline of Norris Cut (0.3 mile) has noncritical inlet shoreline erosion. The southern 0.8-mile of beach on Virginia Key (R84-R88) also has noncritical erosion.

The northern end of Key Biscayne (R89-R92) has 0.6 mile of noncritical erosion, and the southern half of Key Biscayne (R101-R113) has 2.5 miles of critical erosion. The critical erosion area threatens development in the Village of Key Biscayne and recreational interests at Bill Baggs Cape Florida State Recreational Area. This segment is a State and Federal beach restoration project.

CRITICAL EROSION AREAS MAP - March 1, 1999



Monroe County

There are six critical beach erosion areas (7.3 miles) and four noncritical beach erosion areas (3.5 miles) along the Florida Keys fronting on the Straits of Florida between Key Largo and Key West. The distal sand keys west of Key West including Woman Key, Boca Grande Key, the Marquesas Keys, and the Tortugas Keys, also have beach erosion conditions which have not been adequately studied for inclusion in this report. Also not included are the Gulf of Mexico fronting beaches of Key McLaughlin and Cape Sable.

There are no identified erosion problem areas in the upper keys but there are four in the middle keys. Along a 1.0-mile stretch of Long Key is critical erosion threatening recreational interests at the Long Key State Recreation Area.

Another 0.6-mile stretch of Coco Plum Beach near Key Colony has noncritical erosion. This area was recently purchased by Monroe County for a public park. The entire 0.9-mile stretch of Key Colony Beach has critical erosion following Hurricane Georges.

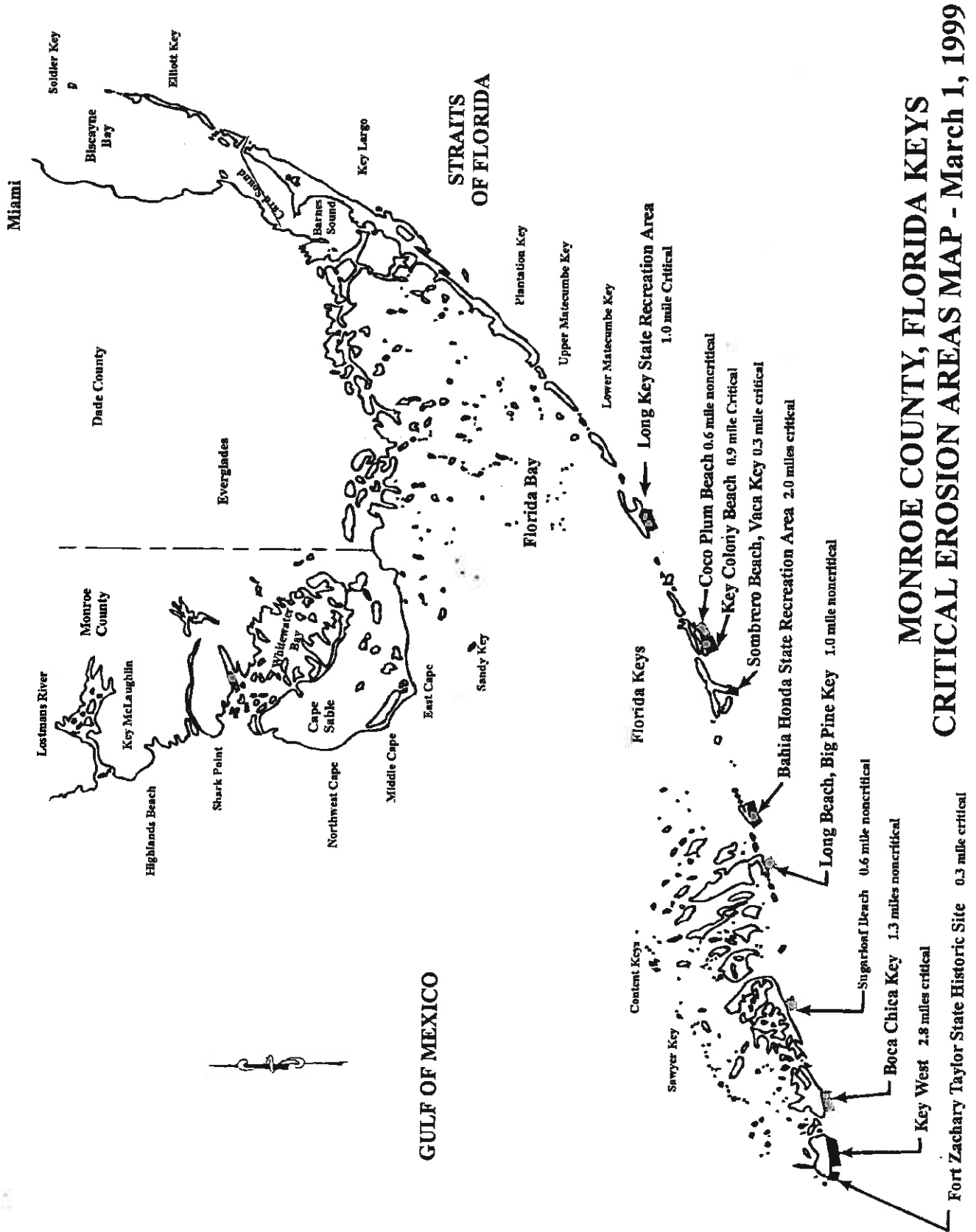
At Sombrero Beach on Vaca Key is a small stretch (0.3-mile) of critical erosion threatening recreational interests at another Monroe County Park.

The lower keys have significantly more erosion than the upper or middle keys as calcium carbonate sand beaches become more frequent although still limited. The sandy island of Bahia Honda Key has three erosion areas. The small public beach between the bridges within the Bahia Honda State Park, a western segment of the beach within the State Park and fronting on the Straits of Florida, and a stretch of Sandspur Beach at the east end of Bahia Honda Key has 2.0 miles of critical erosion particularly following Hurricane Georges, threatening recreational interests as well as the park road. A terminal groin and nourishment has been conducted at the public beach between the bridges, while armoring has been constructed along the threatened section of park road.

Further west are three separate noncritical beach erosion areas where there are not yet any threats to development or recreational interests. These areas include 1 mile of Long Beach on Big Pine Key, 0.6 mile of Sugarloaf Beach on Sugarloaf Key, and 1.3 miles of federal land on Boca Chica Key.

Nearly the entire south coast of the island of Key West has critical erosion extending for 2.8 miles. Erosion along the eastern portion of Key West completely eliminated the recreational beach. A beach restoration project has been constructed at Smathers Beach and minor nourishment projects have been constructed at other public and private beaches to the west including Rest Beach and Higgs Beach.

At the west end of Key West, the 0.3-mile beach along Fort Zachary Taylor State Historic Site is critically eroded threatening recreational interests. A terminal groin and breakwater project has been constructed and minor nourishment conducted at this site.



Escambia County

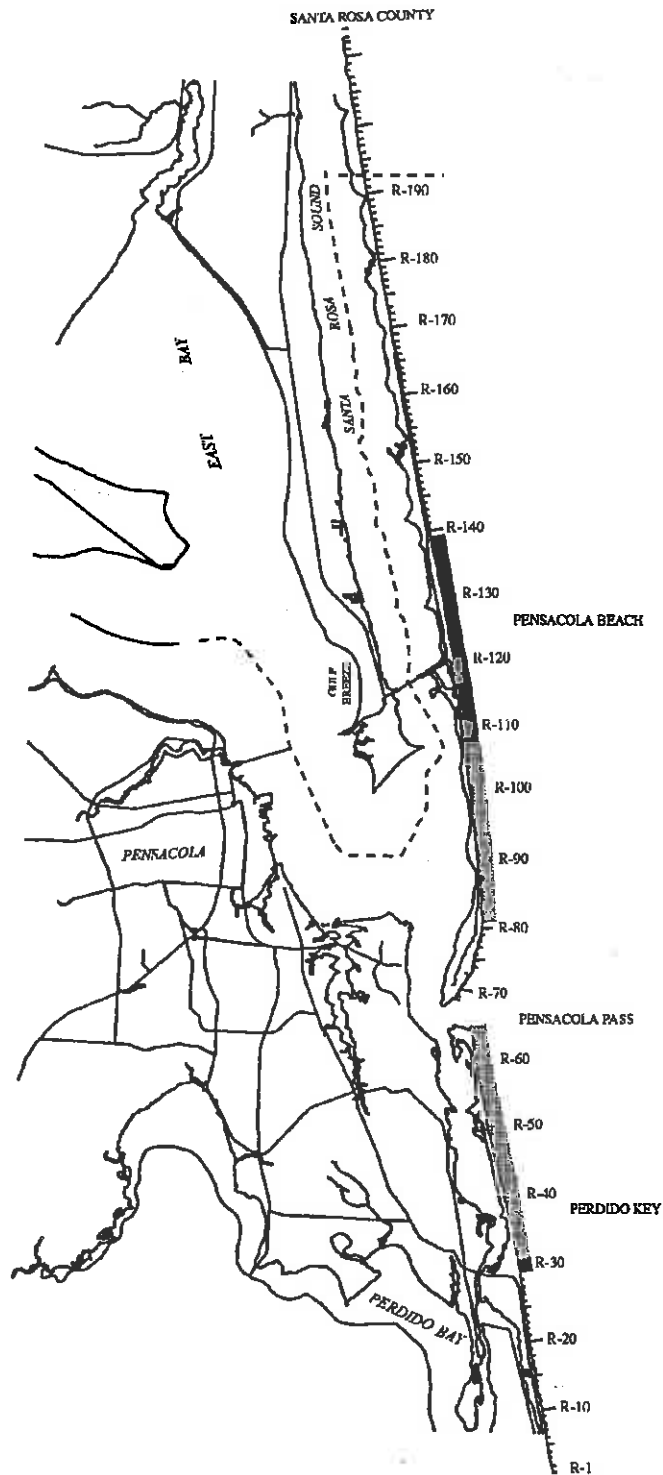
There are two critical erosion areas (6.3 miles) and two noncritical erosion areas (11.7 miles) in Escambia County.

The eastern 6.8 miles of Perdido Key is eroding, of which 0.4 mile is critical (R30-R32) threatening development interests and 6.4 miles are noncritical along the Gulf Islands National Seashore. Inlet sand transfer is being conducted in this area using Pensacola Bay Entrance dredge material.

Along western Santa Rosa Island (R79-R107) between Ft. Pickens and Pensacola Beach 5.3 miles of the Gulf Islands National Seashore are eroding but not a current threat.

The entire 5.9-mile length of Pensacola Beach (R107-R139) has critical erosion threatening development and recreational interests. Following Hurricane Opal in 1995 a dune restoration project has been constructed.

CRITICAL EROSION AREAS MAP - March 1, 1999



ESCAMBIA COUNTY

R30 - R32	Critical
R32 - R65	Noncritical
R79 - R107	Noncritical
R107 - R139	Critical

GULF OF MEXICO

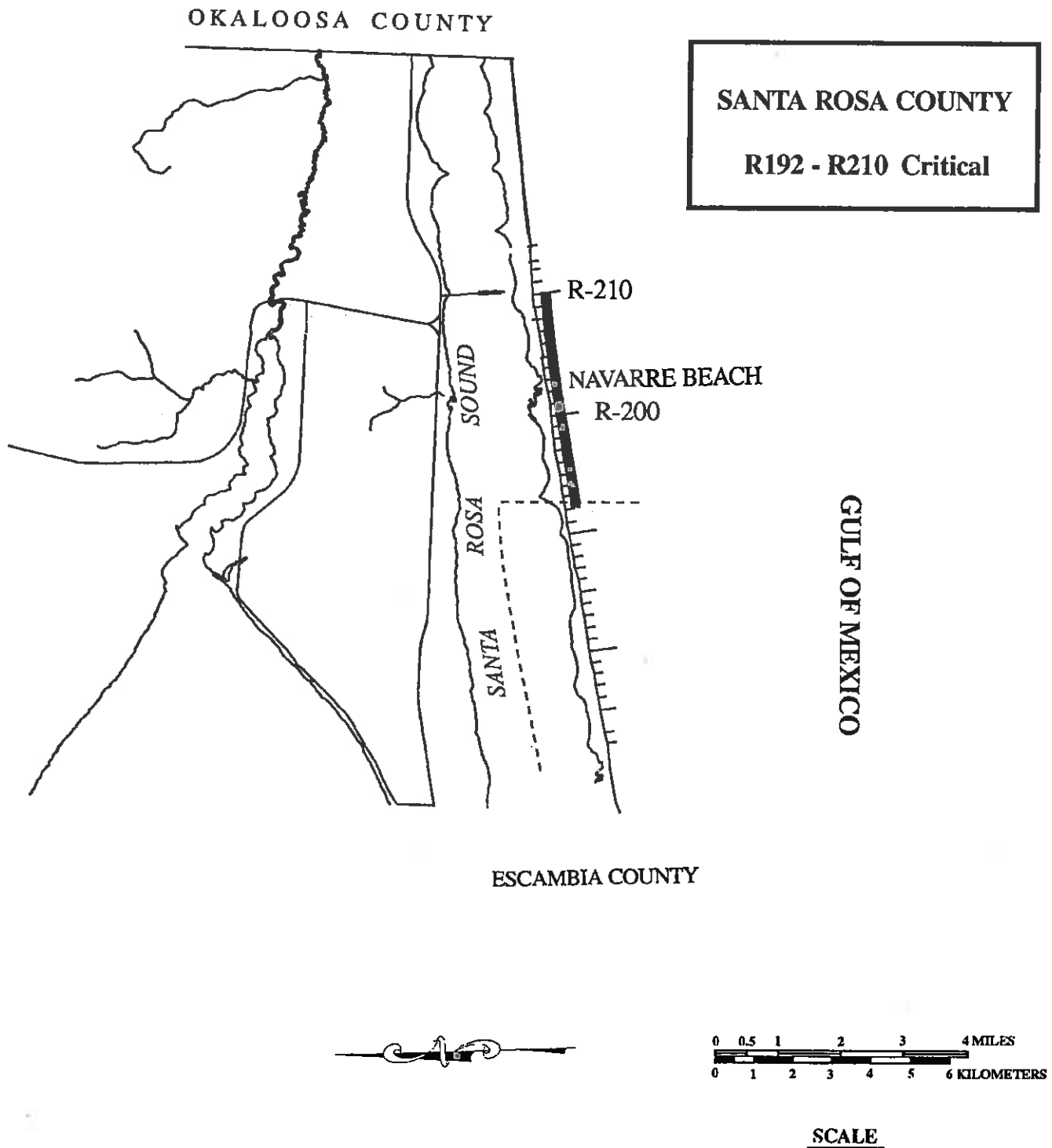


SCALE

Santa Rosa County

There is one critical erosion area in Santa Rosa County (3.4 miles). The critical erosion area along most of Navarre Beach (R195-R210) has threatened and damaged development and recreational interests. Following Hurricane Opal in 1995 a dune restoration project has been constructed.

CRITICAL EROSION AREAS MAP - March 1, 1999



Okaloosa County

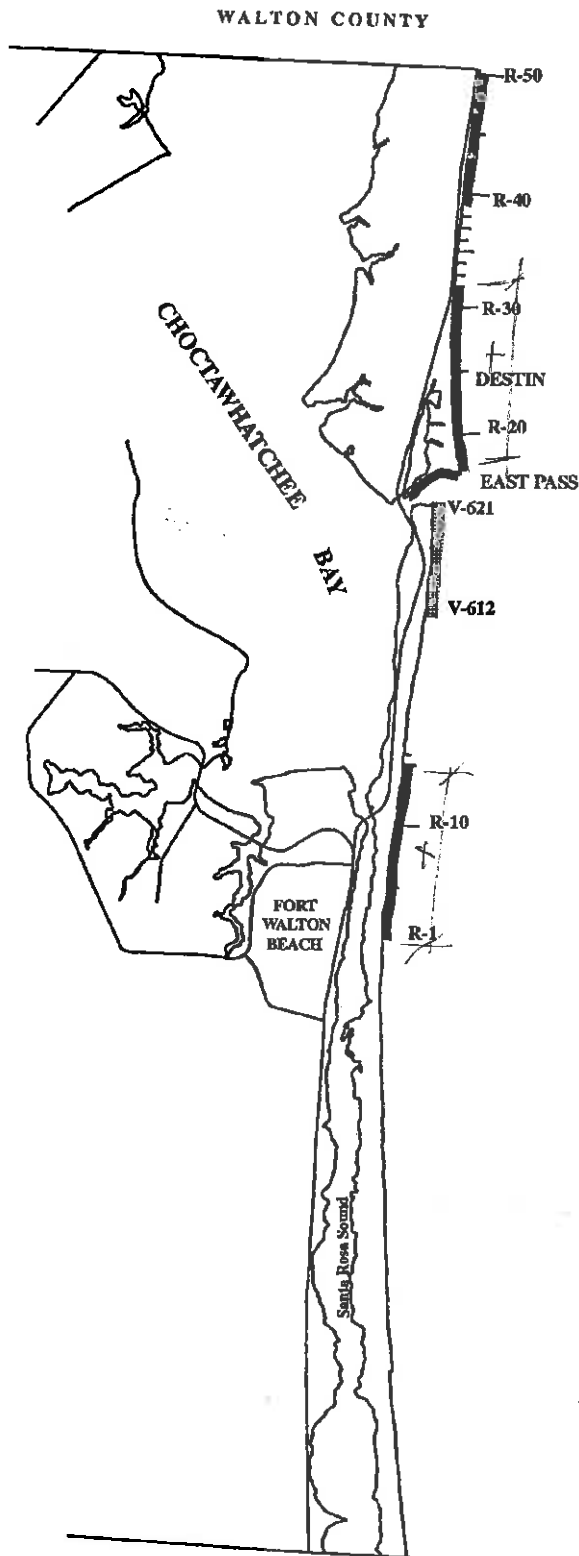
There are three critical erosion areas (7.8 miles), one noncritical erosion area (1.7 miles) and one critical inlet shoreline erosion area (0.8 mile) in Okaloosa County.

The western 2.8 miles of Okaloosa County (R1-R15) is designated critical erosion due to Hurricane Georges. The east end of Santa Rosa Island (V612-V621) extending 1.7 miles west of Choctawhatchee Bay Entrance (East Pass) is eroding without any threatened interests at this time.

The east shoreline of East Pass along Norriego Point is experiencing critical inlet shoreline erosion threatening development and recreational interests. This area is armored with bulkheads and retaining walls in front of private development.

Most of Destin is designated critical erosion following Hurricane Georges, including the western 2.9 miles (R17-R32) and the eastern 2.1 miles (R39-R50).

CRITICAL EROSION AREAS MAP - March 1, 1999



OKALOOSA COUNTY

R1 - R15	Critical
V612 - V621	Noncritical
Norriego Point	Critical Inlet
	Shoreline
R17 - R32	Critical
R39 - R50	Critical



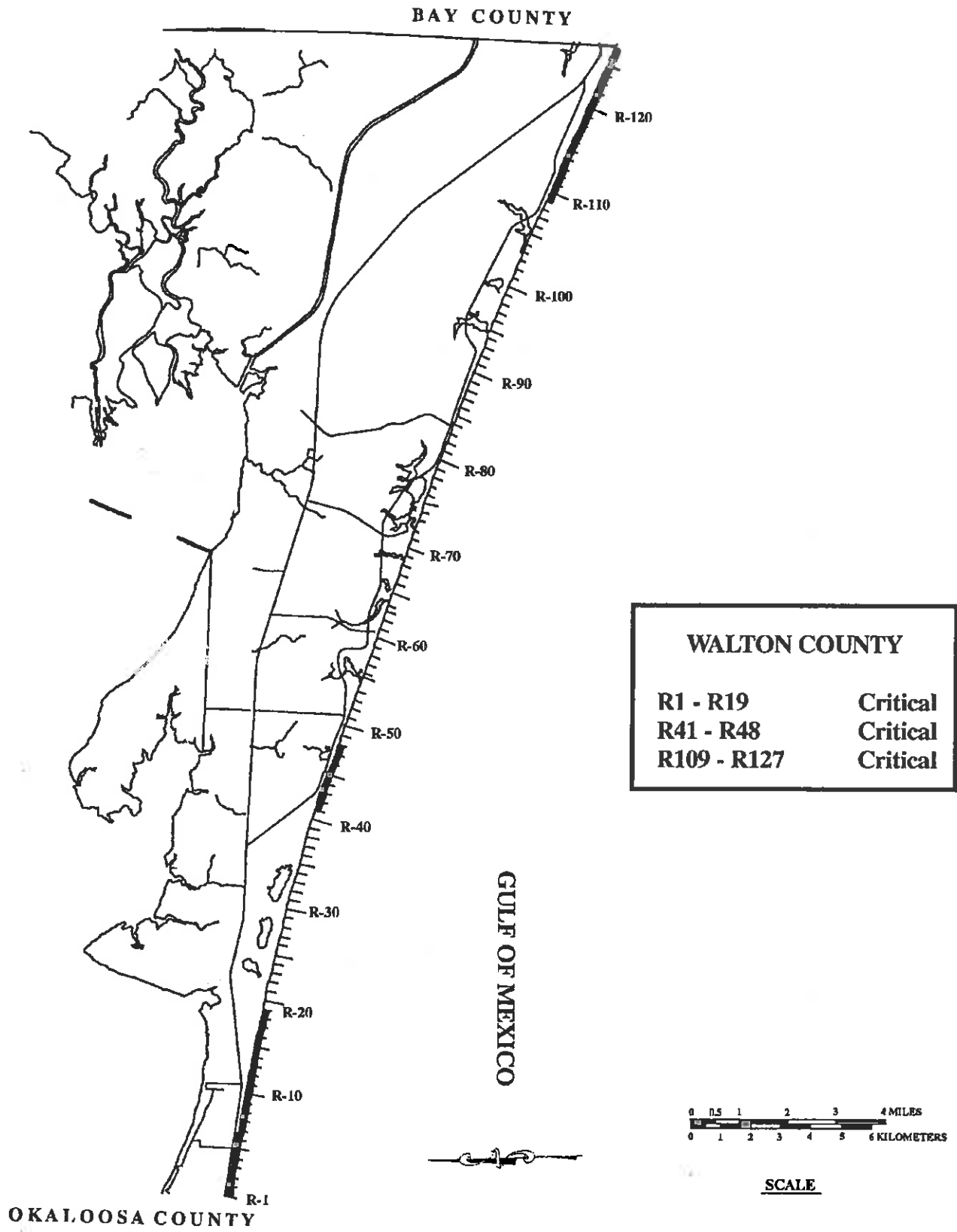
SCALE

Walton County

There are three critical erosion areas designated in Walton County (9.2 miles) following Hurricane Georges in 1998.

The western 4.3 miles (R1-R19), a 1.4-mile Fort Panic Road segment at Dune Allen (R41-R48), and the eastern 3.5 miles (R109-R127) have been designated critical erosion due to their poststorm vulnerability threatening development interests.

CRITICAL EROSION AREAS MAP - March 1, 1999



Bay County

There are two critical erosion areas (21.4 miles) and three noncritical erosion areas (10.1 miles) in Bay County.

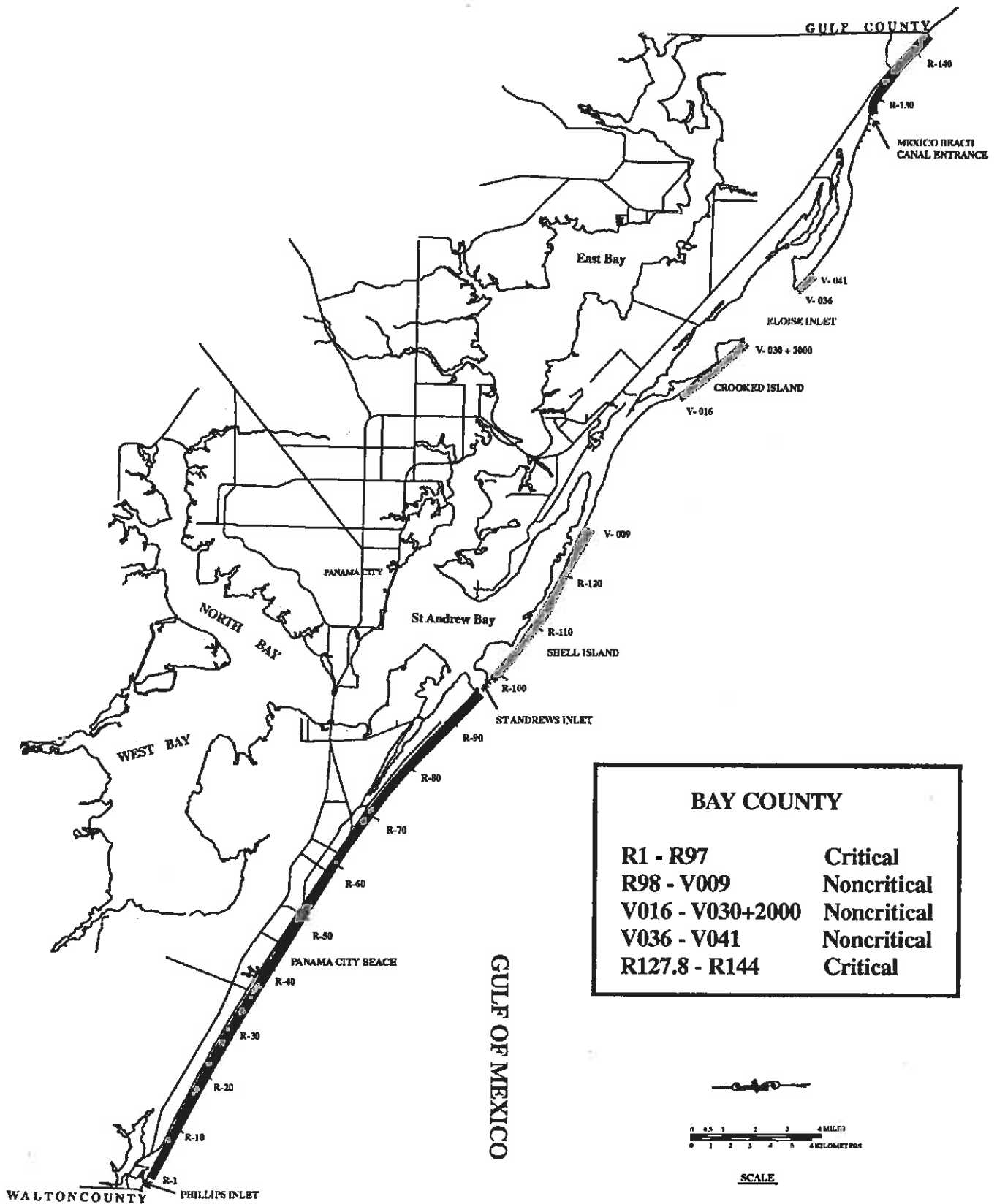
The entire western half of Bay County extending 18.6 miles between Phillips Inlet and St. Andrews Inlet (R1-R97) is critically eroded, threatening development and recreational interests. Inlet sand transfer has been initiated at St. Andrews State Recreation Area and a State and Federal beach restoration project has commenced for nearly the entire critical erosion area. Numerous concrete and wood bulkheads and retaining walls also exist throughout the area of private development.

Along the western 6.1 miles of Shell Island (R98-V009) east of St. Andrew's Inlet, the beach is eroding without any threatened interests.

On Crooked Island there are two noncritical erosion areas split by Eloise Inlet. The western segment (V016-V030+2000) extends 1.2 miles to the east.

The eastern 2.8 miles of Bay County (R127.8-R144) between Mexico Beach Canal Entrance and Gulf County is critically eroding. Inlet sand transfer is ongoing in Mexico Beach and dune restoration was conducted after Hurricane Opal in 1995.

CRITICAL EROSION AREAS MAP - March 1, 1999



Gulf County

There are three critical erosion areas (4.3 miles) and four noncritical erosion areas (13.3 miles) in Gulf County.

A 0.8-mile mainland segment (R1-R5) is designated as critical due to Hurricane Earl.

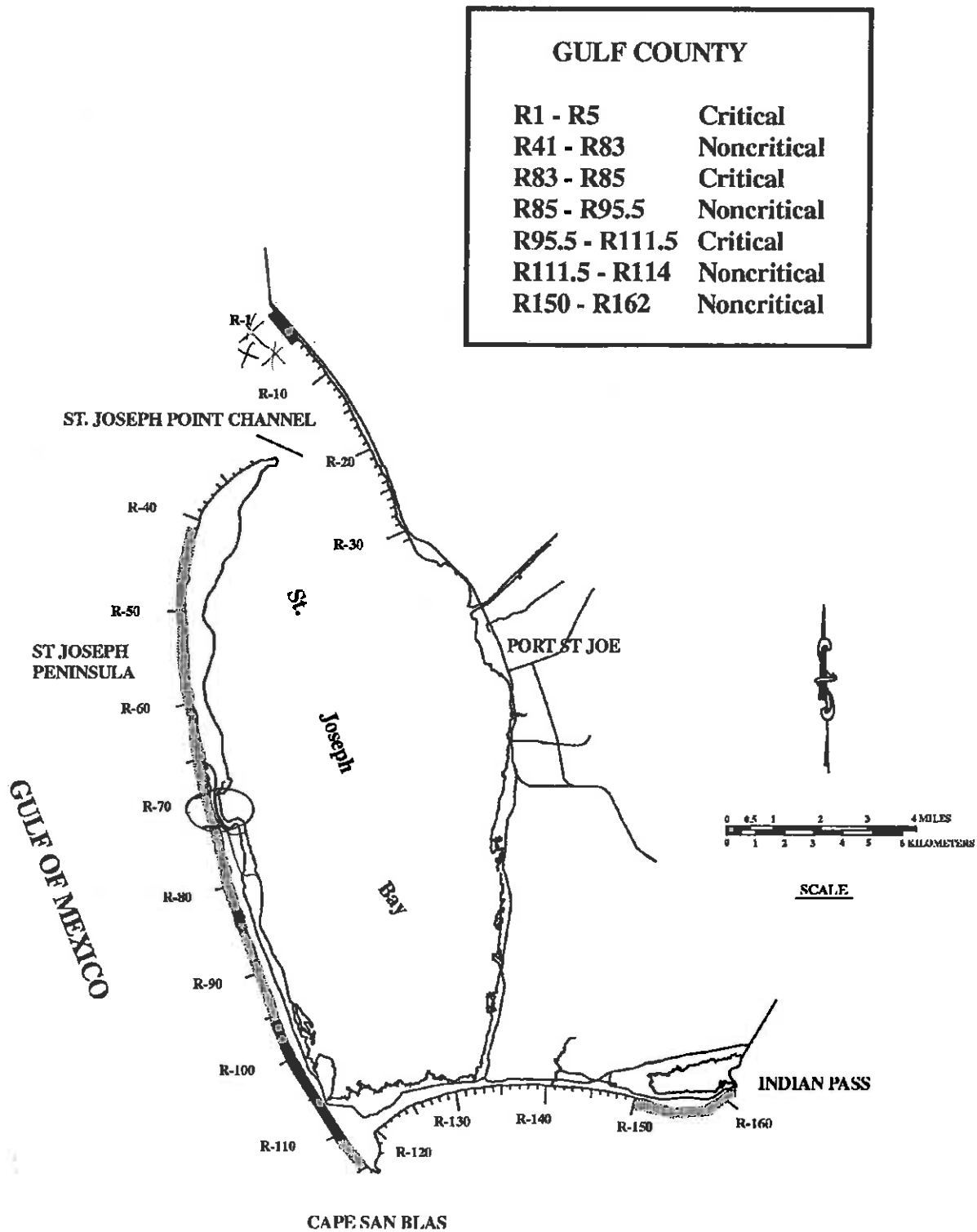
Most of St. Joseph Peninsula is eroding between R41 and R114 at Cape San Blas. Two areas are considered critical due to threatened development or lost wildlife habitat. The northern half of St. Joseph Peninsula (R41-R83) has noncritical erosion for 8.3 miles and a middle segment (R85-R95.5) is still considered noncritical for 1.9 miles.

A central segment (R83-R85) of critical erosion on St. Joseph Peninsula extends for 0.4 mile and threatens private development. A longer segment (R95.5-R111.5) extends for 3.1 miles and threatens private development as well as the County Road C31 at Stump Hole. South of Stump Hole to the threatened and damaged U.S. Air Force facilities, the erosion has destroyed nesting sea turtle habitat. Since Hurricane Opal, a rock mound structure has been constructed to protect the county road at Stump Hole; however, the U.S. Air Force constructed a rock mound structure in front of their road to the rocket launch site after Hurricane Kate in 1985 and both the road and the rock mound structure were destroyed by Hurricane Opal in 1995.

South of the Air Force facilities Cape San Blas (111.5-R114) suffers severe but noncritical erosion for 0.5 mile.

Indian Peninsula (R150-R162) at the east end of the county is also eroding for 2.8 miles with no threatened interests at this time.

CRITICAL EROSION AREAS MAP - March 1, 1999



Franklin County

There are five critical erosion areas (10.4 miles), eight noncritical erosion areas (17.5 miles), and two noncritical inlet shoreline erosion areas (1.0 mile) in Franklin County.

St. Vincent Island has a 3.2-mile long noncritical erosion area along its most Gulfward protruding midsection (V17-V34). Resources on the St. Vincent National Wildlife Refuge do not currently appear threatened by this ongoing erosion condition.

Severe erosion exists at Cape St. George on Little St. George Island. Specifically threatened is a historic pre-Civil War lighthouse on the cape. In addition sea turtle nesting habitat to the west of the lighthouse has been lost as the shoreline has eroded into upland woods and the beach has virtually disappeared. This critical erosion area (R19-R23) extends along a 0.7-mile length of shoreline and is adjoined at both ends by a 0.8-mile noncritical segment to the west (R15-R19) and a 0.2-mile noncritical segment to the east (R23-R24).

The west end of the historical length of St. George Island west of Sike's Cut (R34-R51) has noncritical erosion for 3.3 miles. Both interior shorelines of Sike's Cut also have noncritical erosion for 0.5 mile. East of Sike's Cut the St. George Island Plantation (R53-R69) also has noncritical erosion for 3.3 miles. Some inlet sand transfer of Sike's Cut dredge material has taken place west of the inlet and some material has been placed along the inlet shorelines.

Much of St. George Island State Park (R110-R142) is now considered critical erosion for 6.3 miles where the erosion has threatened recreational interests and has damaged the park road and beach access facilities. The east end of St. George Island (R147-R149) within the state park has an additional 0.5-mile segment of noncritical erosion.

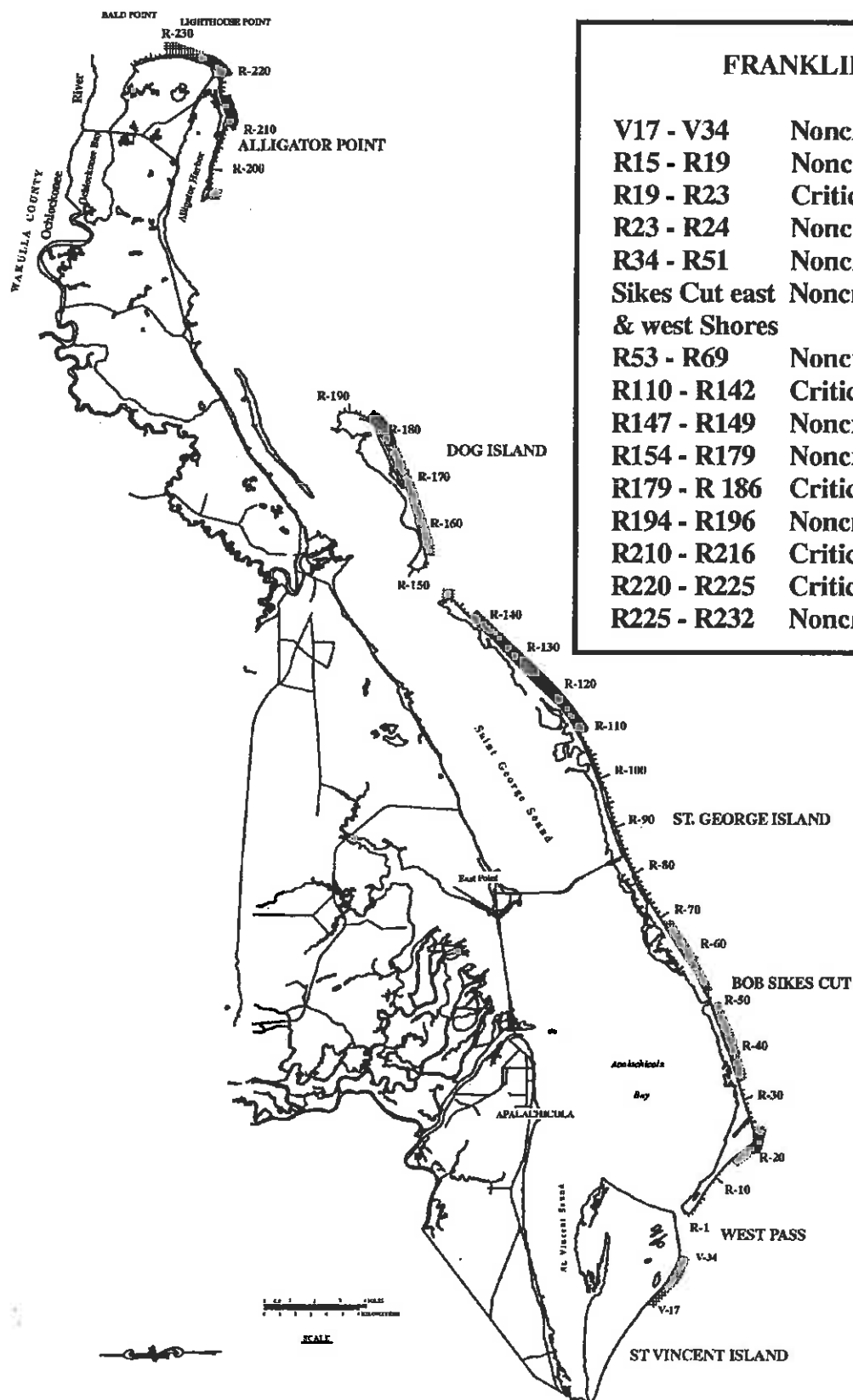
Most of Dog Island is eroding, including the western two-thirds (R154-R179) which has 4.7 miles of noncritical erosion. A 1.3-mile segment (R179-R186) at the eastern end of Dog Island is critically eroding where private development has been destroyed and continues to be threatened.

The historic west end of Alligator Point (R194-R196) is severely eroded for 0.4-mile; however, this erosion into Phipps Preserve is not considered a threat to any interests at this time.

The east end of Alligator Point (R210-R216) between the Southwest Cape and Lighthouse Point is critically eroding for 1.1 miles. Erosion at the Southwest Cape has destroyed and continues to threaten private development and a Franklin County Road.

The southeast end of St. Teresa Island has critical erosion extending north from Lighthouse Point (R220-R225) for 1.0 mile threatening development and damaging the Franklin County road. A portion of the road was abandoned and relocated inland. Further north from Lighthouse Point (R225-R232) a noncritical erosion area extends for 1.6 miles.

CRITICAL EROSION AREAS MAP - March 1, 1999



FRANKLIN COUNTY

V17 - V34	Noncritical
R15 - R19	Noncritical
R19 - R23	Critical
R23 - R24	Noncritical
R34 - R51	Noncritical
Sikes Cut east & west Shores	Noncritical Inlet Shoreline
R53 - R69	Noncritical
R110 - R142	Critical
R147 - R149	Noncritical Inlet Shoreline
R154 - R179	Noncritical
R179 - R 186	Critical
R194 - R196	Noncritical
R210 - R216	Critical
R220 - R225	Critical
R225 - R232	Noncritical

GULF OF MEXICO

Wakulla County

There are two critical erosion areas (1.3 miles) and one noncritical erosion area (0.4 mile) in Wakulla County.

Marshes Sands extending north from the Ochlockonee Bay Entrance has critical erosion along its southern end for 0.3 mile threatening recreational interests at the county park. Noncritical erosion extends another 0.4-mile to the north.

Shell Point has 1.0 mile of critical erosion threatening development. Most of the private properties have been armored with bulkheads, retaining walls, and one rock revetment.

CRITICAL EROSION AREAS MAP - March 1, 1999



WAKULLA COUNTY	
Mashes Sands south part	Critical
Mashes Sands north part	Noncritical
Shell Point	Critical

Jefferson, Taylor, and Dixie Counties

There are no identified erosion areas in Jefferson County.

In Taylor County, there is a 0.2-mile segment of critical erosion threatening private development at Dekle Beach.

There are three critical erosion areas in Dixie County (0.6 mile) identified at this time. Each area extends for 0.2 mile on the three separate islands of Shired Island, Bird Island, and Cotton Island. The erosion of these islands threatens ancient pre-Columbian shell middens and burial sites dating as far back as the late archaic period (BC2250-BC1500).

Levy County

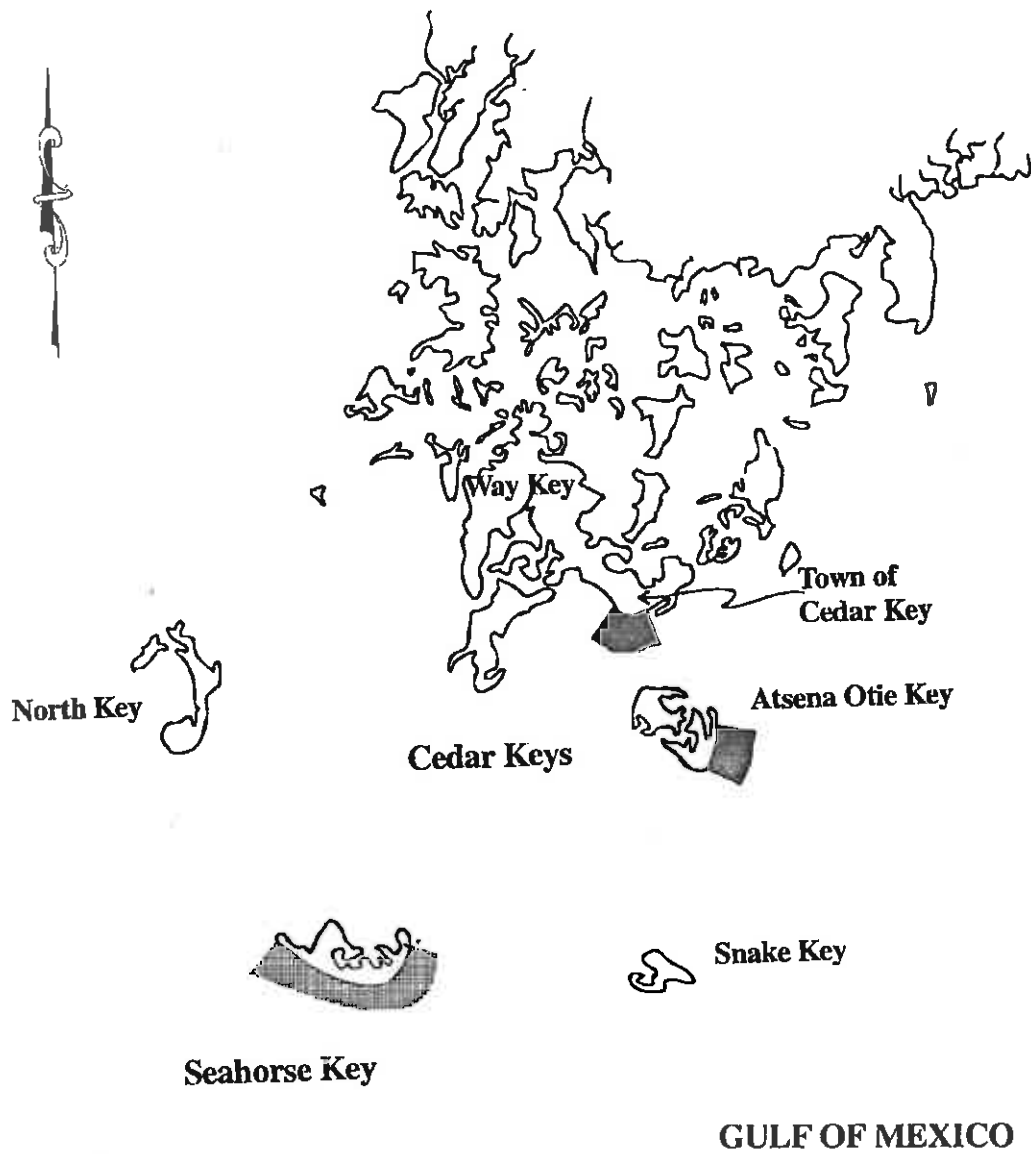
There are two critical erosion areas (0.7 mile) and one noncritical erosion area (1.2 miles) in Levy County.

Critical erosion extends for 0.5 mile along the Town of Cedar Key threatening development interests and the public roads.

Erosion along 1.2 miles of Seahorse Key in the Cedar Keys National Wildlife Refuge is considered noncritical at this time.

On the state-owned Atsena Otie Key, 0.2 mile of the east shoreline has critical erosion threatening the Seminole holding area and its grave sites of the Second Seminole War as well as other pre-Columbian graves from ancient occupation of the island.

CRITICAL EROSION AREAS MAP - March 1, 1999



LEVY COUNTY	
Cedar Key	Critical
Atsena Otie Key	Critical
Seahorse Key	Noncritical

Citrus, Hernando, and Pasco Counties

There are no identified erosion areas in Citrus County at this time.

In Hernando County, 0.5 mile of Pine Island has noncritical erosion.

There is one critical erosion area (0.2 mile) and one noncritical erosion area (1.1 miles) in Pasco County. A small segment of public beach at Hudson Beach has critical erosion affecting recreation interests. On the one barrier island in Pasco County, Anclote Key has 1.1 miles of noncritical erosion.

Pinellas County

There are six critical erosion areas (21 miles), two noncritical erosion areas (4.4 miles), and one critical inlet shoreline erosion area (0.5 mile) in Pinellas County.

The southern end of Anclote Key (most of which is in Pasco County to the north) has noncritical erosion extending for 0.3 mile.

Honeymoon Island has 1.4 miles of critical erosion along its south end (R6-R12) affecting recreational interests at Honeymoon Island State Recreation Area. A beach restoration project was constructed in this area.

At the north end of Caladesi Island (R17-R20) south of Hurricane Pass, a 0.5-mile segment of noncritical erosion exists. This area has breached forming Willy's Cut.

On Clearwater Beach Island an area of past critical erosion (R37-R39) continues to be identified for 0.4 mile where private development has been threatened. This area is armored with concrete bulkheads. The south end of Clearwater Beach Island has critical erosion extending 0.5 mile along the north shore of Clearwater Pass (R47-R49). Private development is threatened in this area which is mostly armored with concrete bulkheads.

Most all of Sand Key with the exception of the north and south ends of the island has experienced critical erosion. This critical erosion area (R56-R115.4) extends 11.3 miles and has threatened development and recreational interests in the communities of Belleair Beach, Belleair Shore, Indian Rocks Beach, Indian Shores, Redington Shores, North Redington Beach, Redington Beach, and the north end of Madeira Beach. Beach restoration projects as well as armoring with concrete and wooden bulkheads extend throughout this erosion area.

All of Treasure Island (R126-R143) is a designated critical erosion area. Development and recreational interests were threatened along this 3.5-mile barrier island which is a State and Federal beach restoration project.

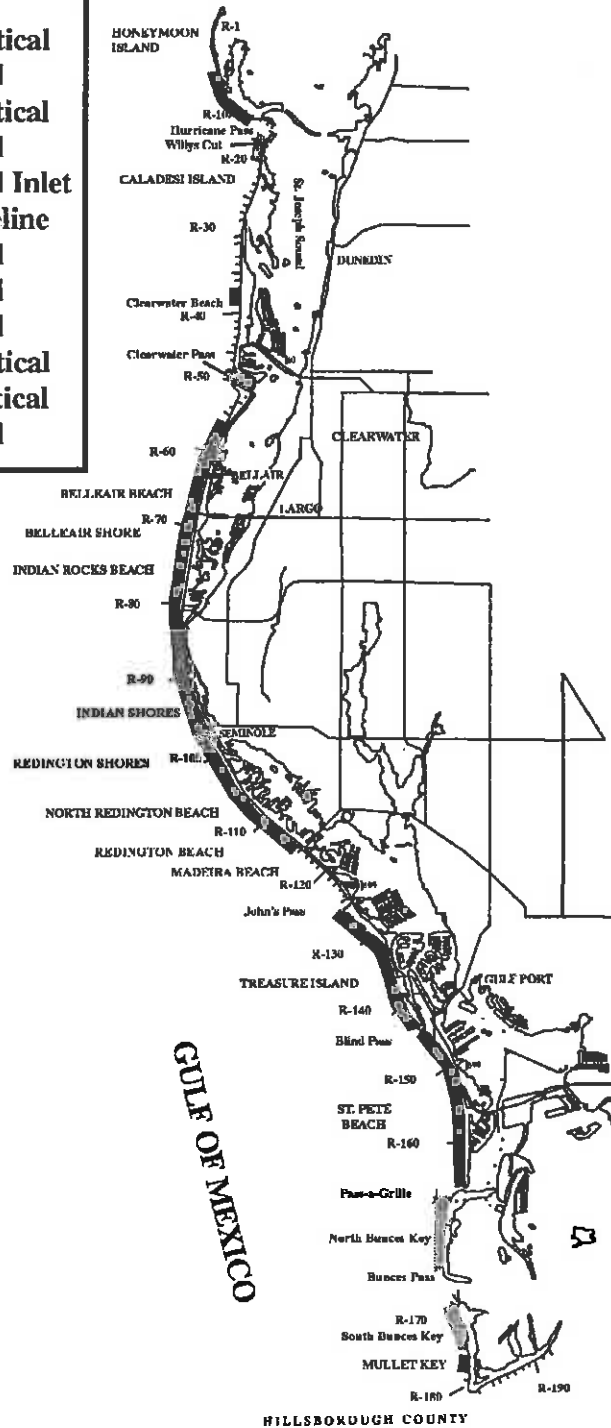
All of Long Key (R144-R166) is a designated critical erosion area. Development and recreational interests were threatened along this 4.1-mile barrier beach which is a State and Federal beach restoration project.

Between Pass-a-Grille and Bunces Pass, North Bunces Key has 1.4 miles of noncritical erosion. South of Bunces Pass and seaward of Mullet Key, South Bunces Key has 2.2 miles of noncritical erosion. A 0.3-mile southern portion of Mullet Key (R176-R178) has had critical erosion affecting recreational interests. Beach fill has been placed in the past using Egmont Channel dredge material.

CRITICAL EROSION AREAS MAP - March 1, 1999

PINELLAS COUNTY

South 0.3mi Anclote Key	Noncritical
R6 - R12	Critical
R17 - R20	Noncritical
R37 - R39	Critical
R47 - R49	Critical Inlet Shoreline
R56 - R115.4	Critical
R126 - R143	Critical
R144 - R166	Critical
North Bunces Key	Noncritical
South Bunces Key	Noncritical
R176 - R178	Critical



Hillsborough County

Hillsborough County has one coastal barrier island – Egmont Key. Most of the length of Egmont Key (1.6 miles) experiences critical erosion, which threatens recreational interests and important cultural resources.

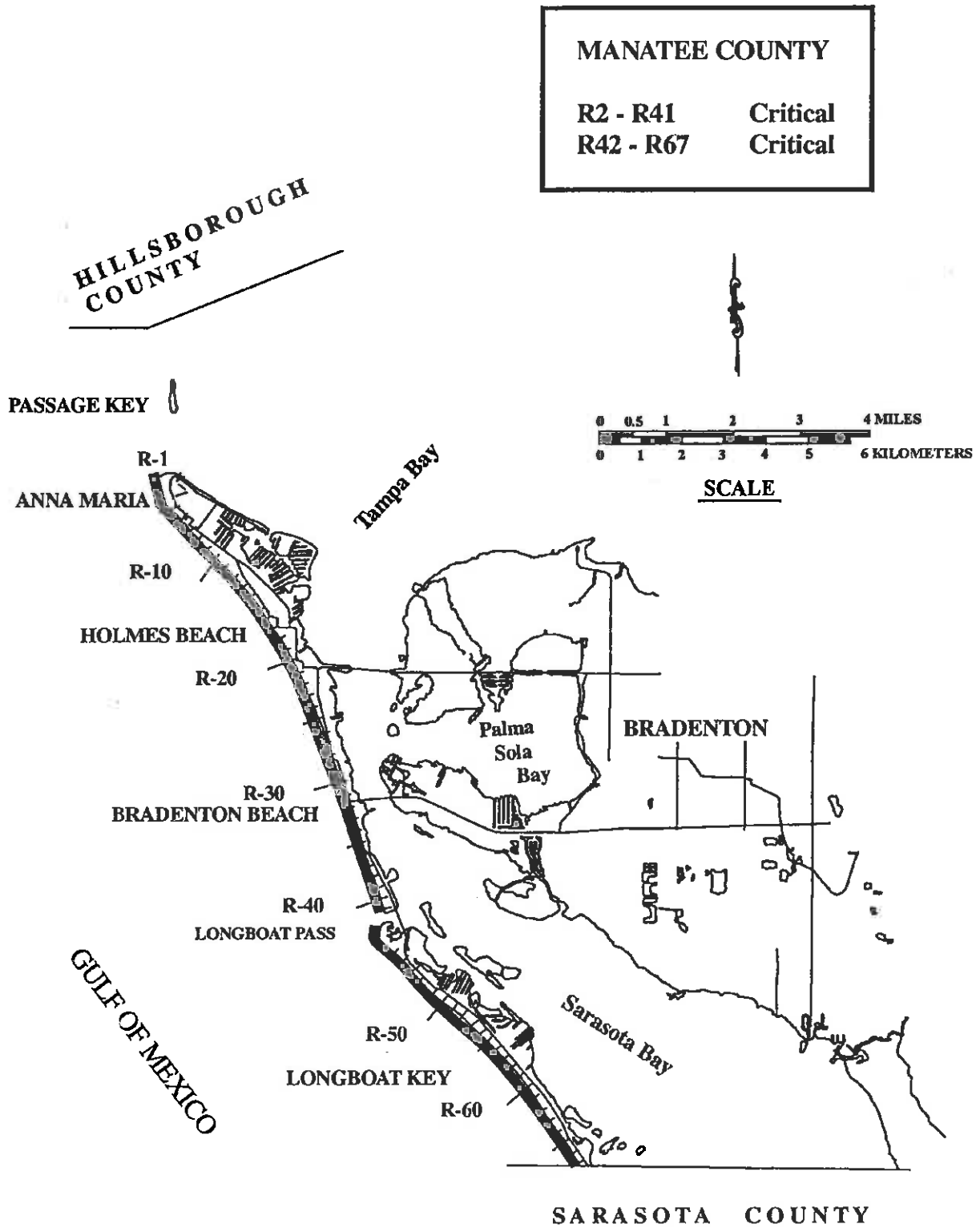
Manatee County

Nearly all of Manatee County is critically eroding (12.1 miles).

Anna Maria Island (R2-R41) has 7.3 miles of critical erosion, which has threatened development and recreational interests. This barrier island is a State and Federal beach restoration project and numerous bulkheads and revetments exist along the road and in front of private development.

Between Longboat Pass and Sarasota County the northern half of Longboat Key (R42-R67) has 4.8 miles of critical erosion which has threatened development and recreational interests. This barrier island has a beach restoration project, and numerous concrete bulkheads exist along the north end fronting the private development.

CRITICAL EROSION AREAS MAP - March 1, 1999



Sarasota County

There are seven designated critical erosion areas (21.3 miles) and one critical inlet shoreline erosion area (0.8 mile) in Sarasota County.

The southern half of Longboat Key (R1-R29) between Manatee County and New Pass has 5.4 miles of critical erosion which has threatened mostly development interests in the Town of Longboat Key. This area has a beach restoration project, and terminal groins exist at New Pass.

Nearly all of Lido Key (R30-R43) has critical erosion which has threatened private development and recreational interests along 2.3 miles. Beach restoration has been conducted along the northern end and concrete bulkheads have been built along properties at the south end.

The south shoreline of Big Sarasota Pass (R44A-R45) is critically eroded along 0.8 mile of Siesta Key. The threatened private development along this inlet shoreline has been armored with bulkheads and rock revetments.

At the north end of Siesta Key south of Sarasota Point (R46-R47.5) is a critical erosion area, which threatens private development and Beach Road. This 0.3-mile erosion area is armored with rock revetments.

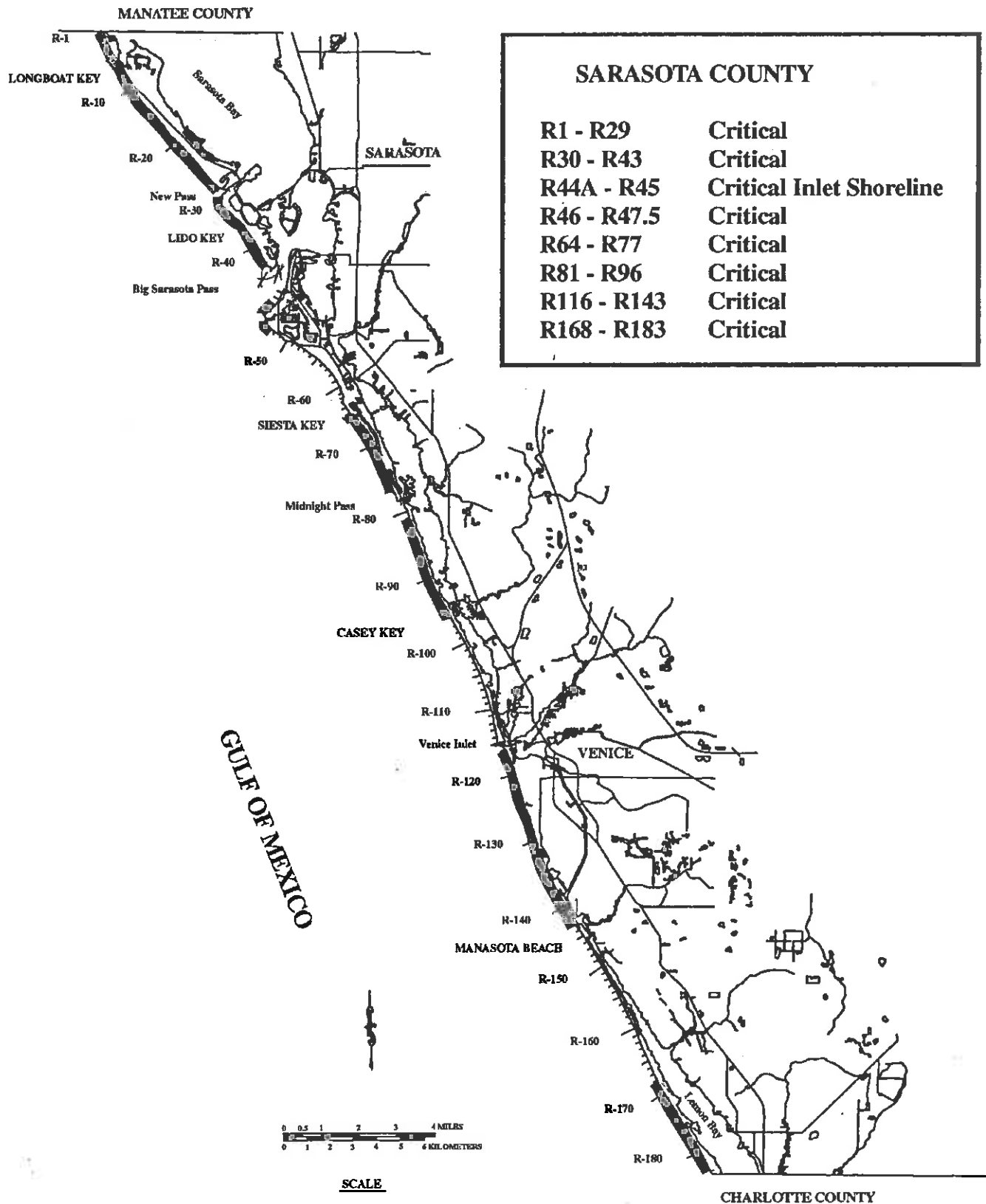
Along the southern half of Siesta Key south of the Point of Rocks headland is a 2.4-mile long critical erosion area (R64-R77) which threatens private development. Some rock revetments exist in this area.

Along the northern half of Casey Key (R81-R96) is a 2.9-mile long critical erosion area, which threatens private development and the Casey Key Road. Almost all of this erosion area is armored with rock revetments.

Extending 5.1 miles south of Venice Inlet is the critical erosion area (R116-R143) which has threatened development and recreational interests along the City of Venice, the sewage treatment plant, Harbor Drive, and Caspersen Beach. This area has a beach restoration project and much armoring with concrete bulkheads at the north end of the City of Venice.

The south end of Sarasota County (R168-R183) has critical erosion for 2.9 miles along Manasota Key threatening private development as well as the Manasota Key road. Some armoring with rock revetments has been constructed in this area.

CRITICAL EROSION AREAS MAP - March 1, 1999



Charlotte County

There are three critical erosion areas (4.9 miles), one noncritical erosion area (0.7 mile), and one critical inlet shoreline erosion area (0.3 mile) in Charlotte County.

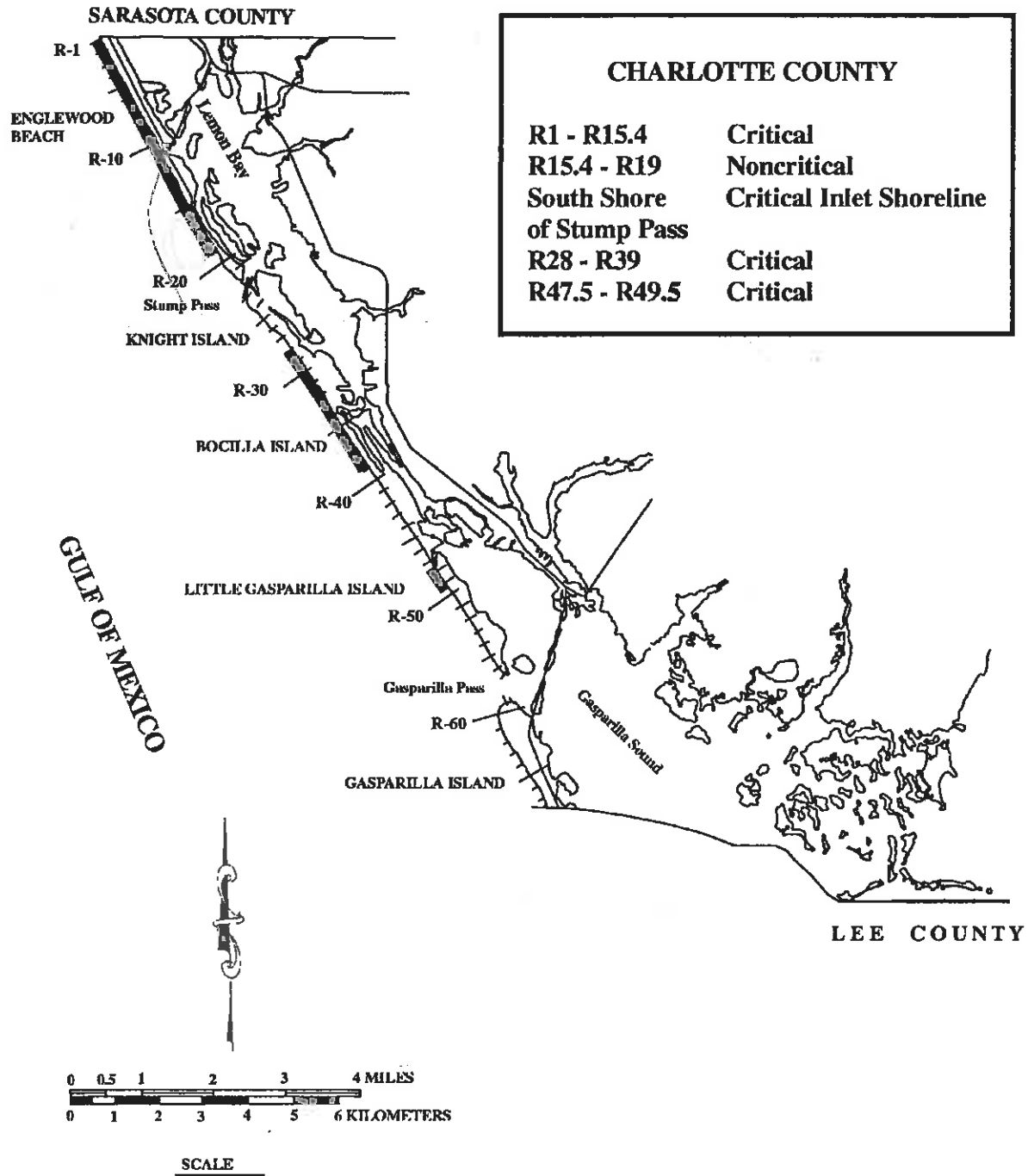
The northern 2.7 miles of Charlotte County (R1-R15.4) along southern Manasota Key including Englewood Beach are critically eroding threatening private development. A few retaining walls and bulkheads have been constructed particularly just north of the state park near Stump Pass. Between R15.4 and R19 within the state park is 0.7 mile of noncritical erosion. This area has been nourished in the past with Stump Pass dredge material.

Along the north end of Knight Island is a 0.3-mile segment of critical inlet shoreline erosion in Stump Pass. Private development is being threatened by the southward migration of Stump Pass.

Along Knight Island and Bocilla Island (R28-R39) are 1.8 miles of critical erosion threatening private development. This area is proposed for inlet sand transfer.

South of Little Gasparilla Pass, which is currently closed, is a 0.4-mile segment of critical erosion on Little Gasparilla Island. This erosion threatens private development.

CRITICAL EROSION AREAS MAP - March 1, 1999



Lee County

There are nine critical erosion areas (18.5 miles), six noncritical erosion areas (7 miles), three critical inlet shoreline erosion areas (0.8 mile), and two noncritical inlet shoreline erosion areas (0.4 mile) in Lee County.

The southern 4.1 miles of Gasparilla Island (R7-R26) has critical erosion threatening development and recreational interests in the town of Boca Grande and the Gasparilla Island State Recreation Area. Much of the area is armored with bulkheads, and inlet sand transfer has been conducted using Boca Grande Pass dredge material.

Three areas on Cayo Costa Island have noncritical erosion. The northern segment (R27-R33) extends for 1.1 miles, the central segment (R46-R52) extends for 1.2 miles, and the southern segment (R60-R65) extends for 1.0 mile.

Much of North Captiva Island is eroding. The north shore fronting on Captiva Pass (R66, east 1000 feet) has critical inlet shoreline erosion threatening development interests. The northern 1.0-mile of gulf beach (R66-R71) also has critical beach erosion threatening development interests. With the exception of a stable segment of beach between R71 and R75 the remaining shoreline of North Captiva Island is eroding. From R75 through R81 is 1.7 miles of noncritical erosion. The southern 0.4 mile extending into Redfish Pass (R81-R82) has critical erosion where nesting sea turtle habitat has been lost.

All of Captiva Island has critical erosion. The south shore of Redfish Pass (R83-R84) has 0.2 mile critical inlet shoreline erosion. This shoreline is armored with a rock revetment. The gulf beach from R84 through R109 has five miles of critical erosion. This entire island segment is a beach restoration project.

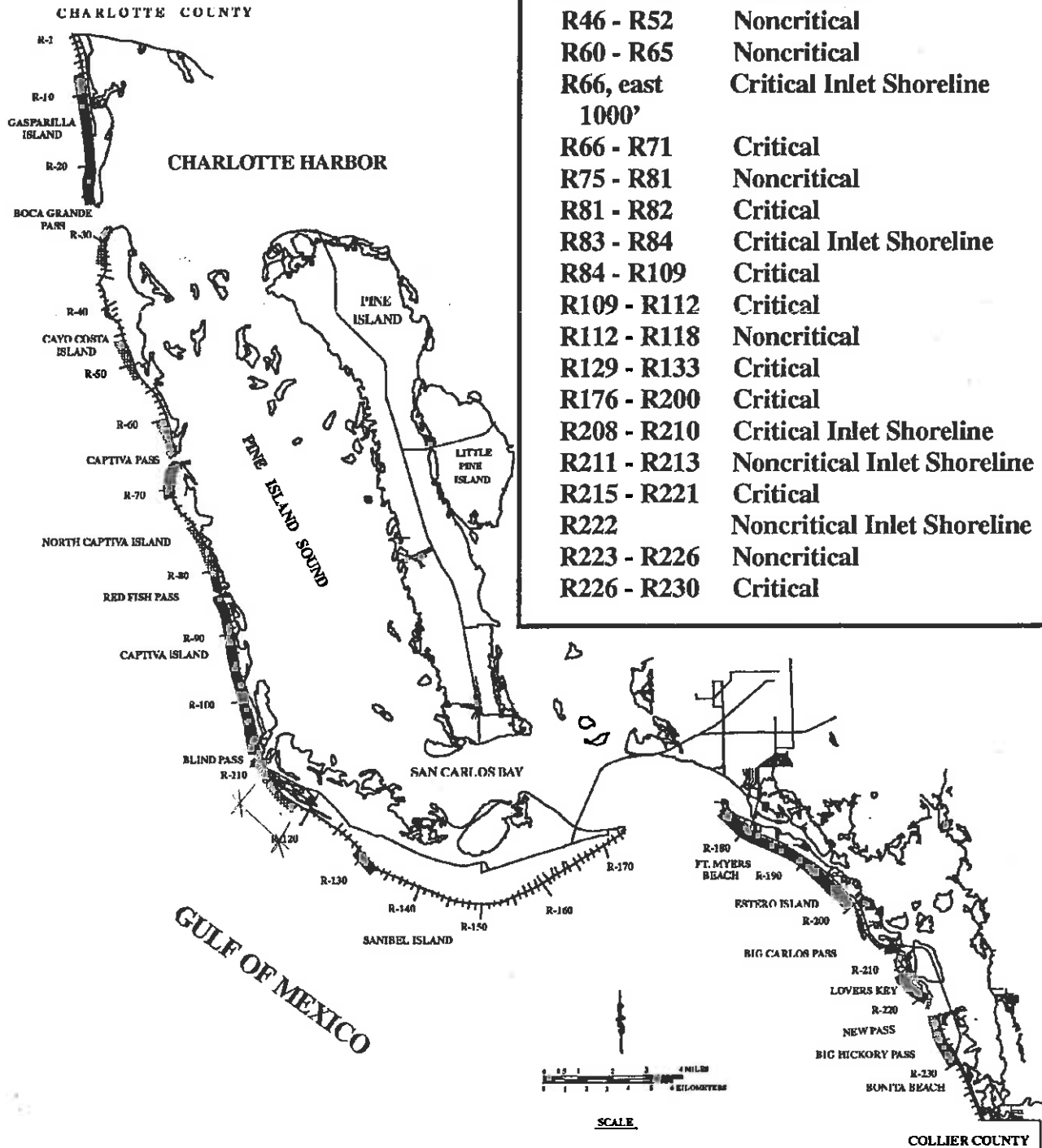
Northern Sanibel Island is eroding. From R109 to R112 is critical erosion extending 0.4 mile south of Blind Pass where the road and development interests are threatened. This segment received nourishment from the Captiva Island beach restoration project. From R112 to R118 is 1.3 miles of noncritical erosion. Another segment (R129-R133) on northern Sanibel Island has 0.9 mile of critical erosion threatening development interests. This segment in the neighborhoods of Gulf Shores and Gulf Pines has a beach restoration project.

Most of Estero Island is eroding. From R176 to R200, Ft. Myers Beach has 4.8 miles of critical erosion threatening development and recreational interests. This area is being considered for beach restoration, and inlet dredge material has already been placed at the north end. The south shoreline of Estero Island (R208-R210) fronting on Big Carlos Pass has 0.4 mile of critical inlet shoreline erosion.

Most of Lover's Key is eroding. The north shore of Lover's Key (R211-R213) fronting on Big Carlos Pass has 0.3 mile of noncritical erosion. Most of the gulf beach extending from R215 to R221 has 1.1 miles of critical erosion threatening recreational interests and wildlife habitat in the Lover's Key State Recreation Area. The south shore of Lover's Key (R222) fronting on New Pass also has 0.1 mile of noncritical inlet shoreline erosion.

Between New Pass and Big Hickory Pass, Big Hickory Island (R223-R226) has 0.7 mile of noncritical erosion. South of Big Hickory Pass, Little Hickory Island (R226-R230) has 0.8 mile of critical erosion threatening development interests in Bonita Beach. This area is armored with bulkheads and has a beach restoration project.

CRITICAL EROSION AREAS MAP - March 1, 1999



Collier County

There are five critical erosion areas (10.2 miles), five noncritical erosion areas (9.5 miles), and one critical inlet shoreline erosion area (0.8 mile) in Collier County.

A 1.6-mile segment of critical erosion (R22.3-R30.5) exists in northern Collier County threatening development interests in Vanderbilt Beach. This area is substantially armored with bulkheads and has a beach restoration project.

The City of Naples has two segments of critical erosion threatening development interests north and south of Doctors Pass. North of Doctors Pass (R50.65-R57.5) is a 1.3-mile segment of critical erosion. Between Doctors Pass and Gordon Pass (R57.8-R89) is a 5.6-mile segment of critical erosion. Most of Naples is armored with bulkheads and revetments and these two critical erosion segments have a continuous beach restoration project.

South of Gordon Pass (R90-R111) is a 3.9-mile stretch of noncritical erosion along the northern half of Keewaydin Island. Between Little Marco Pass and Capri Pass, Sea Oat Island has 0.9 mile of noncritical erosion. Also Coconut Island (M1-M2) has 0.1 mile of noncritical erosion between Capri Pass and Big Marco Pass.

Marco Island has three areas of critical erosion threatening development interests. The north shore of Marco Island (H3-H11) fronting on Big Marco Pass has 0.8 mile of critical inlet shoreline erosion. The central gulf beach of Marco Island (R134.5-R139) has 0.8 mile of critical erosion and the southern stretch of beach (R143-R148) has 0.9 mile of critical erosion. All three critical erosion areas on Marco Island have beach restoration projects.

The two southern barriers in Collier County have noncritical erosion. Between Caxambas Pass and Morgan Pass, Kice Island has 2.5 miles of noncritical erosion. South of Morgan Pass to the tip of Cape Romano, Morgan Island has 2.1 miles of noncritical erosion.

CRITICAL EROSION AREAS MAP - March 1, 1999

