

# The Lee Master Mitigation Plan



Mitigation, Restoration, and Preservation in a  
rapid growth County (Lee County, Florida)

Driven by only the Purest Motives

# Working with Permitting Agencies

## U.S. Environmental Protection Agency



US Army Corps  
of Engineers®



Florida

Department of Environmental Protection

Florida

Fish and Wildlife Conservation Commission

*Fishing Capital of the World*





# The LEE MASTER MITIGATION PLAN 4 GOALS

- A Sustainable Program for Mitigating Impacts of Needed Public Works Projects.
- A Comprehensive Program for Restoring, Maintaining, and Preserving Valued Natural Systems.
- A Model Framework for Public/Public and Public/Private Partnerships.
- A “Pre-endorsed List” for Private Conservation or Development Proposals.



# Plan Components

- Inventory/Timeline of County Public projects needed to Implement Comprehensive Plan
- Inventory of Restoration efforts affecting Lee County required by various public programs
- Assessment of Common Mitigation Requirements
- Strategy by which a reliable program of public/private efforts, linking projects and mitigation to agency approval, can be established
- Standing coordination task team, composed of agencies engaged in permitting and CIP, for monitoring progress and for updates



# Progress to Date

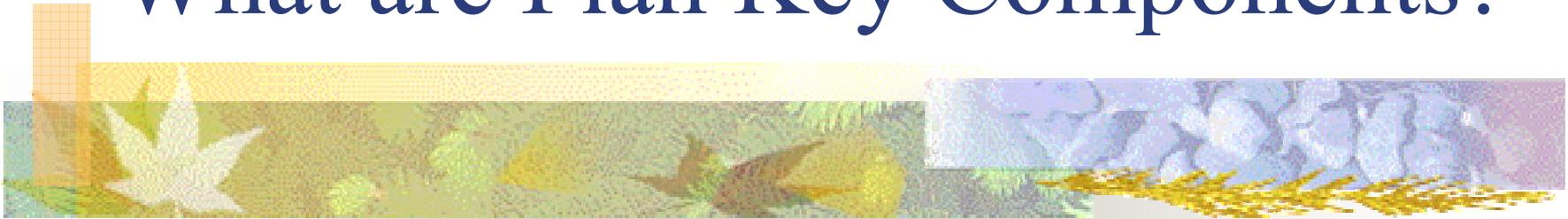
- Interdepartmental Task Team created and working on implementation
- Interagency Task Team (with some Private Participation) have prepared a map and project description list of “candidate projects”
- Individual agencies have been briefed about intent of effort
- EPA has funded some initial prototype water quality proposals
- Policy reforms are being pursued within the County management structure.



# Where are we now

- A draft Plan exists. It has resulted from contracted staff services, which have pulled together the County's individual agency efforts into a "Plan."
- Specific County Advisory Committees are being asked to consider the "Plan" as part of their work effort.
- Permitting Agencies are being requested to advise us on which agency needs and processes are to be recognized to ensure agency "buy in"

# What are Plan Key Components?





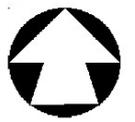
# Science

- We have performed a general assessment of our “natural system.”
- Extensively altered, our “natural system” consists of watersheds, landforms, and ecologies that have been the subject of much analysis. The next few slides depict a few of our system components.

**Legend**

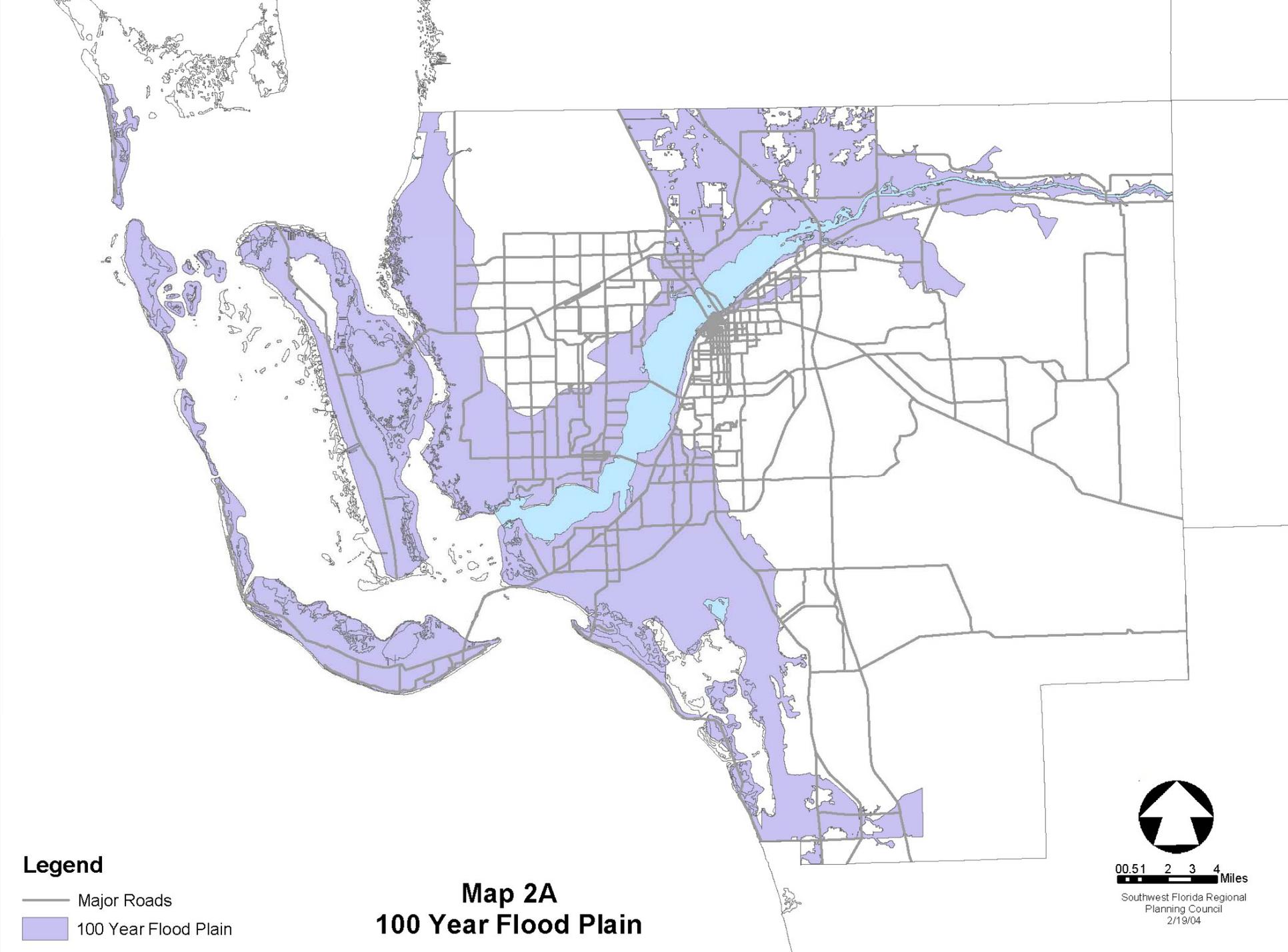
- Major Roads
- 100 Year Flood Plain

**Map 2A**  
**100 Year Flood Plain**



00.51 2 3 4 Miles

Southwest Florida Regional  
Planning Council  
2/19/04



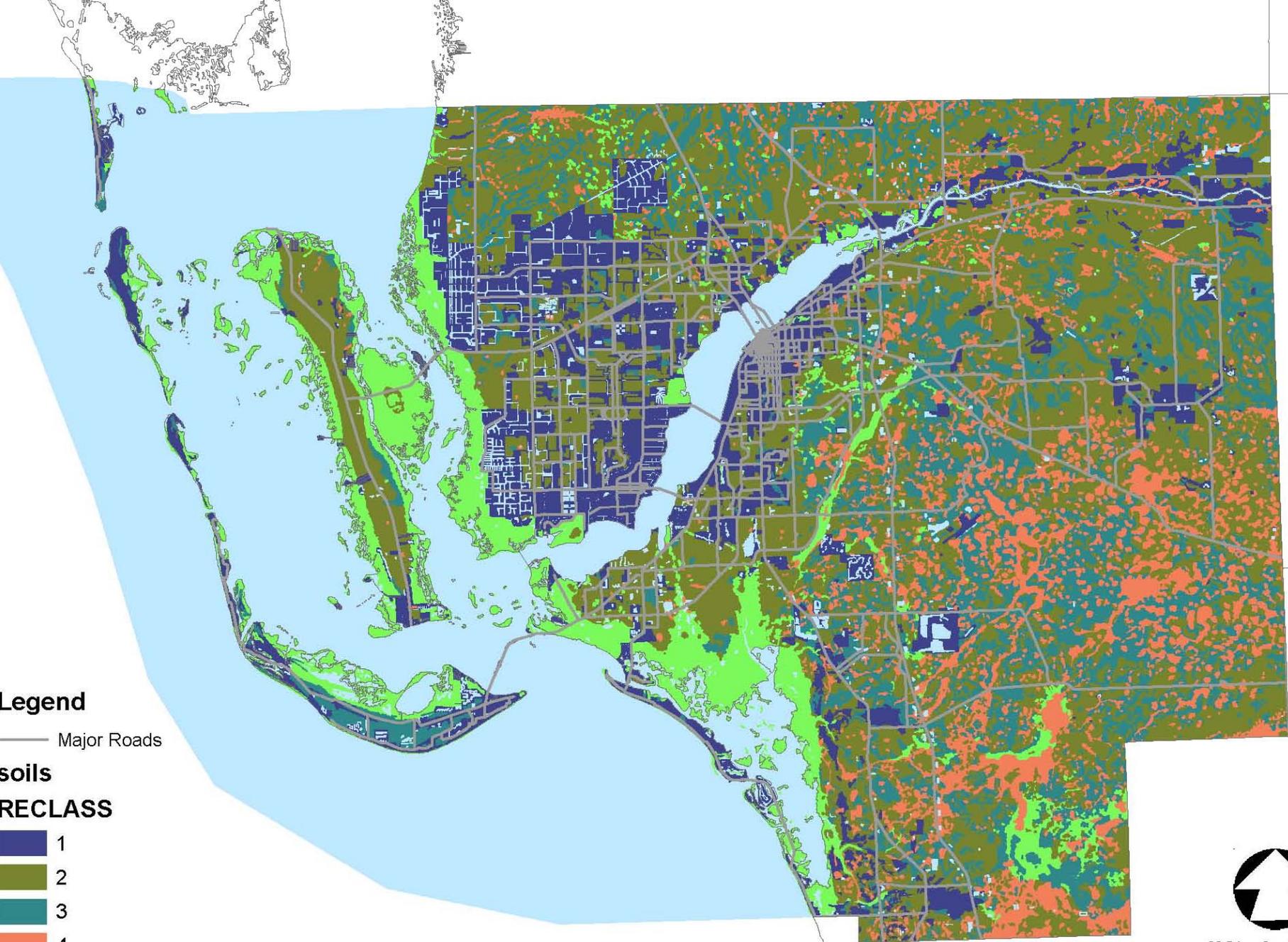
**Legend**

— Major Roads

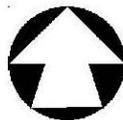
soils

**RECLASS**

- 1
- 2
- 3
- 4
- 5
- 00



**Map 3A  
Soil Types**



00.51 2 3 4 Miles

Southwest Florida Regional  
Planning Council  
2/19/04

**Legend**

Major Roads

**wetseasonwatertable**

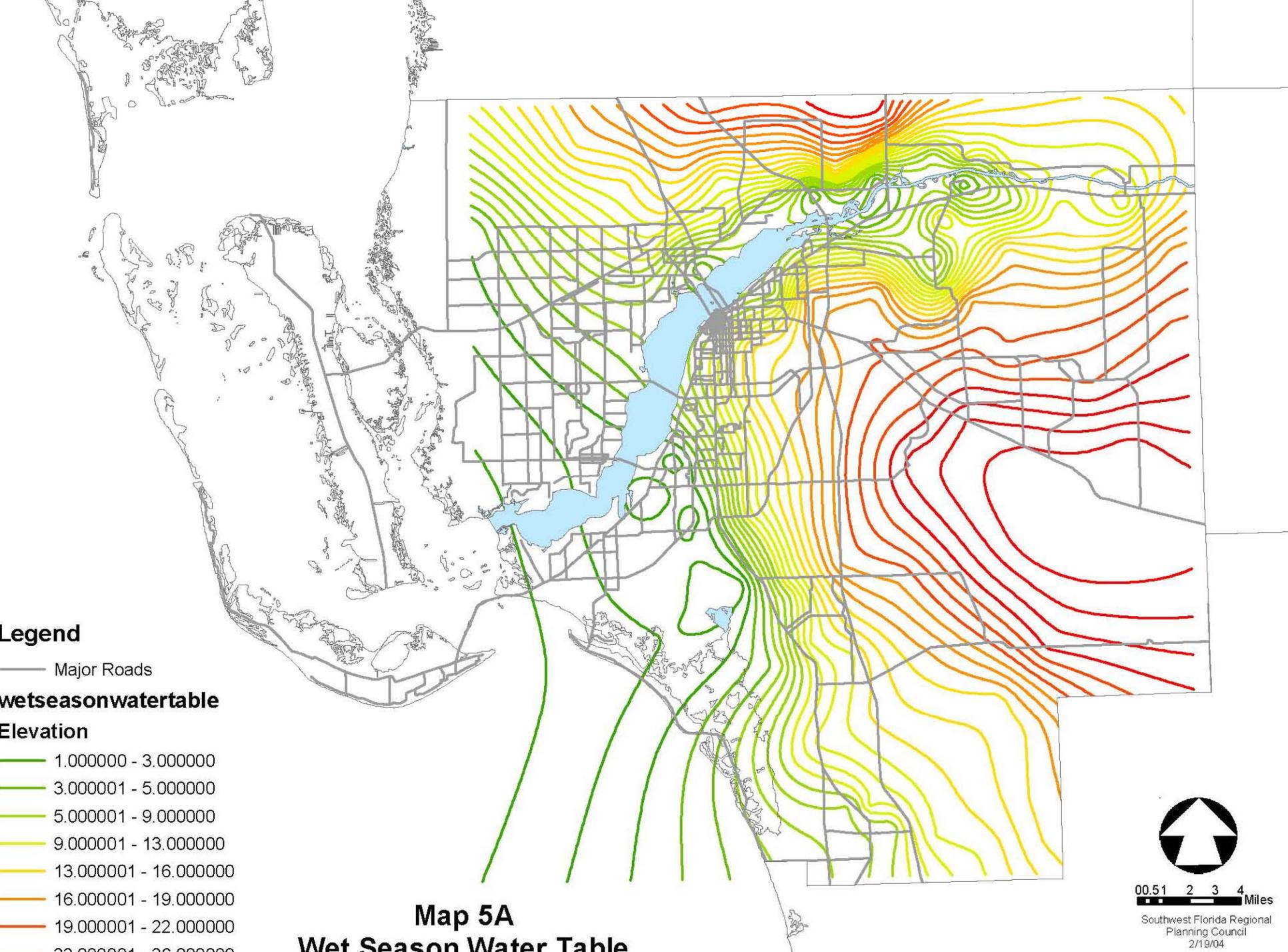
**Elevation**

- 1.000000 - 3.000000
- 3.000001 - 5.000000
- 5.000001 - 9.000000
- 9.000001 - 13.000000
- 13.000001 - 16.000000
- 16.000001 - 19.000000
- 19.000001 - 22.000000
- 22.000001 - 26.000000

**Map 5A**  
**Wet Season Water Table**



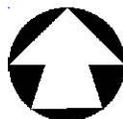
00.51 2 3 4 Miles  
Southwest Florida Regional  
Planning Council  
2/19/04



**Legend**

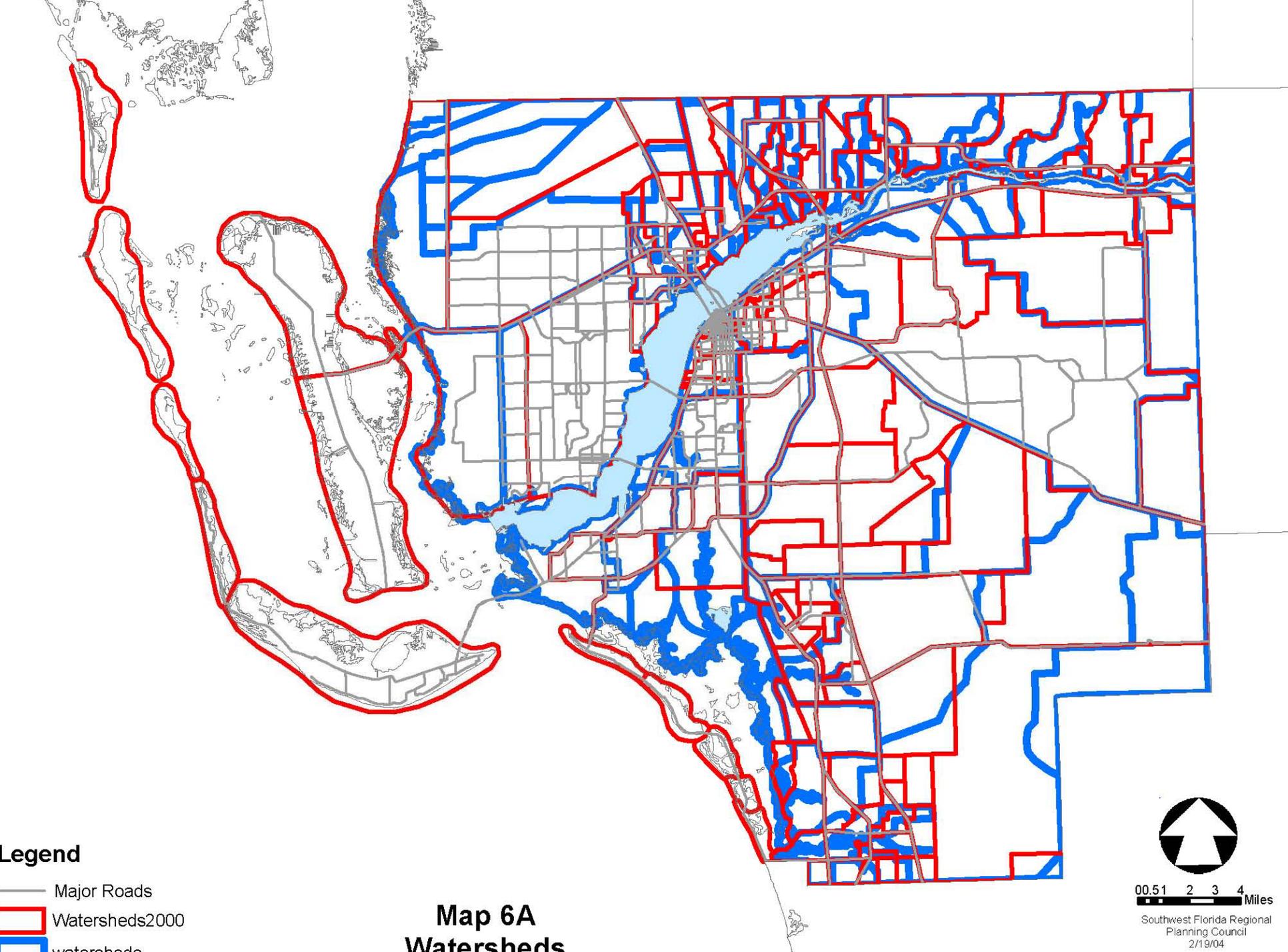
- Major Roads
- ▭ Watersheds2000
- ▭ watersheds

**Map 6A  
Watersheds**



00.51 2 3 4 Miles

Southwest Florida Regional  
Planning Council  
2/19/04



**Legend**

— Major Roads

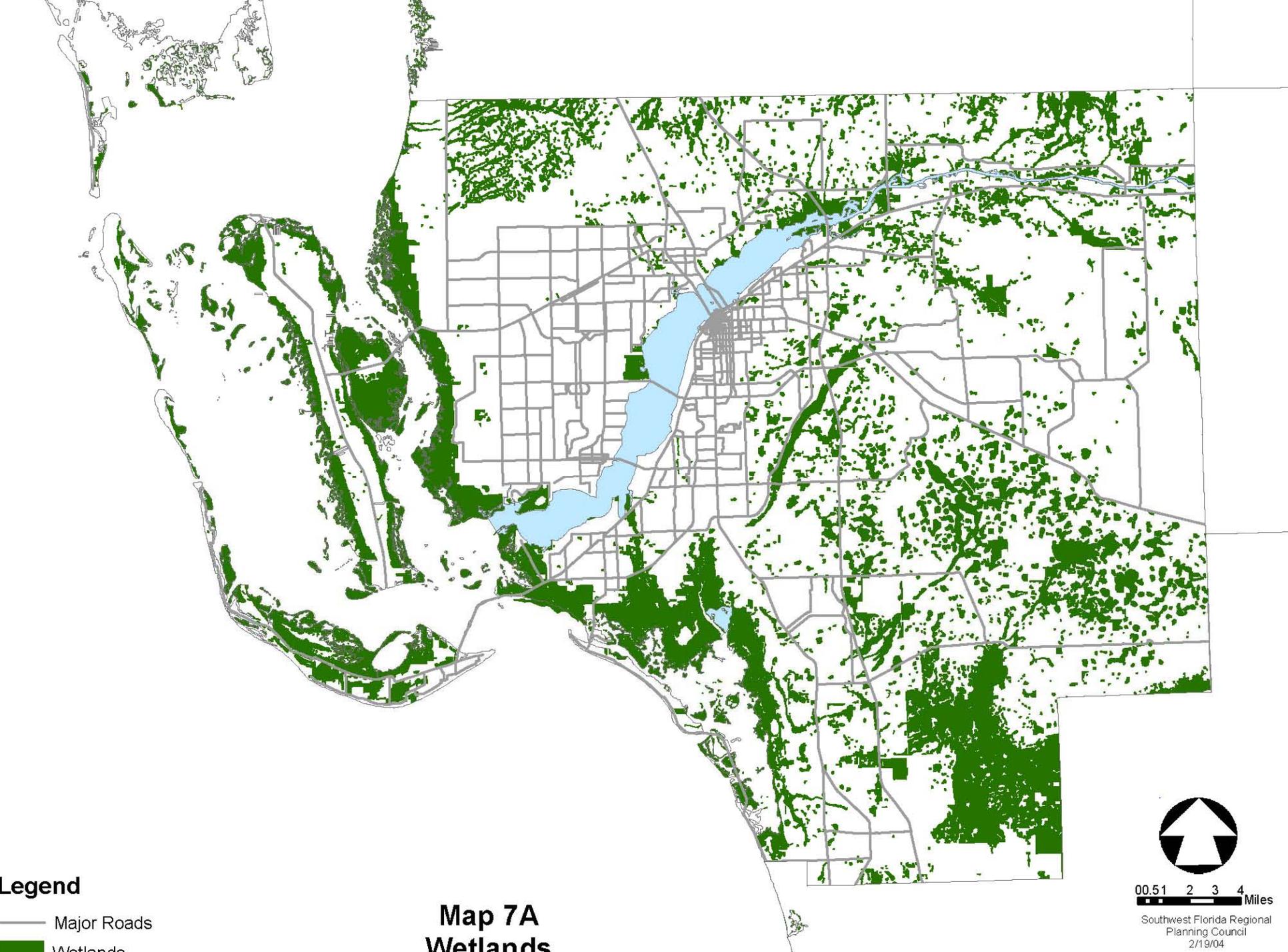
Wetlands

**Map 7A  
Wetlands**



00.51 2 3 4 Miles

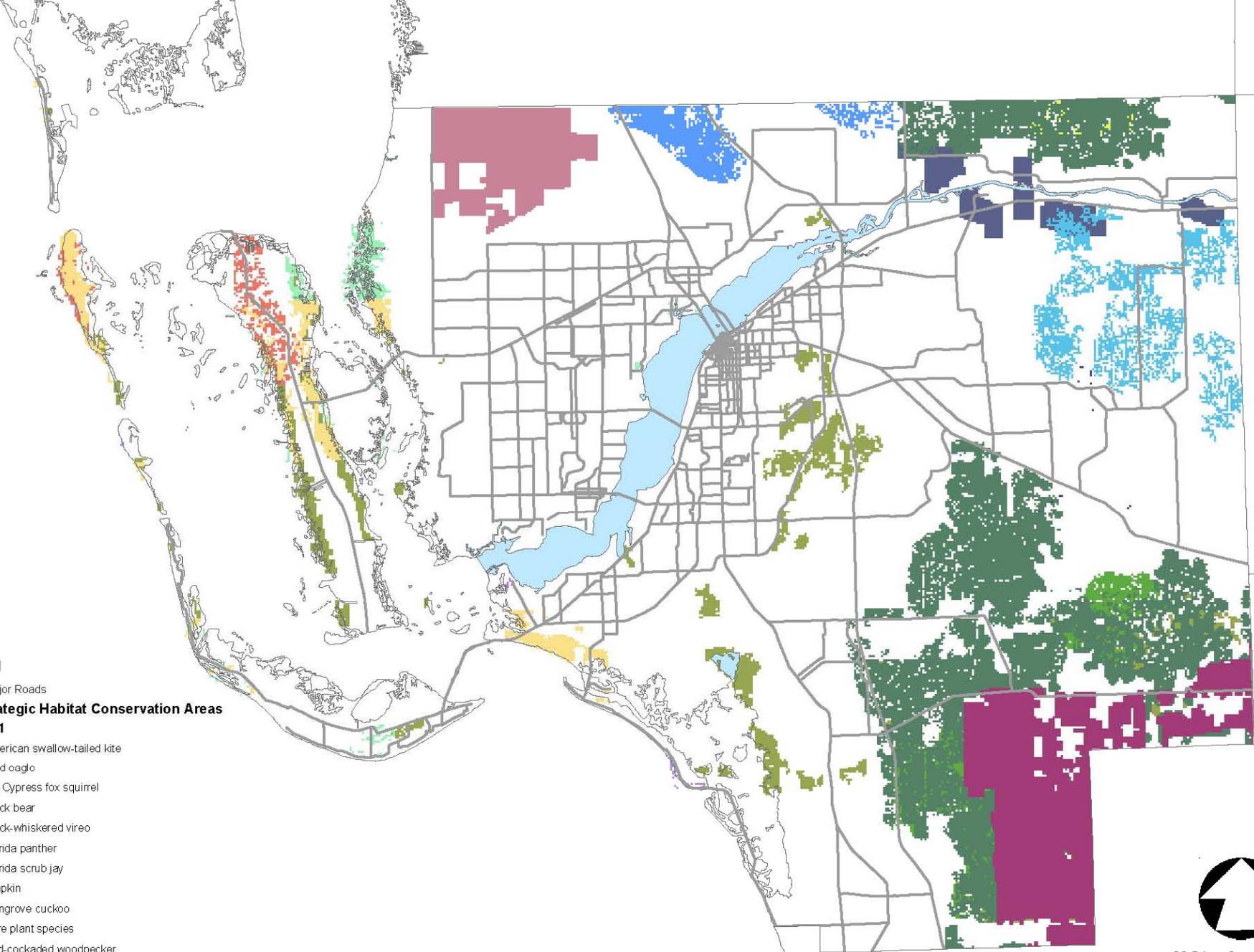
Southwest Florida Regional  
Planning Council  
2/19/04



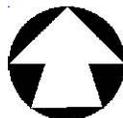
**Legend**

Major Roads  
**Lee Strategic Habitat Conservation Areas Species 1**

- American swallow-tailed kite
- Bald eagle
- Big Cypress fox squirrel
- Black bear
- Black-whiskered vireo
- Florida panther
- Florida scrub jay
- Limpkin
- Mangrove cuckoo
- Rare plant species
- Red-cockaded woodpecker
- Short-tailed hawk
- Snail kite
- Snowy plover



**Map 9A**  
**Strategic Habitat Conservation Areas**



0 0.5 1 2 3 4 Miles

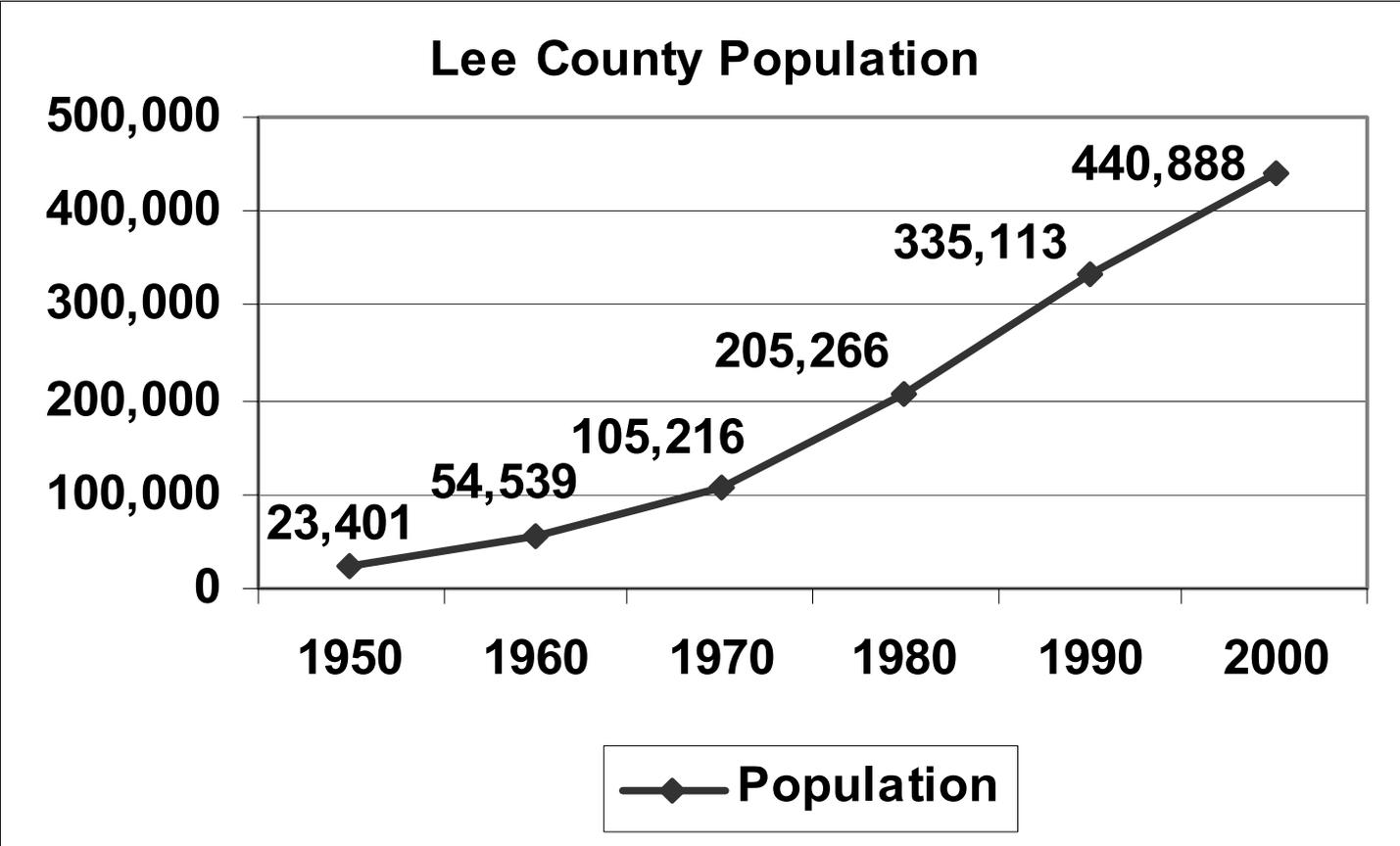
Southwest Florida Regional  
Planning Council  
2/19/04



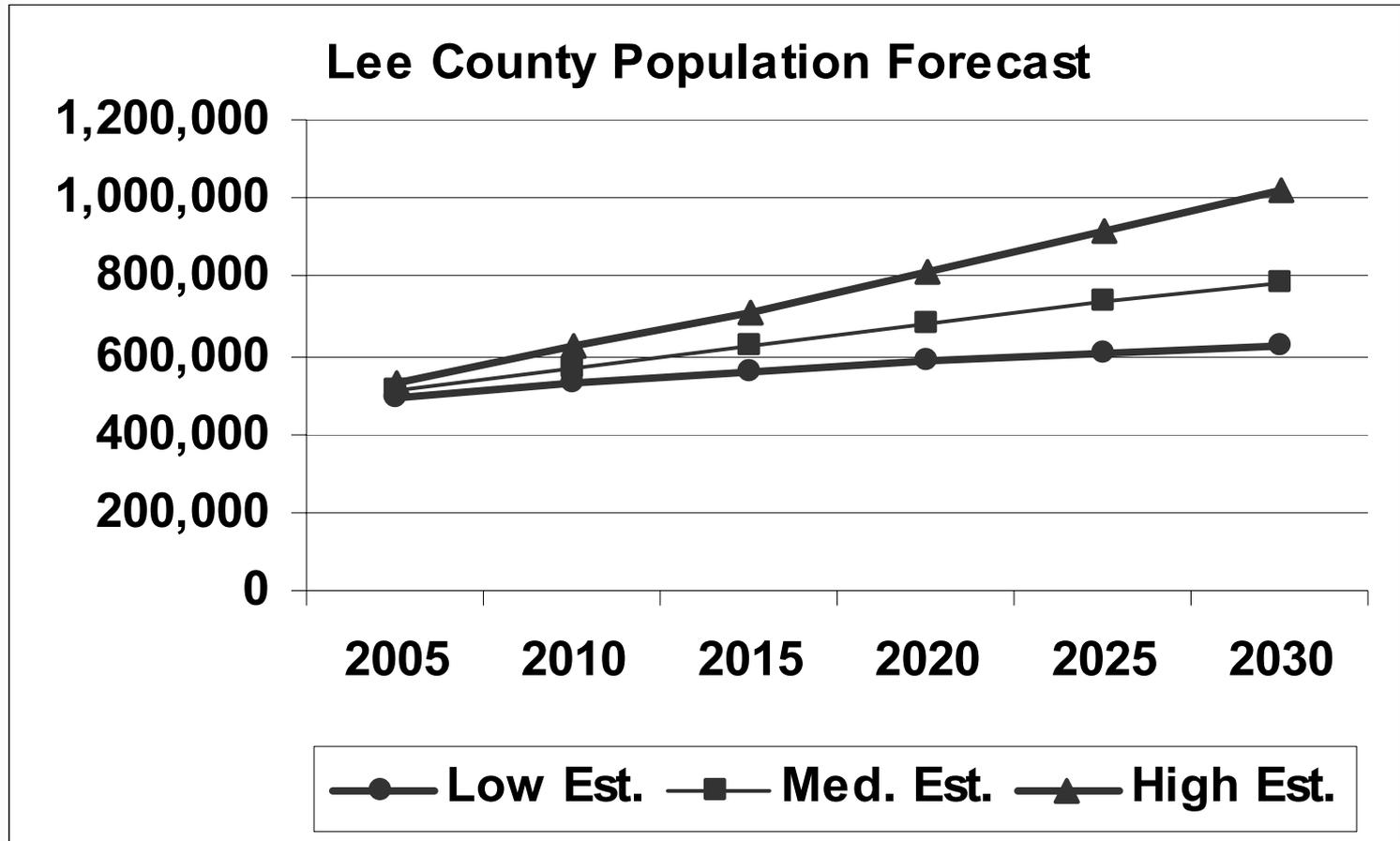
# Economics and Politics

- This is the bottom line of our (and your) dilemma. Economics and politics reflect the demands placed by changing and rapidly growing population. Past Growth has driven; future growth, unless tempered, will drive Southwest Florida's politics and economy.

# Past Growth



# Future Growth





# Land Use Change

- Population growth begets land use change.
- In Florida, Land Use change is to be driven by a Comprehensive Plan adopted by the local government, supported by all other public agencies.
- The visual depiction of the policies of the Comprehensive Plan is the future land use map.
- Here is our future.

# Future Land Use Map

FUTURE LAND USE MAP  
 (Lee Plan Map 1 Page 1 of 5)

This map generally represents the future land use maps of the future land use plan. The specific plans and policies are subject to the jurisdiction of the respective municipalities.

This map is a general representation of the Future Land Use Map as adopted by the Board of County Commissioners on September 17, 2009.

Parcel ID	ADDRESS	DATE OF ADOPTION	REPRESENTATIVE DATE
08-02	1312388	05/20/09	05/20/09
08-09	0527390	05/20/09	05/20/09
08-10	0629290	05/20/09	05/20/09
08-14	0623280	05/20/09	05/20/09
08-20	0629290	05/20/09	05/20/09
08-28	0629290	05/20/09	05/20/09
08-31	0629290	05/20/09	05/20/09
08-37	0527390	05/20/09	05/20/09
08-38	0527390	05/20/09	05/20/09
08-41	0629290	05/20/09	05/20/09
08-47	0527390	05/20/09	05/20/09
08-48	0527390	05/20/09	05/20/09
08-51	0629290	05/20/09	05/20/09
08-58	0527390	05/20/09	05/20/09
08-59	0527390	05/20/09	05/20/09
08-63	0629290	05/20/09	05/20/09
08-69	0527390	05/20/09	05/20/09
08-70	0527390	05/20/09	05/20/09
08-72	0527390	05/20/09	05/20/09
08-73	0527390	05/20/09	05/20/09
08-74	0527390	05/20/09	05/20/09
08-75	0527390	05/20/09	05/20/09
08-76	0527390	05/20/09	05/20/09
08-77	0527390	05/20/09	05/20/09
08-78	0527390	05/20/09	05/20/09
08-79	0527390	05/20/09	05/20/09
08-80	0527390	05/20/09	05/20/09
08-81	0527390	05/20/09	05/20/09
08-82	0527390	05/20/09	05/20/09
08-83	0527390	05/20/09	05/20/09
08-84	0527390	05/20/09	05/20/09
08-85	0527390	05/20/09	05/20/09
08-86	0527390	05/20/09	05/20/09
08-87	0527390	05/20/09	05/20/09
08-88	0527390	05/20/09	05/20/09
08-89	0527390	05/20/09	05/20/09
08-90	0527390	05/20/09	05/20/09
08-91	0527390	05/20/09	05/20/09
08-92	0527390	05/20/09	05/20/09
08-93	0527390	05/20/09	05/20/09
08-94	0527390	05/20/09	05/20/09
08-95	0527390	05/20/09	05/20/09
08-96	0527390	05/20/09	05/20/09
08-97	0527390	05/20/09	05/20/09
08-98	0527390	05/20/09	05/20/09
08-99	0527390	05/20/09	05/20/09
09-00	0527390	05/20/09	05/20/09

Please see the Lee Plan for additional information regarding special restrictions, covenants, or subdivisions in addition to the map boundaries of the land use categories.

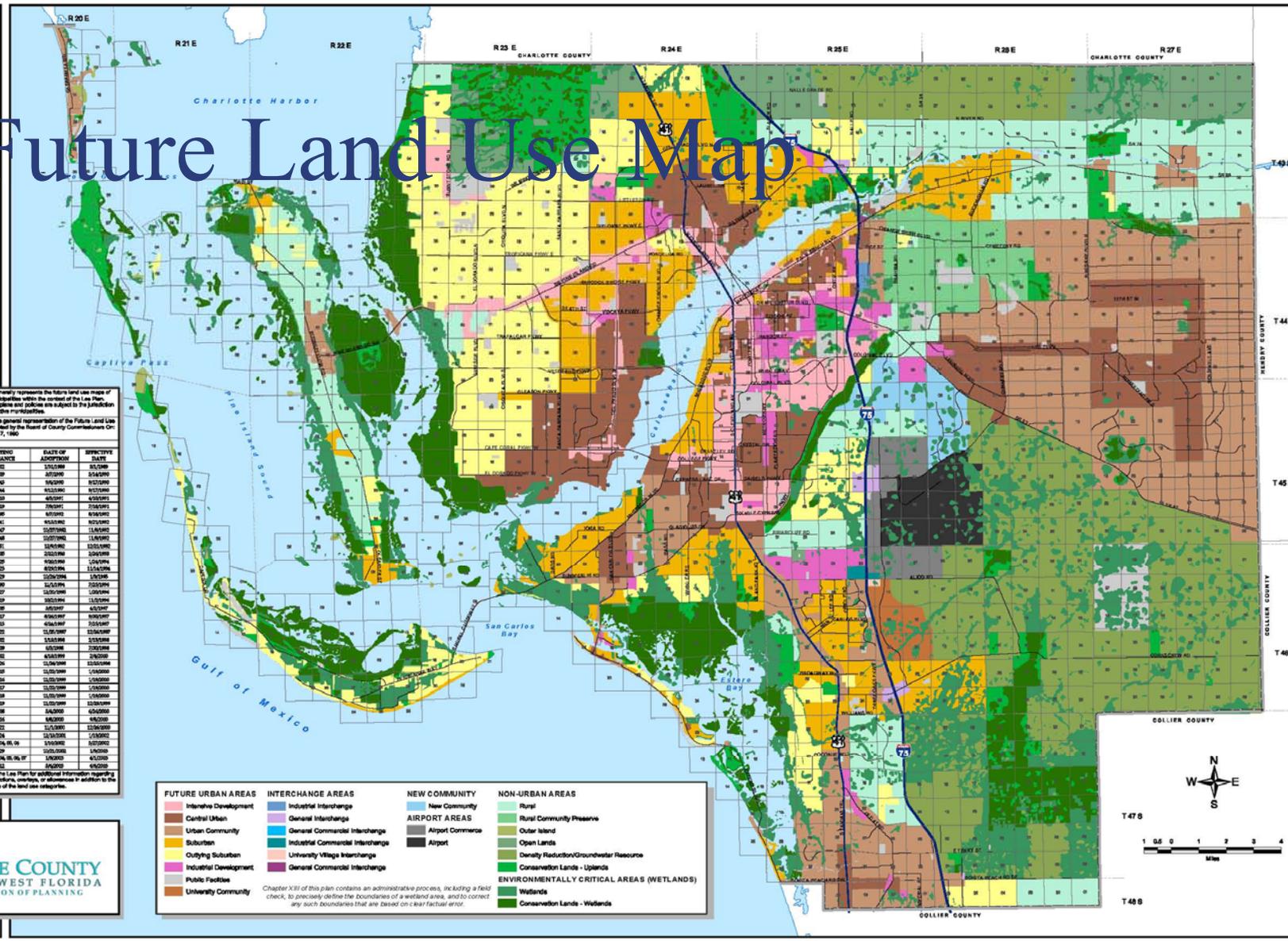


<b>FUTURE URBAN AREAS</b> Intensive Development Central Urban Urban Community Suburban Outlying Suburban Industrial Development Public Facilities University Community	<b>INTERCHANGE AREAS</b> Industrial Interchange General Interchange General Commercial Interchange Industrial Commercial Interchange University Village Interchange General Commercial Interchange	<b>NEW COMMUNITY</b> New Community <b>AIRPORT AREAS</b> Airport Commerce Airport	<b>NON-URBAN AREAS</b> Rural Rural Community Preserve Older Inland Open Lands Density Reduction/Groundwater Resource Conservation Lands - Uplands <b>ENVIRONMENTALLY CRITICAL AREAS (WETLANDS)</b> Wetlands Conservation Lands - Wetlands
--	--	--	--

Chapter XIII of this plan contains an administrative process, including a field check, to precisely define the boundaries of a wetland area, and to correct any such boundaries that are based on a near field error.

COLLIER COUNTY

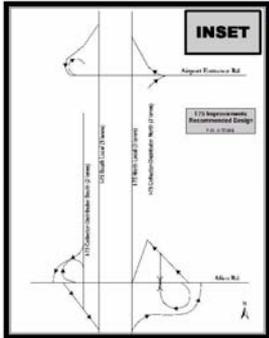
T 475  
1 0.5 1 2 3 4  
Miles  
T 485



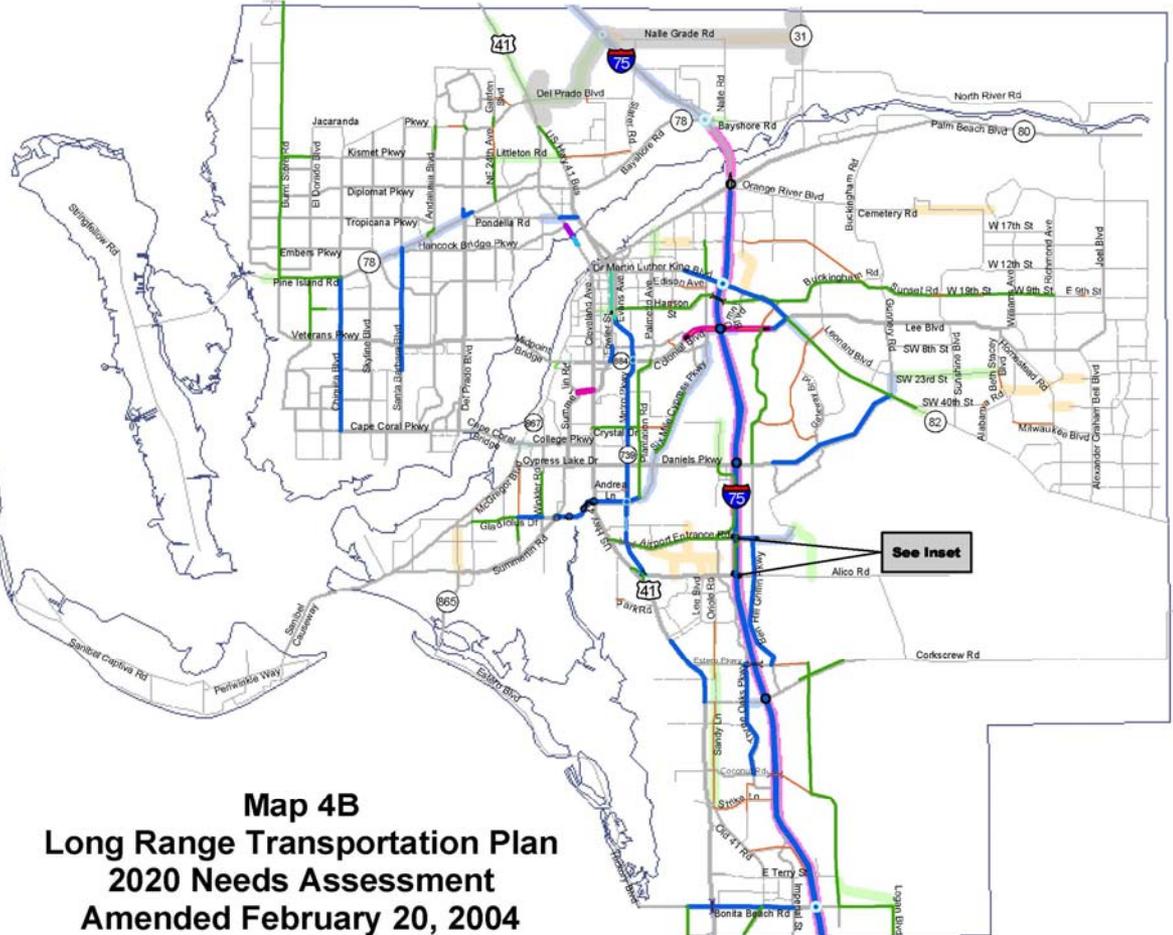


# Supporting Public Works

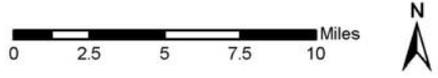
- As population growth begets land use change,
- Land Use change begets demands for public works.
- And we have a lot of demand for public works.

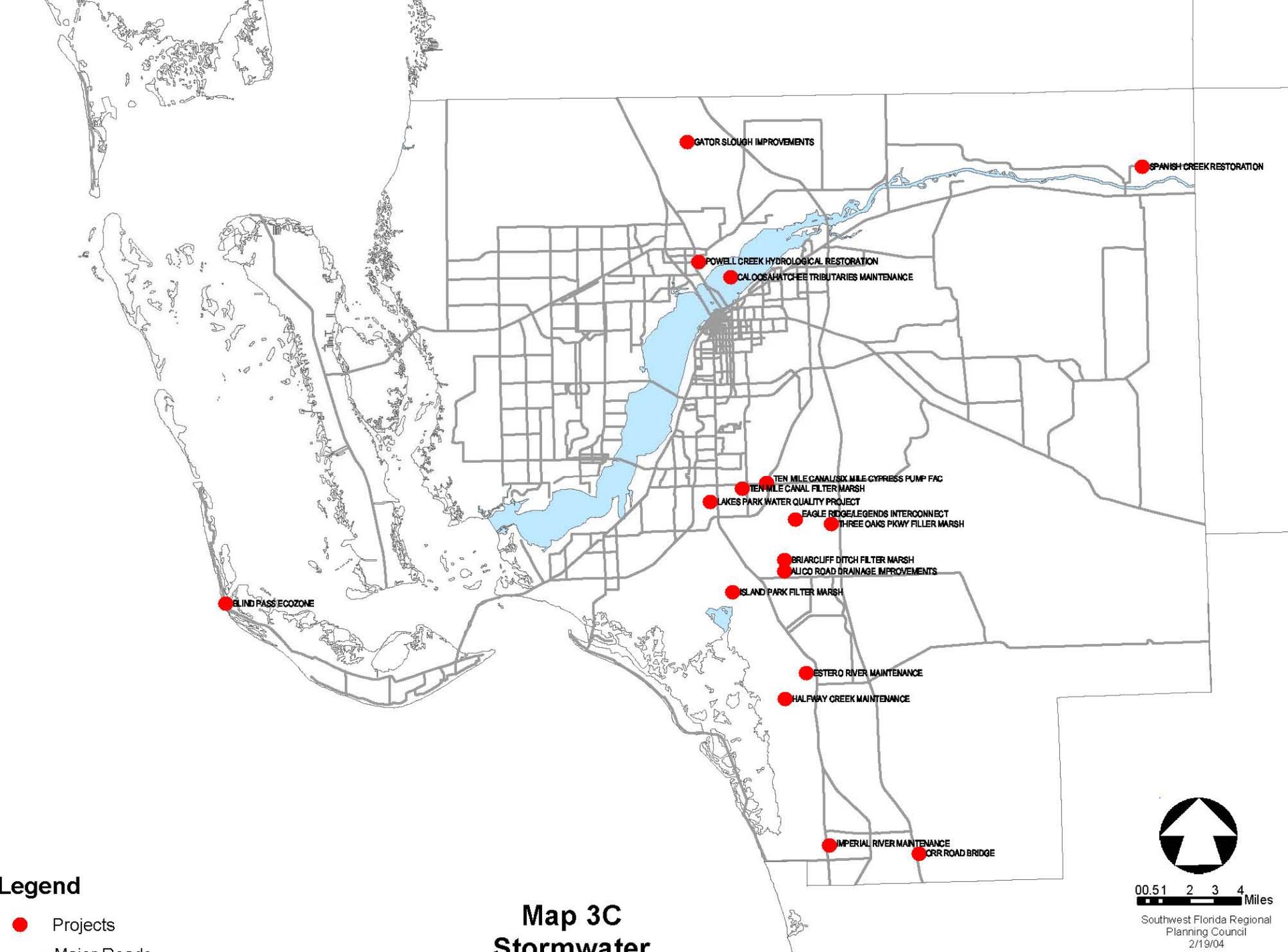


The lines on the map represent only the general routes. Specific alignments will be determined through corridor and design studies.



**Map 4B**  
**Long Range Transportation Plan**  
**2020 Needs Assessment**  
**Amended February 20, 2004**





● BLIND PASS ECOZONE

● GATOR SLOUGH IMPROVEMENTS

● SPANISH CREEK RESTORATION

● POWELL CREEK HYDROLOGICAL RESTORATION

● CALOOSAHATCHEE TRIBUTARIES MAINTENANCE

● LAKES PARK WATER QUALITY PROJECT

● TEN MILE CANAL/SIX MILE CYPRESS PUMP FAC

● TEN MILE CANAL FILTER MARSH

● EAGLE RIDGE/LEGENDS INTERCONNECT

● THREE OAKS PKWY FILLER MARSH

● BRIARCLIFF DITCH FILTER MARSH

● ALICO ROAD DRAINAGE IMPROVEMENTS

● ISLAND PARK FILTER MARSH

● ESTERO RIVER MAINTENANCE

● HALFWAY CREEK MAINTENANCE

● IMPERIAL RIVER MAINTENANCE

● ORR ROAD BRIDGE

**Legend**

- Projects
- Major Roads

**Map 3C  
Stormwater**

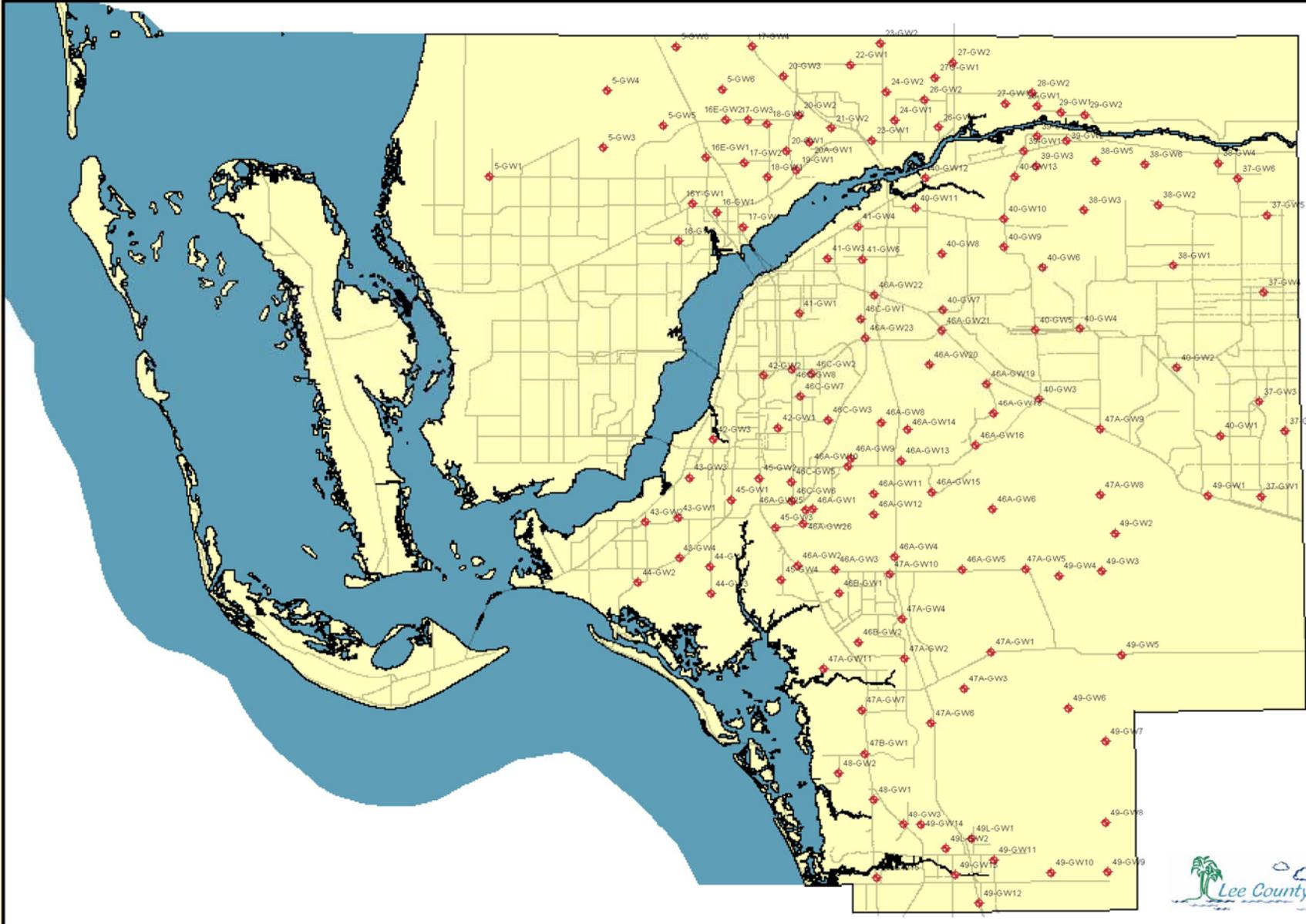


0 0.5 1 2 3 4 Miles



# Problem Analysis

- We recognize the normal management of population growth will have adverse impacts on water resources, habitat, and ecological regimes.
- Hence we are establishing an analytical system to our “environmental resource management” comparable to our public works management.



**Legend**

- ◆ wells
- Major Roads
- land
- gulf of Mexico

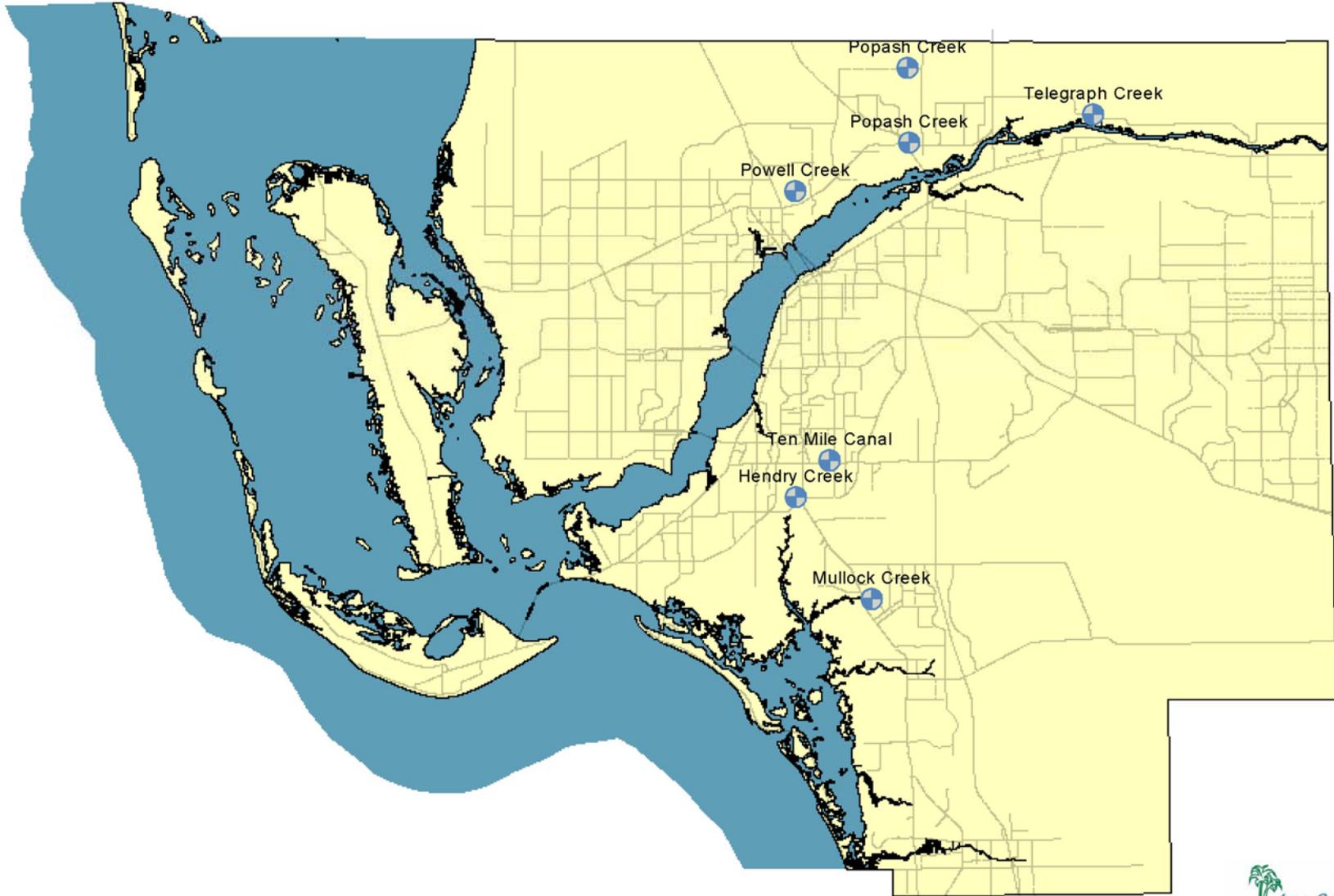
## Map 6C Lee County Monitor Wells

ArcGIS 8.1  
October 2002



Source: ESRI Data & Maps CD  
Created in ArcGIS 8 using ArcMap  
By: Scott Summerral



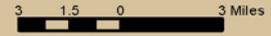


**Legend**

-  Stage
-  Major Roads
-  land
-  Gulf of Mexico

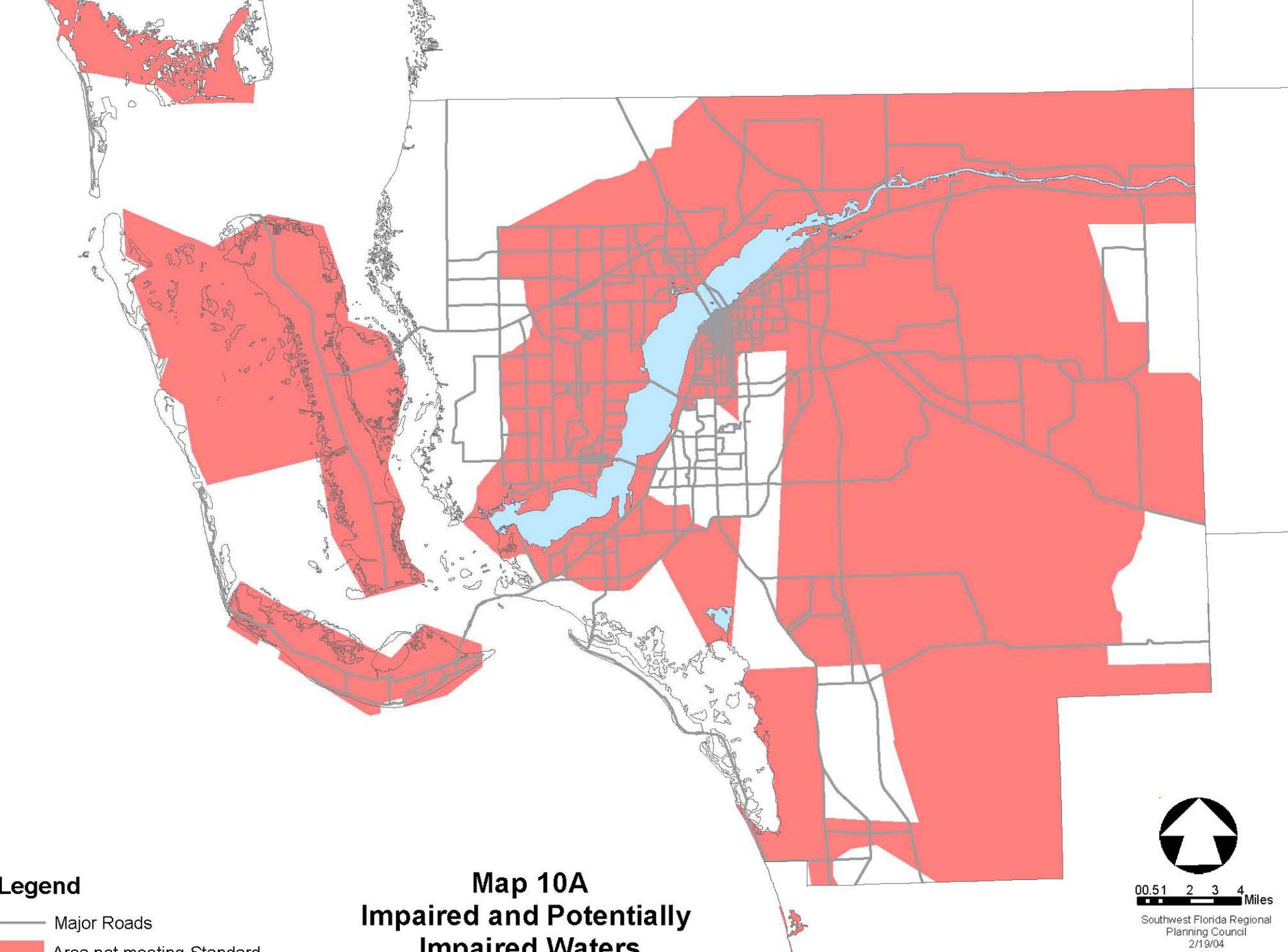
**Map 7C**  
**Lee County Stage Recorders**

ArcGIS 8.1  
 October 2002



Source: ESRI Data & Maps CD  
 Created in ArcGIS 8 using ArcMap  
 By: Scott Summerrall





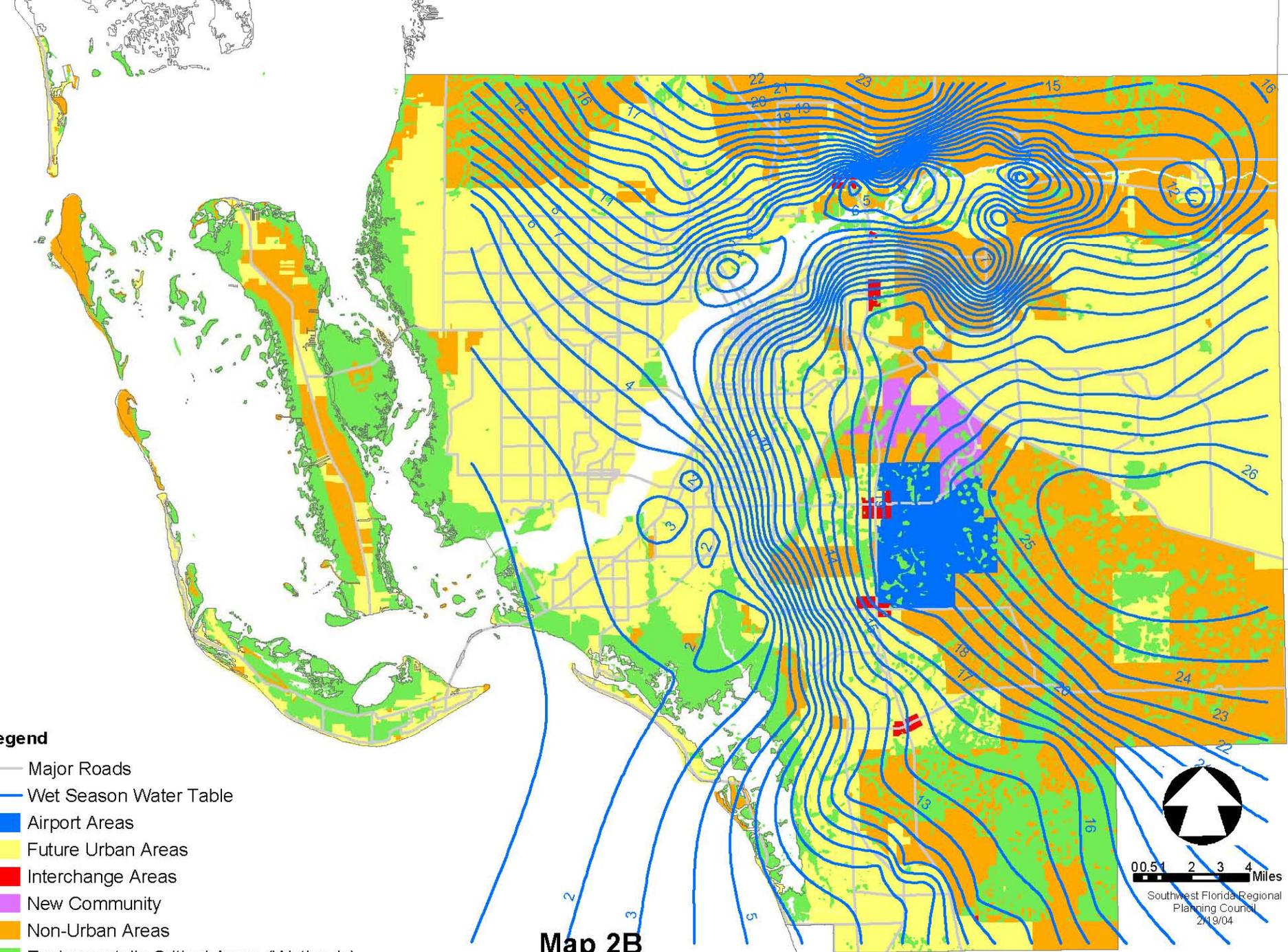
**Legend**

- Major Roads
- Area not meeting Standard

**Map 10A**  
**Impaired and Potentially**  
**Impaired Waters**

00.51 2 3 4 Miles





**Legend**

- Major Roads
- Wet Season Water Table
- Airport Areas
- Future Urban Areas
- Interchange Areas
- New Community
- Non-Urban Areas
- Environmentally Critical Areas (Wetlands)

**Map 2B**  
**Water Storage Buildout**

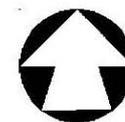
0.5 1 2 3 4 Miles

Southwest Florida Regional  
 Planning Council  
 2/19/04

**Legend**

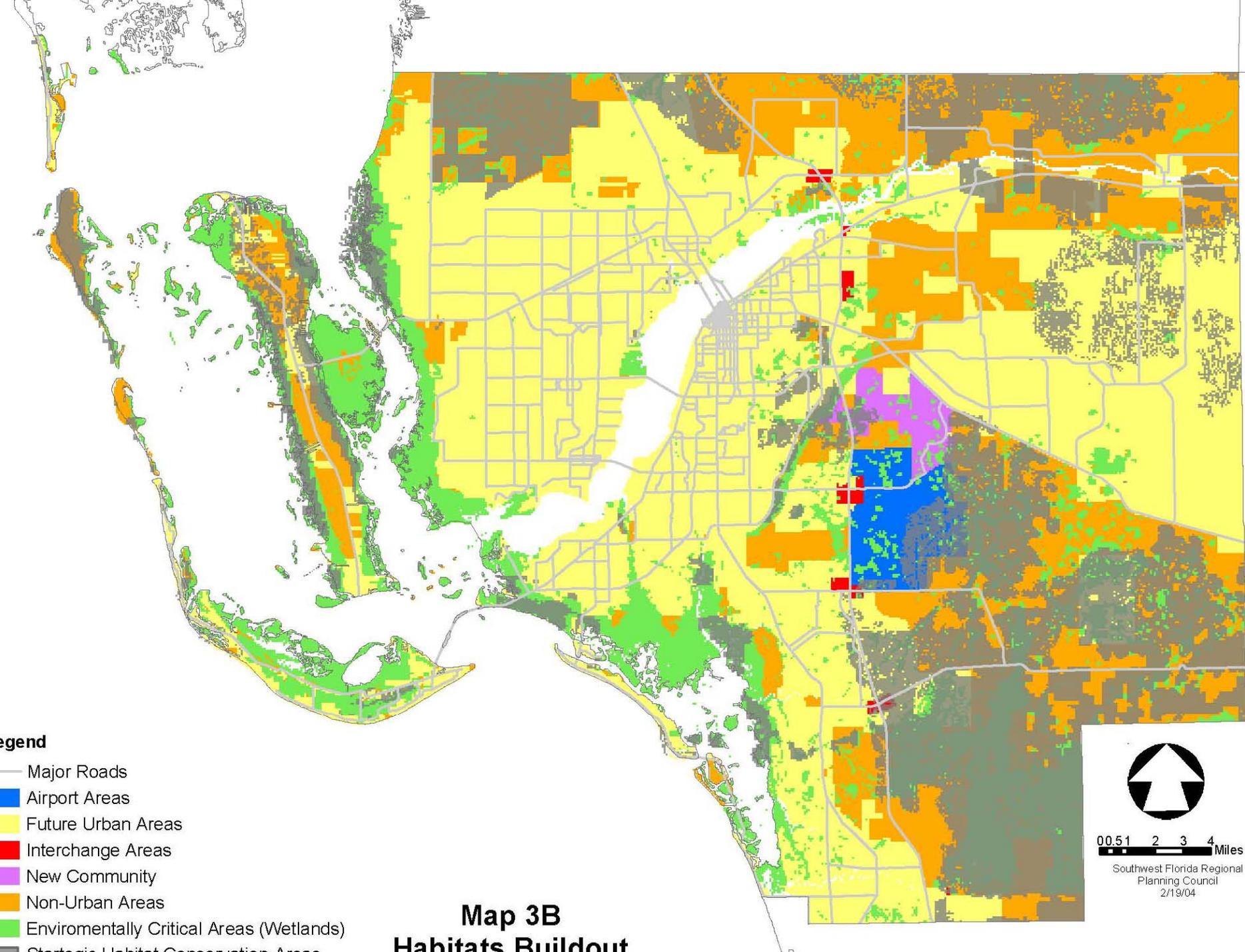
- Major Roads
- Airport Areas
- Future Urban Areas
- Interchange Areas
- New Community
- Non-Urban Areas
- Environmentally Critical Areas (Wetlands)
- Characteristic Habitat Conservation Areas

**Map 3B  
Habitats Buildout**



0 0.5 1 2 3 4 Miles

Southwest Florida Regional  
Planning Council  
2/19/04



**Legend**

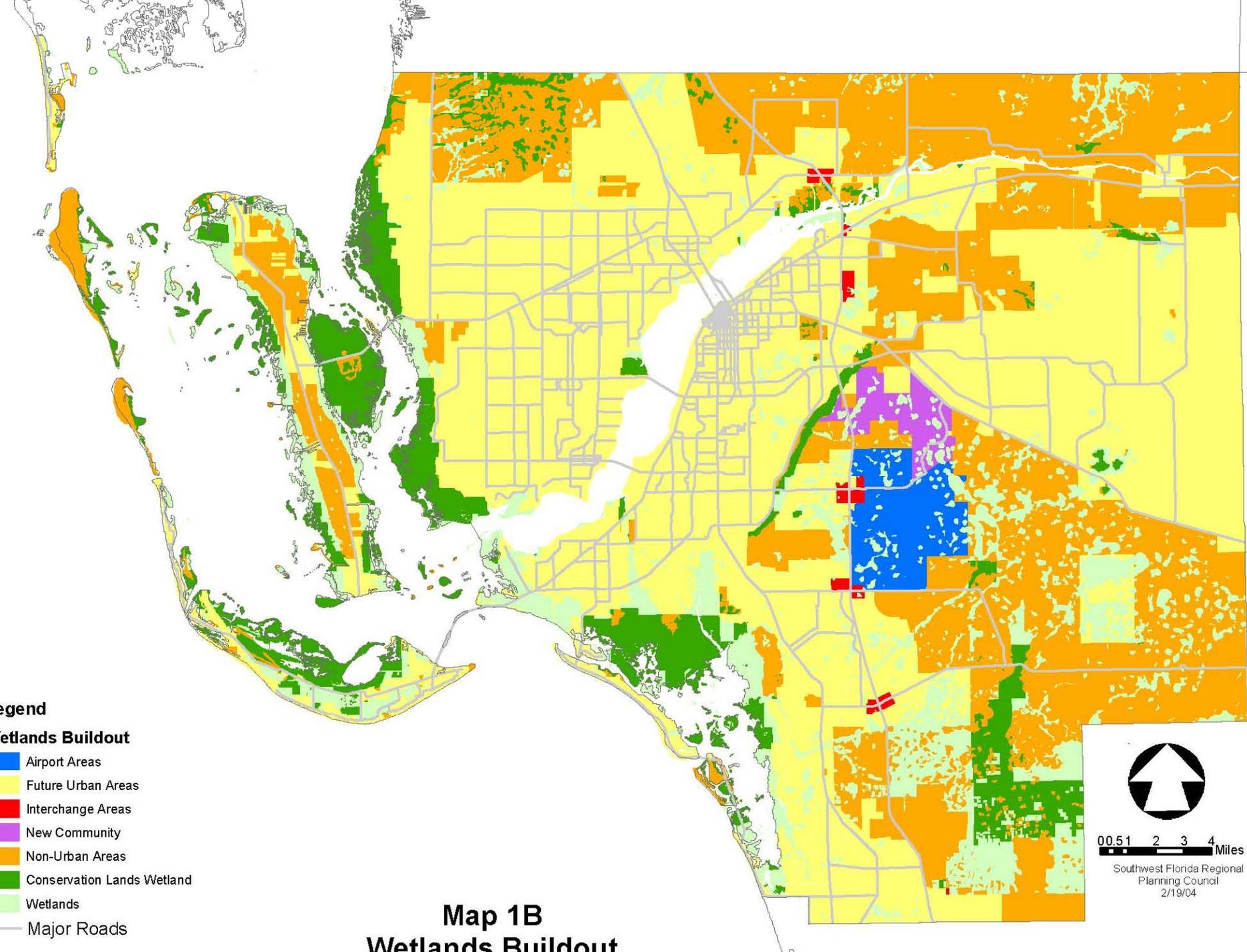
**Wetlands Buildout**

-  Airport Areas
-  Future Urban Areas
-  Interchange Areas
-  New Community
-  Non-Urban Areas
-  Conservation Lands Wetland
-  Wetlands
-  Major Roads

**Map 1B  
Wetlands Buildout**



0.5 1 2 3 4 Miles  
Southwest Florida Regional  
Planning Council  
2/19/04



**Legend**

— Major Roads

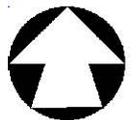
**Fire Hazard Areas**

Extreme

High

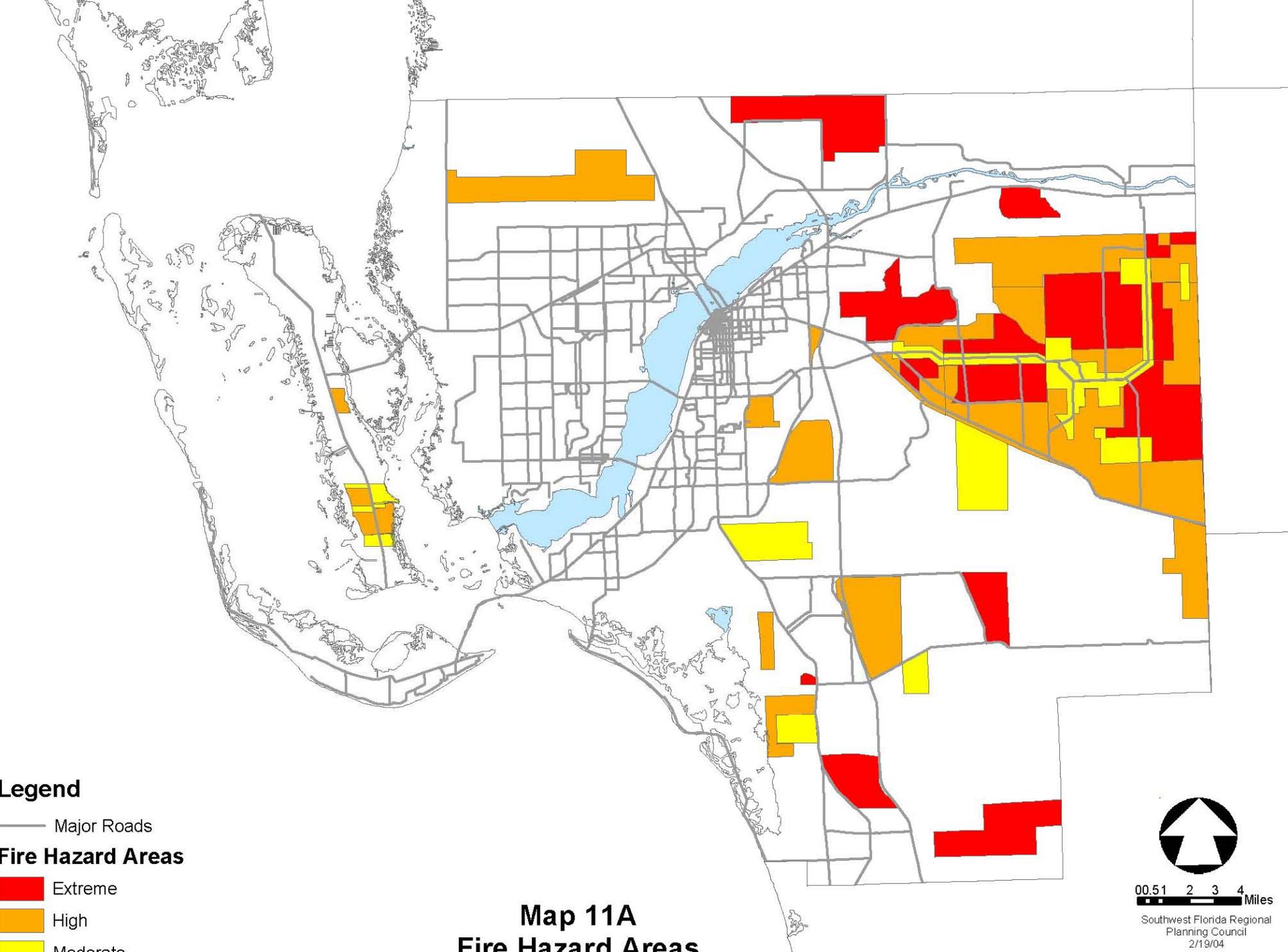
Moderate

**Map 11A**  
**Fire Hazard Areas**

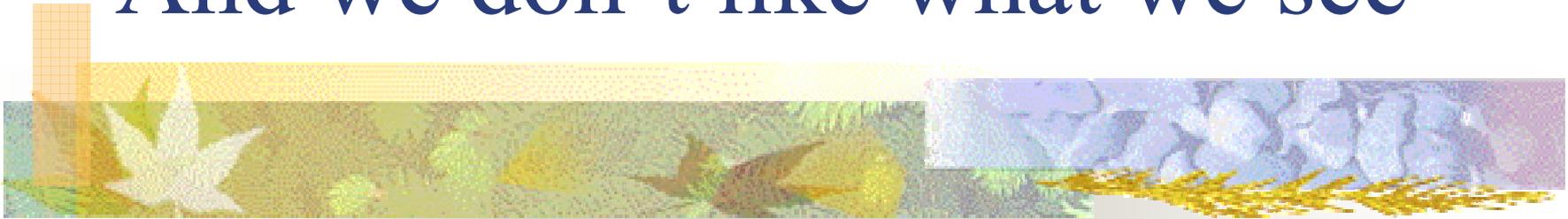


0 0.5 1 2 3 4 Miles

Southwest Florida Regional  
Planning Council  
2/19/04



# And we don't like what we see



Our economy is tied to tourism and being a desirable place to retire. If we continue as is, we destroy our desired future.



# So we want to change this adverse Future

- For our future economy
- For our fiscal management
- For our community well being
- For our next generations, and
- For ourselves-where else is there to go?



# The Plan strength is in its use of existing tools

- We have a public investment program in “environmental” issues annually in the \$10s of million. (Five year forecast for land acquisition alone is \$133m)
- We have been investing. But have we been investing as “smart” as we could be? (Not that we don’t have pride in what we are doing)

**Legend**

- Major Roads
- Conservation Easements
- Conservation 2020 nominations
- County owned lands

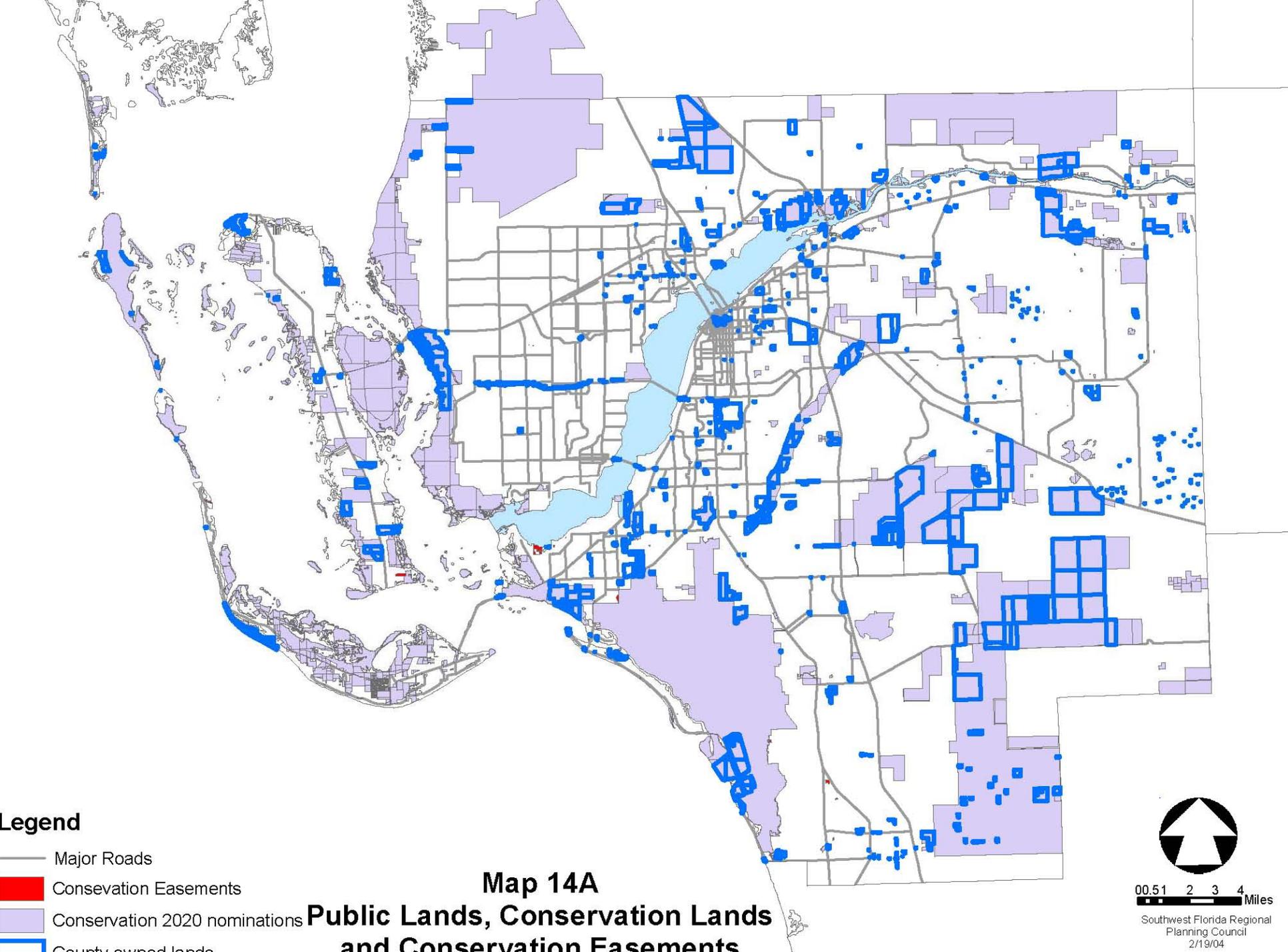
**Map 14A**

**Public Lands, Conservation Lands and Conservation Easements**



0 0.5 1 2 3 4 Miles

Southwest Florida Regional  
Planning Council  
2/19/04





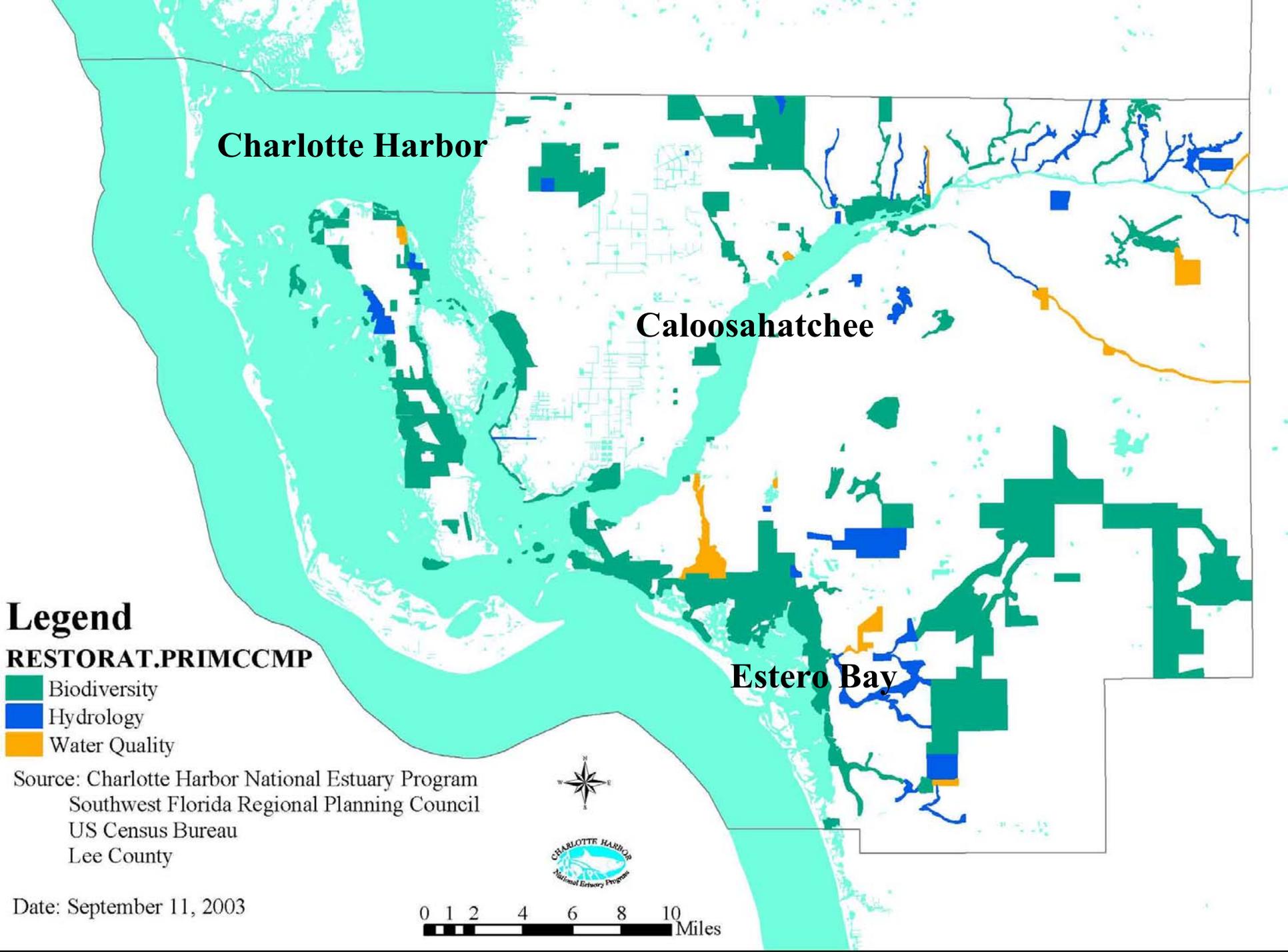
# Program Thrust

- Take the money we have been spending (+, shhhh),
- Take the entities with whom we partner, in public works programs and in environmental management,
- Determine the outcomes we Plan to achieve
- Identify the places we want positive change to occur, and when
- And Do it!

# We have identified the places



Thanks to a collaborative program involving SWFRPC, CHNEP, FFWCC, SFWMD, and a host of public and private participants



**Charlotte Harbor**

**Caloosahatchee**

**Estero Bay**

**Legend**

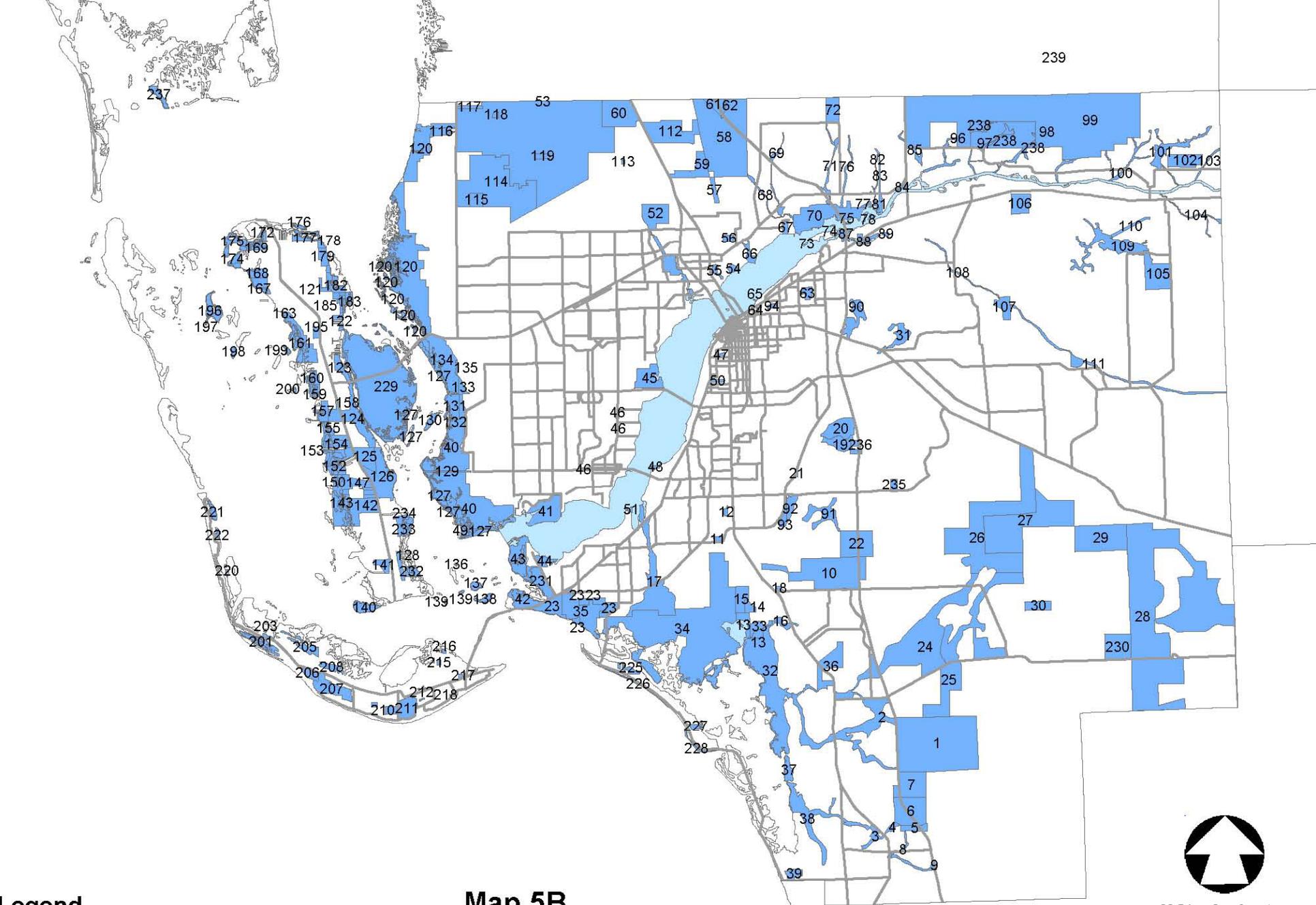
**RESTORAT.PRIMCCMP**

-  Biodiversity
-  Hydrology
-  Water Quality

Source: Charlotte Harbor National Estuary Program  
Southwest Florida Regional Planning Council  
US Census Bureau  
Lee County

Date: September 11, 2003





**Legend**

— Major Roads

■ Proposed Mitigation Sites

**Map 5B**  
**Proposed Mitigation/Restoration/**  
**Preservation Sites**

0 0.5 1 2 3 4 Miles

# Sample Description

Microsoft Access - [Plan & Implementation]

File Edit View Insert Format Records Tools Window Help

Project Title: Alligator Creek Restoration Project ID: 222

Description | Plan | Implementation | Resources

CHNEP # 103 CHC RCT# BCB RCT#

Lee Mit Plan: BASIN: Charlotte Harbor

STATUS:  PLAN  IMPLEMENTATION

ISSUE:  Biodiversity  Hydrogeology  Water Quality  Infrastructure

TYPE:  Research  Restoration  Legislation  Education

Date Entered: 11/5/2002 Date Modified: 11/5/2002 Operator: Lisa B. Beever

**Justification/Background:**  
Charlotte Harbor is a District priority Surface Water Improvement and Management (SWIM) program waterbody and is considered an "estuary of national significance" with the designation of the Charlotte Harbor National Estuary Program (CHNEP). Water quality data and seagrass mapping efforts suggest that Charlotte Harbor's water quality is not degrading, and its fisheries' habitats are mostly stable. Data collected since its SWIM designation in 1993 indicate the

**Project Description:**  
The Alligator Creek project is located on a 1,600 acre site that is owned by the Florida Department of Environmental Protection (FDEP) and is located south of Punta Gorda abutting Charlotte Harbor. This property includes the original 1,300 acre parcel and a 300 acre parcel that was recently purchased, also by DEP. Funds budgeted in previous years for this project involved developing a restoration master plan for the original 1,300 acre parcel, and to design and permit two restoration projects on the original property with the acceptance (in March 2000) of a restoration master plan for the site. The funds budgeted for FY 2001 were budgeted to implement specific restoration projects to remove exotic vegetation and restore a more natural hydrology. Funds in FY 2002 and FY 2003 are to begin implementing the remainder of projects outlined in the Restoration Master Plan for the Alligator Creek site. A RFP was released in spring 2002 to obtain surveys, models, etc. necessary for obtaining permits for construction of remaining projects. Funds will be matched for constructing

**PREREQUISITE:**

**LINKAGES:**

Primary CCMP Action: FW-A Secondary CCMP Action: HA-F Secondary CCMP Action:

Record: 8 of 305

Form View

NUM

Start | \\Dc1\CHNEP\P... | Microsoft Powe... | SciPlan : Datab... | Plan & Imple... | 5:31 PM

And the places are related to the  
problems



We still lack an agreed upon set of  
analytical tools, but a major effort is  
underway thru Everglades  
Restoration

# And we have initiated some prototype projects



Island Park Marsh (County)

10 Mile Canal (Multiagency)

Bonita Bay Flowways (private)

# Island Park



JOB # 00000  
 SCALE NTS  
 FILE BOUNDARY  
 DRAWN BY VML  
 DATE 06-03-03

ISLAND PARK/HENDRY CREEK WETLAND QUALITY  
 ENHANCEMENT PROJECT  
 Proposed Improvement

COUNTY LEE  
 SEC 12  
 TWP 46 S  
 RANG 25 E  
 REVISIONS

Boylan  
 Environmental  
 Consultants, Inc.



Wetland & Wildlife Surveys, Environmental Planning,  
 Impact Assessments  
 11000 Metro Parkway, Suite 4, Ft. Myers, 33913 (941)418-0671

# Ten Mile Filter Marsh Project

Current



Projected





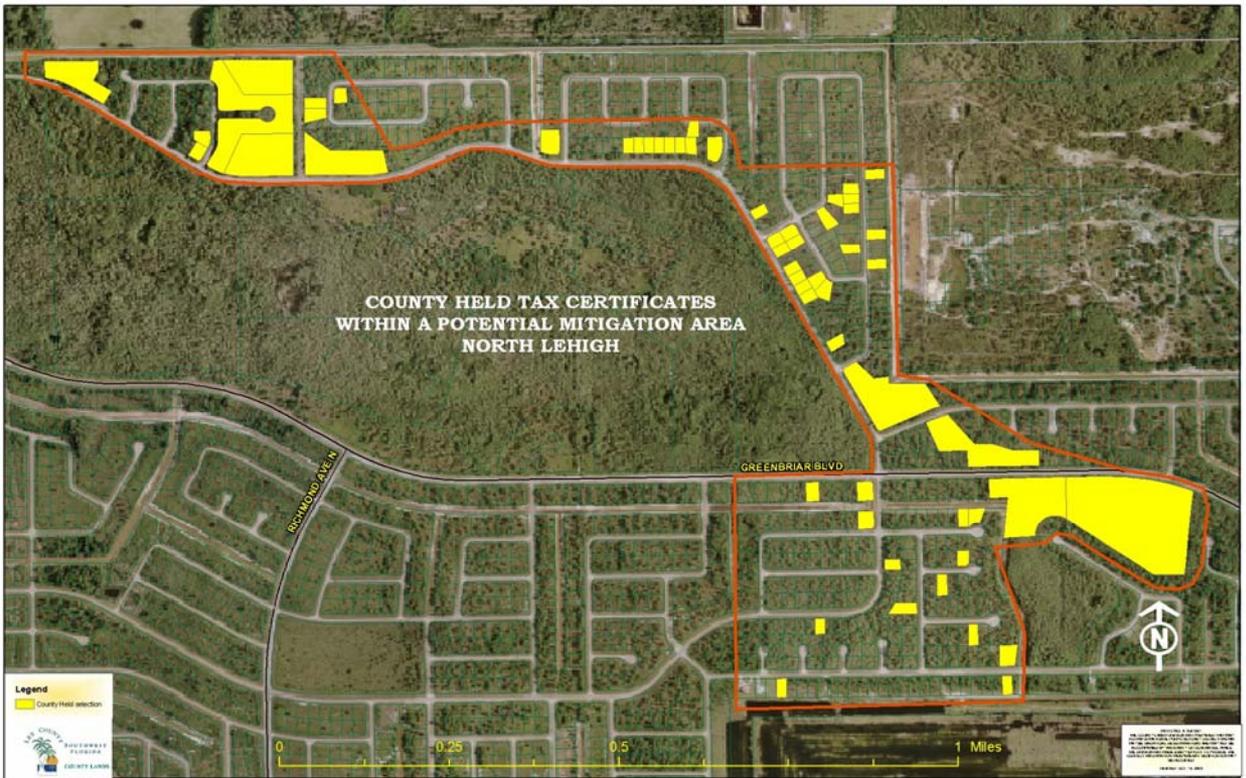
Bonita Bay's The Brooks Flow-way



# And Land Use Redevelopment Provides Opportunity

- Brownfields
- Greyfields
- Agricultural conversions
- And our platted lands
- (We don't encourage Hurricanes but if we can help the afflicted and fix a problem, why not)

# Possible Lehigh reassembly





# The Missing Piece

- Policy Structure for planning and implementation
- Technical Assessment Structure
- Monitoring, and evaluation of success
- Subsequent reform to remove failed approaches



# Our proposal

- Interlocal Agreements/MOUs to affirm a policy process and forum
- Use of the Mitigation Plan as first phase of interactive and evolutionary planning and implementation program
- Technical entity to annually affirm progress, update and propose modifications



# Outcomes

- Reliable progress towards improved water quality and water systems, land and coastal
- Diversity of habitat, and our share of species recovery, land and coastal
- Stabilized and enhanced tourism and retirement base
- And we can get our permits in a timely manner!!!!



Presented on Behalf of the Lee County Florida Board of  
County Commissioners

- Wayne Daltry, FAICP, Lee County Smart Growth Department
- Roland Ottolini, PE, Lee County Natural Resources Division
- And with assistance from Susan Brookman, Dr Lisa Beever, Jim Beever, David Burr, Jim Lavender, Howard Wegis, Tim Walker, Rick Carpenter, Amy Hoyt, Don DeBerry, Betsie Hiatt, Roger Clark, Rick Burris, Mike Bauer, Ross Morton, Skip Bergmann, Jon Iglehart, Liz Donley, Scott Gilbertson, Dave Loveland, Paul O'Connor, Mary Gibbs, John Yarbrough, Holly Schwartz, Matt Bixler, and John Cassani, who arent little people, this is just little type