

**THE NORTHWEST DADE COUNTY FRESHWATER
LAKE PLAN IMPLEMENTATION COMMITTEE**

1994 ANNUAL REPORT

**Submitted to
Florida Legislature
and the
Governing Board
of the
South Florida Water Management District**

December 31, 1994

Northwest Dade County Freshwater Lake Plan Implementation Committee Members

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I EXECUTIVE SUMMARY

The Northwest Dade County Freshwater Lake Plan Implementation Committee (The Committee) was created in 1992 as a public and private partnership to develop a plan for the design and implementation of a freshwater lake system in Northwest Dade County. In 1994 the Florida Legislature redefined the study boundaries of and added additional members and responsibilities to the Committee.

The Committee met five times during the calendar year 1994. Representatives of the South Florida Limestone Mining Coalition (SFLMC) presented their companies' plan to the Committee. A map showing possible mining assignments within the study area was developed.

Work on the environmental studies began as scheduled on January 1, 1994 with an anticipated completion date of June 1996. An existing vegetation conditions map was completed in 1994. The soils map will be completed during 1995. The USACOE will begin to develop a draft EIS in March of 1995 using the first year's data from the environmental studies.

The Environmental Protection Agency has completed Phase I of their water quality investigation and is anticipating completion of Phase II work during 1995. Based on the concerns of the Committee, staff from EPA agreed to test for mercury as part of their water quality study of the area.

The Committee reviewed and accepted a draft outline for the development of the economic impact study, including performing a detailed economic analysis of the various alternatives to be developed by the Committee.

The Lakebelt Area has been identified as an integral part of the SFWMD East Coast Buffer and the USACOE has included as part of the Comprehensive Review Study of the Central and Southern Florida Project.

The Committee has developed a work plan for 1995 and recommends that until a Lakebelt plan is developed, the approval and installation of additional facilities in the study area which could conflict with the goals of the Lakebelt plan should be avoided where possible.

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II. INTRODUCTION

A. Legislative Update

Chapter 92-132, Sec. 21, Laws of Florida, established the Northwest Dade County Freshwater Lake Plan Implementation Committee. The Committee was created as a public and private partnership to develop a "Plan" for the design and implementation of a freshwater lake system in Northwest Dade County, herein called the "Lakebelt".

In 1994 the State legislature incorporated the following provisions within the SB 1346: Modifying the membership of the Committee; redefining the study boundaries and adding additional responsibilities.

Four Members were added to the Committee. The Secretary of the Department of Community Affairs and the Secretary of Department of Commerce were added as voting members. Two state legislators, a senator and a Representative whose district include the Lakebelt Study Area, were to be appointed as ex-officio members by Senate President and Speaker of the House. (The Honorable Pat Thomas, Senate President, appointed Senator Mario Diaz-Balart on June 17, 1994. The Honorable Bolley L. Johnson, Speaker of the House, appointed Representative Luis E. Rojas on June 14, 1994.)

The Committee's tenure was extended from January 1, 1996 until January 1, 1999. The deadline for the submission of a final report to the South Florida Water Management District (SFWMD) Governing Board and the Legislature was extended to December 31, 1996. The report is to include the final reports on all studies, final recommendations from the Committee, and recommendations for legislative and regulatory revisions. During 1997 and 1998, the Committee is mandated to assist in the implementation of the plan.

Progress reports are to be submitted to the SFWMD Governing Board and the Legislature by December 31, 1994, and December 31, 1995. These reports are to include a summary of the Committee's activities, updates on

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all ongoing studies, and the Committee's recommendations for legislative and regulatory revisions.

The study area was expanded to include 16 sections of additional land south of Tamiami Trail. No biological studies will be required, within those 16 sections, but computer hydrologic modeling, land use, and water quality studies might be deemed necessary. (See Figure 1.)

The Committee and the Florida Department of Environment Protection (DEP) were mandated to work with the U.S. Environmental Protection Agency (EPA) and the Miami Dade Water and Sewer Department (WASD) to ensure that the Northwest Wellfield retains groundwater source classification.

The SFWMD was mandated to either oversee or carry out studies to determine evapotranspiration rates for melaleuca-impacted plant communities in the Lakebelt area. The SFWMD shall incorporate these study results as part of its overall water supply planning process.

The Florida Department of Commerce was charged to either oversee or carry out a study of the economic impacts associated with the implementation of the Lakebelt plan or any of its alternatives.

The exemption from the state dredge and fill regulation adopted for certain limerock mining in 1984 was extended to October 1, 1997 for certain parcels of land. All total, thirty nine (39) sections of land were exempted (See Figure 2).

B. Description of the Lakebelt Committee's Action

In December of 1993, Allan Milledge, member of the SFWMD Governing Board and Chairperson of the Committee, sent a letter to Mr. Patrick Tobin, Acting Administrator of the EPA requesting this assistance in determining how to maintain the groundwater source classification for the Northwest Wellfield located in the Lakebelt study area. On March 2, 1994, Mr. Tobin responded to Mr. Milledge's letter by stating that the State of Florida had received the delegation in matters dealing with drinking water regulation and had the responsibility for making the determination on what actions would

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be required in the Lakebelt plan to protect the groundwater source classification of the Northwest Wellfield. Since then, the Division of Water Facilities of DEP was contacted and they agreed to work with the Committee in 1995 to evaluate the circumstances in detail and arrive at a determination.

At the request of Mr. Milledge, Rep. J. Alex Villalobos, District 112 and Mr. Anthony Clemente, Director of the WASD were invited to serve as ex-officio members of the Committee.

The Committee met five times during the calendar year 1994. Their first meeting was convened in July after the Legislature concluded its session. During these meetings the committee was provided with an update of the new legislative requirements and a briefing on the status of the Committee's ongoing environmental studies as well as the EPA water quality study. Copies of the Phase I EPA water quality study were distributed to the Committee and interested parties.

In order to obtain a better understanding for the diversity of opinions being represented by the individual members of the Committee and the ex-officio agency representatives, one of the meetings of the committee was devoted to exploring the expectations of its members. As a result of dealing with the stated expectations, the Committee agreed to invite representatives of the South Florida Limestone Mining Coalition (SFLMC) to individually present their company's plan to the Committee. Representatives from the SFLMC presented their plans during the September meeting of the Committee (a summary of their plans can be found in section II of this report.

One of the specific expectations and/or concerns raised was the lack of data on mercury levels for the study area. Subsequent to that meeting, staff from EPA agreed to test for mercury as part of their water quality study of the area.

The Committee ended the year by developing an action plan for the upcoming year.

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III. Rockmining Companies Plans for the Study Area.

Paul Larsen of Larsen and Associates representing the SFLMC utilized the information provided by the individual rock mining companies at the Committee meetings on September 12, 1994 and on October 28, 1994 to prepare a map showing possible mining assignments within the study area. The map presented as Figure 3 is provided as a suggestion by Mr. Larsen and is not a proposal by the mining industry.

In developing this map, Mr. Larsen considered available land ownership, as well as each mining company's existing quarry lakes, unmined quarry that have been permitted by the USACOE, mining reserves owned by each company in the study area, and lands not owned by mining companies. The land not owned could be mined by the specified rock mining companies because of their proximity to existing facilities such as cement mills, crushing plants and railroad access.

IV. Status of Lakebelt Studies

Originally, a series of studies were identified by the Committee as being necessary in order to properly assess the potential benefits and impacts which may result from implementation of a proposed plan. The recommended studies included: Water quality evaluation; hydrology; hydraulic and water storage evaluation; environmental studies; and a land use evaluation. These studies would be used by the USACOE in the development of an EIS for the proposed Lakebelt. Additionally, an evapotranspiration study was identified as needed to develop the computer model that will be used for hydrology, hydraulic and water storage calculations.

The USACOE will begin to develop a draft EIS in March of 1995 using the first year's data from the environmental studies. Data from the second year will be used to support the first year's data.

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A. Environmental Studies

The three components of the environmental studies are vegetation and soils, lake and littoral, and wildlife. The purpose of the environmental studies is to evaluate the existing function and quality of freshwater wetlands and existing littoral systems within the study. This data will be used to help determine the impacts and benefits of proposed plans and the wetland regulatory requirements for inclusion in the plan.

Work on the environmental studies began as scheduled on January 1, 1994 with an anticipated completion date of June 1996. At the time of the writing of this report, nine months of data collection has been submitted by the consultants. The fourth quarter data is expected to be submitted in January of 1995. Data generated by the studies will be forwarded to the USACOE and the SFWMD in February 1995.

An existing vegetation conditions map was completed during the first three quarters of this calendar year (see Figure 4.). Initial cover types classifications were modified by the environmental study review committee after the second month of data collection to better reflect the conditions of the study area. The soils map will be completed during the first quarter of 1995.

Quarterly reports and maps from these studies are available from the SFWMD and/or Dade County Department of Environmental Resources Management.

B. Water Quality Study

A substantial amount of progress has been made over the past year by the EPA toward the completion of the water quality section of the Lakebelt EIS. EPA has completed Phase I of the investigation which includes: a literature review of available water quality information pertaining to surface and groundwater in the Lakebelt area and south Florida; and an inventory of existing borrow pits in the Lakebelt, which contained specific information regarding pit age, area, depth, company, and mitigation. Over 50 articles, publications, and reports were obtained and reviewed and data on

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approximately 40 permitted borrow pits were identified and summarized. A summary document containing this information was completed for inclusion in the EIS.

EPA has also obtained and reviewed data on water quality monitoring conducted in the Lakebelt planning region by U.S. Geological Survey (USGS), DEP, SFWMD, Dade County Department of Environmental Resource Management (DERM), and Broward County Department of Natural Resource Protection (DNRP). Existing surface and groundwater stations were located on a base land use map, obtained from SFWMD, to determine the geographical coverage of sampling locations. Existing sampling programs were also reviewed to determine frequency and duration of sampling, as well as parameters analyzed to determine adequacy of water quality data for the proposed activity.

Based on the literature review and monitoring program evaluation, EPA is currently developing a surface water, groundwater, and sediment sampling program for the Lakebelt area which should be finalized by the end of the year. The sampling program will include an inventory of existing sediment and water quality in the Lakebelt area and will yield data regarding biogeochemical processes in borrow pits.

EPA is anticipating completion of Phase II work during 1995. Phase II work includes:

- Coordination of sampling programs with local agencies and mining companies
- Water quality inventory sampling at borrow pit, canals, and wells in the Lake Belt planning area
- Process sampling (sediment and water sampling at selected borrow pits)
- Laboratory analysis on collected water and sediment samples
- Evaluation of sediment and water quality laboratory results for completeness and adequacy
- Analysis of water and sediment historic data and data collected in the EPA's sampling program

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C. Economic Impact Study

The Department of Commerce has developed a draft outline for the development of the economic impact study (See Figure 5). At the October meeting, the Committee reviewed and accepted the outline for the study. The staff of the Department of Commerce will perform detailed economic analysis of the various alternatives developed by the Committee. Approximately 6 to 9 months will be required to complete the economic analysis of the alternatives selected and to prepare a draft report.

V. RELATED WATER RESOURCE STUDIES

The need to retain fresh water in the Everglades ecosystem and minimize discharges to the ocean was identified in the implementing documentation of the Central and Southern Florida Flood Control Project (C&SFFCP) over 45 years ago and is a central theme in the Central and Southern Florida Project Comprehensive Review Study. Both the 1993 SFWMD Lower East Coast Regional Water Supply Working Document and the East Coast Buffer Concept have identified the lakebelt area as having the potential to augment water storage by retaining additional fresh water in the system.

One of the key issues that will be answered by the SFWMD and USACOE is the impact of the Lakebelt plan on the regional water management system and wetlands in the Water Conservation Areas and Everglades National Park. To address this issue, both the South Florida Water Management Model and the Dade County MODFLOW model will be used to evaluate the potential water resource impacts. These models will also thoroughly evaluate the sources of water and required volumes needed for the lakebelt.

The USACOE will conduct the hydraulic and hydrologic evaluations of the proposed plan in conjunction with their comprehensive re-study of the Central and Southern Florida Flood Control Project.

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A. SFWMD Lower East Coast Water Supply Plan and East Coast Buffer Concept

In January, 1994 the National Audubon Society presented to the SFWMD Governing Board a concept called "Water Supply Preserves." This concept expanded upon an earlier proposal made by Governing Board member Allan Milledge and efforts already under consideration by District staff. The Audubon Society's concept called for an interconnected series of reservoirs and marshes dedicated to receiving excess stormwater presently discharged to tide. The many potential benefits from this project include reducing the seepage loss from the Everglades, enhancing wetland habitat, and increasing groundwater recharge.

During 1994, the District staff with the assistance of CH2M Hill analyzed the feasibility of the project. Currently referred to as the "East Coast Buffer", the project has been determined to be feasible and initial implementation activities have been authorized (See Figure 6). The project, including the year 2010 Lakebelt scenario is being incorporated as an alternative into the District's Lower East Coast Regional Water Supply Plan and into the Army Corps of Engineer's Restudy of the Central and Southern Florida Project. The District will continue to work with the Lakebelt Implementation Committee to implement the objectives of the East Coast Buffer within Northwest Dade County.

B. Central & Southern Florida Project Comprehensive Review Study

The Lakebelt Area is an integral part of the total Water Preserve Area or East Coast Buffer concept. The USACOE has included the Lakebelt Area in the Reconnaissance Report of the Comprehensive Review Study of the Central and Southern Florida Project. At the reconnaissance level, the USACOE has not made an independent study of the Lakebelt, but has only adopted plans and information developed by the SFWMD and others. The USACOE anticipates initiating a feasibility study in April or May of 1995 which will include the Lakebelt Area and other aspects of the East Coast Buffer concepts. The scope of this feasibility study will be negotiated during the very early part of 1995.

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VI OUTLOOK FOR THE COMING YEAR

In 1995, the Committee will have to coordinate the dissemination of the data and preliminary results from the commissioned studies to the local, regional, state, and federal agencies to insure that the analysis and interpretation of the data proceeds as scheduled. The Committee developed a schedule of activities for 1995 (See Figure 7).

In addition to their coordinating role, the committee will be taking a field trip to the study area to look at the different facilities owned by rock mining companies and the different wildlife sampling sites. One of the rock mining companies will be hosting the Committee to provide available conference space for members to meet on site and to facilitate the logistics of the days activities.

The Committee's most important task for the year will take place during the summer when they will come together to develop several alternative lake configurations designs for the study area. These alternative designs will then be forwarded to USACOE, DEP and SFWMD to be evaluated individually for their merits and how they interact with plans addressing the Everglades ecosystem restoration and regional water supply plans.

VII RECOMMENDATIONS

In reviewing the current land uses within the Lakebelt study area, the committee has recognized that certain existing land uses, such as prisons and power lines, must be taken into consideration when designing the plan for the Lakebelt area. These facilities may require design constraints that could reduce the options available for consideration by the committee, as well as reduce the benefits of any proposed plan. Until a plan is developed, the approval and construction of additional facilities in the study area which could conflict with the goals of the Lakebelt plan should be avoided where possible.

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APPENDIX OF FIGURES

Figure 1
 Extended Lakebelt Study Area

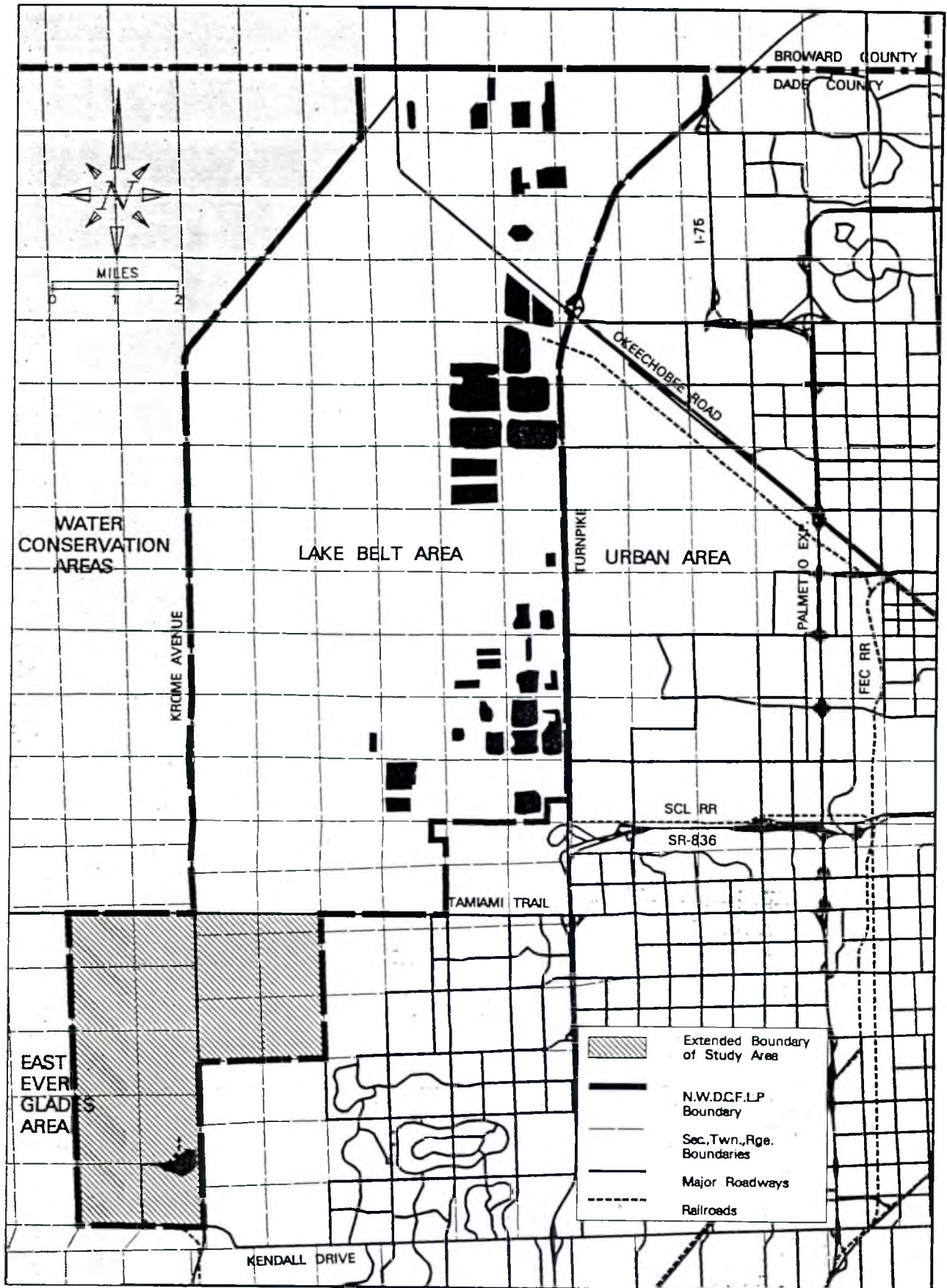


Figure 2

State Of Florida Dredge and Fill Exemptions

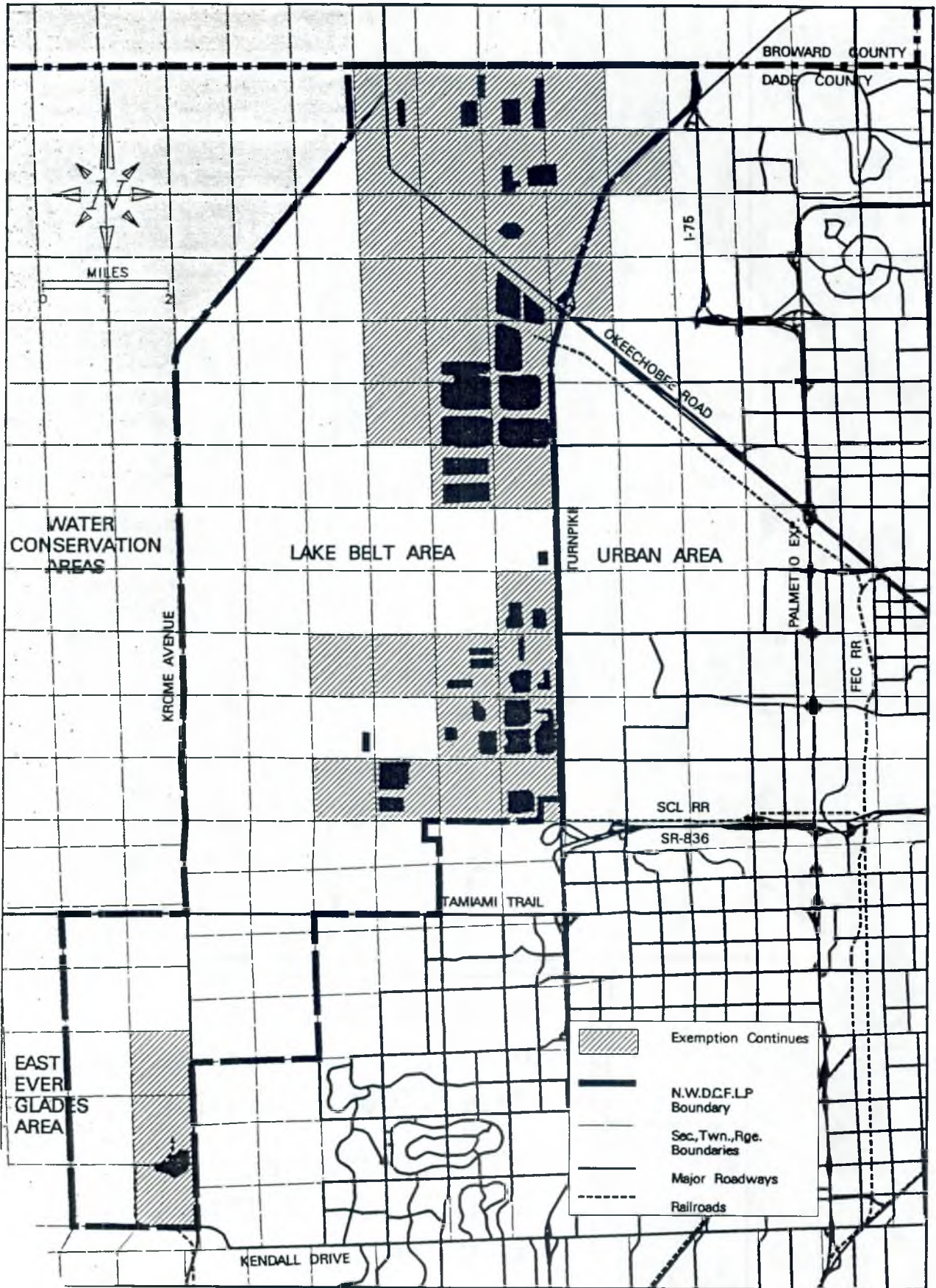


Figure 3

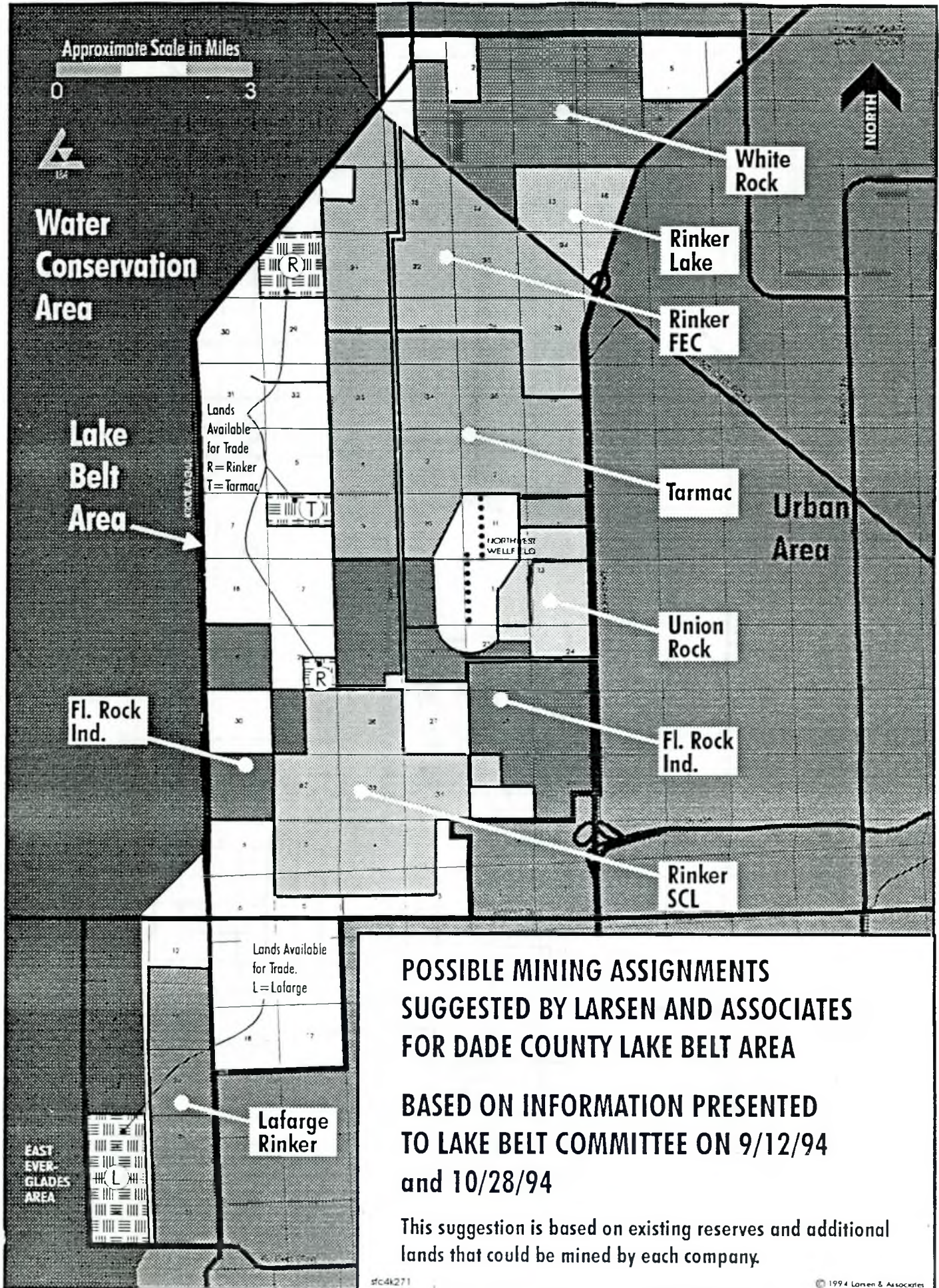
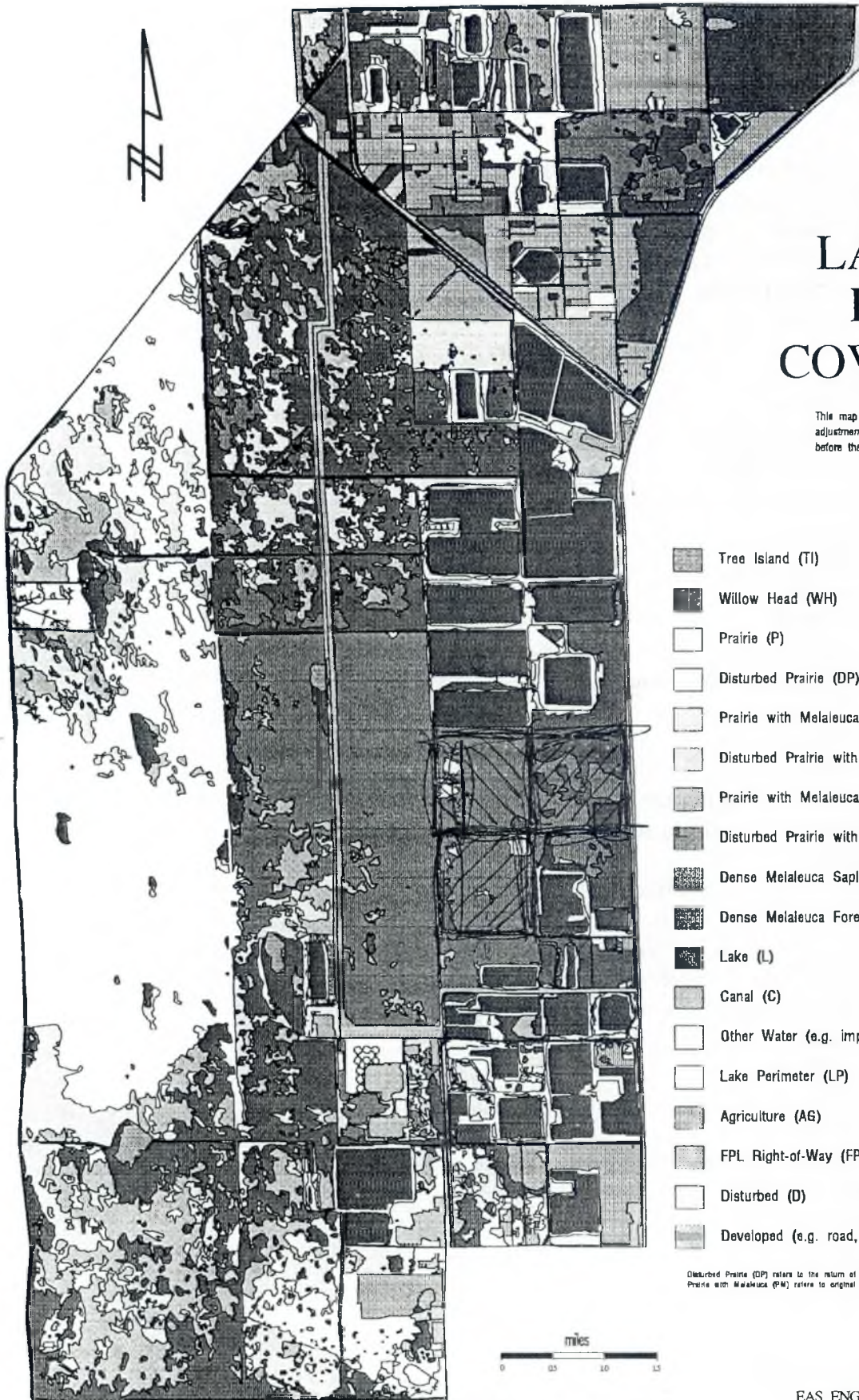


Figure 4

LAKEBELT REGION COVER TYPES

This map should not be construed as final; locational adjustments and/or cover type modifications may occur before the Lakebelt project is completed.



- Tree Island (TI)
- Willow Head (WH)
- Prairie (P)
- Disturbed Prairie (DP)
- Prairie with Melaleuca, 10%-50% aerial cover (P50)
- Disturbed Prairie with Melaleuca, 10%-50% aerial cover (DP50)
- Prairie with Melaleuca, 50%-75% aerial cover (P75)
- Disturbed Prairie with Melaleuca, 50%-75% aerial cover (DP75)
- Dense Melaleuca Saplings, 75%-100% aerial cover (DMS)
- Dense Melaleuca Forest, 75%-100% aerial cover (DM)
- Lake (L)
- Canal (C)
- Other Water (e.g. impoundment) (W)
- Lake Perimeter (LP)
- Agriculture (AG)
- FPL Right-of-Way (FPL)
- Disturbed (D)
- Developed (e.g. road, industry) (DV)

Disturbed Prairie (DP) refers to the return of Prairie under disturbed soil conditions.
Prairie with Melaleuca (PM) refers to original Prairie that has been invaded by Melaleuca.



Source: Dade County 1:300 aerial photographs, 1992. Sections 23-52-39, 26-53-39, and 33-53-39 have been updated with 1994 aerials due to significant land cover changes.

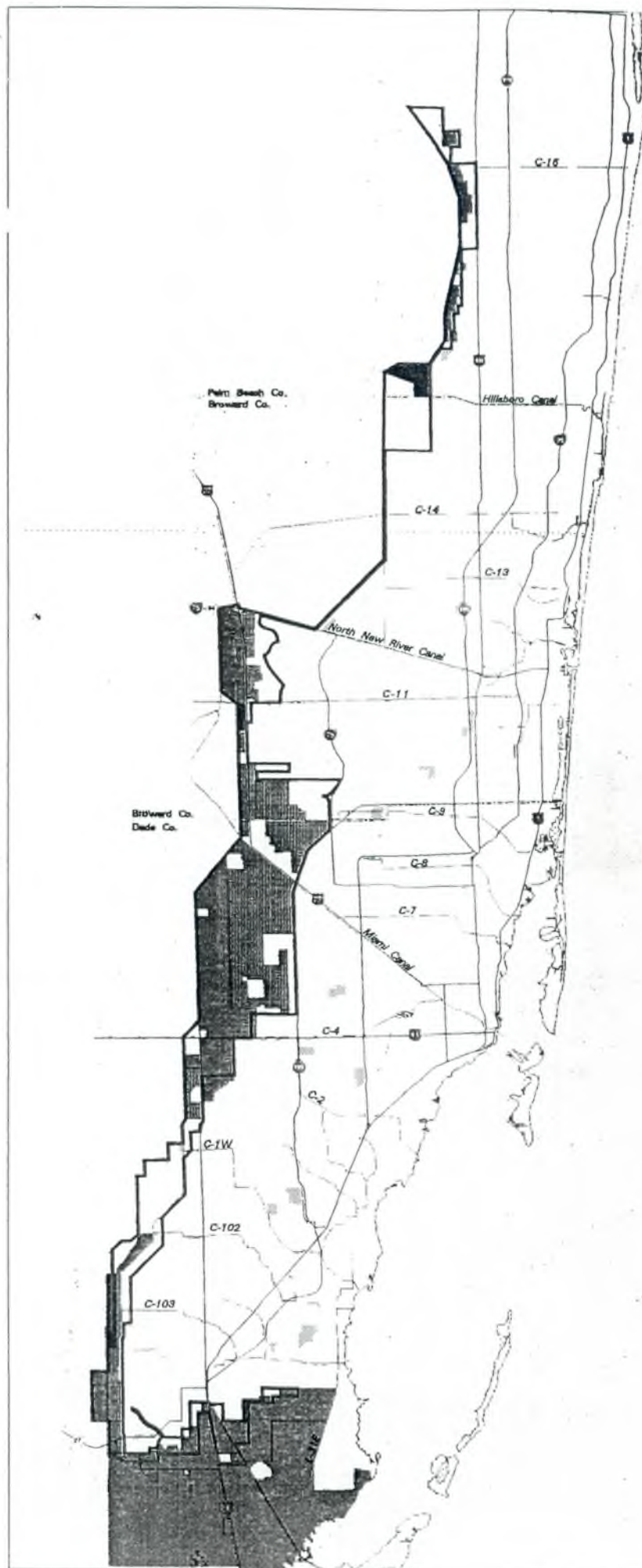
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Figure 5.
Florida Department of Commerce
Lakebelt Plan Economic Impact Study Draft Outline

1. **Executive Summary**
 2. **Introduction**
 3. **Background**
 - a. Overview of the limestone mining industry in South Florida
 - b. Key features of the Lake Belt Plan
 4. **Identification of main issues**
 - a. Geographic areas affected
 - (1) South Florida
 - (2) Everglades
 - (3) State of Florida
 - b. Resources affected
 - (1) Limestone
 - (2) Ground Water
 - (3) Surface Water
 - (4) Plants and Animals
 - (5) Historic
 - (6) Recreational
 - c. Industries affected
 - (1) Mining
 - (2) Agriculture
 - (3) Sports and Recreation
 - (4) Construction
 - (5) Government
 - (6) Other
 - d. Alternate uses of resources
 - e. Identification of possible scenarios
 5. **Economic Impact**
 - a. Number of businesses affected
 - b. Changes in number of visitors/customers
 - c. Changes in local tax revenues
 - d. Changes in state tax revenues
 - e. Changes in infrastructure and demand for public services
 - (1) roads
 - (2) utilities
 - (3) safety
 - (4) health
 - (5) government administration
 - f. Changes in output
 - g. Changes in earnings
 - h. Changes in employment
 - i. Seasonal variations
 - j. Business cycle
- Appendix**
- a. List of references
 - b. Discussion of Regional Input-Output Modeling System (RIMS)
 - c. Assumptions

Figure 6
East Coast Buffer



Legend

-  Reservoir Areas
-  Marsh Areas
-  Ground Water Recharge Areas
-  Audubon Boundary

