



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

MEMORANDUM

DATE: FEB 9 1988

SUBJECT: Recommended 404(c) Determinations for Three East Everglades Properties Owned by Henry Rem Estate, Senior Corporation and Marion Becker, et al.

FROM: Lee A. DeHihns, III *Lee A. DeHihns III*
Acting Regional Administrator, Region IV

TO: Lawrence J. Jensen
Assistant Administrator for Water

Attached are this Region's Recommended Determinations under Section 404(c) of the Clean Water Act with respect to three East Everglades wetland properties, in Dade County, Florida, where rockplowing activities to convert wetlands to agricultural fields have been proposed or are anticipated. These Recommended Determinations were prepared by my designee, Al Smith, Deputy Director, Water Management Division, who served as Hearing Officer for this administrative action.

I concur with these Recommended Determinations and findings. I am therefore forwarding them to you for the making of Final Determinations on these cases pursuant to 40 CFR 231.6. The Administrative Record for these Determinations is being forwarded to you under separate cover.

Attachments

EAST EVERGLADES 404(c) ACTIONS
OUTLINE FOR RECOMMENDED DETERMINATIONS

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- IV. Adverse Impacts of Rockplowing the Sites Under Consideration
- V. Public Hearing
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- VII. Unacceptable Adverse Impacts
- VIII. Prohibition of the Use of the Henry Kent Estate, Senior Corporation, and Becker Sites for Rockplowing.

RECOMMENDED DETERMINATIONS CONCERNING THE
HENRY REM ESTATE, SENIOR CORPORATION, AND MARION BECKER, ET AL. SITES
PURSUANT TO SECTION 404(c) OF THE CLEAN WATER ACT

I. Summary of Recommendations

On October 16, 1987, EPA Region IV announced in the Federal Register (52 Fed. Reg. 38519) "Proposed 404(c) Determinations to Prohibit, Deny, or Restrict the Specification of Use of Three East Everglades Areas as Disposal Sites." This announcement also provided notice of a public hearing on the Proposed Determinations which was set for November 18, 1987, in Homestead, Dade County, Florida. EPA Region IV Acting Regional Administrator, Lee A. DeHihns, III, designated the undersigned as hearing officer for the proposed 404(c) determinations.

I have considered the administrative record in these cases, including comments from federal, state and county environmental review agencies, the public and affected property owners. Following my review, I have determined that discharge of fill material, as a result of rockplowing the Henry Rem Estate, Senior Corporation, and Marion Becker, et al. sites would have unacceptable adverse effects on fishery (including spawning and breeding areas for forage fish), wildlife and recreational areas, as more fully set forth below.

Pursuant to 40 CFR Part 231.5, I therefore recommend that EPA take final action pursuant to Section 404(c) of the Clean Water Act (CWA) to prohibit the specification or use as disposal sites for rockplowing of the 60-acre Henry Rem Estate site, the 312-acre Senior Corporation site, and the 60-acre Marion Becker, et al. site, as these areas are hereafter described. My findings and reasons for these recommendations are set forth below.

II. Background and History

A. Nature of Proposed Discharge

"Rockplowing" is a process frequently used in the East Everglades to convert wetlands into fields suitable for agriculture. In this process, a bulldozer is used to drag a plow-like implement over the pinnacle rock surface of these wetlands, breaking up that surface. The crushed rock and other materials are used to fill the wetlands' characteristic solution holes so that the area is made sufficiently smooth and level to allow farming. EPA is particularly concerned about the continuation of rockplowing in the East Everglades area because this activity, by its nature, completely destroys the irregular surface characteristics which allow these wetlands to perform their most valuable ecological functions.

E. Description of Defined Areas

The Recommended Determinations contained herein involve three separately-owned wetland properties in the East Everglades of southern Florida. These three properties are located in the Taylor Slough drainage area west of Miami, in Dade County, Florida (Figures 1-7). All three properties are wetland areas with similar ecological values, each part of the East Everglades wetlands complex. Taylor Slough is the major drainage way for waters entering the eastern portion of Everglades National Park (ENP). Proposals to "rockplow" these wetland areas to convert them for agricultural use have been made or can reasonably be expected in the near future. Such rockplowing activities would destroy the wetland ecological values which these tracts possess and, if permitted, would encourage future rockplowing of other nearby wetland areas in the East Everglades.

The first of the three properties for which a 404(c) determination is being recommended is a 60-acre tract owned by the Henry Rem Estate (the "Rem site"). The Rem site consists of the southern 60 acres of a 160-acre tract owned by the Henry Rem Estate which is located (Figures 4 and 7) in the western quarter of Section 5, Township 56 South, Range 38 East, about 1 mile south of SW 168th St. (Richmond Drive) and about 1.8 miles west of Levee L-311. On December 22, 1986, the Corps of Engineers, Jacksonville District, notified EPA Region IV of its intention to issue a Section 404 permit to Henry Rem Estate for rockplowing of the 60-acre Rem site.

The second of the three wetland areas is another 60-acre tract located adjacent to and east of the Rem site (Figures 4 and 7), and jointly owned by Mrs. Marion Marion Becker, Mrs. Bilba Burk, Mr. Irving Sonnenschein, Mr. Euval Barrekette and Mr. Paul Yanowitz (the "Becker site"). In its permit documentation covering the Rem site, the Corps of Engineers indicated anticipation of a future application for a permit to rockplow the 60-acre Becker site. The Corps indicated that it viewed the Becker site as substantially similar to the Rem site for permitting purposes.

The third property totals approximately 312 acres and is owned by Senior Corporation (the "Senior Corp. site"). This site is contained within a larger piece of Senior Corp. property which lies about 2.5 miles south of the Rem and Becker sites and extends along SW 232nd Avenue and south to SW 304th Street in Dade County. The 312-acre Senior Corp. site on which this 404(c) action is being recommended (Figures 4 and 7) consists of three separate parcels of wetlands: one of approximately 132 acres within Section 7, Township 57 South, Range 38 East (Figure 8); another of approximately 150 acres within Section 30, Township 56 South, Range 38 East (Figure 9); and the third of approximately 30 acres within Section 6, Township 57 South, Range 38 East (Figure 10). A Senior Corp. application to the Corps for a permit to rockplow these three wetland parcels remains pending at this time.

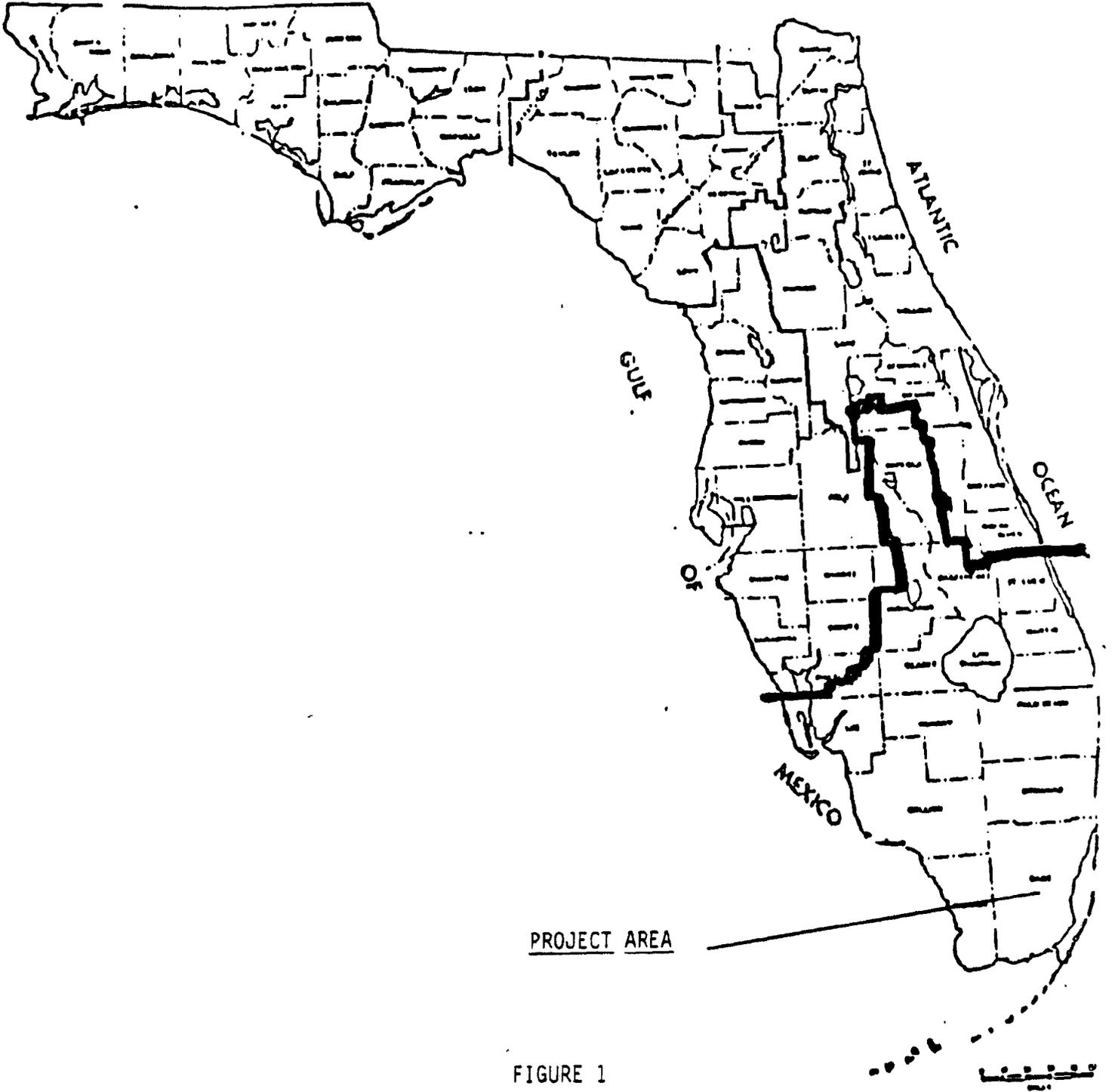
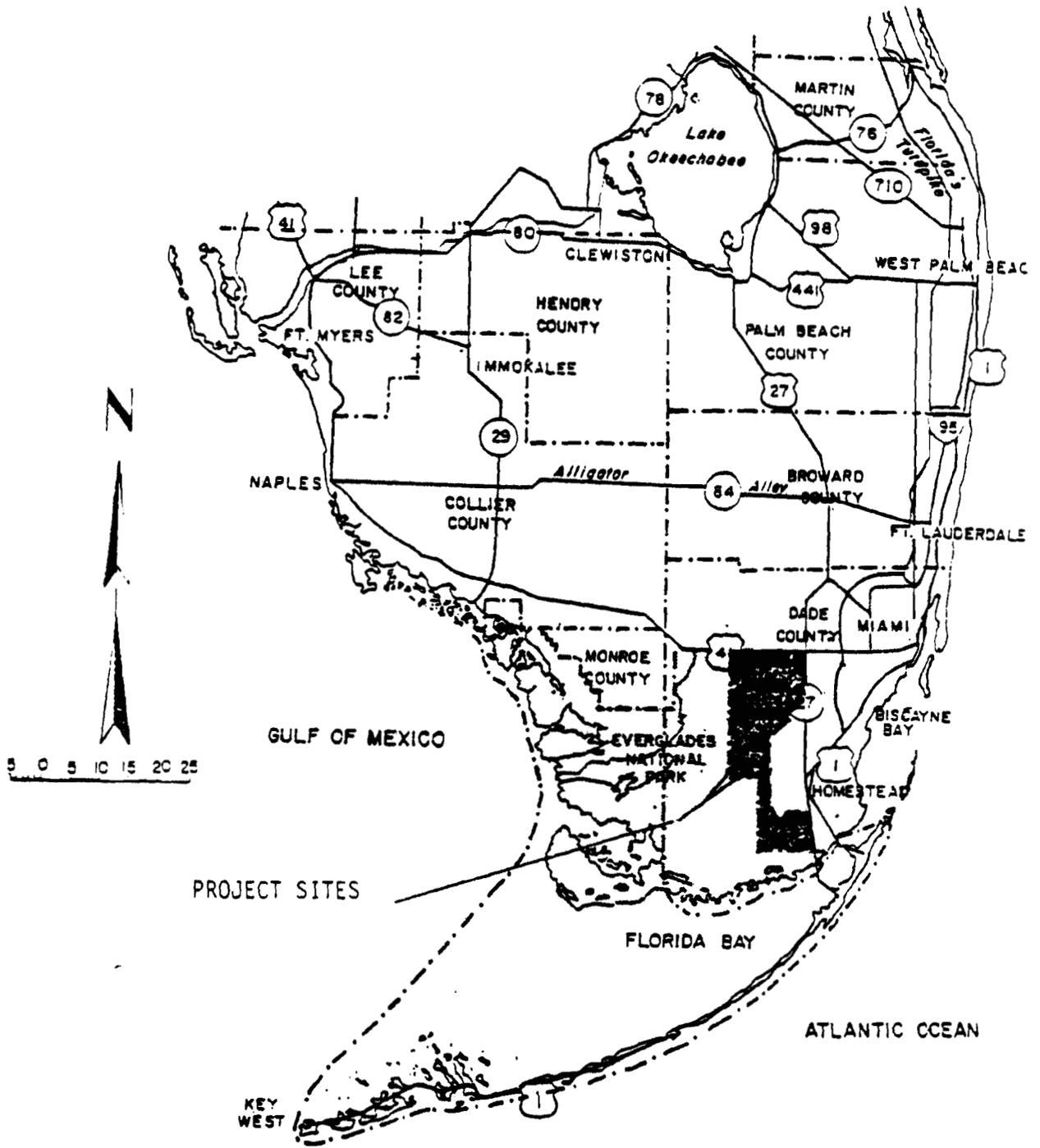


FIGURE 1



REGIONAL CONTEXT

FIGURE 2

REM AND BECKER
SITES

SENIOR CORP.
SITE

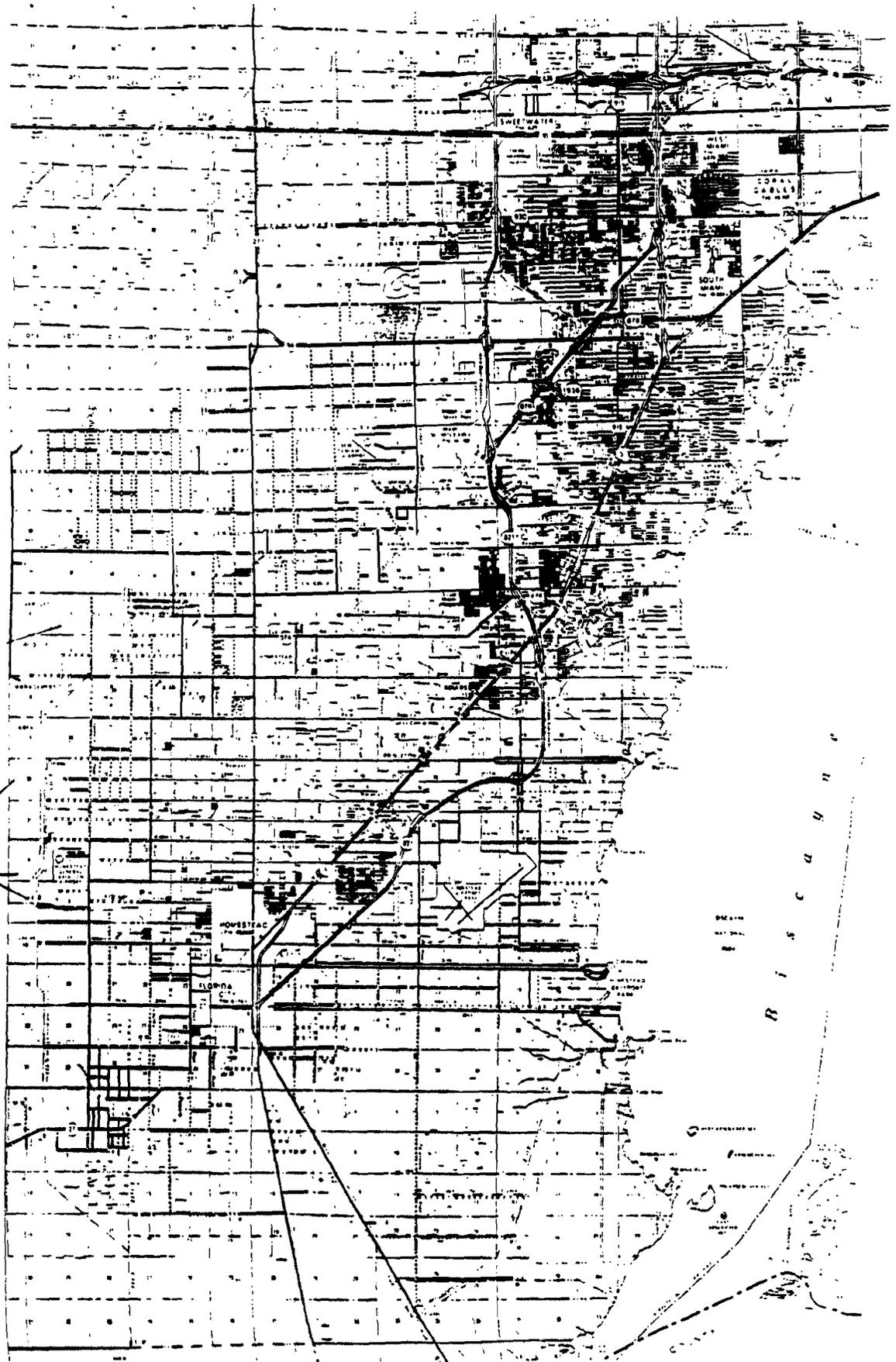


FIGURE 3

REM SITE
BECKER SITE

SENIOR CORP.
SITE

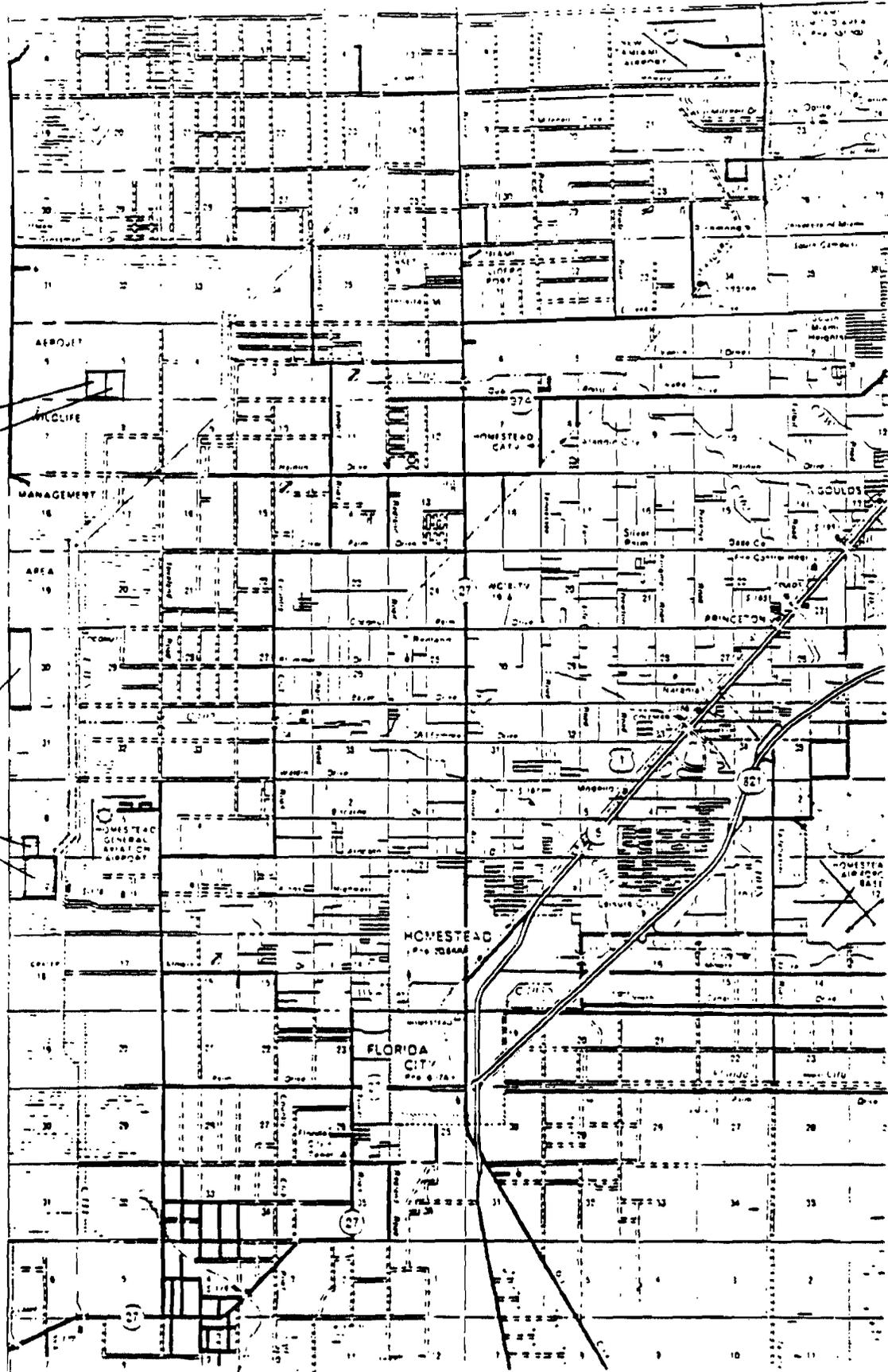


FIGURE 4

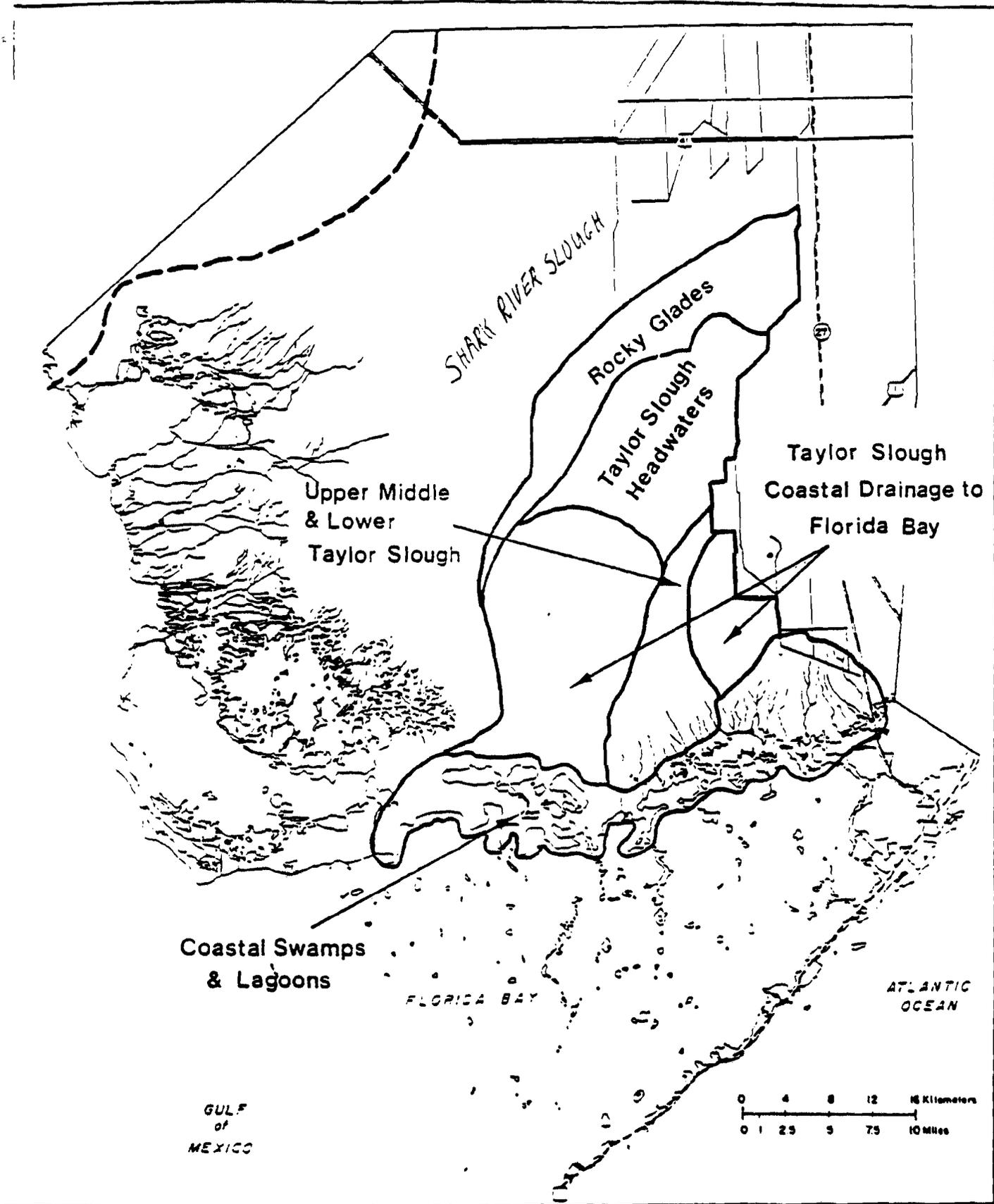
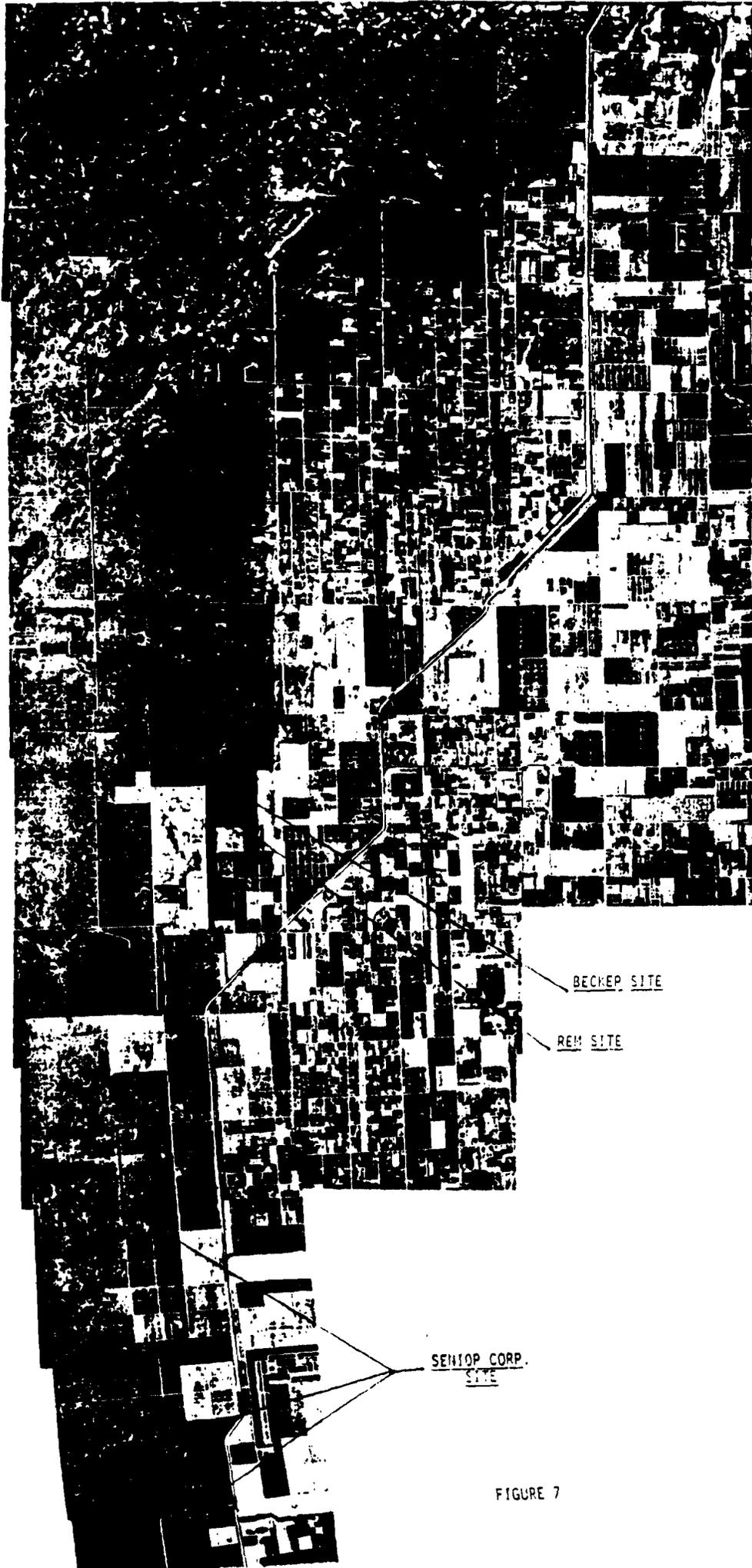


FIGURE 6

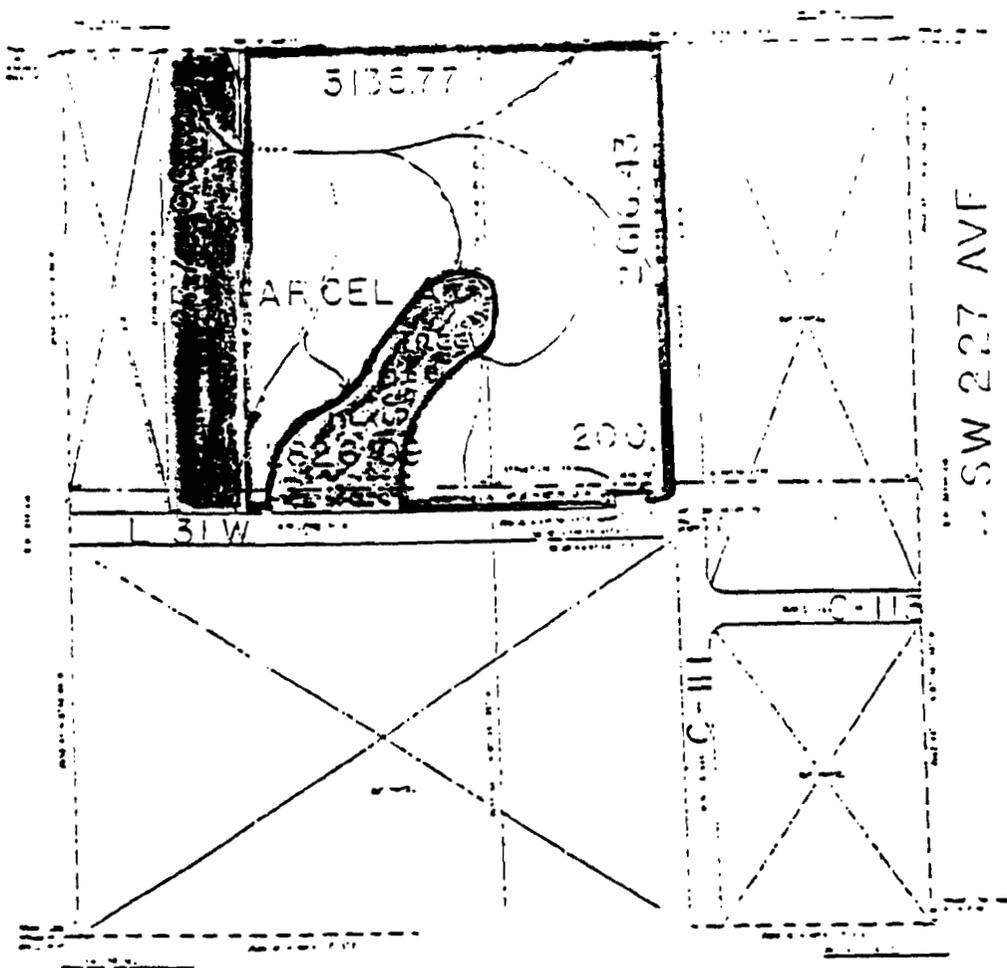


BECKER SITE

REM SITE

SENIOP CORP.
SITE

FIGURE 7



PLAN
SCALE 1" = 100'

LEGEND

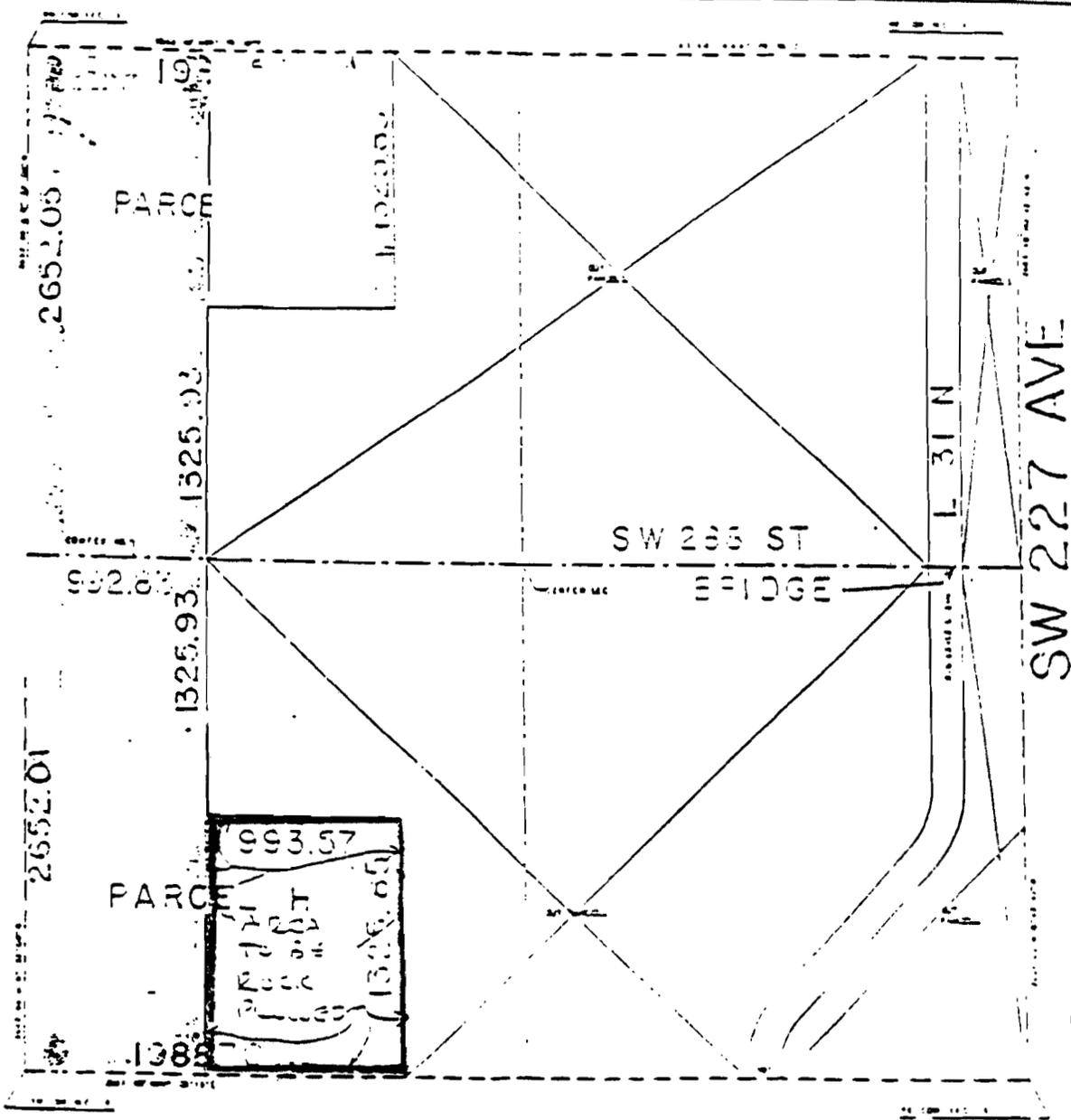
- PROPERTY LINE
- RIGHT OF WAY LINE
- SECTION 5 LINE
- SECTION LINE

PURPOSE: Rock Blowing
 BY: NOAA (USC & GS)
 ADJACENT PROPERTY OWNERS:
 ① SEE ATTACHMENT

SITE 1
 S 7, T 57 S, R 36 E

13
 AT Rev 4/3/87
 COUNTY OF DADE STATE FLA.
 APPLICATION BY HAROLD COBB
 SHEET 2 OF 6 DATE 2/4/86

FIGURE 8



PLAN

LEGEND

- | | | | |
|-----------|-------------------|-----------|----------------|
| ————— | PROPERTY LINE | ————— | SECTION & LINE |
| - - - - - | RIGHT OF WAY LINE | - - - - - | SECTION LINE |

PURPOSE: Rock Plowing
 DATUM: NOAA (USC & GS)
 ADJACENT PROPERTY OWNERS:

① SEE ATTACHMENT

SITE 3
 S 6, T 57 S, R 38 E

IN
 AT Rev 4/7/87
 COUNTY OF DADE STATE FLA.
 APPLICATION BY HAROLD COBS
 SHEET 4 OF 6 DATE 2/4/86

FIGURE 9

EPA Region IV concluded, because the Rem, Becker and Senior Corp. tracts are essentially similar pieces of the East Everglades wetlands complex with similar ecological values, that the initiation of one 404(c) action embracing all three tracts would be an efficient and appropriate way for the Federal government to address the serious environmental concerns arising from potential rockplowing in these wetland areas. Individual consideration, however, has been given to each of the three properties.

C. Legal Authority

Under Section 404 of the CWA (33 U.S.C. 1251 et seq), any person who proposes to discharge dredged or fill material into the waters, including wetlands, of the United States must first obtain a permit from the Secretary of the Army, acting through the Chief of Engineers. However, Section 404(c) of the CWA authorizes the EPA Administrator to prohibit or restrict such permitting within any area defined by him if he determines that discharges of dredged or fill material in such wetland areas would have an unacceptable adverse effect on municipal water supplies, shellfish beds and/or fishery areas (including spawning and breeding areas), wildlife, or recreational areas.

EPA's regulations define "unacceptable adverse effect" in 40 CFR 231.2(e) as: Impact on an aquatic or wetland ecosystem which is likely to result in significant degradation of municipal water supplies or significant loss of or damage to fisheries, shellfishing, or wildlife habitat or recreation areas. In evaluating the unacceptability of such impacts, consideration should be given to the relevant portions of the Section 404(b)(1) Guidelines (40 CFR Part 230).

The preamble to 40 CFR Part 231 explains that one of the basic functions of Section 404(c) is to police the application of the Section 404(b)(1) Guidelines. Those portions of the Guidelines relating to significant degradation of waters of the United States (40 CFR 230.10(c)), as well as consideration of cumulative impacts (40 CFR 230.11(g)), are of particular importance in the evaluation of the unacceptability of environmental impacts in this case. Section 230.10(c) of the Guidelines requires that no discharge of dredged or fill material shall be permitted that contributes to significant degradation of waters of the United States. Section 230.11(g) requires that the permitting authority collect, analyze, consider and document information relevant to cumulative impacts within the decision-making process. Thus, it is appropriate under Section 404(c) to take into account whether significant degradation of waters of the United States will occur as a result of individual and/or cumulative rockplowing activities.

The Administrator's Section 404(c) authority may be used either to "veto" a permit which the Corps has determined it would issue (as in the case of the Rem

site) or to preclude permitting either before the Corps has made its decision (as in the case of the Senior Corp. site), or in the absence of an application (as in the case of the Becker site). Under his Section 404(c) authority, the Administrator may totally prohibit all discharges of dredged or fill material to a defined area or he may impose some partial prohibition, such as a restriction from a particular type of activity. This recommended Section 404(c) determination is limited to a prohibition of discharges resulting from rockplowing on the three East Everglades sites under consideration.

D. Procedural Background

(1) The Rem Site

On April 11, 1985, the Corps of Engineers, Jacksonville District, gave public notice that Henry Rem Estate had applied for a Section 404 permit to rockplow 160 acres of East Everglades wetlands including the 60-acre Rem site. EPA and U.S. Fish and Wildlife Service (FWS), in letters dated May 6 and 7, 1985, each objected to permit issuance citing the potential adverse environmental impacts of project construction.

The South Florida Regional Planning Council, in a letter dated May 7, 1985, indicated that the activity was inconsistent with local land planning. The Dade County Department of Environmental Resources Management (DERM), in a letter dated June 28, 1985, recommended denial of the project based upon its inconsistency with local zoning and the implementation plan of the EEP-East Everglades Resource Planning and Management Committee.

After negotiations with the applicant, the Corps wrote to EPA on April 14, 1986, and requested EPA's official comment on the applicant's revised proposal to rockplow the southern 60 acres of wetlands at the site. On June 12 and July 2, 1986, respectively, FWS and EPA expressed continued opposition to permitting the southern 60 acres of wetlands of the Rem tract based on the project's environmental impacts and inconsistency with the Section 404(b)(1) Guidelines. EPA stated that the decision to segment the project into a 60-acre southern portion lacked any biological basis because the 160-acre wetland tract owned by the Henry Rem Estate was essentially homogeneous in nature from north to south.

On October 27, 1986, the Jacksonville Corps District Engineer (DE) wrote to EPA Region IV Regional Administrator (RA), Jack E. Ravan, indicating that the Corps intended to issue a permit to Henry Rem Estate to rockplow 60 acres of East Everglades wetlands. The DE indicated that the cumulative impacts of this permit decision could be limited to the 60-acre wetland property (Becker site) immediately to the east of the Rem property. The DE indicated that the applicant, Rem, had offered to preserve the northern 100 acres of the 160-acre wetland tract. The Corps notification was pursuant to paragraph 6(c) of the 404(q) Memorandum of Agreement (MOA) between EPA and the Corps.

On November 13, 1986, RA Jack E. Ravan wrote to the Corps indicating that EPA remained opposed to issuance of the 60-acre Rem rockplowing permit. On November 19, 1986, the Jacksonville Corps DE notified EPA Region IV of the Corps intent to issue the 60-acre Rem permit in accordance with paragraph 6(c) of the EPA-Corps 404(q) MOA. The DE indicated that in his opinion cumulative impacts resulting from issuance of the 60-acre Rem rockplowing permit could be contained to only the 60-acre wetland tract to the east of the Rem site (Becker property). The DE concluded that issuance of the Rem permit would be in compliance with the Section 404(b)(1) Guidelines.

On December 15, 1986, RA Jack E. Ravan met with Colonel Harris, Deputy Corps South Atlantic Division (SAD) Engineer, to discuss the Rem permit matter. At the meeting Colonel Harris indicated that the Corps did not intend to change the DE's position on issuance of the Rem permit.

On December 22, 1986, the Jacksonville Corps DE, forwarded to EPA Region IV its formal notice of intent to issue the 60-acre Rem permit.

On January 22, 1987, Lawrence Jensen, EPA Assistant Administrator for Water, wrote to Robert Dawson, then Assistant Secretary of the Army for Civil Works (ASACW), requesting his review of the Henry Rem Estate permit matter under the provisions of the EPA-Corps MOA pursuant to Section 404(q) of the CWA. EPA restated its environmental concerns and indicated that review of the Rem permit decision was justified due to the failure of the Corps to resolve EPA concerns regarding compliance with Section 404(b)(1) Guidelines. EPA expressed specific concerns relative to the inadequacy of the Corps' cumulative impacts assessment. EPA further disagreed with the Corps' conclusions that impacts associated with rockplowing 60 acres of wetlands at the Rem site would not be significant. EPA concluded that significant degradation of the waters of the U.S. would result if the site was rockplowed. EPA also pointed out that the Henry Rem Estate had not offered to preserve the 100 acres of wetlands on the northern portion of the tract, but had merely withdrawn that area from the permit application.

On January 23, 1987, William Horne, Assistant Secretary for U.S. Fish and Wildlife and Parks, Department of Interior (DOI), also requested that Mr. Robert Dawson, ASACW, review the Henry Rem Estate permit decision.

On February 12, 1987, Mr. Dawson determined that the issues that EPA discussed in its January 22, 1987, referral request letter should be addressed by the Jacksonville Corps DE, but declined elevation to higher bureaucratic levels prior to final permit action. In Mr. Dawson's letter to Mr. Horne (DOI), he restated the determination that he made in his letter to EPA.

(2) The Becker Site

In the Corps documentation supporting its formal notice of intent to issue the Rem site permit, the Corps indicated that it anticipated that a rockplowing

application would be forthcoming for the adjacent 60 acres of wetlands to the east of the Rem property, owned by Mrs. Marion Becker et al. The Corps further indicated that it viewed the 60-acre Becker site as being substantially similar to the Rem site for permitting purposes. In fact, the Corps predicted that the rockplowing of the Becker site would be one of the impacts of permitting the Rem site. Therefore, EPA Region IV believes that inclusion of the Becker site in this 404(c) action is appropriate, even though no application for rockplowing this site has yet been made.

(3) The Senior Corporation Site

On May 14, 1986, the Corps gave public notice of a Section 404 permit application consolidating four rockplowing proposals by Senior Corporation. These applications had been advertised separately by the Corps during 1982 and 1983 into one application proposing 1,028 acres of rockplowing of East Everglades prairie wetlands. The earlier Senior Corporation rockplowing proposals in 1982 and 1983 had not been processed to completion by the Jacksonville District.

On June 13, 1986, EPA RA Jack E. Ravan, recommended that the Corps deny approximately 716 acres of the 1,028 acre Senior Corp. proposal, based on environmental concerns essentially similar to those expressed in EPA's comments to the Rem project. On June 13, 1986, the FWS wrote to the Corps, also recommending denial of 716 acres of the Senior Corp. proposal based on adverse impacts to fish and wildlife habitat.

On April 7, 1987, Senior Corp. provided the Corps with project modifications, substantially reducing the area it proposed to rockplow, thereby, reducing wetland impacts at the project site. Corps staff indicated that Senior Corp. project modifications eliminated rockplowing in critical habitat for the federally endangered Cape Sable Sparrow. However, the new proposal still contained plans for rockplowing activities on approximately 312 acres of wetlands which EPA and FWS had previously recommended permit denial.

(4) Region IV's Initiation of Proposed 404(c) Determination

On April 22, 1987, EPA Region IV initiated the proposed 404(c) determination by notifying the Jacksonville Corps DE, the Corps SAD Engineer and the Rem and Becker site owners. On the same day EPA Region IV also notified Senior Corp. of its intention to initiate a 404(c) action on the approximate 720 acres of wetlands for which this Agency had earlier recommended permit denial. Based on Senior Corp.'s April 7, 1987, permit modification which deleted plans to rockplow approximately 400 acres of the 720-acre wetland area which EPA had objected to rockplowing activities, this 404(c) action addresses only the remaining approximate 312 acres of rockplowing still pending before the Corps of Engineers. On August 3, 1987, the Jacksonville Corps issued a permit to Senior Corp. authorizing 307 acres of rockplowing in wetland areas which were

not opposed for rockplowing by EPA and FWS and which are not subject to the current 404(c) action.

On May 5, 1987, Attorney Anthony J. O'Donnell, Jr. representing Senior Corp. wrote to EPA Region IV, responding to the Region's April 22, 1987, notification of initiation of the proposed 404(c) determination for the 312-acre Senior Corp. site. Mr. O'Donnell cited Senior Corp.'s April 7, 1987, permit modification to the Corps of Engineers whereby approximately 426 acres of proposed wetland rockplowing associated with the original 1,030-acre permit application (86IPG-20151) had been deleted from the Section 404 permit application. Mr. O'Donnell stated that deletion of the 426 acres of proposed rockplowing was to ensure that no unacceptable adverse effects would occur from rockplowing the balance of the Senior Corp. property. Mr. O'Donnell indicated that deletion of the 426 acres of rockplowing by Senior Corp. resulted in removal of any proposed rockplowing from critical habitat for the federally endangered Cape Sable Sparrow as well as providing a buffer area between the publicly-owned wetlands to the west and wetland areas for which Senior Corp. was continuing to apply for a rockplowing permit (approximately 585 acres as of May 5, 1987). As Senior Corp.'s attorney, Mr. O'Donnell indicated that the remaining 585 acres of wetlands (for which Senior Corp. continued to apply for a rockplowing permit) were, in the company's opinion, stressed wetlands to the extent that on-site wetland functions were minimal, and therefore, EPA Region IV should be satisfied that no unacceptable adverse effect would result from rockplowing these wetlands.

On May 21, 1987, RA Jack E. Ravan responded to Mr. O'Donnell's May 5, 1987, letter. EPA Region IV indicated that it was aware of Senior Corp.'s April 7, 1987, permit modification prior to taking action to initiate the proposed 404(c) determination on April 22, 1987. The RA indicated that the revised Senior Corp. permit application continued to request rockplowing authorization for approximately 312 acres of functional wetlands which EPA had objected to rockplowing activities in the Region's comment letters to the Jacksonville District Corps office.

On June 5, 1987, the Jacksonville Corps DE transmitted to Region IV a Supplemental Memorandum for the Record (MFR) to the Corps Henry Rem Estate Environmental Assessment (EA) and Statement of Findings (SOF), which was provided to EPA by the Corps on December 22, 1986. As directed by ASACW Robert Dawson in Mr. Dawson's February 12, 1987, response letter to the EPA-Headquarters 404(c) letter requesting additional review of the Rem permit issue, the DE's Supplemental MFR more fully documented the cumulative impacts review that was considered in the Rem permit decision. The DE stated that he continued to believe that issuance of the 60-acre Henry Rem Estate permit was not contrary to the overall public interest. The DE also indicated that he had received Region IV's April 22, 1987, letter notifying the Corps of the Region's initiation of the Proposed 404(c) Determination, and the DE indicated that he would not take any action on the Rem application until after EPA had completed its 404(c) determination.

On June 8, 1987, Attorney Neal R. Toback, representing Marion Becker, owner of 50% of the Becker site, wrote EPA Region IV acknowledging receipt of the Region's April 22, 1987, notification of the proposed 404(c) determination. In that letter and in a subsequent correspondence dated June 17, 1987, Mr. Toback suggested that since the Becker property had been purchased in 1966 by his clients, and those clients had been paying taxes and mortgage payments on the property diligently since 1966, that the federal government should purchase the property if it intends to constrain certain land uses (rockplowing) at the site. In his June 17, 1987, letter to EPA Region IV, Mr. Toback stated that in his opinion, the EPA 404(c) action would constitute a "taking" without "just compensation" by the government.

On July 30, 1987, EPA Region IV responded to Mr. Toback's letters and indicated that EPA's responsibilities under the CWA to restore and maintain the chemical, physical and biological integrity of the nation's waters did not give the Agency authority to purchase jurisdictional waters of the U.S. (wetlands) in place of administering the CWA regulatory programs. Region IV also stated that it did not accept Mr. Toback's contention that the initiation of the proposed 404(c) determination compelled the government to purchase the Becker site. EPA Region IV pointed out in its letter that prohibition of rockplowing at the Becker wetland property did not preclude all use of the property.

On June 15, 1987, Attorney Marwin S. Cassel, representing individuals who collectively own the other 50% of the Becker site wrote EPA Region IV acknowledging receipt of the Region's notification letters to the Becker site property owners of initiation of the proposed 404(c) determination. Mr. Cassel questioned the relationship between "rockplowing" of the Becker site and EPA Region IV's proposed determinations to prohibit or restrict the use of this property for specification as a "disposal site."

In a July 30, 1977, response to Mr. Cassel, the Region clarified the relationship between rockplowing and regulation of rockplowing as a "discharge of fill material" under Section 404 of the CWA.

On October 1, 1987, Mr. Tom Reider, agent for the Henry Rem Estate, confirmed in phone conversations with EPA Region IV staff that he was the authorized agent for the Rem property. Mr. Reider acknowledged receiving the Region's April 22, 1987, letter initiating the 404(c) action but no comments from the Henry Rem Estate were submitted. Following a review of responses received, the Regional Administrator was not persuaded that there would be no unacceptable adverse effects from proposed or anticipated rockplowing at the three sites subject to the proposed 404(c) determination.

On October 16, 1987, EPA Region IV published in the Federal Register (52 Fed. Reg. 38519) a "Proposed 404(c) Determination to Prohibit, Deny, or Restrict the

Specification of Use of Three East Everglades Areas as Disposal Sites and Announcement of a Public Hearing to be held in Homestead, Dade County, Florida, on November 18, 1987."

On October 15, 1987, Region IV provided copies of its proposed 404(c) determination and public hearing announcement to the Jacksonville Corps District and SAD Engineers as well as the affected property owners as required in 40 CFR Part 231.3(d)(2) and (3). Copies of the proposed determination and public hearing announcement were delivered by certified mail to representatives of the Henry Rem Estate property, the Marion Decker, et al. property and representatives of Senior Corp., and all of the affected parties acknowledged receipt of the proposed 404(c) determination/public hearing announcement. As required in 40 CFR Part 231.3(d)(1) and (2), a copy of the proposed 404(c) determination/public hearing announcement was published in the Miami Herald and the South Dade News Leader newspapers. Copies of the proposed determination were mailed to involved federal, state, regional and county environmental review and planning agencies, and an extensive list of local and state-wide conservation groups, agricultural groups, and other interested parties. Region IV's Public Affairs office issued a news release on October 15, 1987, advertising the proposed determination and public hearing announcement.

On November 2, 1987, EPA Region IV staff were contacted by Mr. Arthur Lubelle, Attorney for the Henry Rem Estate. In discussions with Mr. Lubelle it was confirmed that he had received EPA Region IV's April 22, 1987, notification letter concerning the initiation of the proposed 404(c) determination and the Region's October 16, 1987, proposed 404(c) determination and public hearing announcement.

A number of written comments were received by EPA Region IV in response to the Region's proposed 404(c) determination both before and after the public hearing. Among these were comments from two citizens, Mr. C. Grady Nixon and Attorney William C. Earle who opposed EPA's proposed 404(c) determination. This opposition was based on their concern that the 404(c) action would cause a constraining effect on south Dade County agricultural expansion. Mr. Earle's opinion was that rockplowing should be considered a normal farming activity, and thereby exempt from requirement for federal Section 404 authorization. Mr. Earle also stated that he felt Region IV's 404(c) action would deprive the affected property owners of an economically viable use of their property and would constitute a taking of private property without just compensation.

Letters supporting EPA Region IV's proposed 404(c) determination were received from two private citizens, Mr. David Livingston and Dr. George Dalrymple, an Associate Professor of Biology at Florida International University, and from six environmental conservation groups, including the Izaak Walton League of America, the Sierra Club-Calusa Group, the National Wildlife Federation -

Southeastern National Resources Center, the League of Women Voters of Dade County, the Oceanic Society and the local Mangrove Chapter of the Izaak Walton League. The National Wildlife Federation (NWF) letter expressed particular concern with cumulative wetland losses in the East Everglades in addition to its support of Region IV's proposed 404(c) determination on the 432 acres of wetlands at the Rem-Becker-Senior Corp. sites. NWF indicated that a radio-collared Florida Panther, a federally endangered species, had recently been tracked in wetlands immediately north of the Rem and Becker sites. Subsequently, Region IV staff learned from Everglades National Park (ENP) research personnel that a Florida Panther had been tracked using a radio-collar across the Rem, Becker and Senior Corporation properties. NWF requested that EPA Region IV consider expanding its proposed 404(c) determination to cover several thousand additional acres of privately-owned wetlands adjacent to the Rem, Becker and Senior Corp. sites. The Oceanic Society expressed concerns that conversion of East Everglades wetlands into agricultural fields would adversely effect the quality of waters delivered to ENP in the Taylor Slough drainage basin. The Mangrove Chapter of the Izaak Walton League expressed concerns that additional conversion of Taylor Slough wetlands to agricultural fields would result in continued requests by the farmers for the government to improve drainage in the area, thereby further degrading adjacent wetlands.

The National Marine Fisheries Service, the Florida Department of Environmental Regulation (FDER), the Dade County Environmental Resources Management Department (DERM) and the National Park Service (NPS) also provided written comments supporting the Region's proposed 404(c) determination. DERM's letter indicated that it fully concurred with EPA Region IV's conclusions on the ecological quality of the wetlands at the Rem-Becker-Senior Corp. sites and agreed with EPA's conclusions regarding the environmental impacts projected at the sites. DERM indicated that rockpiling at the Rem-Becker-Senior Corp. sites was inconsistent with the County adopted East Everglades Management Plan (EEMP). DERM also projected that the proposed agricultural development would not be successful without additional drainage. Concern for adverse effects to the Florida Panther were expressed along with general concern for cumulative impacts if future rockpiling permits were granted. DERM stated that the EEMP requires that all federal permits be obtained for development to be consistent with the Plan.

FDER's letter described the adverse ecological effects associated with rockpiling East Everglades pinnacle rock wetlands. The letter discussed ongoing efforts by the State of Florida to protect functional East Everglades wetlands by purchasing these areas. FDER noted that the Rem and Becker sites are currently under consideration for possible purchase by the State. Region IV has recently learned that the South Florida Water Management District (SFWMD) is considering purchasing Senior Corp. property wetlands (approximately 720 acres) under the State's Save Our Rivers program. FDER indicated that a State-appointed committee had recently recommended a moratorium on additional East

Everglades rockplowing and stated that it was concerned that if new rockplowing permits were approved, requests from nearby wetland property owners to rockplow additional wetlands would multiply. FDER indicated that it saw no positive effects of rockplowing the Rem-Becker-Senior Corp. sites and it preferred that rockplowing not occur.

The NPS provided extensive written comments in support of Region IV's proposed 404(c) determination. The Park Service indicated that preservation of the East Everglades pinnacle rock wetlands is vital to the perpetuation of the Everglades ecosystem and the ENP because of the biological and hydrological linkages among these areas.

The Park Service letter states:

1. Conversion of wetlands near or at the eastern border of the Park to agriculture will continue to degrade the biological and physical resources for which ENP was established.
2. Conversion of the Rem, Becker and Senior Corp. tracts to agriculture is symptomatic of the larger problem of cumulative losses of East Everglades wetlands and approval of permits to rockplow these sites would be precedent setting.
3. Wildlife populations move freely between ELP and the East Everglades pinnacle rock wetlands.
4. The endangered Cape Sable Sparrow and the Florida Panther depend upon East Everglades for their survival.
5. Ongoing federal and state efforts to hydrologically restore wetlands in the East Everglades would be useless if these wetland areas are rockplowed.
6. The Park Service cited documentation of severe historical losses of wading birds. These predatory bird species (herons, egrets, and ibis) are highly mobile and utilize East Everglades pinnacle rock wetlands heavily during the early portion of the dry season before the birds move westward into ENP as the dry season progresses. Rockplowing the East Everglades wetlands reduces the total area of Everglades marsh available to mobile park animals and reduces the production of the entire Everglades system.
7. Conversion of East Everglades wetlands to agricultural fields results in extensive utilization of overhead irrigation which has a cumulative net effect of reduction of the quantity of water entering ENP.
8. Application of fertilizers and pesticides to rockplowed fields results in the movement of these substances into ENP.
9. Conversion of East Everglades wetlands to agricultural fields facilitates the spread of exotic woody plants, such as Brazilian pepper, Australian pine and Melaleuca into ENP.

In summary, the Park Service stated that it feels that conversion of additional East Everglades wetlands to agricultural fields contributes to the cumulative

decline of the entire Everglades ecosystem, including ENP. The Park Service expressed concerns that current East Everglades agricultural areas, bordering or near the eastern margin of the Park, have been provided drainage by the state and federal government which results in a degradation of the function of wetlands in the adjacent ENP. The Park Service stated that conversion of the Rem, Becker and Senior Corp. sites would be contrary to the intent of the CWA.

The public hearing for Region IV's proposed 404(c) determination was held at Homestead Senior High School, in the Town of Homestead, in Dade County, Florida, on November 18, 1987. The public hearing began at 7 p.m. and approximately 70 people attended the hearing. A more detailed account of the public hearing appears in Section V of this recommended determination. Specific comments provided by representatives of Senior Corp. at the public hearing, and from representatives of the Becker site, in the form of a letter dated December 3, 1987, are addressed in detail in Section VI of this recommended determination.

At the request of the legal counsel representing the Henry Rem Estate, Region IV published in the Federal Register (52 Fed. Reg. 46838) an extension of Comment Period and Period for Regional Action on Proposed 404(c) Determination to Prohibit, Deny or Restrict the Specification or Use of Three East Everglades Areas as Disposal Sites on December 10, 1987. The post-hearing comment period provided for in 40 CFR 231.4(f) was extended until the close of business, December 21, 1987. In order to allow full consideration of the hearing transcript, the time period provided in 40 CFR 231.5(a) for Regional action on the Proposed Determination was extended until close of business, January 22, 1988. These time extensions were made under authority of 40 CFR 231.8.

On January 21, 1988, Region IV published in the Federal Register (53 Fed. Reg. 1678) a second extension of the Comment Period and Period for Regional Action for the Region's East Everglades Proposed 404(c) Determination to allow further time for Regional consideration of the administrative record. The time Period for Regional Action was further extended, under authority of 40 CFR 231.8, until close of business February 9, 1988.

III. Characteristics and Ecological Values of the Sites Under Consideration

The Rem, Becker and Senior Corp. sites together encompass some 432 acres of seasonally inundated graminoid prairie wetlands with irregular rocky limestone substrates, typical of wetlands on the eastern margin of Taylor Slough. In their natural state, wetlands of this type provide fish and wildlife habitat, food chain production, groundwater recharge, water storage, and biological and geochemical nutrient and pollutant uptake. In addition, functional muhly-grass/sawgrass pinnacle rock prairie wetlands in this area have recreational value as sites for bird watching and other nature study.

The elevation of the rocky substrate surface at the Rem and Becker sites is approximately 7 to 7.5 feet NGVD (i.e., above sea level) and approximately 6 to 8 feet NGVD in various locations within the Senior Corp. project site. Solution holes with depths of one to three feet below the rocky surface are common throughout these prairie wetlands. The dominant vegetative community found is described as wetland prairie, muhly/muhly-beardgrass in the Dade County East Everglades Management Plan. The dominant wetland plant species in the solution holes located throughout the wetland prairies is sawgrass, Cladium jamaicensis with arrowhead, Sagittaria lanceolata, pickerelweed, Pontederia spp. and spike rush, Eleocharis spp. also commonly occurring in the solution holes. The predominant wetland plant species on the rocky surface of the prairie is muhlygrass, Muhlenbergia capillaris, along with Flaveria linearis, Pluchea spp., Dichromena colorata, Aristida spp. and Hypericum spp. There is a thin (1"-2") layer of marl soil over portions of the rockland surface of the wetland prairie. During the summer wet season, water accumulates in the solution hole depressions at the Rem, Becker and Senior Corp. sites and is held long enough for algal periphyton communities to flourish. Numerous EPA, FWS and DER inspections over the past five years confirm the presence of standing water and periphyton in the solution holes, as well as a thin layer of periphyton occurring over much of the rocky ground surface during the summer rainy season.

Scattered throughout the Rem, Becker and Senior Corp. sites are hardwood tree hammocks composed predominantly of red bay, wax myrtle, willow bustic and coco plum with some infestation of the exotics, Brazilian pepper and Australian pine. The tree hammocks provide valuable cover and resting areas for a large number of reptiles, amphibians, small mammals and birds. Another type of tree island located in the Rocky Glades is known as a willow head, vegetated predominantly by willow, Salix caroliniana, which normally contain standing water depressions. The willow heads provide very valuable dry season aquatic refuge for numerous aquatic faunal species.

The seasonally flooded solution holes and the normally flooded willow heads provide valuable habitat for numerous amphibians, invertebrates and small fish, which utilize the periphyton-based food web as a food source. These pinnacle rock solution holes and willow heads greatly increase the heterogeneity of the muhlygrass prairies and provide valuable micro-habitats within the prairies for lower trophic level animals to feed, breed and seek refuge. Populations of valuable prey species such as snails, aquatic insects, crayfish, tadpoles, frogs, snakes, turtles, mosquito fish, killifishes, flagfish, sunfish and other small fishes substantially expand in size in the solution holes and willow heads during the summer wet season and disperse across the adjacent prairies. The presence of aquatic food source organisms, such as crayfish, tadpoles, several species of minnows, snails and aquatic insects has been documented at the proposed rockplowing sites during EPA and FWS site inspections. As the wet season ends, the solution holes gradually dry down providing a concentrated

food source for reptiles, small mammals and wading birds such as herons and egrets. The reproductive cycles of many of the Everglades wading bird and other predatory species are closely tied to seasonal pulses of concentrated, easily consumed aquatic prey species. As documented by ENP biologists, large numbers of wading birds utilize the East Everglades pinnacle rock wetlands during the annual summer wet season then move westward into the Park into the deeper sloughs and marshes as the winter dry season progresses, and surface and groundwater levels drop.

The wildlife inhabiting the East Everglades area, which includes these sites, is one of the most valuable and unique natural features of south Florida. Approximately 350 animal species are known to occur in the area including: 34 species of fish, 18 species of amphibians, 44 species of reptiles, 28 species of mammals, and 230 species of birds. These species depend on the diversity of habitats that offer opportunities for feeding, reproduction, and cover. Valuable habitats occur throughout the East Everglades and animals using these natural habitats move freely to other natural areas within the East Everglades, Everglades National Park and throughout south Florida. Some of the animals utilizing these natural habitats have large home ranges requiring free movement to, and use of, a broad array of south Florida habitat types. A host of migratory birds (e.g., woodstork, warblers, great white heron) utilize parts of the East Everglades as well as Everglades National Park on a seasonal basis.

Although all wildlife is considered a valuable resource, some species have been given special distinction because of their recreational value or because they have been placed on protected lists by federal or state governments. A total of 33 faunal species occurring in the East Everglades are provided protected status. Several of the nation's rarest and most unique animals survive in the East Everglades, including the federally listed endangered Cape Sable Sparrow and the Florida Panther. ENP research biologists report that the wetlands at the Rem, Becker and Senior Corp. sites have been recently used by a radio-collared male Florida Panther.

The wetlands herbaceous vegetation and periphyton mats serve to filter surface waters removing nutrients and pollutants. This water purification function is important in maintaining the quality of the surficial Biscayne Aquifer, a designated "sole source" aquifer for drinking water supply to residents of southeast Florida.

IV. Adverse Impacts of Rockplowing the Sites Under Consideration

Rockplowing the Rem, Becker and Senior Corp. sites would destroy some 432 acres of functional and productive East Everglades muhlygrass-sawgrass prairie wetlands and thereby eliminate virtually all of the habitat value it now provides. The farm fields that would replace these wetlands after rockplowing would be a low

quality habitat for wildlife. Cotton rats are the prime resident animals in such fields with some marsh rabbits found around field edges. This paucity of lower food chain prey is fed on by an occasional visiting marsh hawk or kestrel. A dearth of wildlife would be caused both by the seasonal nature of vegetable crops grown in rockland fields and by rockplowing's reduction of a "two-story" habitat system (surface rock/solution holes) to a flat dry plain.

EPA Region IV believes that the direct loss of 432 acres of functional East Everglades muhlygrass-sawgrass prairie represents a significant and unacceptable environmental loss. The individual and cumulative losses of East Everglades wetlands pose a threat to groundwater quality, specifically the "sole source" designated Biscayne Aquifer. EPA Region IV's concerns for potential impacts to the groundwater quality is based on two factors: 1) the loss of the surface filtration of surface waters which are hydrologically contiguous with the Biscayne Aquifer, and 2) the potential for the transport of nutrients, herbicides, pesticides, oils and greases and other contaminants that might be associated with agricultural or other development.

EPA Region IV is also very concerned about cumulative impacts of continuing destruction of East Everglades prairie wetlands which are located along the eastern border of ENP. According to the FWS, approximately 8,000 acres of the 20,000 acres of prairie wetlands that occurred in the East Everglades area, south of Tamiami Trail and east of ENP, as recently as the 1960's, have now been disturbed or destroyed. Human activities (e.g., rockplowing, drainage, residential development) in the East Everglades have continued to degrade, threaten or eliminate large acreages of East Everglades wetlands and are instrumental in adversely changing wildlife populations. Loss of functional wetland habitat is recognized by wildlife experts as a major contributing factor to reduction in size of wildlife populations. EPA Region IV feels that cumulative adverse impacts associated with the loss of an additional 432 acres of functional East Everglades wetlands are unacceptable.

Additionally, EPA Region IV is also aware that permitting the rockplowing of fully functional prairie wetlands at the Rem, Becker and Senior Corp. sites may be viewed as precedent which could encourage future wetland conversion projects in this area. The owners of these three sites also own another 600 acres of very similar wetlands in the immediate vicinity of the 432 acres of wetlands under consideration. EPA Region IV anticipates that Corps rockplowing permits may be sought for these additional wetland areas if permits are issued for the areas covered by this proposed determination.

Other nearby East Everglades prairie wetlands might also be expected to come under intense pressure for agricultural development if rockplowing is allowed to convert the Rem, Becker and Senior Corp. sites. For example, approximately 525 acres of muhlygrass-sawgrass wetlands between the Rem and Senior Corp. sites were subject to past rockplowing proposals which were later either withdrawn

or rejected on procedural grounds by the Corps. In addition, approximately 2,000 acres of privately-owned muhlygrass wetland prairie, very similar in nature to the Rem, Becker and Senior Corp. wetlands are located in Sections 5, 6, 31 and 32, adjacent and north of the Rem and Becker wetland sites, south of SW 168th St. (Richmond Drive) and east of SW 237nd Ave. An additional 2,000 acres of similar muhlygrass wetland prairies exist along the northwest perimeter of the 8.5-square mile East Everglades residential area north of SW 168th St. EPA Region IV anticipates that these additional muhlygrass wetland prairies (totaling approximately 5,000 acres) would come under intense agricultural development pressure, if the current rockplowing proposals were authorized. The potential cumulative loss of an additional nearby 5,000 acres of similarly classed wetlands would be devastating to the ecological integrity of the East Everglades ecosystem and the eastern border of ENP, and Region IV feels that loss of these wetland resources would not be in the public interest.

V. Public Hearing

The public hearing held in Homestead, Florida, on November 18, 1987, provided the forum by which a broad spectrum of public and private agencies/interests expressed their views on Region IV's proposed 404(c) determination. Introductory remarks on the purpose of the public hearing and 404(c) procedures were provided by the Hearing Officer Al Smith, Deputy Director, Water Management Division, EPA Region IV. Mr. Smith provided a brief explanation of the Section 404 program and indicated that EPA would be discussing the environmental aspects of rockplowing the Rem, Becker and Senior Corp. sites. Technical information and personal views on potential impacts of rockplowing the sites were requested. Mr. Smith introduced Mr. Lawrence Neville, EPA Region IV Assistant Regional Counsel, who provided the audience with a brief presentation regarding legal aspects of the 404(c) procedures and possible EPA regional recommendations. Mr. Neville pointed out that the proposed 404(c) determination applied specifically to rockplowing of the Rem, Becker and Senior Corp. sites and did not propose the total prohibition of other types of potential future filling of these properties. In finishing his comments, Mr. Neville introduced Eric Hughes, EPA's project officer for these proceedings.

Mr. Hughes described the ecological values of the three wetland properties, provided the audience with a brief historical account of EPA's procedural involvement with the Rem and Senior Corp. permit applications, and explained EPA's rationale for initiating the 404(c) action. During Mr. Hughes' presentation, color slides were shown to the audience showing ground and aerial photographs of the Rem, Becker and Senior Corp. sites. Also during his discussion of EPA's concerns with cumulative impacts to East Everglades wetlands, Mr. Hughes exhibited seven large aerial photo mosaics of the East Everglades area, dated 1956, 1972, 1982, and 1985.

Mr. Hughes described the rockplowing process and indicated that EPA Region IV felt that elimination of the fish and wildlife wetland functions provided by the subject 432 acres of wetlands would result in unacceptable adverse environmental effects. Mr. Hughes described to the audience, using Exhibit 1, a large 1985 color infrared aerial photo mosaic of the East Everglades, at a scale of one inch equals 1,200 feet, the location of the 1,030-acre Senior Corp. rockplowing application, and pointed out the location of the 307-acre area that the Corps authorized, with no EPA or FWS objection for rockplowing in August 1987. Shown on Exhibit 1 were the location of the Rem and Becker sites as well as the location of other rockplowing proposals that had been permitted, denied or withdrawn during the past 10 years. Mr. Hughes also pointed out on the exhibit the location of the approximate 400-acre wetland which Senior Corp. withdrew from its rockplowing application. Finally, he identified the location of the remaining 312 acres of Senior Corp. wetlands involved in this 404(c) action. Mr. Hughes stated that numerous EPA and FWS inspections of the Rem, Becker and Senior Corp. sites during the summer wet season confirmed the presence of standing water in the solution holes. These inspections also confirmed the presence of a thin periphyton (algal) mat over much of the wetland surface and the presence of lower trophic level food organisms such as crayfish, minnows, tadpoles, frogs, snails and aquatic insects in the solution holes and willow head tree islands.

In his discussion of cumulative impacts, Mr. Hughes indicated that wetland losses in the Everglades drainage basin were of great concern to EPA (Figure 11-13). Using the 1956, 1972 and 1985 aerial photo mosaics of the East Everglades, Mr. Hughes pointed out large areas of wetlands which have been lost to urban and agricultural development. Mr. Hughes stated that over 1 million acres of freshwater wetlands had been lost from the mid 1950's to the mid 1970's in Florida, with most of the losses occurring in the Everglades-Kissimmee River basin. Wetland conversion to agriculture accounted for 79% of Florida's freshwater wetland losses. Mr. Hughes indicated that over the past 75 years, approximately 700,000 acres of Everglades have been converted to agriculture. Using the 1982 LANDSAT photo of south Florida (Exhibit 7), Mr. Hughes pointed out the profound adverse changes that have occurred to the Everglades. Mr. Hughes noted FWS's estimate that 8,000 acres of the 20,000 acres of privately owned East Everglades wetlands on the eastern border of ENP have been lost through man's activities during the past two decades. Mr. Hughes indicated EPA's concerns that permitting the rockplowing of functional wetlands at the Rem, Becker and Senior Corp. sites would be viewed as precedent to stimulate future rockplowing of approximately 5,000 acres of adjacent similar type privately-owned pinnacle rock East Everglades wetlands.

Mr. Edward T. "Red" Heinen, former Chief of EPA Region IV's Marine and Estuarine Branch, concluded the Region's presentation at the hearing. Mr. Heinen pointed out that the Everglades "River of Grass" is an ecological system of national and even international importance. Mr. Heinen asked that the East Everglades be viewed in proper perspective with the Everglades system, a system undergoing

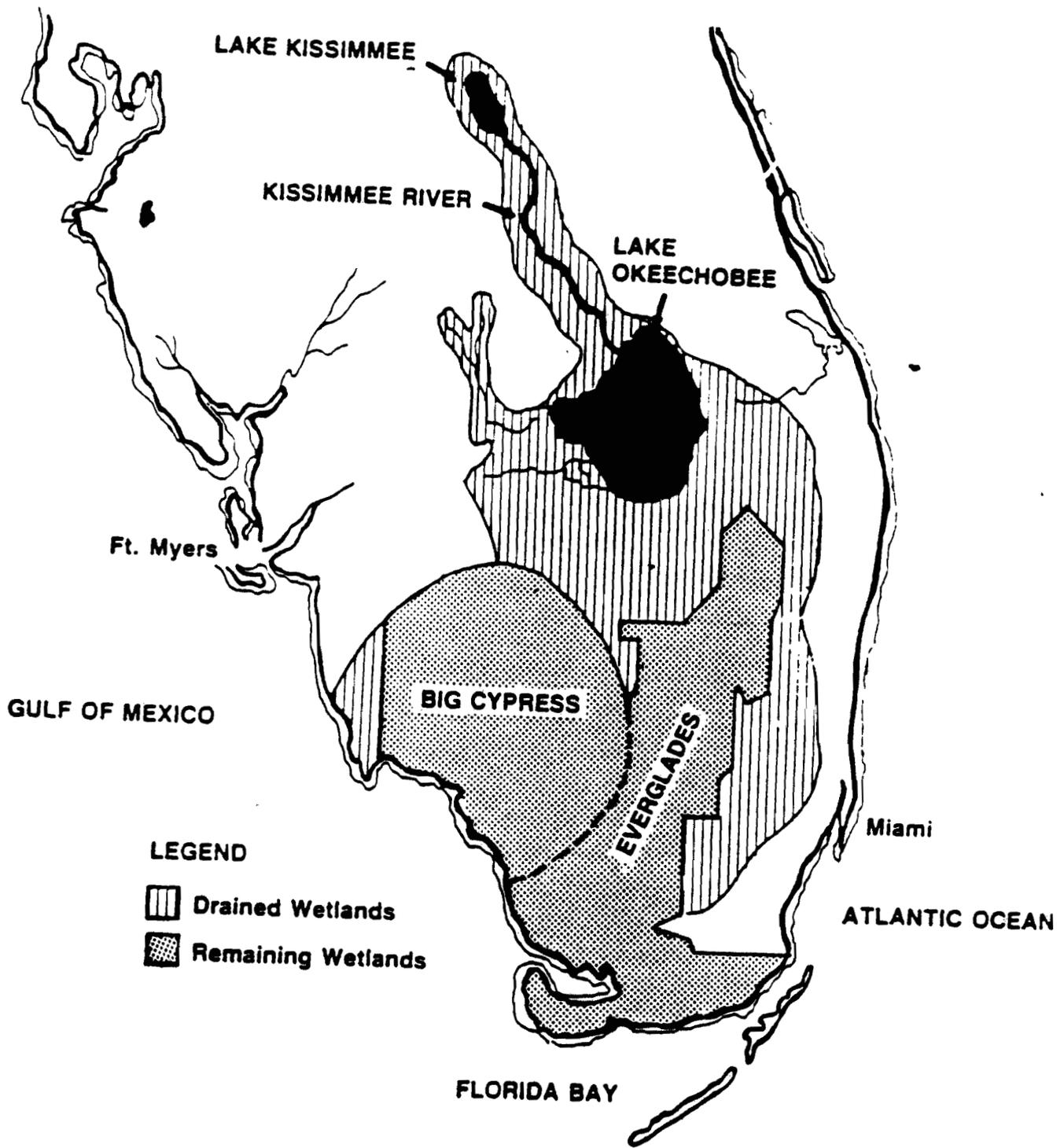


FIGURE 11



FIGURE 12

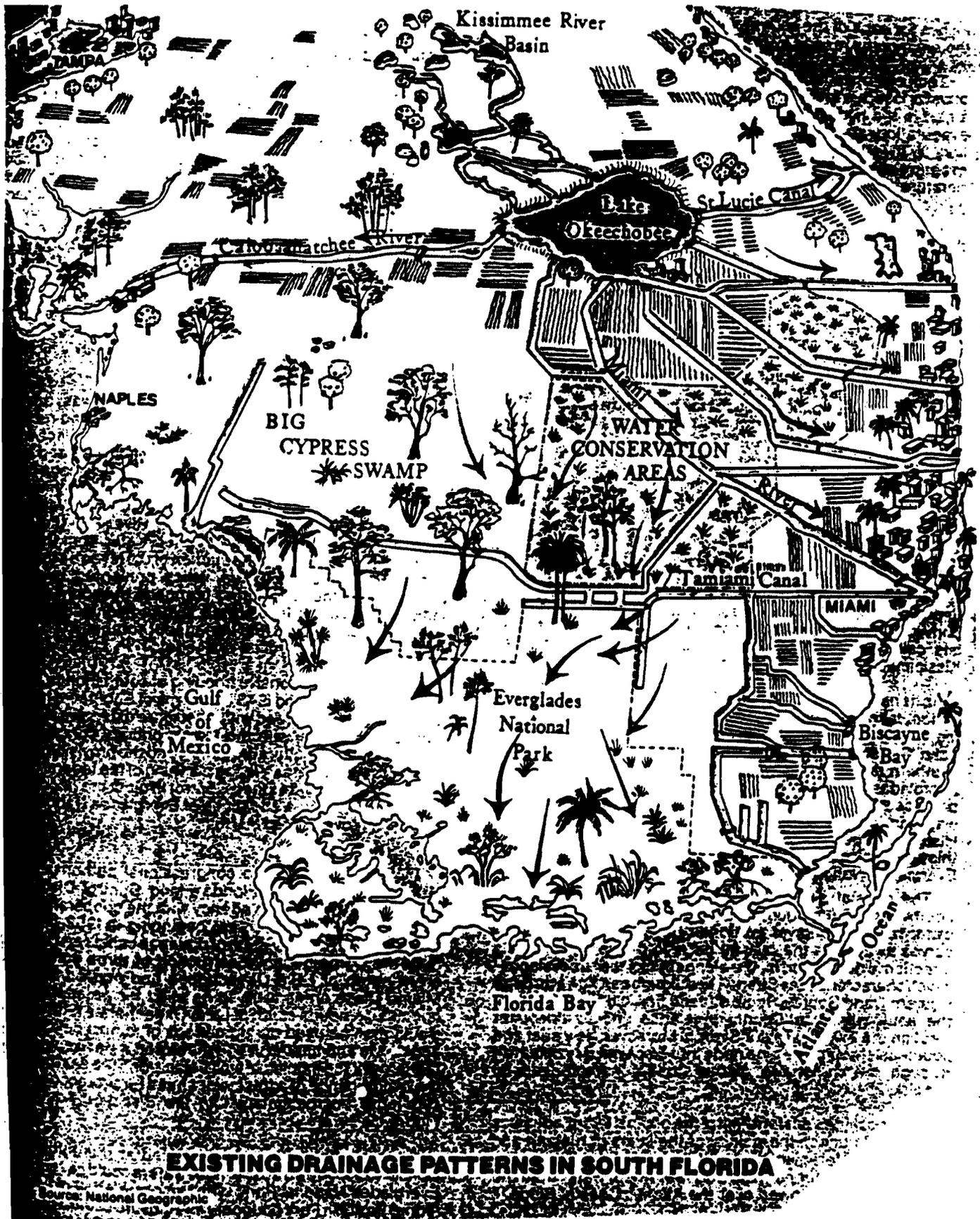


FIGURE 13

massive alteration throughout the drainage basin, which starts in the vicinity of Orlando, Florida. Mr. Heinen indicated the EPA hoped that it's 404(c) East Everglades action would act as a catalyst to encourage federal, state and local governments and Everglades property owners to solve the problems of competing land and water uses in the Everglades drainage basin.

Following the EPA Region IV presentation, oral comments were solicited from the affected property owners. Attorney Anthony J. O'Donnell, spoke on behalf of Senior Corporation. No comments at the public hearing were made by any representative of the Rem or Becker properties.

Mr. O'Donnell objected to EPA's Exhibit 1, pointing out that it showed 720 acres of Senior Corp. land when rockplowing was originally proposed, not the current 312-acre proposal which Mr. Hughes had outlined in his discussion. Mr. O'Donnell indicated that Senior Corp.'s Exhibits A-4 were a series of management plans, studies and conclusions from experts concerning the East Everglades which he said had been ignored by EPA. Among those exhibits was the 1980 Proposal East Everglades Management Plan (EEMP) which was partially funded by EPA under the CWA's 208 planning program and portions of the 1985 East Everglades-ENP Resource Planning and Management Implementation Plan, a state planning process which among other things does not object to rockplowing of the entire 1,030-acre Senior Corp. property. Mr. O'Donnell claimed that EPA was ignoring these earlier planning efforts by proposing its 404(c) action at Senior Corp. property. Mr. O'Donnell disagreed with EPA's evaluation of cumulative impacts in the East Everglades and the precedential effect of authorizing the rockplowing of Senior Corp. wetlands on similar type nearby privately-owned wetlands. Mr. O'Donnell indicated that recent government purchases of wetlands in the East Everglades would protect ENP from future cumulative wetland loss impacts and that rockplowing of wetlands within one mile west of the L-311 levee/canal would not result in future cumulative wetland impacts to East Everglades wetlands. He stated that large portions of the Taylor Slough wetland drainage has recently been purchased by the government and that the eastern edge of the Taylor Slough does not extend onto Senior Corp. property.

Mr. O'Donnell indicated that Senior Corp. felt that because it had sold approximately 80 to 90 percent of its East Everglades wetland properties to the State in recent years, the cumulative impacts of rockplowing the remaining 1,030 acres of wetlands it owns should not concern EPA. Mr. O'Donnell stated that Senior Corp. felt that its sale of wetlands to the State and its concession in removing 400 acres of wetlands from its rockplowing proposal were sufficient to allow agricultural use of the balance of its wetland property. Mr. O'Donnell also said that denial of rockplowing at Senior Corp.'s property, would deny all reasonable beneficial use of the 312-acre wetland site, which he described as a drained area. Mr. O'Donnell asked why EPA had decided to initiate a 404(c) action of Senior Corp.'s 312-acre wetland property and not somewhere else in the East Everglades,

and he questioned EPA's determination that the 312-acre site, exclusive of the willow heads that would be preserved, had any fishery or recreational value.

After citing the importance of Dade County agriculture to the national interest, Mr. O'Donnell requested that EPA withdraw its proposed determination to prohibit rockplowing at the Senior Corp. site. Mr. O'Donnell cited a letter, dated November 18, 1987, submitted by Mr. Harold Cobb, Senior Corp.'s consulting engineer, which responds point-by-point to EPA Region IV's proposed determination.

Following Senior Corp.'s presentation, the following persons also spoke at the public hearing:

- (1) Mr. Tim Daniel, representing Florida State Representative, John Cosgrove, made a short statement indicating Representative Cosgrove's interest in the proposed 404(c) proceedings.
- (2) Mr. Robert Arnsberger, Assistant Superintendent for Everglades National Park (ENP), spoke on behalf of the ENP Superintendent, Michael Finley. Mr. Arnsberger expressed ENP concerns relative to continuing cumulative losses of wetlands near the eastern border of ENP. In expressing ENP's support of EPA Region IV's 404(c) action, Mr. Arnsberger cited sections of the 404(b)(1) Guidelines [40 CFR 230.10(c) and 230.11(g)] pertaining to significant degradation of the waters of the U.S. and consideration of cumulative impacts. Mr. Arnsberger expressed concerns that permitting rockplowing at the Rem, Becker and Senior Corp. sites would be precedent setting and would lead to additional conversions of East Everglades wetlands to agricultural use. Mr. Arnsberger cited the 1980 Dade County East Everglades 208 report that stated that wildlife habitats are continuous between ENP and the East Everglades and that mobile wildlife populations move freely back and forth between ENP and the East Everglades. Mr. Arnsberger pointed out that animal populations which utilize ENP are damaged when peripheral wetlands in the East Everglades, which Park animals utilize, are eliminated and converted to agricultural fields. Mr. Arnsberger stated that conversion of the Rem-Becker-Senior Corp. wetland sites to agricultural fields would be contrary to the intent of the CWA. At the end of Mr. Arnsberger's presentation, the EPA hearing officer asked him about the 208 plan. Mr. Arnsberger indicated that the 208 plan he discussed was one and the same as the proposed 1980 Dade County EEMP and preparation of which was partially funded by EPA. This is the same document that Mr. O'Donnell, attorney for Senior Corp., referred to as the EPA study.
- (3) Mr. Joe Carroll, Field Supervisor of the U.S. Fish and Wildlife Service (FWS) office in Vero Beach, Florida, spoke as a representative of James W. Pulliam, Jr., Regional Director of the FWS, in support of the proposed 404(c) determinations. Mr. Carroll stated that the FWS had commented to the Corps of

Engineers on numerous East Everglades development proposals during the past 10 years and that FWS recommendations frequently requested the preservation of valuable wetland resources. Yet, he noted, large areas of wetlands in the East Everglades have been eliminated despite FWS involvement in the Section 404 program. Mr. Carroll cited historical wetland losses and degradation of the Everglades and specifically noted that 8,000 acres of the 20,000 acres of sawgrass marsh south of Tamiami Trail in the East Everglades, east of ENP, had been lost in the past two decades. Mr. Carroll stated that the Rem, Becker and Senior Corp. sites had been used by the federally endangered Florida Panther. He also indicated that FWS is concerned that if EPA allowed rockplowing of the 312-acre Senior Corp. tract that the remaining adjacent 400 acres of Senior Corp. wetlands would soon be proposed for rockplowing, and asserted that the remaining East Everglades wetlands are a valuable public resource that continues to be destroyed at an alarming rate. Mr. Carroll indicated that the FWS had begun planning a cumulative impact analysis study of the East Everglades in cooperation with EPA and the Corps.

- (4) Ms. Renate Skinner spoke as a representative of the Florida Department of Natural Resources (DNR), Division of Recreation and Parks. Ms. Skinner expressed Florida DNR's support for EPA Region IV's proposed 404(c) determination. Ms. Skinner said that DNR is concerned about continued westward expansion of agriculture and development towards the State-owned lands purchased for the protection of Everglades flora and fauna. She pointed out that these State-owned lands are adjacent to the Senior Corp. property and one mile west of the Rem and Becker sites.
- (5) Mr. Brian Barnett, representing the State of Florida Game and Fresh Water Fish Commission, expressed the Commission's support for EPA Region IV's proposed 404(c) determinations. Mr. Barnett stated that the rocky glades muhlygrass-sawgrass prairie present at the Rem, Becker and Senior Corp. sites is an important component of the habitat heterogeneity of the East Everglades, essential to the maintenance of the rich diversity of wildlife found in the area. Mr. Barnett pointed out that the muhlygrass-sawgrass prairie provides wading bird forage area during the wet season when water in the deeper marshes and sloughs is too deep. Mr. Barnett cited the use of the Rem, Becker and Senior Corp. sites by endangered species, and expressed concerns about cumulative losses of East Everglades wetlands and the precedent that would be set if these 432 acres of wetlands were permitted for rockplowing. Mr. Barnett cited the considerable State and federal resources which are being dedicated to hydrologically restoring portions of the Everglades and indicated that rockplowing of valuable East Everglades wetland concurrent with these restoration efforts should not be permitted.
- (6) Mr. Jack Campbell, Chairman of South Dade Soil and Water Conservation District, then spoke in opposition to the proposed 404(c) determinations.

Mr. Campbell stated that he had served on the Dade County East Everglades 208 Committee. Mr. Campbell said that the federal government and even the State government were ignoring the 208 plan, pertaining to areas that were allowed for agriculture under the plan. Mr. Campbell indicated that the Rem, Becker and Senior Corp. sites were in the 208 plan's areas delineated for agricultural development. Mr. Campbell questioned inferences that South Dade County agricultural activities are degrading water quality and cited groundwater studies from the East Everglades agricultural areas that found no evidence that agriculture was causing such degradation. Mr. Campbell questioned the ecological viability of the Rem, Becker and Senior Corp. wetlands due to the sites' proximity to existing agricultural areas, and said that the East Everglades tropical grove areas were high quality habitat for birds, rabbits and the Florida Panther.

- (7) Mr. Joe Podgor, Chairman of the Dade County Chapter of Friends of the Everglades, spoke next. Mr. Podgor reviewed Congress's recognition of the value of wetlands when it passed the 1972 Water Pollution Control Act with the goal of restoring and maintaining the integrity of the waters of the U.S. He questioned the effectiveness of the federal, state and county governments historical record of protecting East Everglades wetlands, and stated that wetlands protection programs are not working. Mr. Podgor criticized the Jacksonville Corps District for not effectively implementing the recommendations of FWS on Section 404 permitting matters. Mr. Podgor cited long-term trends in Dade County whereby wetlands have been converted to agricultural areas which are then converted to urban uses. Mr. Podgor stated that the public interest would not be served by rockplowing the Rem, Becker and Senior Corp. wetlands or by providing improved drainage in this area for the East Everglades. Mr. Podgor stated that there was no availability to provide on-site mitigation to offset environmental impacts of rockplowing the subject wetland sites, and he noted that saving a portion of the wetlands to mitigate the loss of the remaining wetlands at the property is no mitigation at all. Mr. Podgor cited ongoing efforts to hydrologically restore the Everglades indicating that rockplowing the Rem, Becker and Senior Corp. sites would prevent the restoration of Taylor Slough. Mr. Podgor expressed concerns that future siting of public drinking water wellfields in the East Everglades could be adversely affected by agricultural operations. Mr. Podgor requested expanded studies of agricultural effects on groundwater quality. Mr. Podgor concluded by stating the support of Friends of the Everglades for EPA Region IV's proposed 404(c) determinations.
- (8) Mr. William Lewis, representing the Everglades Recreation and Protection Society, stated that his society was concerned with fish and wildlife populations in the Everglades and questioned why the Department of Interior allowed oil exploration and production in the Big Cypress Preserve, and

was not concerned about a flowing mineral spring at Chekika State Park in the East Everglades.

- (9) Dr. Bernard Yokel, President of the 35,000-member Florida Audubon Society, agreed with EPA Region IV's proposed 404(c) determination for the Rem and Senior Corp. properties and supports EPA's efforts to protect wetland resources by prospective exclusion, as with the Becker site. Dr. Yokel discussed the high quality of the East Everglades for wildlife habitat, in spite of its partially altered nature due to development. Dr. Yokel expressed Florida Audubon's concerns with cumulative impacts to East Everglades wetlands and the precedential effect of permitting rockplowing at the Rem, Becker and Senior Corp. sites. He said that Florida Audubon felt that the subject wetland properties should be in public ownership to protect the existing wetland resources and ENP.
- (10) Mr. Manley Fuller, President of the Florida Wildlife Federation (FWF), indicated that the FWF concurred with the National Wildlife Federation (NWF) in supporting EPA Region IV's proposed 404(c) determinations. Mr. Fuller stated that due to historical losses and degradation of Everglades wetlands, FWF feels that the highest and best use of East Everglades wetlands is as wetlands. FWF feels that continued loss of East Everglades wetlands is not in the public interest.
- (11) Mr. Karsten Rist of the Tropical Audubon Society then indicated that he had served on the 1985 East Everglades Planning and Management Committee which approved rockplowing within one mile west of the L-31W canal/levee. Tropical Audubon has become aware that local agricultural interests were attempting to have water levels lowered in the L-31W canal to improve drainage. Therefore, Mr. Rist indicated that the Audubon Society had determined that additional rockplowing of East Everglades wetlands would result in additional agriculturally-related requests for more drainage. The Audubon Society believes that a complete halt of rockplowing is necessary to protect ENP. Mr. Rist stated that the new proposed west Dade wellfield could affect the East Everglades and therefore water conservation. He stressed that no additional drainage was required. Mr. Rist submitted to the EPA Records Clerk a resolution by the Board of Directors of the Tropical Audubon Society, dated November 10, 1987, urging the state, federal and local wetland permitting agencies to permit no new rockplowing in the East Everglades and purchase functional East Everglades wetlands.
- (12) Miss Beth Ann Brick, representing the 2,100-member Miami Group of the Sierra Club, noted that the valuable fish and wildlife habitat, groundwater recharge, water purification and water storage characteristics of East Everglades wetlands make them wetlands worth protecting. Miss Brick stated that loss of East Everglades wetlands represents a significant and unaccept-

able loss which would not be in the public's interest. She stated that the Sierra Club urged EPA Region IV to follow through with its intention to prohibit the rockplowing of the Rem-Becker-Senior Corp. wetland sites. Miss Brick also submitted to the EPA Records Clerk a resolution from the Executive Committee of the Miami Group of the Sierra Club, dated November 16, 1987, urging EPA to make a final determination to prohibit rockplowing at the Rem-Becker-Senior Corp. sites.

- (13) Ms. Alice Wainwright spoke next as a representative of the six Southeast Florida Chapters of the National Audubon Society, a coalition of approximately 10,000 members. Ms. Wainwright stated that the Audubon Society believes EPA Region IV's proposed 404(c) determinations relative to the Rem and Senior Corp. rockplowing proposals are based on sound ecological grounds. Ms. Wainwright stated that the Audubon Society feels that East Everglades rockplowing, and the attendant drainage requests would have an adverse impact on water supply to ENP. Ms. Wainwright cited the historical 90% decline of wading bird populations utilizing ENP. She also cited the significant economic importance of ENP, the third largest park administered by the Park Service, pointing out that it is the nation's only subtropical national park. Ms. Wainwright quoted statistics indicating that the ENP had 762,000 visitors in 1986. Ms. Wainwright also expressed concerns with agricultural drainage impacts to the Biscayne Aquifer, the sole source of Miami's drinking water supply. Ms. Wainwright finished her statement by stating the Audubon Society's position that EPA should render final 404(c) determinations to prohibit rockplowing at the Rem and Senior Corp. sites.
- (14) Mr. Michael Chenowith, President of the Izaak Walton League of Florida, cited Florida's recent experiences with water quality degradation, particularly in Lake Okeechobee. Mr. Chenowith expressed concerns about the relationship between Florida's loss of wetlands and recent trends in statewide reduction in rainfall and flows in the state's major freshwater springs. Mr. Chenowith stated that alteration of natural rainfall and evaporation processes were related to large scale loss of wetlands. Mr. Chenowith said that the Corps had failed to adequately evaluate the cumulative impacts of Everglades wetland losses, and referred to his unsuccessful requests to the Corps to prepare an Environmental Impact Statement evaluating cumulative Everglades wetland losses. Mr. Chenowith stated that the Izaak Walton League supported EPA Region IV's proposed 404(c) actions.
- (15) David Livingston, a private citizen, briefly urged EPA to prohibit rockplowing at the Rem, Becker and Senior Corp. sites. Mr. Livingston's statement concluded the main hearing presentations.

The hearing officer then allowed the audience to make brief rebuttal statements.

The first rebuttal statement was made by Mr. Rod Jude of the Miami Group of the Sierra Club. Mr. Jude challenged Senior Corp.'s contention that its rockplowing application was in compliance with the EEMP. Mr. Jude indicated that new information regarding Florida Panther utilization of the 404(c) sites and the potential need for additional drainage to farm these areas made agricultural development of these wetland areas inappropriate. Mr. Jude also pointed out that the EEMP requires federal permits to be secured before any project is deemed consistent with the Plan.

The next rebuttal statement was provided by Herbert Brian, Professor of Horticulture at the Tropical Research and Education Center, University of Florida, in Homestead. Mr. Brian stated that rockplowing in the East Everglades had been ongoing since the 1950's and without rockplowing, agriculture would not exist in the East Everglades. He said that south Dade agriculture puts 1.5 billion dollars a year into the economy and provides 100,000 jobs. Mr. Brian stated that rockplowing wetland areas, that were adjacent to existing agricultural fields, would not adversely impact endangered species. Mr. Brian stated that there was plenty of water for both agriculture and ENP, and stated that new technology in agriculture protects water quality.

The next rebuttal statement was made by Mr. Earl Kippka, a member of the Sierra Club. Mr. Kippka stated that as a young man he used to hunt in the East Everglades area and he contested Senior Corp.'s statement that no fish could be found in the proposed rockplowing areas. Mr. Kippka stated that during high water periods he had seen thousands of crayfish in the area.

The last rebuttal statement was made by Mr. Brian who asked why the government was allowing seismic testing associated with oil exploration in the Big Cypress Preserve and why rockplowing 432 acres of East Everglades wetlands seemed more important than stopping adverse ecological effects from oil exploration and production.

The Hearing Officer, Al Smith, thanked the audience for their participation in the public hearing. Mr. Smith stated that in the event that Region IV recommends the prohibition of rockplowing at the Rem, Becker and Senior Corp. sites, the property owners would be provided the opportunity to take corrective action prior to any final determinations. The public hearing was adjourned at 10:45 p.m.

VI. Evaluation of the Senior Corporation and Becker Positions on the Environmental Impacts of the Proposed Projects

No comments were received by EPA Region IV on behalf of owners of the Henry Rem Estate site. Opposition on legal grounds to the proposed Section 404(c) determination on behalf of the owners of the Becker site was stated in letters from Attorneys Marwin S. Cassel and Neal R. Toback shortly after initiation of the

action, as discussed in Section II.D.(4) above. On December 3, 1987, Attorney Marwin S. Cassel wrote to EPA Region IV in response to the Region's October 16, 1987, proposed 404(c) determination. Mr. Cassel's December 3, 1987, letter provided final objection of his clients to Region IV's proposed 404(c) determination to prohibit rockplowing at the Becker site. Mr. Cassel stated that his clients felt that EPA Region IV's proposed 404(c) determination should be withdrawn since "the affirmation of the proposed determination will result in making it impossible to secure any economically viable use of the land." Mr. Cassel indicated that his clients feel that affirmation of the proposed 404(c) determination is "nothing more than a taking or condemnation of the property by administrative action." Mr. Cassel's letter is essentially a restatement of concerns expressed in letters to EPA Region IV, dated June 8 and June 17, 1987, from Attorney Neal R. Toback, representing several partial property owners at the Marion Becker, et al. property.

Region IV's response letter to Mr. Toback's correspondence, from Assistant Regional Counsel Lawrence Neville, dated July 30, 1987, stated in relation to Mr. Toback's expressed concerns with "taking" that EPA's responsibilities under the CWA to "restore and maintain the chemical, physical and biological integrity of the nation's waters" did not give EPA the resources or authority to purchase jurisdictional waters in place of the administration of the CWA. EPA disagreed in its July 30, 1987, response letter, with Mr. Toback's contention and legal citations that suggested that EPA's regulation of rockplowing activities at the Becker site constituted a "taking" and required EPA or the federal government to purchase the property. EPA has clearly indicated in its proposed 404(c) determination that Region IV proposed to prohibit only the activity of rockplowing at the Rem, Becker and Senior Corp. sites and that other less intensive and destructive land uses could be applied for via the Section 404 permit process. The Region feels that our July 30, 1987, response to Mr. Toback's letter applies to Mr. Cassel's December 3, 1987, correspondence.

As noted earlier, Senior Corporation did make a presentation at the public hearing through its attorney, Mr. Anthony O'Donnell, and submitted written comments from its consulting engineer, Mr. Harold Cobb, both at the public hearing and in a December 2, 1987, letter received by the Region before the hearing record was closed. The primary contentions of Senior Corp. and the Region's response to them are summarized below.

One of Senior Corp.'s contentions in opposition to the Proposed 404(c) Determination is that the proposed determination is inconsistent with the Dade County East Everglades Management Plan (EEMP) and the 1985 East Everglades-EMP Resource Planning and Management Committee Implementation Plan. Region IV acknowledges that the Dade County EEMP was partially funded by the Region under the Section 208 planning program of the CWA. Information produced in the plan gave rise to Dade County land use ordinances, and more specifically, the Dade County East Everglades zoning overlay ordinance. Dade County adopted a comprehensive

management plan for the East Everglades in 1981. This plan designated various management zones for the East Everglades area and the County established allowable land uses for each zone. Although the proposed plan was partially funded by EPA, the County's EEMP does not supercede EPA's responsibilities to implement the Section 404(b)(1) Guidelines while evaluating dredge/fill projects in the East Everglades. While EPA feels that the Dade County 1981 EEMP generally has merit, the Agency will continue to conduct case-by-case reviews of East Everglades wetland dredge/fill projects subject only to its responsibilities under the federal CWA Section 404 program. The DERM letter dated November 13, 1987, responding to EPA Region IV's proposed 404(c) determination states that the current proposal of Senior Corp. to rockplow 312 acres of functional wetlands may be inconsistent with the County's management plan due to unresolved questions relating to required drainage and utilization of the site by the Florida Panther, as well as the County's requirement that all federal permits be obtained.

Relative to Senior Corp.'s contentions concerning EPA's unresponsiveness to the 1985 East Everglades-ENP Resource Planning and Management Committee Implementation Plan, Region IV was not a party to nor is bound by the 1985 State organized Plan. EPA must continue to implement the Section 404(b)(1) Guidelines while evaluating case-by-case rockplowing Section 404 permit applications. Where proposals to rockplow functional wetlands result in unacceptable and significant adverse impacts, EPA must police the Section 404(b)(1) Guidelines by recommending denial of these rockplowing proposals, irrespective of County or State level planning and zoning documents.

Another contention of Senior Corp., expressed in both of Mr. Cobb's letters, is that the proposed rockplowing tract is not appropriately termed a "wetland" and that the site is a drained mesic prairie under influence of the L-31N canal system to the east of the property. Senior Corp. also stated that the area was not inundated. EPA Region IV fully supports the Jacksonville Corps District's jurisdictional determination that the Rem, Becker and Senior Corp. sites are wetlands and that the activity of rockplowing is a regulated activity requiring an individual 404 permit. Numerous field inspections of the Senior Corp. site by EPA, FWS, Corps and DERM biologists have confirmed that during the summer wet season, water levels in solution holes are at or close to the ground surface. The presence of a thin layer of periphyton over large areas of the Rem, Becker and Senior Corp. ground surface indicates the seasonal water levels are at or close enough to the ground surface to allow growth of the periphyton algal community, which along with the dominant macrophytic ground cover, sawgrass and muhlygrass, are commonly recognized as wetland plant indicators. While Region IV acknowledges that hydroperiods of some portions of the 312-acre Senior Corp. site may be reduced somewhat from historical levels, due to the proximity of the L-31N canal system, the EPA Region IV determination is that these wetlands are functional and valuable and EPA's assessment of the quality of the Rem, Becker and Senior Corp. wetlands are fully supported by DERM, FWS, and ENP biologists.

Senior Corp. has maintained that the 312-acre wetland site is a drained wetland, with minimal on-site wetland functions, no fisheries value, and that EPA has not shown that these wetlands have any habitat value. Region IV maintains our description of the vegetative and hydrologic characteristics of the Rem, Becker and Senior Corp. sites as well as our characterization of the East Everglades fauna present at the project sites as provided in the proposed determination. Our vegetative, hydrologic and faunal assessments of the sites have been supported by Dade County, FWS, Florida Game and Fresh Water Fish Commission and ENP biologists familiar with the project site, notwithstanding Senior Corp.'s comments that our site characterizations are inaccurate. The Region has documented the presence of a forage fishery in the site solution holes and willow heads. The proposed rockplowing would completely destroy the sawgrass-muhlygrass wetland prairie-solution hole complex as well as many of the on-site willow heads which provide feeding, reproduction and refuge areas for the existing fishery. EPA's characterization of the Rem, Becker and Senior Corp. sites as "muhlygrass-sawgrass prairie wetlands" is based on numerous site inspections made by EPA and other agency biologists who observed that the dominant forms of wetland macrophytic vegetation at the sites is muhlygrass and sawgrass. Senior Corp.'s assertion that it has not been shown that these wetlands have any habitat value is unsupported and contrary to the biological expertise of all of the involved county, state and federal environmental agencies as well as the descriptions of habitat value attributed to muhlygrass-sawgrass pinnacle rock prairie provided in the EEMP.

Another contention of Senior Corp. is the company's deletion of approximately 426 acres of proposed wetland rockplowing on April 7, 1987, ensured that no unacceptable adverse effects would occur from rockplowing the balance of the property. EPA Region IV disagrees with Senior Corp.'s rationale on this issue. Senior Corp.'s April 7, 1987, permit modification still requests authorization to rockplow the remaining 312-acres of functional wetlands, which EPA Region IV has determined would result in unacceptable adverse impacts, and is inconsistent with the Section 404(b)(1) Guidelines.

Senior Corp. has stated in its comments to the proposed determination and at the public hearing that it disagrees with Region IV's cumulative impact assessment and concerns with the potential precedential nature of authorizing wetland rockplowing at the Senior Corp. site. Senior Corp. contends that EPA's concerns with cumulative loss of East Everglades wetlands should not pertain to the Senior Corp. site since the company has sold 80 to 90 percent of its East Everglades wetland property to the State during the past few years, and therefore, rockplowing the remainder of its wetland property would not cause significant adverse cumulative impacts. Region IV disagrees with Senior Corp.'s contention that EPA's concerns relative to ongoing cumulative losses of East Everglades wetlands are conjectural. Historical wetland loss trend studies in the Everglades, as well as the Region's East Everglades wetland aerial photo assessments from 1956 to 1985, all show significant and progressive losses of East Everglades

wetlands to agricultural, residential and industrial land uses. EPA Region IV does not consider the sale of functional wetlands to governmental entities as in any way mitigating the adverse environmental effects of rockplowing other functional wetlands.

Relative to Senior Corp.'s criticism of Region IV's concerns with precedential effects of authorizing rockplowing of the 312-acre site, although EPA is aware of recent public acquisition of East Everglades wetlands, that knowledge does not change the fact that additional thousands of acres of privately-owned functional wetlands are located nearby or adjacent to the Rem, Becker and Senior Corp. sites. These privately-owned wetland prairies possess ecological characteristics almost identical to the Rem, Becker and Senior Corp. wetlands, thus, the Region's concern with potential adverse precedential effects is valid.

Senior Corp. has cited the sale of wetlands in the Taylor Slough area to the State and has indicated that rockplowing the Senior Corp. site would not adversely effect the Taylor Slough wetlands complex, since the eastern edge of the Taylor Slough drainage basin does not even extend into any of the Senior Corp. property west of the L-31N levee/canal. EPA Region IV disagrees with Senior Corp.'s statement. The Senior Corp. site, as well as the Rem and Becker sites, are all in the headwaters area of the Taylor Slough (Figure 14). In fact, historically, the eastern border of the Taylor Slough drainage basin actually extended several miles east of the L-31N canal/levee alignment. Construction of the L-31N levee/canal in the 1960's, severed the eastern portion of the Taylor Slough basin from the remainder of the slough and the historic portion of the slough, east of the L-31N canal/levee has been completely converted to agricultural fields.

Senior Corp. has asked why EPA Region IV decided to initiate the proposed 404(c) determination at the Senior Corp. site. EPA's rationale for including the Senior Corp. site in the proposed determination is as follows. EPA and the Corps had exhausted the administrative procedure available to resolve the Henry Rem Estate rockplowing permit matter. The Jacksonville Corps, after EPA elevated the Rem permit matter to the ASAC, intended to issue the Rem permit over EPA Region IV objections. The pending Senior Corp. rockplowing application had been pending for 11 months at the time of EPA's decision to initiate the proposed 404(c) determination for the Rem and Becker sites. The pending Senior Corp. application represented by far the largest unresolved East Everglades rockplowing permit action where EPA Region IV had recommended denial of rockplowing activities (approximately 720 acres of wetlands). As stated in the proposed determination, Region IV concluded that because the Senior Corp. tract was essentially a similar East Everglades wetland as compared to the Rem and Becker wetland sites, that one 404(c) action embracing all these sites would be an efficient and appropriate way for the federal government to address serious environmental concerns arising from potential rockplowing in these wetland areas.

Senior Corp. has pointed out the value of south Dade agriculture and requested that EPA Region IV withdraw its proposed 404(c) determination and consider other wetland areas within Region IV where it would be more appropriate to conduct a 404(c) action. Region IV's response to Senior Corp. on this point is that the Region has taken 404(c) actions within the past few years in Mobile, Alabama, and near Charleston, South Carolina, at sites of valuable wetland areas where the Corps of Engineers had indicated to EPA that the Corps would permit the destruction/alteration of these wetland areas. That is essentially what has happened in the East Everglades with the Rem and Becker properties and due to the Region's serious concerns with potential adverse environmental impacts of rockplowing the 312-acre Senior Corp. site, EPA Region IV has included the Senior Corp. site in this recommended 404(c) determination.

Another contention of Senior Corp. is that the denial of rockplowing authorization at the Senior Corp. site would deny all reasonable use of the land. EPA Region IV's response to this contention is the same as our response to similar concerns expressed by representatives of the Becker site, provided on pages 8 and 25 of this recommended determination. It should be pointed out that Region IV did not object to the rockplowing of approximately 307 acres of the Senior Corp. property based on ecological considerations.

Another Senior Corp. contention concerned Region IV's characterization of surface and groundwater purification benefits provided by the Senior Corp. site wetlands. The Region attributed beneficial Biscayne Aquifer recharge and groundwater quality maintenance functions to the existing wetland area. The Region acknowledges that the Rem, Becker and Senior Corp. sites are not currently in the cone-of-influence of any public drinking water supply wellfields. However, based on the Region's ongoing participation in Dade County's West Wellfield Technical Advisory Committee, we understand that future regional south Dade County wellfields may be proposed in the future near the Rem, Becker and Senior Corp. sites. Relative to Senior Corp.'s comments concerning agricultural related degradation of East Everglades groundwater quality, EPA Region IV cited only the potential impacts of these activities which concerned the Agency.

Senior Corp. has stated that the 307-acre wetland area permitted by the Corps for rockplowing, located within the company's 1,030-acre tract, is identical to the 312 acres of wetlands subject to the proposed 404(c) determination. EPA Region IV disagrees with Senior Corp.'s assessment on this issue. As stated in the Region's June 13, 1986, letter, as well as in earlier Region IV letters during 1982 and 1982 which responded to earlier separate proposals by Senior Corp. to rockplow portions of the 1,030-acre wetland property, EPA considered the drainage effect of the L-31N canal, in conjunction with the presence of existing asphalt road systems and scrub transitional vegetation, in making its determination to not object to approximately 307 acres of proposed Senior Corp. wetland rockplowing. Region IV made the determination that rockplowing the 307-acre parcel of the Senior Corp. tract would not result in unacceptable adverse effects. The Region

made the determination that the 307 acres of wetland that were approved for rockplowing by the Corps had become significantly degraded as a result of L-311 canal induced drainage, elimination of hydrologic sheet flows as a result of asphalt road construction (SW 232nd Avenue) and invasion by transitional scrub vegetation, and that those wetlands could be ecologically differentiated from the remaining approximate 720 acres of wetlands owned by Senior Corp. which were still functional, and which EPA opposed rockplowing.

The last major comment made by Senior Corp. that Region IV is responding to involves the company's contention that if EPA were to 404(c) any of the Senior Corp. property, that the 426-acre wetland area that the company withdrew from its permit application would be a more appropriate location. Senior Corp. stated that it feels that the current proposed EPA 404(c) action on the 312-acre site is inappropriate. Region IV disagrees with Senior Corp.'s statement that the Region's inclusion of the 312-acre Senior Corp. wetland site is inappropriate. If the company reactivates its request to rockplow the adjoining 400 acres of wetlands it withdrew from consideration in April 1987, Region IV would seriously consider expanding its 404(c) action to include all 720 acres of Senior Corp. site wetlands.

VII. Unacceptable Adverse Impacts

In applying the statutory criteria provided in CWA Section 404(c) which the Administrator must consider in determining whether a proposed discharge of dredged or fill material will have an unacceptable adverse effect upon waters of the United States, I conclude that rockplowing on the Rem, Becker or Senior Corp. Sites would have an unacceptable adverse effect on fishery areas (including spawning and breeding areas for forage fish), wildlife and recreational areas. I have considered each of these sites individually in reaching this conclusion.

Impacts of Disposal of Fill Material as A Result of Rockplowing

Rockplowing of the 60-acre Rem site, 60-acre Becker site and 312-acre Senior Corp. site would result in the elimination of functional East Everglades pinnacle rock prairie wetlands at the sites. Rockplowing of the sites would result in significant degradation of the fish and wildlife habitat, water purification, food chain production and recreational values currently provided by the wetlands at the sites. The Rem, Becker and Senior Corp. wetlands are seasonally inundated wetlands in the Taylor Slough drainage basin which provides hydrologic flows to the eastern portion of Everglades National Park. Elimination of the site wetlands by rockplowing would reduce the export of dissolved organics and particulate detritus exported from these sites via Taylor Slough and the L-311 canal to ENP. Direct destruction of the wetland vegetation eliminates the water purification

characteristics, such as nutrient uptake, soil stabilization and pollutant uptake, provided by the wetland macrophytic and periphyton vegetation.

Elimination of Fishery and Wildlife Values

As set forth in Sections III and IV of this recommended determination, rockplowing of the Rem, Becker and Senior Corp. sites would eliminate approximately 432 acres of functional East Everglades wetlands which provide valuable habitat for a wide array of faunal species. The process of rockplowing destroys the wetland vegetation and fills in and eliminates the characteristic solution holes which make up much of the surface of the pinnacle rock wetlands. The actual habitat heterogeneity provided by the vegetation and the solution holes, which provide shelter, feeding and breeding areas for the forage fishery (i.e., crayfish, tadpoles, snails, aquatic insects, small fish etc.) found in the solution holes and reptiles, amphibians, wading birds and mammals, which utilize the pinnacle rock wetlands, would be destroyed and replaced by flat, open agricultural fields. The resultant agricultural fields, which have no fishery value, have a much lower wildlife habitat quality than the natural wetlands. Use of the Rem, Becker and Senior Corp. wetland sites by the federally endangered, Florida Panther has recently been documented by ENP officials.

Elimination of Recreational Values

Rockplowing of the Rem, Becker and Senior Corp. wetland sites would eliminate the recreational values, including nature study and birdwatching, provided by the on-site wetlands and convert these areas to farm fields. Recreational utilization of the portion of the Senior Corp. site adjacent to the asphalt road, SW 232nd Ave., would be expected to be higher than at the Rem, Becker and remainder of the Senior Corp. site, since the latter areas are more remote.

Cumulative Impacts

As set forth in Sections IV and V of this recommended determination, substantial losses of wetland resources in the Everglades drainage basin and specifically in the East Everglades area have resulted from man's agricultural, residential and industrial development of these wetlands since the turn of the century. Natural hydroperiods and sheetflow patterns in the Everglades have been adversely altered by man's development and drainage activities. These cumulative impacts have resulted in substantial declines in fish and wildlife populations throughout the Everglades basin and in the East Everglades. Water quality degradation has also occurred in many riverine, lake and wetland areas of the Everglades basin as a result of man's development activities. EPA Region IV feels that in addition to the direct significant adverse impacts that would result from rockplowing the subject 432 acres of the Rem, Becker and Senior Corp. site wetlands, that this loss would be significant in a cumulative sense in light of the fact

that FWS has documented that as much as 8,000 acres of East Everglades wetlands have been lost during the past two decades as a result of man's activities.

Potential Precedential Effects of Authorizing Rockplowing of the Rem, Becker and Senior Corp. Sites

In addition to my concerns with direct and cumulative adverse wetland effects that would result from rockplowing the Rem, Becker and Senior Corp. sites, I am concerned that issuance of permits to rockplow these functional wetland areas would encourage additional rockplowing requests from adjacent and nearby wetland property owners. These concerns are addressed in more detail in Sections IV and V of this recommended determination. Simply stated, I am aware that approximately 5,000 acres of privately-owned East Everglades pinnacle rock wetlands are adjacent to or nearby the Rem, Becker and Senior Corp. sites. These wetland areas are very similar in form and function to the Rem, Becker and Senior Corp. wetlands and much of this 5,000-acre wetland is capable of being rockplowed and farmed during the winter dry season. I feel that effective protection of these wetlands through the Section 404 program would be seriously jeopardized if rockplowing permits were given to destroy the wetlands at the Rem, Becker and Senior Corp. sites, since the ecological characteristics of the Rem, Becker and Senior Corp. wetlands sites subject to the recommended 404(c) determination would be very similar, if not identical to the ecological characteristics of the nearby 5,000 acres of privately-owned wetlands.

Section 404(b)(1) Guidelines

EPA's Guidelines at 40 CFR 231 explain that one of the basic functions of Section 404(c) is to police the application of the Section 404(b)(1) Guidelines. Those portions of the Guidelines relating to significant degradation of waters of the United States (40 CFR 230.10(c)), as well as consideration of cumulative impacts (40 CFR 230.11(g)), are of particular importance in the evaluation of the unacceptability of environmental impacts in this case. Section 230.10(c) of the Guidelines requires that no discharge of dredged or fill material shall be permitted that contributes to significant degradation of waters of the United States. Section 230.11(g) requires that the permitting authority collect, analyze, consider and document information relevant to cumulative impacts within the decision-making process. I have considered the extent of significance of both direct and cumulative impacts which would result from rockplowing the Rem, Becker and Senior Corp. wetland sites and I have determined after review of the administrative record and the written and oral comments which have been provided to me in response to Region IV's proposed determination that these adverse impacts are unacceptable. The Rem and Senior Corp. applicants have not indicated that they want to withdraw their applications to the Jacksonville Corps District to rockplow 60 acres and 312 acres of East Everglades wetlands, respectively. The Jacksonville District has not provided me with any information which would lead me to believe that the District does not still intend to issue the 60-acre

Rem permit and would not issue a permit authorizing 60-acres of wetland rock-plowing at the adjacent Becker site, if an application were made by Becker property owners. The Dade County Environmental Resources Management Department has written to me in response to Region IV's proposed determination indicating that there are large acreages of less environmentally sensitive lands than the Rem, Becker and Senior Corp. sites available for agriculture in the East Everglades.

VIII. Prohibition on Rockplowing of the Rem, Becker and Senior Corporation Sites

Section 404(c) authorizes different limitations on discharges which EPA may effect through its actions on disposal site specifications. Where the facts warrant it, I may recommend that any defined area be prohibited from specifications as a disposal site pursuant to Sections 404(a) and (b). If I should determine that the discharge of certain materials will have significantly less damaging effects than others, or that limiting discharges by amount, method, and/or location will reduce the likelihood of unacceptable adverse effects, I may recommend that the use of a specified site merely be restricted in some manner and/or that only a portion of the area under consideration be made the "defined area" subject to prohibition on specification.

After consideration of the entire record in these cases, I have determined that unacceptable adverse effects will occur to fishery areas, wildlife, and recreational areas as a result of rockplowing the wetlands at the Rem, Becker and Senior Corporation sites. Other discharges which would not totally destroy the wetland ecological functions that these sites possess may be acceptable. Therefore, I am recommending that rockplowing on all or parts of each of these sites be prohibited by this action and that all other discharges be considered through the CWA Section 404 permitting program on an individual basis.


Al J. Smith
Hearing Officer/Deputy Director
Water Management Division
EPA Region IV

02/09/88
Date