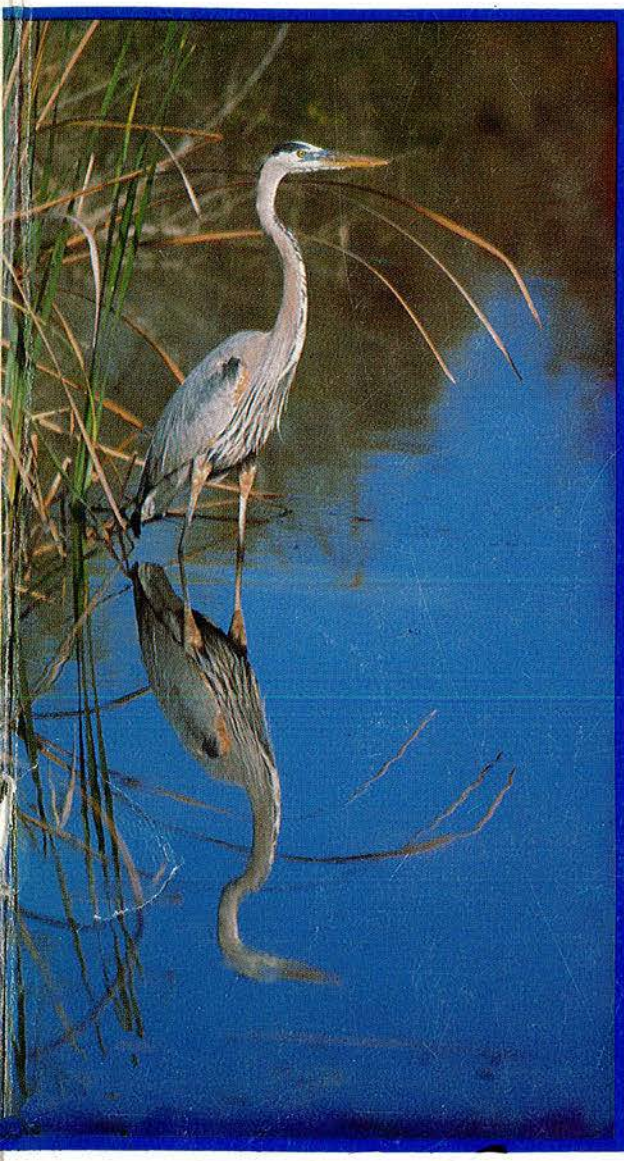
SURFACE WATER IMPROVEMENT AND MANAGEMENT PLAN FOR

THE EVERGLADES



APPENDICES March 13, 1992

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SURFACE WATER IMPROVEMENT AND MANAGEMENT PLAN

FOR

THE EVERGLADES

APPENDICES

Issued in compliance with the
Surface Water Improvement and Management Act
(Sections 373.451- 373.4595, Florida Statutes)

and

Rule 17-43.035, Florida Administrative Code
(Florida Department of Environmental Regulation

and

Marjory Stoneman Douglas Everglades Protection Act
(Section 373.4592, Florida Statutes)

South Florida Water Management District

March 13, 1992

DRAFT
Surface Water Improvement and Management Plan
For the
Everglades
March 13, 1992

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These documents are the products of an effort by more than 100 members of the District staff, five private consulting companies, two technical advisory groups and representatives of various local, state, and federal agencies. The District staff wish to express its sincere appreciation for the dedication and commitment of all who participated in this task.

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EVERGLADES SWIM PLAN

APPENDIX A

Legislation, Rules, Orders

Copies of:

1. Marjory Stoneman Douglas Everglades Protection Act, Section 373.4592 Florida Statutes
2. SWIM Legislation, Section 373.451-373.4595 Florida Statutes
3. DER Rule 17-43, and
4. DER Memorandum of April 25, 1988, and Attachment I describing the SWIM plan format
5. Executive Order Number 88-25

MARJORY STONEMAN DOUGLAS EVERGLADES PROTECTION ACT

1991 Regular Session

Chapter 91-80

CS/CS/CS/HBs 2157 & 1871

AN ACT relating to water resources; providing a short title; creating s. 373.4592, F.S.; providing findings and intent; providing definitions; providing for the adoption of an Everglades Surface Water Improvement and Management Plan by the South Florida Water Management District; providing limited eminent domain authority to the district; authorizing certain exchange of land; providing the district with alternative funding mechanisms, including the creation of stormwater utilities and stormwater management system benefit areas; providing procedures and requirements for the levy and collection of stormwater utility fees and stormwater assessments; providing for the issuance of interim permits to the district; authorizing the district to issue a master permit within an area served by certain structures; providing for the applicability of certain standards and laws; providing for annual reports; amending ss. 253.01, F.S.; providing for deposit and use of proceeds from the sale of lands in the Everglades Agricultural Area; amending ss. 253.111 and 253.115, F.S.; providing an exemption from certain notice and hearing requirements for the conveyance of certain lands; amending s. 373.584, F.S.; providing definitions; providing additional purposes for which revenue bonds may be issued by water management districts; specifying revenues that may be pledged for such bonds and providing requirements with respect thereto; providing that the power of districts to issue revenue bonds is coextensive with the power of municipalities to issue bonds; amending s. 259.101, F.S.; authorizing funds available to water management districts under the Florida Preservation 2000 Act to be used for acquisition of lands needed for implementing surface water improvement and management plans; providing an effective date.

Be It Enacted by the Legislature of the State of Florida:

Section 1.This act may be cited as the "Marjory Stoneman Douglas Everglades Protection Act."

Section 2.Section 373.4592, Florida Statutes, is created to read:

373.4592 Everglades improvement and management

(1) FINDINGS AND INTENT.--

(a) The Legislature finds that the Everglades ecological system not only contributes to South Florida's water supply, flood control, and recreation, but serves as the habitat for diverse species of wildlife and plant life. The system is unique in the world and one of Florida's great treasures.

(b) The Legislature further recognizes the efforts of the South Florida Water Management District to implement a comprehensive plan pursuant to the Surface Water Improvement and Management Act which will provide strategies, programs, and projects for the restoration and protection of water quality in the Everglades. The Legislature does not intend by this section to limit the authority of the district in the implementation of such plan.

(c) It is the intent of the Legislature to facilitate the surface water improvement and management process, to assist the district and the Department of Environmental Regulation in the performance of their duties and responsibilities, and to provide funding mechanisms which will contribute to the implementation of the strategies incorporated in the Everglades Surface Water Improvement and Management Plan or contribute to projects or facilities determined necessary to meet water quality requirements established by rulemaking or permit proceedings.

(2) DEFINITIONS.-- As used in this section:

(a) "District" means the South Florida Water Management District.

(b) "Everglades Agricultural Area" shall have the meaning set forth in the Everglades Surface Water Improvement and Management Plan or interim permit issued pursuant to subsection (6).

(c) "Everglades Protection Area" means water Conservation Areas 1, 2A, 2B, 3A, and 3B, the Arthur R. Marshall Loxahatchee National Wildlife Refuge, and the Everglades National Park.

(d) "Master permit" means a single permit issued to a legally responsible entity defined by rule authorizing the construction, alteration, maintenance, or operation of multiple stormwater management systems which may be owned or operated by different persons and which provides an opportunity to achieve collective compliance with applicable department and district rules and the provisions of this section.

(e) "Plan" shall, except as otherwise indicated, refer to the Everglades Surface Water Improvement and Management Plan adopted by the South Florida Water Management District, as amended from time to time.

(f) "Stormwater management program" shall have the meaning set forth in s. 403.031(14).

(g) "Stormwater utility" shall have the meaning set forth in s. 403.031(16).

(3) ADOPTION OF SWIM PLAN.--

(a) The district shall adopt the Everglades Surface Water Improvement and Management Plan pursuant to the Provisions of ss. 373.451-373.456. In addition to the criteria contained in s. 373.453, the plan shall include:

1. Strategies for developing programs and projects designed to bring facilities into compliance with applicable water quality standards and restore the Everglades hydroperiod, including the identification and acquisition of lands for the purpose of water treatment or implementation of stormwater management systems, the development of funding mechanisms, and the development of a permitting system for discharges into waters managed by the district.

2. Specific goals for stormwater management systems funded pursuant to subsection (5) and a periodic evaluation process to determine whether such goals are being achieved.

3. Strategies for establishing monitoring protocols to ensure the accuracy of data.

4. Strategies for establishing research programs to measure program and project effectiveness.

(b) The plan shall not be reviewable as a rule under s. 120.54 or s. 120.56. However, the final agency action of the governing board of the district under s. 373.456(4) or (5)(b) shall constitute an order of the district subject to review as provided in s. 373.456(5)(b). The order shall also be subject to the provisions of s. 120.57. If a provision of the plan is to be implemented through permits for which there is no existing rule requirement, the district shall engage in rulemaking procedures pursuant to chapter 120 for the adoption of the requirement. To the extent feasible, any review proceeding under chapter 373 or any administrative proceeding under s. 120.57, with respect to a challenge to the plan, shall be expedited and shall be consolidated with any pending review proceedings relating to an interim permit issued pursuant to subsection (6).

(c) This section shall not be construed to prohibit the district prior to approval of the plan from pursuing interim permits pursuant to subsection (6) or from engaging in restoration or protection measures, including the acquisition, construction, or operation of the Everglades Nutrient Removal Project or the project referred to as Water Management Area 3, as identified in the September 28, 1990, draft of the Everglades Surface Water Improvement and Management Plan. The department may release funds under ss. 373.451-373.456 for such projects.

(4) **Acquisition of lands.--**

(a) The Legislature declares that it is necessary for the public health and welfare that the Everglades water and water-related resources be conserved and protected. The Legislature further declares that certain lands may be needed for the treatment or storage of water prior to its release into the Everglades Protection Area. The acquisition of real property for this objective constitutes a public purpose for which public funds may be expended. In addition to other authority pursuant to this chapter to acquire real property, the governing board of the district is empowered and authorized to acquire fee title or easements by eminent domain for the limited purpose of implementing stormwater management systems, identified and described in the plan or determined necessary to meet water quality requirements established by rule permit.

(b) In addition to the acquisition of lands by eminent domain pursuant to paragraph (a), the Board of Trustees of the Internal Improvement Trust Fund and the district may enter into cooperative agreements with property owners within a stormwater management system area to provide for the exchange of property subject to condemnation under paragraph (a) for state-owned property which the owner or an affiliate of such owner leases from the board of trustees or other agency of the state and which was used for agricultural production on January 1, 1991. Any such agreement shall include the following:

1. The landowner shall acquire property covered by the lease by paying any deficiency in cash or be transferring other private lands which the

district or any other agency of the state has sought to acquire, or by a combination of land transfer and cash payment.

2. The exchange shall be made on the basis of appraisals performed in a manner consistent with the provisions of s. 253.025(7).

3. Title to any land conveyed to the Board of Trustees of the Internal Improvement Trust Fund as a result of such an exchange shall be conveyed to the South Florida Water Management District, upon payment of the appraised value thereof by the district to the board of trustees.

(5) **Stormwater funding; dedicated funds for stormwater management.**-- In addition to any other funding mechanism legally available to the district to plan, acquire, construct, finance, operate, or maintain stormwater management systems, the district may:

(a) Create one or more stormwater utilities within or without the Everglades Agricultural Area and adopt stormwater utility fees not to exceed an amount sufficient to plan, acquire, construct, finance, operate, and maintain stormwater management systems where such utilities and systems are identified and described in the plan or permits issued pursuant to subsection (6). If adopted, stormwater utility fees shall be charged to property owners in the district based on the relative contribution of each property owner to the need for stormwater management systems and programs. The district may establish stormwater utility fees adopted pursuant to this paragraph in accordance with the procedures set forth in s. 120.54, and may enforce the payment of such fees through actions or proceedings in any court of competent jurisdiction for unpaid deposits and charges, or through the imposition of liens upon real property for which utility fees are charged and unpaid.

(b) Establish and set aside, as a continuing source of revenue, other funds sufficient to plan, acquire, construct, finance, operate, and maintain stormwater management systems identified and described in the plan or permits issued pursuant to subsection (6). Such funds may include contributions from the Everglades Agricultural Area Environmental Protection District, created pursuant to chapter 89-423, Laws of Florida, as amended. The district shall apply any such contributions as a credit against any fee imposed pursuant to paragraph (a) or assessment levied pursuant to paragraph (c).

(c) Create, alone or in cooperation with counties, municipalities, and special districts pursuant to s. 163.01, the Florida Interlocal Cooperation Act of 1969, one or more stormwater management system benefit areas within the Everglades Agricultural Area or any other area of the district identified and described in the plan or permits issued pursuant to subsection (6). The district may levy upon property owners within said benefit areas a per acreage assessment to fund the planning, acquisition, construction, financing, operation, maintenance, and administration of stormwater management systems for the benefited areas. Any benefit area in which property owners receive substantially different levels of stormwater management system benefits shall include stormwater management system benefit subareas within which different per acreage assessments shall be levied from subarea to subarea based upon a reasonable relationship to benefit received. The assessments shall be calculated to generate sufficient funds to plan, acquire, construct, finance, operate, and maintain the stormwater management systems identified and described in the plan or permits issued pursuant to subsection (6). The district may use the non-ad valorem levy, collection, and enforcement method as provided in chapter 197 for assessments levied pursuant to this paragraph.

The district shall publish notice of the certification of the non-ad valorem assessment roll pursuant to chapter 197 in a newspaper of general circulation in the counties wherein the assessment is being levied, within 1 week after the district certifies the non-ad valorem assessment roll to the tax collector pursuant to s. 197.3632(5). The assessments so levied shall be final and conclusive as to each lot or parcel unless the owner thereof shall, within 90 days of certification of the non-ad valorem assessment roll pursuant to s. 197.3632(5), commence an action in circuit court. Absent such commencement of an action within such period of time by an owner of a lot or parcel, such owner shall thereafter be estopped to raise any question related to the special benefit afforded the property or the reasonableness of the amount of the assessment. Except with respect to an owner who has commenced such an action, the non-ad valorem assessment roll as finally adopted and certified by the South Florida Water Management District to the tax collector pursuant to s. 197.3632(5) shall be competent and sufficient evidence that the assessments were duly levied and that all other proceedings adequate to the adoption of the non-ad valorem assessment roll were duly held, taken, and performed as required by s. 197.3632. If any assessment is abated in whole or in part by the court, the amount by which the assessment is so reduced may, by resolution of the governing board of the district, be payable from funds of the district legally available for that purpose, or at the discretion of the governing board of the district, assessments may be increased in the manner provided in s. 197.3632.

(d) In no event shall the amount of funds collected for stormwater management facilities pursuant to paragraphs (a) or (c) or any combination thereof exceed the cost of providing water management attributable to water quality treatment resulting from the operation of stormwater management systems of the landowners to be charged. Such water quality treatment may be required by the plan or permits issued pursuant to subsection (6). Prior to the imposition of fees or assessments pursuant to paragraphs (a) or (c) for construction of new stormwater management systems or the acquisition of necessary land, the district shall establish the general purpose, design, and function of the new system sufficient to make a fair and reasonable determination of the estimated costs of water management attributable to water quality treatment resulting from operation of stormwater management systems of the landowners to be charged. This determination shall establish the proportion of the total anticipated costs attributable to the landowners. In determining the costs to be imposed by fees or assessments, the district shall consider the extent to which nutrients originate from external sources beyond the control of the landowners to be charged. Costs for hydroperiod restoration within the Everglades Protection Area shall be provided by funds other than those authorized by this paragraphs (a) or (c). The proportion of total anticipated costs attributable to the landowners shall be apportioned to individual landowners considering the factors specified in paragraph (e). Any determination made pursuant to this paragraph or paragraph (e) may be included in the plan or permits issued pursuant to subsection (6).

(e) In determining the amount of any fee or assessment imposed on an individual landowner to be charged under paragraph (a) or (c), the district shall consider the quality and quantity of the stormwater discharged by the landowner, the amount of treatment provided to the landowner, and whether the landowner has provided equivalent treatment or retention prior to discharge to the district's system.

(f) No fee or assessment shall be imposed under paragraphs (a) or (c) for the operation or maintenance of a stormwater management system or facility for which construction has been completed on or before July 1, 1991, except to the extent that

the operation or maintenance, or any modification of such system or facility, is required to provide water quality treatment.

(g) The district shall suspend, terminate, or modify projects and.funding for such projects, as appropriate, if the projects are not achieving applicable goals specified in the plan.

(h) The Legislature hereby determines that any property owner who contributes to the need for stormwater management systems and programs, as determined for each individual property owner either through the plan or through permits issued to the district pursuant to subsection (6) or to the property owner, is deemed to benefit from such systems and programs, and such benefits are deemed to be directly proportional to the relative contribution of the property owner to such need. The Legislature also determines that the issuance of a master permit provides benefits, through the opportunity to achieve collective compliance, for all persons within the area of the master permit which may be considered by the district in the imposition of fees or assessments under this section.

(6) Permits -- The department and the district shall develop a permitting program consistent with the plan, if adopted. Pursuant to such program:

(a) The district shall apply to the department by October 1, 1991, for 5-year interim permits for the construction, operation, and maintenance of stormwater management systems for district structures discharging into or within the Everglades Protection Area. In addition to the requirements of ss. 373.413 and 373.416 the applications shall include the following:

1. To the extent information is available, recommended ambient concentration levels and discharge limitations for phosphorus appropriate to achieve and maintain compliance with applicable state water quality standards.

2. Proposed interim concentration levels designed to achieve such compliance to the maximum extent practicable.

3. Strategies for achieving and maintaining compliance with such interim concentration levels, including the acquisition of lands and the construction and operation of facilities for the purpose of water treatment, the development of funding mechanisms, and the development of a regulatory program to improve the quality of water entering the stormwater management systems. Such regulatory program shall include the identification of structures or systems requiring permits or modifications of existing permits and the development, where appropriate, of a master permit for a specified area, such as the Everglades Agricultural Area.

4. Appropriate schedules to carry out such strategies.

5. A monitoring program to ensure the accuracy of data and measure progress toward achieving interim concentration levels and applicable water quality standards.

(b) The department shall issue such interim permits to the district upon the district's demonstration of reasonable assurance that such permits will achieve compliance with interim concentration levels to the maximum extent practicable and otherwise comply with the provisions of ss. 373.413 and 373.416. The district shall also apply for an interim permit or for the modification of an existing permit, as

provided in paragraph (a), for any new structure or for any modification of an existing structure subsequent to October 1, 1991.

(c) Permits issued pursuant to paragraph (b) shall be consistent with the plan, if adopted. Applications for modifications necessary to maintain consistency with the plan shall be filed within 90 days of the adoption of any change to the plan necessitating such modifications.

(d) At least 60 days prior to expiration of any interim permit issued pursuant to paragraph (b), the district may apply for a renewal thereof for a period of 5 years for the purpose of achievement and maintenance of applicable water quality standards.

(e) Nothing in this subsection shall relieve any person from the need to obtain any permit required by the department or the district pursuant to any other provision of law.

(7) -- The district shall publish notice of rulemaking pursuant to chapter 120 by October 1, 1991, allowing for a master permit or permits authorizing discharges from landowners within that area served by structures identified as S-5A, S-6, S-7, S-8, and S-150. For discharges within this area, the district shall not initiate any proceedings to require new permits or permit modifications for nutrient limitations prior to the adoption of the master permit rule by the governing board of the district or prior to April 1, 1992, whichever first occurs. The district's rules shall also establish conditions or requirements allowing for a single master permit for the Everglades Agricultural Area including those structures and water releases subject to Rule 40E-61, Florida Administrative Code. No later than the adoption of rules allowing for a single master permit, the department and the district shall provide appropriate procedures for incorporating into a master permit separate permits issued by the department under chapter 373. The district's rules authorizing master permits for the Everglades Agricultural Area shall provide requirements consistent with the Everglades Surface Water Improvement and Management Plan and with interim or other permits issued by the department to the district. Such a master permit shall not preclude the requirement that individual permits be obtained for persons within the master permit area for activities not authorized by or not in compliance with, the master permit. Nothing in this subsection shall limit the authority of the department or district to enforce existing permit requirements or existing rules, to require permits for new structures, or to develop rules for master permits for other areas. To the greatest extent possible the department shall delegate to the district any authority necessary to implement this subsection which is not already delegated.

(8) **Applicability of laws and water quality standards; authority of district and department.--**

(a) Nothing in this section shall be construed to limit, detract from, or compromise the application or implementation of the Surface Water Improvement and Management Act, ss. 373.451 - 373.4595. This section shall be construed, in all respects, to enhance and strengthen the provisions of the act as applied to the Everglades Protection Area. As provided in ss. 373.451 - 373.4595, the plan shall include recommendations and schedules for bringing all pollution sources into compliance with state water quality standards. This section does not, nor shall the

plan, authorize any existing or future violation of any applicable statute, rule, or permit requirement, nor diminish the authority of the department or the district.

(b) Except to the extent authorized in subsection (6), nothing in this section shall be construed as altering any currently applicable state water quality standards in the areas impacted by this section.

(c) The provisions of this section shall not be construed to limit or restrict the authority granted the district and the department pursuant to this chapter or chapter 403 to control, regulate, permit, construct, or operate a stormwater management system, or to plan, design, or implement a surface water improvement and management plan, and the provisions of this section shall be deemed to be supplemental to the authority granted pursuant to this chapter and chapter 403.

(9) Annual reports.-- Beginning January 1, 1992, the district shall submit to the department, the Governor, the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the President of the Senate, and the Minority Leader of the Senate annual progress reports regarding implementation of the plan.

[The following are modifications to Florida Statutes. Additions are indicated by underlining; deletions by ~~strikeout.~~]

Section 3. Paragraph (c) is added to subsection (1) of section 253.01, Florida Statutes, to read:

253.01 Internal Improvement Trust Fund established

(1)

(c) Notwithstanding the provisions of s. 253.034, proceeds from the sale of state-owned lands located in the Everglades Agricultural Area shall be deposited into the Internal Improvement Trust Fund. The principal amount derived from such sales shall be held in escrow and invested in the manner described in s. 215.49. The interest earnings derived from such investments shall be used for purposes authorized in this section.

Section 4. Subsection (6) of section 253.111, Florida Statutes, is amended to read:

253.111 Notice to board of county commissioners before sale

The Board of Trustees of the Internal Improvement Trust Fund of the state may not sell any land to which they hold title unless and until they afford an opportunity to the county in which such land is situated to receive such land on the following terms and conditions:

(6) The provisions of this section do not apply to:

(a) any land exchange approved by the board; or

(b) Lands conveyed pursuant to the provisions of s. 373.4592(4)(b).

Section 5. Paragraphs (f) and (g) of subsection (4) of section 253.115, Florida Statutes, are amended, and paragraph (h) is added to said subsection, to read:

253.115 Public notice and hearings

(4) This section does not apply to:

(f) The conversion of existing marina licenses to sovereignty land leases; ~~or~~

(g) Sovereignty land leases for existing structures built on or after March 27, 1982, if all required federal, state, or local permits have been obtained; or

(h) The conveyance of lands pursuant to the provisions of s. 373.4592(4)(b).

Section 6. Subsections (1) and (2) of section 373.584, Florida Statutes, are amended, and subsection (4) is added to said section, to read:

373.584 Revenue bonds

(1) In addition to issuing general obligation bonds as provided in s. 373.563, districts may also, from time to time, issue revenue bonds to finance the undertaking of any capital or other project for the purposes permitted by the State Constitution, to pay the costs and expenses incurred in carrying out the purposes of this chapter, or to refund revenue bonds of the district issued pursuant to this section. In anticipation of the sale of such revenue bonds, the district may issue negotiable bond anticipation notes and may renew the same from time to time; but the maximum maturity of any such note, including renewals thereof, shall not exceed 5 years from the date of issue of the original note. Such notes shall be paid from the revenues hereinafter provided or from the proceeds of sale of the revenue bonds of such district in anticipation of which they were issued. The notes shall be issued in the same manner as the revenue bond.

(2) ~~The revenue bonds and notes shall be payable solely out of~~ Revenues derived by the district from the Water Management Lands Trust Fund as provided in s. 373.59 or any other revenues of the district may be pledged to the payment of such revenue bonds; however, the ad valorem taxing powers of the district may not be pledged to the payment of such revenue bonds without prior compliance with the requirements of the State Constitution as to the affirmative vote of the electors of the district and with the requirements of s. 373.563, and bonds payable from the Water Management Lands Trust Fund shall be issued solely for the purposes set forth in s. 373.59. Revenue bonds and notes shall be, and shall be deemed to be, for all purposes, negotiable instruments, subject only to the provisions of the revenue bonds and notes for registration. The powers and authority of districts to issue revenue bonds, including, but not limited to, bonds to finance a stormwater management system as defined by s. 373.403, and to enter into contracts incidental thereto, and to do all things necessary and desirable in connection with the issuance of revenue bonds, shall be coextensive with the powers and authority of municipalities to issue bonds under state law. The provisions of this section constitute full and complete authority for the issuance of revenue bonds and shall be liberally construed to effectuate its purpose.

(4) As used in this section:

(a) "Bonds" means bonds, debentures, notes, certificates of indebtedness, certificates of participation, mortgage certificates, or other obligations or evidences of indebtedness of any type or character.

(b) "Project" means a governmental undertaking approved by the governing body of a water management district and includes all property rights, easements, and franchises relating thereto and deemed necessary or convenient for the construction, acquisition, or operation thereof, and embraces any capital expenditure which the governing body of a water purpose, including the refunding of any bonded indebtedness which may be outstanding on any existing project.

(c) "Revenue bonds" means bonds of a water management district to the payment of which the full faith and credit and power to levy ad valorem taxes are not pledged.

Section 7. Paragraph (b) of subsection (3) of section 259.101, Florida Statutes, is amended to read:

259.101 Florida Preservation 2000 Act

(3) **Land acquisition programs supplemented.** -- Less the costs of issuance, the costs of funding reserve accounts, and other costs with respect to the bonds, the proceeds of bonds issued pursuant to this act shall be deposited into the Florida Preservation 2000 Trust Fund created by s. 375.045. No bonds shall be issued in fiscal year 1990-1991 pursuant to this act unless there is specific authorization for the issuance of such bonds in the act implementing the 1990-1991 General Appropriations Act. The proceeds of any bonds deposited into the Preservation 2000 Trust Fund shall be distributed by the Department of Natural Resources in the following manner:

(b) Thirty percent to the Department of Environmental Regulation for the purchase of water management lands pursuant to s. 373.59, to be distributed among the water management districts as provided in that section. Funds received by each district may also be used for acquisition of lands necessary to implement surface water improvement and management plans approved in accordance with s. 373.456 or s. 373.4592.

Section 8. This act shall take effect July 1, 1991.

Approved by the Governor May 17, 1991.

Filed in Office Secretary of State May 17, 1991.

SWIM

STATUTE

1989

373.451 Short title; legislative findings and intent.

(1) Sections 373.451–373.4595 may be cited as the "Surface Water Improvement and Management Act."

(2) Legislative intent.—The Legislature finds that the water quality of many of the surface waters of the state has been degraded, or is in danger of becoming degraded, and that the natural systems associated with many surface waters have been altered so that these surface waters no longer perform the important functions that they once performed. These functions include:

(a) Providing aesthetic and recreational pleasure for the people of the state;

(b) Providing habitat for native plants, fish, and wildlife, including endangered and threatened species;

(c) Providing safe drinking water to the growing population of the state; and

(d) Attracting visitors and accruing other economic benefits.

(3) The Legislature finds that the declining quality of the state's surface waters has been detrimental to the public's right to enjoy these surface waters and that it is the duty of the state, through the state's agencies and subdivisions, to enhance the environmental and scenic value of surface waters.

(4) The Legislature finds that factors contributing to the decline in the ecological, aesthetic, recreational, and economic value of the state's surface waters include:

(a) Point and nonpoint source pollution; and

(b) Destruction of the natural systems which purify surface waters and provide habitats.

(5) The Legislature finds that surface water problems can be corrected and prevented through plans and programs for surface water improvement and management that are planned, designed, and implemented by the water management districts and local governments.

(6) It is therefore the intent of the Legislature that each water management district develop plans and programs for the improvement and management of surface waters within its boundaries.

(7) It is also the intent of the Legislature that the department shall conduct or coordinate statewide research by the water management districts or others to provide a better scientific understanding of the causes and effects of surface water pollution and of the destruction of natural systems in order to improve and manage surface waters and associated natural systems.

(8) The state, through the department, shall provide funds from the Surface Water Improvement and Management Trust Fund to assist with the implementation of the district plans and programs under this act. However, to achieve the goals of this act, cooperation and funding is necessary from the state, the water management districts, and local governments.

History.—s. 1, ch. 87-97; s. 24, ch. 89-279.

373.453 Surface water improvement and management plans and programs.—

(1)(a) Each water management district, in cooperation with the department, the Department of Agriculture and Consumer Services, the Department of Community Affairs, the Game and Fresh Water Fish Commission, the Department of Natural Resources, and local governments shall prepare and maintain a list which shall prioritize water bodies of regional or statewide significance within each water management district. The list shall be reviewed and updated every 3 years. The list shall be based on criteria adopted by rule of the department and shall assign priorities to the water bodies based on their need for protection and restoration.

(b) Criteria developed by the department shall include, but need not be limited to, consideration of violations of water quality standards occurring in the water body, the amounts of nutrients entering the water body

and the water body's trophic state, the existence of or need for a continuous aquatic weed control program in the water body, the biological condition of the water body, reduced fish and wildlife values, and threats to agricultural and urban water supplies and public recreational opportunities.

(c) In developing their respective priority lists, water management districts shall give consideration to the following priority areas:

1. The South Florida Water Management District shall give priority to the restoration needs of Lake Okeechobee, Biscayne Bay, and the Indian River Lagoon system and their tributaries.

2. The Southwest Florida Water Management District shall give priority to the restoration needs of Tampa Bay and its tributaries.

3. The St. Johns River Water Management District shall give priority to the restoration needs of Lake Apopka, the Lower St. Johns River, and the Indian River Lagoon system and their tributaries.

(2) Once the priority lists are approved by the department, the water management districts, in cooperation with the department, the Game and Fresh Water Fish Commission, the Department of Natural Resources, the Department of Community Affairs, the Department of Agriculture and Consumer Services, and local governments, shall develop surface water improvement and management plans for the water bodies based on the priority lists. The department shall establish a uniform format for such plans and a schedule for reviewing and updating the plans. These plans shall include, but not be limited to:

(a) A description of the water body system, its historical and current uses, its hydrology, and a history of the conditions which have led to the need for restoration or protection;

(b) An identification of all governmental units that have jurisdiction over the water body and its drainage basin within the approved surface water improvement and management plan area, including local, regional, state, and federal units;

(c) A description of land uses within the drainage basin within the approved surface water improvement and management plan area and those of important tributaries, point and nonpoint sources of pollution, and permitted discharge activities;

(d) A list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are:

1. Operating without a permit;

2. Operating with a temporary operating permit; and

3. Presently violating effluent limits or water quality standards.

The plan shall also include recommendations and schedules for bringing all sources into compliance with state standards when not contrary to the public interest. This paragraph does not authorize any existing or future violation of any applicable statute, regulation, or permit requirement, and does not diminish the authority of the department or the water management district;

(e) A description of strategies and potential strategies for restoring or protecting the water body to Class III or better;

(f) A listing of studies that are being or have been prepared for the water body;

(g) A description of the research and feasibility studies which will be performed to determine the particular strategy or strategies to restore or protect the water body;

(h) A description of the measures needed to manage and maintain the water body once it has been restored and to prevent future degradation;

(i) A schedule for restoration and protection of the water body; and

(j) An estimate of the funding needed to carry out the restoration or protection strategies.

(3) Each water management district shall be responsible for planning and coordinating restoration or protection strategies for the priority water bodies within the district which have been approved by the department as water bodies of regional and statewide significance in need of protection or restoration. The governing board of the appropriate water management district shall hold at least one public hearing and public workshops in the vicinity of the water body under consideration as may be necessary for obtaining public input prior to finalizing the surface water improvement and management plans for the water bodies on the priority list. The water management district shall then forward a copy of the plans to the department and to appropriate local governmental units.

(4) Each September 1, the water management districts shall submit a funding proposal for the next state fiscal year to the department for its review and approval. The proposal shall specify the activities that need state funding and the amounts of funding, and shall describe the specific restoration or protection activities proposed. The department shall review water management district funding proposals and shall consider them in making its annual budget request.

(5) The governing board of each water management district is encouraged to appoint advisory committees as necessary to assist in formulating and evaluating strategies for water body protection and restoration activities and to increase public awareness and intergovernmental cooperation. Such committees should include representatives of the Game and Fresh Water Fish Commission, the Department of Natural Resources, the Department of Agriculture and Consumer Services, appropriate local governments, federal agencies, existing advisory councils for the subject water body, and representatives of the public who use the water body.

(6) The water management districts may contract with appropriate state, local, and regional agencies and others to perform various tasks associated with the development and implementation of the surface water improvement and management plans.

History.—s. 2, ch. 87-97; s. 25, ch. 89-279.

373.455 Review of surface water improvement and management plans.—

(1) At least 60 days prior to consideration by the governing board pursuant to s. 373.456(1) of its surface

water improvement and management plan, a water management district shall transmit its proposed plan to the department, the Department of Agriculture and Consumer Services, the Game and Fresh Water Fish Commission, the Department of Community Affairs, the Department of Natural Resources, and local governments.

(2)(a) The department shall review each plan to determine:

1. Whether the costs described in the plan, as projected by the water management districts, are reasonable estimates of the actual costs;

2. The likelihood that the plan will significantly improve or protect water quality and associated natural resources; and

3. Whether the plan activities can be funded based on available revenues within the Surface Water Improvement and Management Trust Fund or other funding which may be proposed by the department, the districts, or local governments.

(b) If the department determines that a plan does not meet these requirements, the department shall recommend to the district modifications or additions to the plan to the governing board at the time of its consideration of the plan pursuant to s. 373.456(1).

(3) The Game and Fresh Water Fish Commission shall review each proposed surface water improvement and management plan to determine the effects of the plan on wild animal life and fresh water aquatic life and their habitats. If the commission determines that the plan has adverse effects on these resources and that such adverse effects exceed the beneficial effects on these resources, the commission shall recommend modifications of or additions to the plan to the district governing board at the time it considers the plan pursuant to s. 373.456(1), or any modifications or additions which would result in additional beneficial effects on wild animal life or fresh water aquatic life or their habitats.

(4) The Department of Natural Resources shall review each proposed surface water improvement and management plan to determine the effects of the plan on state-owned lands and on marine and estuarine aquatic life and their habitats. If the Department of Natural Resources determines that the plan has adverse effects on these resources and that such adverse effects exceed the beneficial effects on these resources, the department shall recommend modifications of, or additions to the plan to the district governing board at the time it considers the plan pursuant to s. 373.456(1).

(5) The Department of Agriculture and Consumer Services shall review each proposed surface water improvement and management plan to determine the effects of the plan on the agricultural resources of the area and the state. If the Department of Agriculture and Consumer Services determines that the plan has adverse effects on these resources and that such adverse effects exceed the beneficial effects on these resources, the department shall recommend modifications of, or additions to the plan to the district governing board at the time it considers the plan pursuant to s. 373.456(1).

(6) The Department of Community Affairs shall review each proposed surface water improvement and management plan to determine the effects of the plan on the State Comprehensive Plan and Areas of Critical State Concern. If the Department of Community Affairs determines that the plan has adverse effects on the State Comprehensive Plan or these resources and that such adverse effects exceed the beneficial effects on these resources, the department shall recommend modifications of, or additions to, the plan to the district governing board at the time it considers the plan pursuant to s. 373.456(1).

(7) The local governments shall review each proposed surface water improvement and management plan and provide comments as to the effects of the plan on local resources consistent with the intent of this act. If the local government determines that the plan has adverse effects on these resources and that such adverse effects exceed the beneficial effects on these resources, the local government shall recommend modifications of or additions to the district governing board at the time it considers the plan pursuant to s. 373.456(1).

History.—s. 3, ch. 87-97; s. 26, ch. 89-279.

373.456 Approval of surface water improvement and management plans.—

(1) After consideration of the comments and recommendations submitted pursuant to s. 373.455 and any other public comments, the governing board shall approve the surface water improvement and management plan. Within 15 days of approval, the district shall transmit the plan to the department.

(2) The department shall have the exclusive authority to review the plan to ensure consistency with the state water policy and the State Comprehensive Plan.

(3) Within 30 days after receipt of an approved plan, the department shall submit a determination of consistency to the governing board. The determination of the department shall not constitute a rule or order.

(4) If the department determines that the plan is consistent, the district shall publish notice in the Florida Administrative Weekly. The plan shall be considered effective and shall constitute final agency action of the governing board on the date of advertisement.

(5) If the department determines that the plan is not consistent, the following procedure shall apply.

(a) The secretary shall notify the governing board of the changes recommended by the department to make the plan consistent. The governing board shall review the recommended change at its next regularly scheduled meeting.

(b) Upon conclusion of its review, the governing board shall either incorporate the recommended changes into the plan or state in the plan the reasons for not adopting the changes. The governing board's action shall then be effective and shall constitute final agency action. The plan shall be subject to review pursuant to s. 373.114 as of the date of the governing board action approving the plan after completion of any necessary reviews.

History.—s. 27, ch. 89-279.

373.457 Implementation of surface water improvement and management plans and programs.—

(1) The funds in the Surface Water Improvement and Management Trust Fund shall be available to the water management districts for detailed planning for and implementation of surface water improvement and man-

agement plans. However, ss. 373.451-373.4595 do not prohibit a water management district from requesting and receiving funds from the Surface Water Improvement and Management Trust Fund prior to March 1, 1988, for surface water improvement and management activities.

(2) In developing implementing programs for their surface water improvement and management plans, the water management districts shall consider the following program recommendations for the use of funds for fiscal year 1987-1988 in the priority areas identified in s. 373.453:

(a) The sum of $4,800,000 shall be available for the South Florida Water Management District for Lake Okeechobee.

(b) The sum of $2,000,000 shall be available for the South Florida Water Management District for Biscayne Bay, of which up to $500,000 is recommended to clean up the Miami River. The remainder of the funds available are recommended for retrofitting the 55 stormwater outfalls already identified by the Environmental Resources Management Department of Metro-Dade County as posing the greatest threat to the Biscayne Bay area or for other projects or activities that will contribute to the restoration of Biscayne Bay.

(c) The sum of $1,500,000 shall be available for the Indian River Lagoon System, of which up to $178,000 is recommended for the Marine Resource Council. For the funds made available for this area and recommended to be used, 70 percent shall be available for programs of the St. Johns River Water Management District and 30 percent shall be available for programs of the South Florida Water Management District. The secretary of the Department of Environmental Regulation shall settle any dispute between the two districts relating to funding allocations.

(d) The sum of $2,000,000 shall be available for the Southwest Florida Water Management District for Tampa Bay and its estuaries, of which up to $850,000 is recommended for a water quality assessment and scientific information compilation.

(e) The sum of $2,200,000 shall be available for the St. Johns River Water Management District for Lake Apopka.

(f) The sum of $2,500,000 shall be available for the St. Johns River Water Management District for the Lower St. Johns River, of which up to $1,000,000 is recommended for stormwater cleanup based on Duval County's providing equal matching funds.

The amounts set forth in this subsection for the priority areas that are unencumbered at the end of fiscal year 1987-1988 shall remain in the Surface Water Improvement and Management Trust Fund and be available for the water bodies previously assigned.

(3) To facilitate appropriate and timely implementation, each water management district shall coordinate the implementation of approved surface water improvement and management plans.

(4) Each water management district shall update annually, as necessary, its approved surface water improvement and management plan. If a district determines that modifications of or additions to its plan are necessary, such modifications or additions shall be subject to the review process established in s. 373.455.

History.—s. 4, ch. 87-97; s. 28, ch. 89-279.

373.459 Surface Water Improvement and Management Trust Fund.—

(1) There is created, within the department, the Surface Water Improvement and Management Trust Fund to be used as a nonlapsing fund for the deposit of funds appropriated by the Legislature for the purposes of ss. 373.451-373.4595 and are not subject to the provisions of s. 216.301. The department shall administer all funds appropriated to or received for the Surface Water Improvement and Management Trust Fund. The moneys in the Surface Water Improvement and Management Trust Fund are continually appropriated for the purposes of ss. 373.451-373.4595. Expenditure of the moneys shall be limited to the costs of detailed planning for and implementation of programs prepared for priority surface waters. Moneys from the fund shall not be expended for planning for, or construction or expansion of, treatment facilities for domestic or industrial waste disposal.

(2) The secretary of the department shall authorize the release of money from the Surface Water Improvement and Management Trust Fund within 30 days after receipt of a request adopted by the governing board of a water management district or by the executive director when authority has been delegated by the governing board, certifying that the money is needed for detailed planning for or implementation of plans approved pursuant to ¹ss. 373.425, 373.453, 373.455, and 373.456. A water management district may not receive more than 50 percent of the moneys in the Surface Water Improvement and Management Trust Fund in any fiscal year unless otherwise provided for by law. Beginning in fiscal year 1990-1991, and each year after funds are appropriated, each water management district shall receive the amount requested pursuant to s. 373.453(4) or 10 percent of the money in the appropriation, whichever is less. The department shall allocate the remaining money in the appropriation annually, based upon the specific needs of the districts. The department, at its discretion, may include any funds allocated to a district in previous years which remain unencumbered by the district on July 1, to the amount of money to be distributed based upon specific needs of the districts.

(3) The amount of money that may be released to a water management district from the Surface Water Improvement and Management Trust Fund for approved plans, or continuations of approved plans, to improve and manage the surface waters described in ss. 373.451-373.4595 is limited to not more than 80 percent of the amount of money necessary for the approved plans. The district shall provide at least 20 percent of the amount of money necessary for the plans.

(4) Moneys in the trust fund which are not needed to meet current obligations incurred under this section shall be transferred to the State Board of Administration, to the credit of the trust fund, to be invested in the manner provided by law. Interest received on such investments shall be credited to the trust fund.

History.—s. 5, ch. 87-97; s. 29, ch. 89-279.
¹Note.—There is no s. 373.425.

373.4595 Lake Okeechobee improvement and management.—

(1) LAKE OKEECHOBEE PROGRAM.—The South Florida Water Management District shall immediately design and implement a program to protect the water quality of Lake Okeechobee. Such program shall be based upon the recommendations of the Lake Okeechobee Technical Advisory Committee report entitled "Final Report: Lake Okeechobee Technical Committee" and dated August 1986, including the recommendations relating to the diversion of Taylor Creek–Nubbins Slough, but such program may include other projects. In addition, the program design shall be completed by December 1, 1988, and shall be designed to result, by July 1, 1992, in reductions of phosphorous loadings to the lake by the amount specified as excess in the South Florida Water Management District's Technical Publication 81-2.

(2) DIVERSIONS; LAKE OKEECHOBEE TECHNICAL ADVISORY COUNCIL.—

(a) The Legislature finds that efforts to reduce nutrient levels in Lake Okeechobee have resulted in diversions of nutrient-laden waters to other environmentally sensitive areas, which diversions have resulted in adverse environmental effects. The Legislature also finds that both the agriculture industry and the environmental community are committed to protecting Lake Okeechobee and these environmentally sensitive areas from further harm and that this crisis must be addressed immediately. Therefore:

1. The South Florida Water Management District shall not divert waters to the Indian River estuary, the Caloosahatchee River or its estuary, or the Everglades National Park, in such a way that the state water quality standards are violated, that the nutrients in such diverted waters adversely affect indigenous vegetation communities or wildlife, or that fresh waters diverted to the Caloosahatchee or Indian River estuaries adversely affect the estuarine vegetation or wildlife, unless the receiving waters will biologically benefit by the diversion. However, diversion is permitted when an emergency is declared by the water management district, if the secretary of the Department of Environmental Regulation concurs.

2. The South Florida Water Management district may divert waters to other areas, including Lake Hicpochee, unless otherwise provided by law. However, the district shall monitor the effects of such diversions to determine the extent of adverse or positive environmental effects on indigenous vegetation and wildlife. The results of the monitoring shall be reported to the Lake Okeechobee Technical Advisory Council. If the monitoring of such diversions reveals continuing adverse environmental effects, the district shall make recommendations to the Legislature by July 1, 1988, on how to cease the diversions.

(b)1. There is hereby created a Lake Okeechobee Technical Advisory Council. Council members shall be experts in the fields of botany, wildlife biology, aquatic biology, water quality chemistry, or hydrology and shall consist of

a. Three members appointed by the Governor;

b. Three members appointed by the Speaker of the House of Representatives;

c. Three members appointed by the President of the Senate;

d. One member from the Institute of Food and Agricultural Sciences, University of Florida, appointed by the President of the University of Florida; and

e. One member from the College of Natural Sciences, University of South Florida, appointed by the President of the University of South Florida.

Members shall be appointed not later than July 15, 1987.

2. The purpose of the council shall be to investigate the adverse effects of past diversions of water and potential effects of future diversions on indigenous wildlife and vegetation and to report to the Legislature, no later than March 1, 1988, with findings and recommendations proposing permanent solutions to eliminate such adverse effects.

3. The South Florida Water Management District shall provide staff and assistance to the council. The Department of Environmental Regulation, the Game and Fresh Water Fish Commission, and the district shall cooperate with the council.

4. The council shall meet not less than once every 2 months at the call of the chairman, or at the call of four other members of the council. The council shall elect from its members a chairman and vice chairman and such other officers as the council deems necessary. The council may establish other procedures for the conduct of its business.

5. The members of the council are not entitled to compensation but are eligible for per diem and travel expenses pursuant to s. 112.061.

History.—s. 6, ch. 87-97.

373.4596 State compliance with stormwater management programs.—The state, through the Department of General Services, the Department of Transportation, and other agencies, shall construct, operate, and maintain buildings, roads, and other facilities it owns, leases, or manages to fully comply with state, water management district, and local government stormwater management programs.

History.—s. 40, ch. 89-279.

PART V

FINANCE AND TAXATION

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PART I

17-43.010 Intent.

(1) In Section 373.451, F.S., the Surface Water Improvement and Management Act, the Legislature finds and declares that the water quality of many of the surface waters of the state has been degraded or is in danger of being degraded, and that it is the duty of the state through the state's agencies and subdivisions to enhance the environmental and scenic value of surface waters.

(2) Pursuant to Section 373.026(7), F.S., the Department is responsible for the exercise of general supervisory authority over all water management districts. The Department also has the responsibility, under the Surface Water Improvement and Management Act, to establish the criteria for the water management districts' development of their priority surface water lists; to approve the priority lists and management plan schedules; to review and recommend modifications or additions to the plans as needed to ensure consistency with the state water policy and the State Comprehensive Plan; to establish the uniform format for management plans; and to administer the Surface Water Improvement and Management Trust Fund.

Specific Authority: 373.043, F.S.
Law Implemented: 373.026, 373.453, 373.455, 373.456, F.S.
History: New 12-7-87, Amended 2-21-90.

17-43.020 Definitions.

(1) "Department" means the Department of Environmental Regulation.

(2) "Secretary" means the Secretary of the Department of Environmental Regulation.

(3) "District" means any one of the five water management districts created by Section 373.069, Florida Statutes.

(4) "Fund" means the Surface Water Improvement and Management Trust Fund.

(5) "Procedures Manual" means the Department's SWIM Review Procedures Manual dated March 20, 1990 which is hereby incorporated by reference.

(6) "Approved Surface Water Priority List" means the list adopted by the governing board of a District and approved by the Department based on criteria adopted by this rule.

(7) "Adopted Plan" means the written strategies for a specific priority water body or bodies, which have completed the full process of approval, review, and adoption pursuant to Sections 373.455 and 373.456, F.S.

(8) "Uniform Format" means the plan format outlined in the Procedures Manual.

(9) "Priority Planning" means District activity directed toward developing an Approved Surface Water Priority List or an Adopted Plan for the restoration or protection of surface waters.

(10) "State Water Policy" means the comprehensive statewide policy as adopted by the Department pursuant to Sections 373.026 and 403.061, F.S., setting forth goals, objectives, and guidance for the development and review of programs, rules, and plans relating to water resources.

(11) "State Comprehensive Plan" means the plan adopted pursuant to Chapter 187, F.S.

Specific Authority: 373.043, 373.453, F.S.
Law Implemented: 373.026, 373.451, 373.453, 373.455, 373.456, F.S.
History: New 12-7-87, Amended 2-21-90, Amended 5-3-90.

PART II

17-43.030 Preparation, Submittal, and Review of Surface Water Priority Lists.

(1) Each District, in cooperation with the Department, the Department of Agriculture and Consumer Services, the Department of Community Affairs, the Game and Fresh Water Fish Commission, the Department of Natural Resources, and local governments, shall develop and maintain a list in priority order of surface waters of regional or statewide significance which require restoration or protection. Each District shall consider the following criteria in preparing the list and priority ranking:

(a) The degree to which state water quality standards are violated. In reviewing this criterion, each District shall consider the following factors:

1. The status and trends of water quality in the water body, including the nature and extent of pollution loading from point and nonpoint sources and the extent to which uses are impaired;

2. Whether the water body can reasonably be expected to meet or maintain water quality standards without action to control point or nonpoint sources; and

3. The nature and extent of sources of point and nonpoint pollution which contribute to the waters not meeting standards.

(b) An evaluation of the nature and extent of conditions that adversely affect the water body, including, but not limited to:

1. Nutrient balance of the water body;

2. Trophic state of the water body;

3. Existence or need for continuous aquatic weed control;

4. Biological condition of the water body;

5. Physical conditions; and

6. Reduced fish and wildlife values.

(c) Threats to water supplies, especially agricultural and urban supplies, and public recreational opportunities. In reviewing this criterion, each District shall consider the following factors:

1. Whether uses of the water body are impaired, including whether the water body does not meet state water quality standards or requires control programs to maintain compliance with standards; and

2. Whether conditions intermittently or frequently prevent a beneficial use.

(d) Threats to or need for long-term protection of those exceptional or outstanding water bodies which are currently in good condition.

(e) The extent to which the plans, ordinances, and policies of local governmental units with jurisdiction over the water body are consistent with a District's efforts to restore or protect the water body.

(f) The feasibility of monitoring the success of restoration or protection efforts in the water body.

(g) The economic and environmental feasibility of accomplishing the restoration or protection goals.

(2) Using the criteria established by Section 17-43.030(1), F.A.C., each District shall prepare and submit to the Department a surface water priority list. The list shall include supporting documentation explaining the use of the specified criteria in development of the list and of the selected priority order.

(3) Within 30 days after receipt of the District's proposed priority list, the Department shall notify the District in writing whether the list is approved as consistent with the intent and provisions of this rule and Section 373.453, F.S. If the list is not approved, the notification shall include recommendations for modifications necessary to obtain Department approval of the final list.

(4) The Approved Surface Water Priority List shall be reviewed and updated by the District as necessary, but in no event later than every 3 years. The revised list shall be submitted to the Department for approval as specified by Sections 17-43.030(2) and (3), F.A.C.

Specific Authority: 373.043, 373.453, F.S.
Law Implemented: 373.026, 373.451, 373.453, F.S.
History: New 12-7-87, Amended 2-21-90.

17-43.035 Preparation, Submittal, and Review of Surface Water Plans.

(1) Each District, in cooperation with the Department, the Department of Agriculture and Consumer Services, the Department of Community Affairs, the Game and Fresh Water Fish Commission, the Department of Natural Resources, and local governments shall prepare and submit to the Department a plan, composed of one or more strategies, for the management of the specific water bodies in the order in

which they appear on the Approved Surface Water Priority List. These plans shall be developed using the Uniform Format. Each plan shall include at least:

(a) a description of the water body system, its historical and current uses, its hydrology, and a history of the conditions which have led to the need for restoration or protection;

(b) an identification of all governmental units that have jurisdiction over the water body and its drainage basin within the plan area, including local, regional, state and federal units;

(c) a description of land uses within the plan area and those of important tributaries, point and non-point sources of pollution, and permitted discharge activities;

(d) a list of the owners of point and non-point sources of pollution that discharge into each water body and tributary thereto and that adversely affect the public interest (by causing or significantly contributing to violations of water quality standards). This list shall include separate lists of those sources that are operating without a permit, operating with a temporary operating permit, and those presently violating effluent limits or water quality standards, and include recommendations and schedules for bringing all sources into compliance with state standards when not contrary to the public interest;

(e) a description of strategies for restoring or protecting the water body sufficient to meet Class III standards or better;

(f) a list of studies that are being or have been prepared for the water body;

(g) a list and current status of active restoration or protection projects for the water body;

(h) a description of the research and feasibility studies which will be performed to determine the particular strategy or strategies to restore or protect the water body;

(i) a description of the measures needed to manage and maintain the water body once it has been restored and to prevent future degradation;

(j) a schedule for restoration or protection of the water body; and

(k) an estimate of the funding needed to carry out the restoration or protection strategies.

(2) The District shall hold at least one public hearing, and at least one public workshop in the vicinity of the water body, for which a plan is being developed, in order to obtain public input before completing a plan.

(3) The proposed plan shall be submitted to the Department, the Department of Agriculture and Consumer Services, the Department of Community Affairs, the Game and Fresh Water Fish Commission, the Department of Natural Resources, and local governments for their review, no later than 60 days before consideration of plan approval by the District governing board. Using the criteria set forth in Section 373.455(2)(a), F.S., the Department shall evaluate each proposed plan. Within 45 days after receipt of the District's proposed plan, the Department shall notify the District in writing whether the District's plan is consistent with the intent and provisions of this rule and Section 373.455(2)(a), F.S. If the plan is not consistent, the notification shall include recommendations for modifications necessary to obtain the Department's concurrence with the final plan.

(4) Within 15 days after approval of a plan by the District governing board the plan shall be transmitted to the Department. As provided in Section 373.456(2), F.S., and this rule, the Department shall conduct a final review of the plan to determine its consistency with the State Water Policy and the State Comprehensive Plan. In this review the Department shall consider the actions taken by the District governing board in response to any concerns expressed by the Department and the other reviewing agencies. Within 30 days after receipt of the plan approved by the governing board, the Department shall notify the District in writing whether the District's plan is consistent with the intent and provisions of the State Water Policy and the State Comprehensive Plan. This determination shall not constitute a Department rule or order.

(a) If the Department determines the plan is consistent, the District shall publish notice of adoption of the approved plan in the Florida Administrative Weekly. This shall constitute final District action on the Adopted Plan and is subject to review pursuant to Section 373.114, F.S.

(b) If the Department determines the plan is inconsistent, the Secretary shall notify the District of the changes recommended by the Department to make the plan consistent. The District governing board shall review the recommended changes at its next scheduled meeting and shall either adopt them or state why the recommended changes are not adopted. After this meeting the District shall publish notice of adoption of the approved plan in the Florida Administrative Weekly. Such publication shall constitute final District action on the Adopted Plan and is subject to review pursuant to Section 373.114, F.S.

(5) Adopted Plans shall be updated by the districts as necessary, but in no event later than every 3 years. A regular schedule of review of updated plans, pursuant to Sections 373.455 and 373.456, F.S., shall begin July 1, 1990. Plans shall be reviewed on an annual cycle with a Section 373.455, F.S., review period of 2 months per year per District with the order to be Northwest Florida, Suwannee River, St. Johns River, South Florida, and Southwest Florida Water Management District. The schedule may be adjusted as needed to use the remaining two months of the annual review cycle to address other necessary plan revisions. Each District shall, in consultation with the Department, select those plans to be updated during a specific review cycle.

(6) Substantially revised plans shall be submitted for review as specified by Section 17-43.035(3) and (4), F.A.C. Departmental review of revised plans shall be required when the revisions significantly impact the completion of any portion of an Adopted Plan or where the revisions include the addition of new plan strategies.

Specific Authority: 373.043, 373.453, F.S.
Law Implemented: 373.026, 373.451, 373.453, 373.455, 373.456, F.S.
History: New 12-7-87, Amended 2-21-90.

17-43.050 Release of Funds.

(1) The Department shall release moneys from the Fund to each District for the development of priority lists or plans or for implementation of Adopted Plans. Implementation funds, including matching funds, are only to be used for new activities or the expansion of current activities, and not to continue previously funded District activities.

(2) A District requesting release of money from the Fund shall submit to the Department a request from the District governing board. The District governing board may delegate funding request authority for implementing Adopted Plans to the District Executive Director by resolution. Requests from the District governing board shall bear the District seal. Requests from the District Executive Director shall be notarized and shall cite the delegation authority. The request shall certify that the money is needed to reimburse the District for expenditures during a specified time period or to meet the reasonably expected cash needs of the District within the next 90 days and that the money was or will beused for either Priority Planning or implementation of an Adopted Plan and shall specifically include:

(a) The amount of money being requested;

(b) The total cost of the activity for which funds are requested;

(c) A statement that the District has deposited and presently made available in the District's separate Surface Water Improvement and Management fund 20 percent of the amount identified in (b) above;

(d) Selected technical project designs and other scopes-of-work and descriptions for verification of the achievement of the original purposes of the Adopted Plan or portion thereof for which the money is requested including reference to the specific portion of the Adopted Plan being addressed; and

(e) A statement that the proposed use of requested money is consistent with the Adopted Plan; Chapter 187, Florida Statutes (the State Comprehensive Plan); and Chapter 17-40, Florida Administrative Code (the State Water Policy).

(f) The quarterly report required in Section 17-43.070(2), F.A.C.

(3) The Department shall review the request for money using the criteria specified in the Procedures Manual. Within 30 days after receipt of the certifying resolution, the Secretary shall authorize the release of the requested money or shall notify the District in writing why the money cannot be released.

(4) District expenditures, for purposes set out in Paragraph (1) above, made after July 1, 1987, to implement the provisions of Sections 373.451 through 373.459, F.S., and this rule shall be eligible for reimbursement from the Fund. Only upon written approval of the Secretary may projects which were initiated prior to July 1, 1987 be eligible for reimbursement of expenditures incurred after July 1, 1987 or be applied to the District's 20 percent match requirement.

(5) Any money released from the Fund shall be accounted for in a separate District fund together with the District's 20 percent match requirement to provide for segregated accountability. Any District fund moneys shall be continuously invested and any accrued interest shall be credited to the District fund.

Specific Authority: 373.043, F.S.
Law Implemented: 373.026, 373.451, 373.457, 373.459, F.S.
History: New 12-7-87, Amended 2-21-90, Amended 5-3-90.

17-43.060 District Share of Fund.

(1) Each September 1 each District shall submit to the Department a funding proposal for the next state fiscal year for review and approval. Each proposal shall be based on the Adopted Plan funding estimates which shall be revised to reflect actual and projected progress toward meeting Plan goals. Each proposal shall specify the Adopted Plan and portion thereof which needs state funding and the amount of funding and shall describe those activities for which funds are requested. The Department shall consider these proposals, as approved, in developing its annual budget request.

(2) The Department shall not release more than 80 percent of the amount of money specified by a District as necessary for Priority Planning or implementing the Adopted Plans. A District shall provide at least 20 percent of the amount of money necessary for Priority Planning or for implementing the Adopted Plans from District ad valorem revenues, operations funds, or cash grants accepted for the purposes of the implementation of the Adopted Plan.

(3) Any one District may not receive more than 50 percent of the moneys in the Fund in any year unless otherwise authorized by law.

(4) Beginning in state fiscal year 1990-1991 each District shall receive the amount requested pursuant to Section 373.453(4), F.S., and Section 17-43.060(1), F.A.C., or 10 percent of the money in the appropriation, whichever is less. The balance of the appropriation shall be allocated annually by the Department based on the specific needs of the Districts as spe cified in the Adopted Plans and funding requests. The Department shall review each District's needs and may grant a District's request to retain for the District's future application any money in the Fund which was allocated to the District but which remains unencumbered by the District at the end of the state fiscal year. District retention of such money shall be contingent on the ability of the requesting District to make timely and effective use of the money.

PART III

Specific Authority: 373.043, F.S.
Law Implemented: 373.026, 373.451, 373.453, 373.457, 373.459, F.S.
History: New 12-7-87, Amended 2-21-90.

17-43.070 Reports.

(1) On July 1 of each year and each quarter thereafter or as soon thereafter as possible, the Department shall prepare and furnish to each District a financial statement providing the current unobligated cash balance in the Fund for each District.

(2) On July 1 of each year and each quarter thereafter, each District shall submit to the Secretary a certified report of activities conducted with Fund money during the preceding quarter, including, at least, a brief description of projects being implemented, a listing of receipts, disbursements, District match, and account status for each project for each water body with an Adopted Plan.

(3) Any Fund money and related accrued interest remaining with the Districts on completion of an Adopted Plan or portion thereof shall be credited to the Fund or, upon the approval of the Secretary, transferred to implement another of the District's Adopted Plans or portions thereof for which money was requested.

(4) In January of each year, each District shall submit to the Secretary a progress report of all activities conducted toward completing the strategies contained in an Adopted Plan during the preceding year.

(5) The financial audit as required by Section 11.45(3), F.S., shall include a statement regarding the District's compliance with all applicable rules.

Specific Authority: 373.043, F.S.
Law Implemented: 373.026, 373.451, 373.457, 373.459, F.S.
History: New 12-7-87, Amended 2-21-90.

17-43.100 Advisory Table of Approved Surface Water Priority Lists. An advisory listing of Approved Surface Water Priority Lists is provided in Table 1. An up-to-date listing may be obtained from the Department's Coastal Zone Management Section, 2600 Blair Stone Road, Tallahassee, Florida, 32399.

PART III

TABLE 1
Approved Surface Water Priority Lists

[Reference 17-43.100]

SOUTH FLORIDA WMD

1. Lake Okeechobee & Kissimmee River
1. Biscayne Bay
1. Indian River Lagoon
4. Everglades National Park & Florida Bay
5. Everglades Water Conservation Areas
6. Lake Tohopekaliga
7. East Lake Tohopekaliga
8. Lake Weohyakapka
9. Caloosahatchee River Estuary
10. Big Cypress National Preserve
11. Lake Kissimmee
12. Everglades East
13. Lake Arbuckle
14. Corkscrew Swamp
15. Naples Bay & Gordon River
16. Estero Bay
17. Lake Butler
18. Alligator Lake
19. Florida Keys
20. Pine Island Sound, Matlacha, Ding Darling
21. Lake Jackson (Osceola Co.)
22. Lake Rosalie
23. Cypress Lake (Osceola Co.)
24. Lake Hatchineha
25. Lake Istokpoga
26. Lake Worth
27. Everglades Holey Land & Rotenberger Tract
28. Loxahatchee River
29. Rookery Bay/Marco
30. Lake Pierce
31. Lake Marian
32. Lake Trafford
33. Corbett Wildlife Management Area
34. Savannas State Reserve
35. Three Lakes Ranch
36. Fish Lake (Osceola Co.)

ST. JOHNS RIVER WMD

1. Lower St. Johns Basin
2. Indian River lagoon Basin
3. Lake Apopka Basin
4. Upper Oklawaha River Basin
5. Lake George Basin

NORTHWEST FLORIDA WMD

1. Apalachicola River
2. Apalachicola Bay & St. George Sound
3. Lake Jackson
4. Deerpoint Lake
5. Pensacola Bay Area
6. St. Marks River
7. Choctawhatchee Bay
8. Choctawhatchee River
9. Santa Rosa Sound
10. St. Joseph Bay
11. Chipola River
12. St. Andrews Bay
13. Escambia River
14. Lake Munson
15. Merritts Mill Pond
16. Upper Ochlockonee River & Lake Talquin
17. Lake Iamonia
18. Blackwater River
19. Lake Lafayette
20. Shoal River
21. Yellow River
22. Lower Ochlockonee River & Ochlockonee Bay
23. Lake Miccosukee
24. Sand Hill Lakes

TABLE 1 (cont.)
Approved Surface Water Priority Lists

[Reference 17-43.100]

SOUTHWEST FLORIDA WMD

1. Tampa Bay
2. Blue Run (Rainbow River)
3. Banana Lake
4. Crystal River & Kings Bay
5. Lake Panasoffkee
6. Charlotte & Placida Harbor
7. Lake Tarpon
8. Lake Thonotosassa

SUWANNEE RIVER WMD

1. Upper Suwannee River & Withlacoochee River
2. Lower Suwannee River
3. Santa Fe River
4. Steinhatchee River
5. Alligator Lake (Columbia Co.)
6. Falling Creek (Columbia Co.)

Specific Authority: 373.043, 373.453, F.S.
Law Implemented: 373.026, 373.451, 373.453, F.S.
History: 2-21-90.

[1]REGfile system Editor's Note: Biscayne Bay and Indian River Lagoon should probably be numbered 2 and 3, respectively.

LISTING OF AMENDMENTS

SECTION	CHANGE	EFFECTIVE DATE DESCRIPTION OF CHANGE
UPDATE: 2/90		
17-43.010	Amendment	February 21, 1990 Stating that DER is responsible for reviewing Surface Water Improvement and Management Plans for consistency with the state water policy and the State Comprehensive Plan.
17-43.020	Amendment	February 21, 1990 Adding or amending definitions for "Procedures Manual," "Approved Surface Water Priority List," "Adopted Plan," "Uniform Format," "Priority Planning," "State Water Policy," and "State Comprehensive Plan."
17-43.030	Amendment	February 21, 1990 Requiring that Surface Water Priority Lists be developed and maintained in cooperation with local governments, the Department of Agriculture and Consumer Services and the Department of Community Affairs; adding requirements concerning documentation, the approval process and updating schedule.
17-43.035	Amendment	February 21, 1990 Amending and retitling the section concerning preparation, submittal and review of surface water plans, to include additional review agencies, DER's uniform plan format, the review and approval process for plans and the process for updating them.
17-43.050	Amendment	February 21, 1990 Clarifying restrictions on the use of funds, delegation of funding request authority, tracking of funds within a district, documentation required with a funding request and DER's process of reviewing funding requests for the development or implementation of priority lists or plans.

LISTING OF AMENDMENTS

17-43.060	Amendment	February 21, 1990 Amending District Share of Fund section to include the process for requesting future state funding, eligible sources of district matching funds and annual allocation of funds to the districts.
17-43.070	Amendment	February 21, 1990 Clarifying DER and district reporting responsibilities.
17-43.100	Amendment	February 21, 1990 Adding Table 1, Advisory Table of Approved Surface Water Priority Lists, and providing a DER address from which updated listings may be obtained.

UPDATE: 3/90

17-43.020(8)-(12)	Correction	March 9, 1990 DER "Letter of Technical Correction." Replacing the term "Approved program," which was mistakenly omitted from 2-21-90 amendments to Definitions section, and renumbering Paragraphs (8)-(12).

UPDATE: 4/90

17-43.020(5), (8)-(12)	Amendment	May 3, 1990 Amending and renumbering definitions.
17-43.050(2)(f)	Amendment	May 3, 1990 Correcting a citation of 17-43.070(2), F.A.C.

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

April 25, 1988

TO: SWIM Team

FROM: Roxane Dow

SUBJECT: SWIM plan format and SWIM budget request information

FORMAT

Enclosed is a copy (Attachment 1) of the Format For SWIM Plans prepared by our staff. This document has been developed to clarify many of the concerns with the previous draft format discussion paper. The format for the development of management plans, outlined in this document, contains the basic needs necessary for our understanding and review of the plans. The plan format contained in this document is the uniform format required in 373.453(2) F.S. It allows you the flexibility for shaping the plan to fit the needs of the approved priority water body.

BUDGET

I would like to call your attention to the fact that while the SWIM Act lists funding recommendations totalling $15,500,000, the actual appropriation of funds totaled only $15,000,000. This leaves a shortfall of $500,000 in the available funds. This reduction in funds has been spread across the recommendations contained in the SWIM Act on a strict percentage basis. The attached summary (Attachment 2) lists the actual funds available for each area identified in the Act.

In order to simplify the processing of District requests for SWIM funds staff has developed several forms (Attachment 3) with appropriate instructions to be used in requesting funds. These forms are similar to those used by some of the Districts, but have been modified to provide DER with only the information actually needed to process a funding request. The completed forms should be accompanied by supporting documentation such as copies of contracts and/or reference to approved plan/program activities, as appropriate. In the case of capital equipment, funds made available under the SWIM program are to be used to improve the water quality and management of priority water

bodies beyond the level obtainable with previously available resources. Capital equipment proposed to be purchased with SWIM funds must be used to directly enhance specific SWIM plans/programs. In the case of shared use of equipment between normal District activities and SWIM activities reimbursement should reflect the percentage of use allocated to SWIM activities. Reimbursement for equipment purchases is not normally anticipated to include equipment purchased by a Water Management District for routine use, equipment purchased previously by a District which is in need of replacement, or equipment purchased to meet DER permit conditions.

In order to evaluate proposed equipment purchases and determine if they represent an appropriate charge to the SWIM Trust Fund we are requiring a justification of all equipment purchases with a per item cost of $200 or more. The justification should clearly explain why the item in question is essential to success of the plan/program for which it is being purchased. In the case of apparently routine pieces of equipment such as vehicles and boats, replacement of existing equipment, or equipment required by a DER permit the justification must include the reason why the item is being charged to the SWIM Trust Fund and not to the normal District budget. These justifications should be concise and to the point with an anticipated maximum length of one-half a page.

Attachment 1

April 25, 1988

Format For SWIM Plans

Background

The SWIM Act requires DER to establish a uniform format for SWIM plans. In addressing this requirement, it is DER intent to provide the flexibility needed to accommodate particular circumstances of individual water management districts and still provide for DER review as required by the Act.

The following is a suggested outline for SWIM plans. It is a guide to the perspective that SWIM plans must provide in order for DER to carry out its review responsibilities. It is anticipated that specific waterbody plans would be organized on the basis of the unique requirements for restoring/protecting the waterbody, but that organization should provide an ability to clearly address the topic areas outlined below.

I. Executive Summary

This part of the plan should provide a concise summary (description) of the total plan, including priority issues affecting management of the waterbody; the strategies for dealing with the issues; the programs for carrying out the strategies; and projects included in the various programs. In addition to summary text, it should contain an organizational diagram of the plan components and program frameworks (e.g., relationships between basic SWIM intent, priority issues, strategies, programs and projects).

II. Introductory Text

Introductory text should provide a clear perspective of the Act's requirements as it pertains to the specific waterbody, and provide a management context for subsequent chapters/parts of the plan. In doing so, the text should reflect the intent and focus of the SWIM Act as well as the determinations DER must make during plan review.

A. SWIM Act intent and focus

Plans should clearly demonstrate a cohesive set of strategies and programs to address the following central concerns of the Act:

(1) Point and nonpoint source pollution (Ch.373.451(4)(a), F.S.).
(2) Destruction of natural systems (Ch. 373.451(4)(b), F.S.).
(3) Correction and prevention of surface water problems (Ch. 373.451(5), F.S.).

(4) Research for better management of surface waters and associated natural systems (Ch. 373.451(7), F.S.).

3. Basic DER review requirements

Chapter 373.455(2) requires DER, in reviewing SWIM plans, to make three specific determinations. These requirements should be used as reference points by plan preparers to judge the sufficiency of the plan prior to submission for DER review. The required determinations are described below.

(1) "Whether the costs described in the plan, as projected by the water management districts, are reasonable estimates of actual costs of programs in the plan."

This determination requires an understanding of:
(a) Objectives of the work as related to the plan.
(b) Specific program elements involved.
(c) Responsibilities of the participants.
(d) Specific budget requirements in summary form (personnel, equipment, supplies, travel, contracts, etc.)

(2) "The likelihood of the programs described in the plan resulting in significant improvements in water quality in the priority surface waters designated in the plan."

This determination requires that the plan demonstrate clear linkages between each program and the program elements being implemented. Programs and their elements must be clearly designed to address specific management needs of the water body. Research programs need to be linked to specific management strategies. Care should be taken in the plan to avoid the tendency of research to be "open ended", without clear benefit in terms of making improvements in management programs. The plan needs to provide clear understanding of how research will be channeled and coordinated to meet management needs for the water body.

(3) "The combination of programs which can be funded based upon available revenues within the SWIM Trust Fund".

This determination requires an understanding of the relative importance of the proposed work on a priority basis within the District. In order to facilitate this, the plan should provide at least a general ranking of programs and projects submitted for SWIM funding in terms of the level of support they provide for carrying out the strategies contained in the plan.

III. Identification of priority issues and analysis

This portion of the plan should clearly discuss the current status of the waterbody and identify priority issues of concern in restoring or protecting that waterbody. Text should include identification of critical deficiencies in knowledge about the waterbody as well as actual and potential impacts on the waterbody that require attention.

A. The plan must meet the minimum information requirements specified under Ch. 373.453(2), (a),(b),(c),(d), and (f), F.S. This should be done within the context of identifying restoration/ protection issues in sufficient detail to set the stage for logical plan development. For example, the list of jurisdictions within one mile of the waterbody should provide the basis for understanding how these jurisdictions relate to managing activities that can affect the waterbody. Similarly, the discussion of land uses should provide the basis for understanding the relationships between land uses and management of the waterbody. Other subjects required by the Act should be discussed in this same context.

B. This part of the plan should also assess current management approaches or practices, including evaluation of the ability of existing water management district programs to deal with the priority issues/ problems. Examples include evaluation of planning, research, permitting, enforcement, coordination and information programs in terms of identifying strengths and weaknesses.

C. Minimum contents of this portion of the plan are:

(1) A description of the water body system including name of the water body(ies) covered, its location and major features; specify the boundaries of the water body as completely as possible; and indicate the numerical status of the water body on the approved surface water priority list.

(2) A description of the water body's historical and current uses and its hydrology, including a description of major characteristics of the watershed (soils, topography, vegetation, geology, etc.) For water bodies in need of restoration, describe the history of conditions which have led to the need for restoration. For water bodies in need of protection, provide a description of the circumstances which threaten its condition, and any unique uses to be protected.

(3) An identification of all governmental units having jurisdiction over the water body and the land within its watershed or a one mile perimeter of the water body, whichever is greater, including local, regional, state and federal units. This identification should include a map(s) showing the geographic boundaries of city and county government units and an outline of the types of authorities exercised by each unit (e.g., stormwater permitting, wetlands protection ordinance, special zoning, land acquisition programs, etc.).

(4) A description of adjacent land uses in the watershed in terms of their effects on water quality, habitat and health of the aquatic system, including the information source and date of compilation. Describe point and nonpoint sources of pollution, and permitted discharge activities. This should include maps/tables in adequate detail to provide understanding of the extent of land uses and location of point and nonpoint sources.

* (5) A list of the owners of point and nonpoint sources of pollution that discharge into the water body or tributaries thereto and that adversely affect the public interest (by causing or significantly contributing to violations of water quality standards). Include separate lists of those sources that are operating without a permit, operating with a temporary operating permit, and those presently violating effluent limits or water quality standards.

* (6) A list of studies that are being or have been prepared for the surface water body.

* NOTE: Annual update required.

IV. <u>Strategies</u>

This portion of the plan should address requirements of Ch. 373.453(2),(e),(g),(h), and (i), F.S. In doing so, it should discuss needed changes to current management approaches and specific strategies to be used to restore/conserve the waterbody. This discussion should include specific plan objectives, with time frames. The level of detail of this discussion may vary depending on the complexity of issues associated with a given waterbody. In the case of a large waterbody with complex programs, it would be best if this discussion simply provided the framework for understanding discussions of specific programs/projects provided in separate appendices. In a simpler case this discussion would go into the detail of specific programs/projects as outlined in Item V, below. Examples of strategy areas include: improving

compliance monitoring and enforcement, local technical assistance and interlocal agreements, applied research, restoration activities, etc.

Minimum contents of this portion of the plan include:

* (1) A list and current status of active restoration or conservation projects initiated prior to July 1, 1987 for the surface water body, including efforts being conducted by other agencies . This should include a discussion of the funding level for these projects and how they will be coordinated with SWIM-funded activities. This listing should be updated on an annual basis to provide an accurate picture of all activities being conducted relative to a specific water body.
  (2) For "restoration" waterbodies, provide a description of the research and feasibility studies which will be performed to determine the particular strategy or strategies to restore the water body.
  (3) A description of the strategies and potential strategies that the water management district will use for restoring the water body to Class III or better or for protecting the waterbody.
  (4) A description of the measures needed to manage and maintain the water body once it has been restored and to prevent future degradation.

* NOTE: Annual update required.

V. Specific Programs/Projects

As noted above, this discussion may be included in the strategies portion of the plan or covered in a separate section or appendix depending on the complexity of waterbody issues and anticipated strategies. In either case, the discussion must address the following minimum requirements to allow DER evaluation:

(1) Ch. 373.453(2) requires timetables for restoration and for bringing all sources into compliance with water quality standards when not contrary to the public interest. For those sources that are not given a timetable for compliance because it would be contrary to the public interest, include an explanation of why and how that determination was made. Coordination with DER district offices will be necessary for those sources with DER permits. It may not be practical in some cases to specify compliance schedules for individual sources, but the plan must, at a minimum, establish general target dates for bringing point and nonpoint sources into compliance and for carrying out the restoration and protection strategies specified in the plan.

* (2) Provide an estimate of the funding needed for the next state fiscal year to carry out the restoration or protection strategies, programs and projects. The cost estimate must be a reasonable estimate of the actual costs of programs in the plan necessary to result in significant improvements in water quality or to protect existing health of the aquatic system. This estimate must be supported by appendices providing:
  (a) Objectives of the work (as related to specific strategies stated in the plan);
  (b) Specific programs/projects involved;
  (c) Responsibilities of the participants (agencies, contractors, etc.);
  (d) Schedule of work;
  (e) Specific budget requirements in summary form (personnel, equipment, travel, contracts, supplies, etc.) Where possible, also provide a reasonable estimate by fiscal year of the total SWIM funding that will be needed for subsequent years to carry out projected work.
  (f) Where appropriate, include a copy of contract(s).
  (g) An indication of the priority of programs/ projects/activities for which funding is requested.

* NOTE: Annual update required.

VI. Appendices

This part of the plan should provide detailed documentation for subjects discussed in the plan. Materials in the appendices should be organized in logical order and be coded in a manner which allows direct reference as needed for clearly understanding various parts of the plan. Information should be in sufficient detail (in combination with information in the main body of the plan) to permit DER to make the determinations required by Ch. 373.455(2), F.S.).

State of Florida

OFFICE OF THE GOVERNOR

EXECUTIVE ORDER NUMBER 88-25

WHEREAS, it is the policy of the State of Florida to protect and manage the Florida Everglades in order to enhance the natural, recreational, scientific, and economic values of this resource for present and future Floridians; and

WHEREAS, the Everglades provide a natural water storage and filtering system which is essential to the life and economy of South Florida; and

WHEREAS, the Everglades are a vast fresh water marsh that have long been recognized as a source of beauty, inspiration, and enjoyment; and

WHEREAS, the Everglades are a unique ecosystem rich in biological diversity, and are the home to many endangered and threatened plant and animal species; and

WHEREAS, the Everglades confer an economic benefit by supporting a one-billion dollar agricultural industry, attracting millions of visitors every year, and supporting the urban structure of South Florida; and

WHEREAS, the Everglades are an integral part of the Kissimmee River-Lake Okeechobee-Everglades ecological system, the total of which is herein referred to as the Everglades, which must be protected and restored; and

WHEREAS, past development of the Everglades has not taken place in a manner consistent with public safety, economic welfare, and sound resource management practices, and has threatened this valuable system; and

WHEREAS, the 1987 Legislature passed the Surface Water Improvement and Management Act which directed the Department of Environmental Regulation and water management districts to design and implement plans and programs for the improvement and management of surface waters, created the Lake Okeechobee Technical Advisory Council, and authorized $4.8 million for Fiscal Year 1987-88 toward the restoration of Lake Okeechobee; and

WHEREAS, the United States Congress, the Florida Legislature, the Florida Cabinet, and various federal, state and local agencies have recognized the importance of protecting the Everglades and have sought to manage the Everglades in a manner consistent with the principles of public safety, economic development, and protective natural resource management; and

WHEREAS, I, as Governor of the State of Florida, have recognized the value of this fragile and unique resource and have taken steps to prevent the development of an airport in the Everglades.

NOW, THEREFORE, I, BOB MARTINEZ, as Governor and Chief Executive of the State of Florida, by virtue of the authority vested in me by the Constitution and the Laws of the State, do hereby issue the following order immediately:

The Secretaries of the Departments of Environmental Regulation, Health and Rehabilitative Services, Transportation, Community Affairs, and Commerce, and the Director of the Governor's Office of Planning and Budgeting, are hereby directed; and the Departments of Natural Resources, State and Agriculture, Game and Fresh Water Fish Commission, South Florida Water Management District, U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency and

WHEREAS, the 1987 Legislature passed the Surface Water Improvement and Management Act which directed the Department of Environmental Regulation and water management districts to design and implement plans and programs for the improvement and management of surface waters, created the Lake Okeechobee Technical Advisory Council, and authorized $4.8 million for Fiscal Year 1987-88 toward the restoration of Lake Okeechobee; and

WHEREAS, the United States Congress, the Florida Legislature, the Florida Cabinet, and various federal, state and local agencies have recognized the importance of protecting the Everglades and have sought to manage the Everglades in a manner consistent with the principles of public safety, economic development, and protective natural resource management; and

WHEREAS, I, as Governor of the State of Florida, have recognized the value of this fragile and unique resource and have taken steps to prevent the development of an airport in the Everglades.

NOW, THEREFORE, I, BOB MARTINEZ, as Governor and Chief Executive of the State of Florida, by virtue of the authority vested in me by the Constitution and the Laws of the State, do hereby issue the following order immediately:

The Secretaries of the Departments of Environmental Regulation, Health and Rehabilitative Services, Transportation, Community Affairs, and Commerce, and the Director of the Governor's Office of Planning and Budgeting, are hereby directed; and the Departments of Natural Resources, State and Agriculture, Game and Fresh Water Fish Commission, South Florida Water Management District, U.S. Army Corps of Engineers, and the U.S. Environmental Protection Agency and

local governments in the Everglades region are hereby requested; to take the following actions as applicable to their agencies:

1. Apply the utmost scrutiny in reviewing development in the Everglades, and permit development only in those areas where there is a need and desire for economic development and where no significant adverse impact will occur to the animal and plant life, water supply, and the function of the Everglades system.

2. Allow development on public land in the state water conservation areas only for the purposes of enhancing and managing water supply, flood control and natural resources protection and restoration.

3. Consider the national, state and regional significance of the Everglades in evaluating land acquisition plans and in formulating new acquisition proposals.

4. Report to me through the Office of Planning and Budgeting any existing or potential threat that could adversely affect the Everglades.

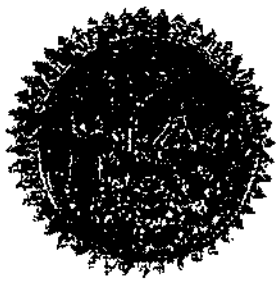
5. The South Florida Water Management District is hereby requested to vigorously work to restore the natural values of the Kissimmee River and seek the assistance of the U.S. Army Corps of Engineers in restoration efforts.

6. The Department of Environmental Regulation is directed to work with the South Florida Water Management District and other public agencies to abate and avoid the degradation of the quality of water in Lake Okeechobee.

7. The Department of Environmental Regulation is directed to coordinate the development of a plan for restoring the natural hydrology in portions of Golden Gate Estates in Collier County south of State Road 84 (Alligator Alley). The Department of Environmental Regulation should work with the South Florida Water Management District and other public agencies and interest groups to develop this plan, which should include the acquisition of appropriate parcels of land by the Department of Natural Resources.

8. The South Florida Water Management District is requested to operate the works of the District to protect and restore the natural hydrology of Everglades National Park in a manner consistent with District objectives and to implement plans in cooperation with the Army Corps of Engineers to restore natural flow into the park where it has been interrupted by works of the District.

9. The foregoing agencies are encouraged to manage the resources of the Everglades to ensure their integrity for future generations.



IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Florida to be affixed at Coral Gables, Florida, this 21st day of January, 1988.

GOVERNOR

ATTEST:

SECRETARY OF STATE

EVERGLADES SWIM PLAN

APPENDIX B

Water Conservation Areas & EAA

Permit data collected from DER, Tallahassee by Greenhorne & O'Mara for the SFWMD

Listing of Climatologic and Hydrologic Monitoring Stations Codes

Table B-1 gives an explanation of column headings for Table B-3, which is a listing of hydrologic and climatologic monitoring stations within the WCA & EAA planning area.

TABLE B-1 EXPLANATION OF COLUMN HEADINGS ON THE CLIMATOLOGIC/HYDROLOGIC DATA COMPUTER PRINTOUT.

STATION:	Unique name assigned by the SFWMD
ALTERNATE ID:	Numerical code based on USGS,SFWMD or other coding systems
CNTY:	County where station is located
TYPE:	Type of data collected (see Table)
STAT:	Statistical method of data collection/analysis (see Table)
FQ:	Frequency of sampling or data collection
START-END:	Period of record
FULL STAT NAME:	Official name of the station as designated by the primary monitoring agency
SE TN RG:	Location of the station within a Section,Township,and Range
LAT/LONG:	Location of the station in Latitude and Longitude coordinates

Table B-2 provides a summary of abbreviations for agencies,methods, type of data and frequency of sampling (observation) that are used in Table B-3.

TABLE B-2 ABBREVIATIONS USED IN THE CLIMATOLOGIC/HYDROLOGIC DATA COMPUTER PRINTOUT

Agency

BPI: FLORIDA BUREAU OF PLANT INDUSTRY (DISCONT)
COE: US CORPS OF ENGINEERS
DER: DEPARTMENT OF ENVIRONMENTAL REGULATION
EDD: EVERGLADES DRAINAGE DISTRICT
ENP: EVERGLADES NATIONAL PARK
FS: FLORIDA FORESTRY SERVICE
GL: GEE&JENSEN
UF: UNIVERSITY OF FLORIDA
USDA: US DEPARTMENT OF AGRICULTURE
USGS: US GEOLOGICAL SURVEY
USWB: US WEATHER BUREAU (NOAA)
WMD: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Methods (STAT)

AM: MORNING READING
FWM: FLOW WEIGHTED MEAN
INST: BREAKPOINT DATA
MAX: MAXIMUM DAILY VALUE
MIN: MINIMUM DAILY VALUE
PM: AFTERNOON READING
RAND: RANDOM READING
SUM: SUM TO MIDNIGHT
THH: HIGHEST HIGH TIDE
TLH: HIGHEST LOW TIDE
TLL: LOWEST LOW TIDE
X: UNKNOWN METHOD

Frequency

DA: DAILY
RI: RANDOM
MO: MONTHLY
BK: BREAKPOINT

Type of Data

AIRT:	AIR TEMPERATURE
COLO:	COLOR
COND:	CONDUCTIVITY
DO:	DISSOLVED OXYGEN
DSL:	DISSOL;ED SOLIDS LOA
DS:	DISSOLVED SOLIDS
DTW:	DEPTH TO WATER
EVAP:	PAN EVAPORATION
FLOW:	FLOW
GATE:	GATE OPENING
HUMI:	RELATIVE HUMIDITY
H20TEMP:	WATER TEMPERATURE
LOCK:	NUMBER OF LOCK CYCLE
METE:	METEORLOGIC
OPER:	OPERATION LOG
PH:	PH
PO4:	DISSOLVED PHOSPHATES
QMEA:	FLOW CALIBRATION
QUAL:	WATER QUALITY
RAIN:	RAINFALL
RPM:	PUMP SPEED
SLOT:	SLOT GATE OPENING
SSED:	SUSPENDED SEDIMENTS
STGD:	DOWNSTREAM STAGE
STGU:	UPSTREAM STAGE
STGW:	SURFACE-GROUNDWATER
STG:	WATER LEVEL
TURB:	TURBIDITY
WELL:	GROUND WATER WELL
WETB:	WET BULB TEMPERATURE
WNDD:	WINDS DIRECTION
WNDV:	WIND VELOCITY

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
ACME 1	02281297	PALM	STG	MEAN	DA	000		1973	1977	LAT CANAL IN ACME DRAIN DIST NR LOXAHATCHEE FLA	174441	262815	801611
G-2235	261838080054601	PALM	WELL	RAND	RI	-024		1976	1978	G-2235	04843	264100	802210
LWD.E1.3	MRF81	PALM	RAIN	SUM	DA	000		1955	1989	LAKE WORTH RD. AND E1 (LWDD)	254441	263643	801219
LWD.E1.3	MRF81	PALM	RAIN	SUM	MO	000		1940	1952	LAKE WORTH RD. AND E1 (LWDD)	254441	263643	801219
L8.S5AS	53243404	PALM	STG	INST	BK	000		0	0	L-8 AT S-5A COMPLEX	324340	264104	802151
L8.S5AS	53243404	PALM	STG	MEAN	DA	000		1984	1986	L-8 AT S-5A COMPLEX	324340	264104	802151
PB-107	263656080121801	PALM	WELL	MEAN	DA	-032		1950	1955	PB-107 US441 & LAKE WORTH RD	254441	263656	801218
PB-436	263807080150801	PALM	WELL	MEAN	DA	-012		1956	1963	PB-436 @ WELLINGTON	164441	263807	801508
PB-750	263816080161101	PALM	WELL	RAND	RI	-083		1976	1976	PB-750 @ WELLINGTON	174441	263816	801611
PB-751	263816080161102	PALM	WELL	RAND	RI	-025		1976	1976	PB-751 @ WELLINGTON	174441	263816	801611
PB-77	263725080172101	PALM	WELL	MEAN	DA	000		1944	1945	PB-77 @ WELLINGTON	194441	263725	801721
S10E	50346391	PALM	STGU	INST	BK	001		0	0	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E	50346391	PALM	STGU	MEAN	DA	001		1985	1989	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E	50346391	PALM	STGD	INST	BK	002		0	0	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E	50346391	PALM	STGD	MEAN	DA	002		1985	1989	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E	50346391	PALM	FLOW	INST	BK	CULV		0	0	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E	50346391	PALM	FLOW	MEAN	DA	CULV		1985	1989	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E		PALM	STGU	DWR	RI	001		1988	1988	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10E		PALM	STGD	DWR	RI	002		1988	1988	S-10E CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	34639	262756	802629
S10	10	PALM	FLOW	MEAN	DA	COMB		1963	1986	TOTAL FLOW THROUGH STRUCTURES S-10A, S10C, AND S1	0	0	0 262216 802110
S6A+S5AS	02276500	PALM	FLOW	MEAN	DA	COMB		1957	1988	DIVERSIONS TO CONSERVATION AREA 1 AT S-6A AND S-5	324340	264100	802210
S5A+S5AW	02278450	PALM	FLOW	MEAN	DA	COMB		1957	1988	WEST PALM BEACH CANAL ABOVE S-5A (S5A & S5AW COMB	324343	264105	802215
S5A+S5AW	02278450	PALM	FLOW	INST	DA	COMB		1983	1984	WEST PALM BEACH CANAL ABOVE S-5A (S5A & S5AW COMB	324343	264105	802215
S5A	02278500	PALM	STGU	MEAN	DA	001		1963	1988	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	02278501	PALM	STGD	MEAN	DA	002		1957	1988	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	02278501	PALM	STGD	FWM	DA	002		1962	1969	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	53243405	PALM	STGU	INST	BK	001	A35	0	0	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	53243405	PALM	STGU	MEAN	DA	001	A35	1982	1987	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	53243405	PALM	STGD	INST	BK	002	A35	0	0	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	53243405	PALM	STGD	MEAN	DA	002	A35	1982	1987	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	53243405	PALM	FLOW	MEAN	DA	PUMP	A35	1983	1987	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	MRF220	PALM	RAIN	SUM	DA	000		1956	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	MRF76	PALM	RAIN	SUM	DA	000	BELF	1958	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	MRFE220	PALM	EVAP	SUM	DA	000	APAN	1957	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	23243405	PALM	STGU	MEAN	DA	001	TELE	1985	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	23243405	PALM	STGD	MEAN	DA	002	TELE	1985	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	23243405	PALM	STGU	INST	BK	001	TELE	0	0	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	23243405	PALM	STGD	INST	BK	002	TELE	0	0	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	23243405	PALM	FLOW	MEAN	DA	PUMP	TELE	1985	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A	43243401	PALM	FLOW	MEAN	DA	PUMP	PLOG	1983	1988	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
S5A		PALM	RAIN	DWR	RI	000		1988	1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S5A	23243405	PALM	COND	MEAN	DA	-003	TELE	1986-1989	S-5A PUMPS (ONLY) ON W.P.B. CANAL AT CONS. AREA 1	324340	264100	802210
1-141	02281278	PALM	RAIN	SUM	DA	000		1974-1975	EVERGLADES 1-141S NEAR LOXAHATCHEE, FLA.	264540	263239	801911
1-141	02281278	PALM	STG	MEAN	DA	000		1974-1976	EVERGLADES 1-141S NEAR LOXAHATCHEE, FLA.	264540	263239	801911
1-141	02281278	PALM	STG	RAND	RI	000		1973-1974	EVERGLADES 1-141S NEAR LOXAHATCHEE, FLA.	264540	263239	801911
1-142	02281291	PALM	RAIN	SUM	DA	000		1974-1975	EVERGLADES 1-142S NEAR DELRAY BEACH, FLA.	194641	262741	801728
1-142	02281291	PALM	STG	MEAN	DA	000		1974-1976	EVERGLADES 1-142S NEAR DELRAY BEACH, FLA.	194641	262741	801728
1-142	02281291	PALM	STG	RAND	RI	000		1973-1974	EVERGLADES 1-142S NEAR DELRAY BEACH, FLA.	194641	262741	801728
1-8	MRF89C	PALM	RAIN	SUM	DA	000	CAN	1955-1959	CONSERVATION AREA 1 - 8	364541	263006	801333
1-9	11946411	PALM	WELL	INST	BK	000		0- 0	CA1-9 CORPS RAIN/WELL IN SOUTHEAST C.A. 1 MARSH	194641	262741	801728
1-9	11946411	PALM	WELL	MEAN	DA	000		0- 0	CA1-9 CORPS RAIN/WELL IN SOUTHEAST C.A. 1 MARSH	194641	262741	801728
1-9	MRF253	PALM	RAIN	SUM	DA	000		1952-1984	CA1-9 CORPS RAIN/WELL IN SOUTHEAST C.A. 1 MARSH	194641	262741	801728
1-9		PALM	STG	MEAN	DA	000		1952-1985	CA1-9 CORPS RAIN/WELL IN SOUTHEAST C.A. 1 MARSH	194641	262741	801728
1-9		PALM	STG	DWR	RI	000		1988-1989	CA1-9 CORPS RAIN/WELL IN SOUTHEAST C.A. 1 MARSH	194641	262741	801728
G-515 2	262004080224800	BROWA	WELL	MEAN	DA	000		0- 0	NEAR G-515 ON COUNTY LINE	04740	262004	802248
G-515 3	262004080224800	BROWA	WELL	MEAN	DA	000		0- 0	NEAR G-515 ON COUNTY LINE	04740	262004	802248
PB-142	262235080222001	PALM	WELL	RAND	RI	-097		1953-1953	PB-142 GS-11	04740	262235	802220
S10A	52647401	PALM	STGU	INST	BK	001		0- 0	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A	52647401	PALM	STGU	MEAN	DA	001		0- 0	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A	52647401	PALM	STGD	INST	BK	002		0- 0	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A	52647401	PALM	STGD	MEAN	DA	002		0- 0	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A	52647401	PALM	FLOW	INST	BK	CULV		0- 0	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A	52647401	PALM	FLOW	MEAN	DA	CULV		0- 0	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A		PALM	STGU	DWR	RI	001		1988-1989	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10A		PALM	STGD	DWR	RI	002		1988-1989	S-10A CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	264740	262133	801846
S10C	52147401	PALM	STGU	INST	BK	001		0- 0	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C	52147401	PALM	STGU	MEAN	DA	001		0- 0	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C	52147401	PALM	STGD	INST	BK	002		0- 0	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C	52147401	PALM	STGD	MEAN	DA	002		0- 0	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C	52147401	PALM	FLOW	INST	BK	CULV		0- 0	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C	52147401	PALM	FLOW	MEAN	DA	CULV		0- 0	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C		PALM	STGU	DWR	RI	001		1988-1989	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10C		PALM	STGD	DWR	RI	002		1988-1989	S-10C CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	214740	262216	802110
S10D	50747401	PALM	STGU	INST	BK	001		0- 0	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D	50747401	PALM	STGU	MEAN	DA	001		0- 0	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D	50747401	PALM	STGD	INST	BK	002		0- 0	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D	50747401	PALM	STGD	MEAN	DA	002		0- 0	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D	50747401	PALM	FLOW	INST	BK	CULV		0- 0	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D	50747401	PALM	FLOW	MEAN	DA	CULV		0- 0	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D		PALM	STGD	DWR	RI	002		1988-1989	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S10D		PALM	STGU	DWR	RI	001		1988-1989	S-10D CULVERT ON HILLSBORO CANAL AT CONSERV. AREA	74740	262317	802256
S11A	51649392	BROWA	STGU	INST	BK	001		0- 0	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11A	51649392	BROWA	STGU	MEAN	DA	001		1987-1987	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11A	51649392	BROWA	STGD	INST	BK	002		0- 0	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S11A		BROWA	STGD	DWR	RI	002		1988	1989	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11A	51649392	BROWA	STGD	MEAN	DA	002		1987	1987	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11B	50949391	BROWA	STGU	INST	BK	001		0	0	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B	50949391	BROWA	STGU	MEAN	DA	001		1987	1987	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B	50949391	BROWA	STGD	INST	BK	002		0	0	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B	50949391	BROWA	STGD	MEAN	DA	002		1987	1987	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B	50949391	BROWA	FLOW	INST	BK	SPIL		0	0	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B	50949391	BROWA	FLOW	MEAN	DA	SPIL		0	0	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B		BROWA	STGU	DWR	RI	001		1988	1989	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11B		BROWA	STGD	DWR	RI	002		1988	1989	S-11B SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	94939	261208	802716
S11C	53348391	BROWA	STGU	INST	BK	001		0	0	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11C	53348391	BROWA	STGU	MEAN	DA	001		1987	1987	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11C	53348391	BROWA	STGD	INST	BK	002		0	0	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11C	53348391	BROWA	STGD	MEAN	DA	002		1987	1987	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11C	53348391	BROWA	FLOW	INST	BK	SPIL		0	0	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11C	53348391	BROWA	FLOW	MEAN	DA	SPIL		0	0	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11C		BROWA	STGU	DWR	RI	001		1988	1989	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S11A	51649392	BROWA	FLOW	INST	BK	CULV		0	0	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11A	51649392	BROWA	FLOW	MEAN	DA	CULV		0	0	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11A		BROWA	STGU	DWR	RI	001		1988	1989	S-11A CULVERT ON LEVEE L-38W FROM C.A. 2A TO C.A.	164939	261036	802656
S11C		BROWA	STGD	DWR	RI	002		1988	1989	S-11C SPILLWAY IN LEVEE L-38W FROM C.A. 2A > C.A.	334839	261345	802737
S144	50149391	BROWA	STGU	INST	BK	001		0	0	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S144	50149391	BROWA	STGU	MEAN	DA	001		1983	1988	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S144	50149391	BROWA	STGD	INST	BK	002		0	0	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S144	50149391	BROWA	STGD	MEAN	DA	002		1987	1988	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S144	50149391	BROWA	FLOW	INST	BK	CULV		0	0	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S144	50149391	BROWA	FLOW	MEAN	DA	CULV		0	0	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S144		BROWA	FLOW	MEAN	DA	CULV		1969	1985	S-144 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	14939	261304	802353
S145	53348401	BROWA	STGU	INST	BK	001		0	0	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S145	53348401	BROWA	STGU	MEAN	DA	001		1974	1987	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S145	53348401	BROWA	STGD	INST	BK	002		0	0	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S145	53348401	BROWA	STGD	MEAN	DA	002		1987	1988	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S145	53348401	BROWA	FLOW	INST	BK	CULV		0	0	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S145	53348401	BROWA	FLOW	MEAN	DA	CULV		0	0	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S145		BROWA	FLOW	MEAN	DA	CULV		1969	1985	S-145 CULVERT ON LEVEE L-35B FROM C.A. 2A TO C.A.	334840	261317	802158
S146	53548401	BROWA	STGU	INST	BK	001		0	0	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S146	53548401	BROWA	STGU	MEAN	DA	001		1974	1987	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S146	53548401	BROWA	STGD	INST	BK	002		0	0	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S146	53548401	BROWA	STGD	MEAN	DA	002		1987	1988	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S146	53548401	BROWA	FLOW	INST	BK	CULV		0	0	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S146	53548401	BROWA	FLOW	MEAN	DA	CULV		0	0	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S146		BROWA	FLOW	MEAN	DA	CULV		1969	1985	S-146 CULVERT ON LEVEE L-35B FROM C.A. 2A > C.A.	354840	261330	802001
S39	02281300	PALM	COND	RAND	DA	000		0	0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S39	02281300	PALM	STGU	MEAN	DA	001		1956-1967	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	02281300	PALM	FLOW	MEAN	DA	SPIL		1957-1967	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	02281300	PALM	H2OT	RAND	DA	000		0- 0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	50047401	PALM	STGU	INST	BK	001		0- 0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	50047401	PALM	STGU	MEAN	DA	001		1974-1987	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	50047401	PALM	STGD	INST	BK	002		0- 0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	50047401	PALM	STGD	MEAN	DA	002		1979-1987	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	50047401	PALM	FLOW	INST	BK	SPIL		0- 0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	50047401	PALM	FLOW	MEAN	DA	SPIL		1979-1987	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39		PALM	RAIN	DWR	RI	000		1988-1989	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	MRF100	PALM	RAIN	SUM	DA	000	RECO	1963-1984	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	MRF393	PALM	RAIN	SUM	DA	000		1984-1989	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	20047401	PALM	STGU	MEAN	DA	001	TELE	1985-1989	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	20047401	PALM	STGD	MEAN	DA	002	TELE	1985-1989	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	20047401	PALM	STGU	INST	BK	001	TELE	0- 0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	20047401	PALM	STGD	INST	BK	002	TELE	0- 0	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	20047401	PALM	FLOW	MEAN	DA	SPIL	TELE	1985-1989	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S39	47401	PALM	FLOW	MEAN	DA	SPIL	COMP	1986-1986	S-39 ON HILLSBORO CANAL AT CONSERVATION AREA 1	194741	262120	801758
S7W	52747382	PALM	STGU	INST	BK	001		0- 0	S-7W CULVERTS ON NORTH NEW RIVER CANAL AT C.A. 2A	274738	262006	803213
S7W	52747382	PALM	STGU	MEAN	DA	001		0- 0	S-7W CULVERTS ON NORTH NEW RIVER CANAL AT C.A. 2A	274738	262006	803213
S7W	52747382	PALM	STGD	INST	BK	002		0- 0	S-7W CULVERTS ON NORTH NEW RIVER CANAL AT C.A. 2A	274738	262006	803213
S7W	52747382	PALM	STGD	MEAN	DA	002		0- 0	S-7W CULVERTS ON NORTH NEW RIVER CANAL AT C.A. 2A	274738	262006	803213
S7W	52747382	PALM	FLOW	INST	BK	CULV		0- 0	S-7W CULVERTS ON NORTH NEW RIVER CANAL AT C.A. 2A	274738	262006	803213
S7W	52747382	PALM	FLOW	MEAN	DA	CULV		0- 0	S-7W CULVERTS ON NORTH NEW RIVER CANAL AT C.A. 2A	274738	262006	803213
S7 PMP		PALM	]]]]	]]]]	]]	****	]]]]	0- 0	S-7 PUMPS (ONLY) ON NORTH NEW RIVER AT WCA 2A	224738	262006	803214
S7 SPW		PALM	]]]]	]]]]	]]	****	]]]]	0- 0	S-7 SPILLWAY ON NORH TH NEW RIVER CANAL AT WCA 2A	224738	262006	803214
S7	02284300	PALM	FLOW	MEAN	DA	COMB		1960-1982	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747383	PALM	STGU	INST	BK	001	A35	0- 0	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747383	PALM	STGU	MEAN	DA	001	A35	1978-1987	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747383	PALM	STGD	INST	BK	002	A35	0- 0	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747383	PALM	STGD	MEAN	DA	002	A35	1978-1988	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747383	PALM	FLOW	MEAN	DA	SPIL	A35	1981-1987	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747385	PALM	FLOW	MEAN	DA	PUMP	A35	1961-1987	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	MRF99	PALM	RAIN	SUM	DA	000	BELF	1973-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	MRFE99	PALM	EVAP	SUM	DA	000	APAN	1960-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	22747385	PALM	STGU	MEAN	DA	001	TELE	1985-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	22747385	PALM	STGD	MEAN	DA	002	TELE	1985-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	22747385	PALM	STGU	INST	BK	001	TELE	0- 0	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	22747385	PALM	STGD	INST	BK	002	TELE	0- 0	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	22747385	PALM	FLOW	MEAN	DA	PUMP	TELE	1985-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	22747383	PALM	FLOW	MEAN	DA	SPIL	TELE	1985-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7		PALM	FLOW	MEAN	DA	COMB	TELE	0- 0	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214
S7	52747381	PALM	FLOW	MEAN	DA	COMB	A35	0- 0	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262006	803214

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S7		PALM	RAIN	DWR	RI	000		1988-1989	S-7 CONTROL STRUCTURES ON NORTH NEW RIVER CANAL A	224738	262008	803214
2A-111	02284642	BROWA	PO4	MAX	DA	000		1979-1979	EVERGLADES 2-111S NEAR ANDYTOWN, FL	114839	261650	802510
2A-111	02284642	BROWA	PO4	MEAN	DA	000		1979-1979	EVERGLADES 2-111S NEAR ANDYTOWN, FL	114839	261650	802510
2A-111	02284642	BROWA	RAIN	SUM	DA	000		1974-1979	EVERGLADES 2-111S NEAR ANDYTOWN, FL	114839	261650	802510
2A-111	02284642	BROWA	STG	MIN	DA	000		1977-1980	EVERGLADES 2-111S NEAR ANDYTOWN, FL	114839	261650	802510
2A-111	02284642	BROWA	STG	MEAN	DA	000		1974-1980	EVERGLADES 2-111S NEAR ANDYTOWN, FL	114839	261650	802510
2A-111	02284642	BROWA	STG	RAND	RI	000		1973-1974	EVERGLADES 2-111S NEAR ANDYTOWN, FL	114839	261650	802510
2A-112	02284644	BROWA	RAIN	SUM	DA	000		1974-1975	CA2A-112 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-3	134840	261800	801800
2A-112	02284644	BROWA	STG	MEAN	DA	000		1974-1976	CA2A-112 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-3	134840	261800	801800
2A-112	02284644	BROWA	STG	RAND	RI	000		1973-1974	CA2A-112 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-3	134840	261800	801800
2A-112	11348401	BROWA	WELL	INST	BK	000		0- 0	CA2A-112 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-3	134840	261800	801800
2A-112	11348401	BROWA	WELL	MEAN	DA	000		0- 0	CA2A-112 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-3	134840	261800	801800
2A-15	12446391	PALM	WELL	INST	BK	000		0- 0	CA2A-15 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-39	244639	262600	802500
2A-15	12446391	PALM	WELL	MEAN	DA	000		0- 0	CA2A-15 CORPS WELL IN C.A. 2A MARSH AT LEVEE L-39	244639	262600	802500
2A-17	11148391	BROWA	STGW	INST	BK	000		0- 0	CA2A-17 CORPS RAIN/WELL SOUTH-CENTRAL C.A. 2A MAR	114839	261709	802442
2A-17	11148391	BROWA	STGW	MEAN	DA	000		1987-1988	CA2A-17 CORPS RAIN/WELL SOUTH-CENTRAL C.A. 2A MAR	114839	261709	802442
2A-17	MRF254	BROWA	RAIN	SUM	DA	000		1951-1984	CA2A-17 CORPS RAIN/WELL SOUTH-CENTRAL C.A. 2A MAR	114839	261709	802442
2A-17		BROWA	STGW	MEAN	DA	000		1952-1985	CA2A-17 CORPS RAIN/WELL SOUTH-CENTRAL C.A. 2A MAR	114839	261709	802442
2A-17		BROWA	STGW	DWR	RI	000		1988-1998	CA2A-17 CORPS RAIN/WELL SOUTH-CENTRAL C.A. 2A MAR	114839	261709	802442
2A-19	MRF103	BROWA	RAIN	SUM	DA	000		1960-1982	CONSERVATION AREA 2 - 19	244840	261545	801804
2A-19	MRF103C	BROWA	RAIN	SUM	DA	000	CAN	1978-1984	CONSERVATION AREA 2 - 19	244840	261545	801804
2A-19		BROWA	STG	DWR	RI	000		1988-1989	CONSERVATION AREA 2 - 19	244840	261545	801804
2A-300	12748391	BROWA	STGW	INST	BK	000		0- 0	CA2A-300 WELL IN SOUTH C.A. 2A MARSH NEAR STUB CA	274839	261400	802600
2A-300	12748391	BROWA	STGW	MEAN	DA	000		1981-1988	CA2A-300 WELL IN SOUTH C.A. 2A MARSH NEAR STUB CA	274839	261400	802600
2-159		PALM	]]]]	]]]]	]]	****	]]]]	0- 0	EVERGLADES 159 S OF PUMP STATION8 NR ANDYTOWN	04739	262300	802635
3A-36	MRF106	BROWA	RAIN	SUM	DA	000	BELF	1960-1989	WCA 3-36 (BELFORT)			
S141	52349391	BROWA	STGU	INST	BK	001		0- 0	S-141 WEIR ON LEVEE L-38E AT S.W. CORNER C.A. 2B	284939	260855	802634
S141	52349391	BROWA	STGU	MEAN	DA	001		0- 0	S-141 WEIR ON LEVEE L-38E AT S.W. CORNER C.A. 2B	284939	260855	802634
S141	52349391	BROWA	STGD	INST	BK	002		0- 0	S-141 WEIR ON LEVEE L-38E AT S.W. CORNER C.A. 2B	284939	260855	802634
S141	52349391	BROWA	STGD	MEAN	DA	002		1983-1988	S-141 WEIR ON LEVEE L-38E AT S.W. CORNER C.A. 2B	284939	260855	802634
S141	52349391	BROWA	FLOW	INST	BK	WEIR		0- 0	S-141 WEIR ON LEVEE L-38E AT S.W. CORNER C.A. 2B	284939	260855	802634
S141	52349391	BROWA	FLOW	MEAN	DA	WEIR		0- 0	S-141 WEIR ON LEVEE L-38E AT S.W. CORNER C.A. 2B	284939	260855	802634
S143	02284520	BROWA	COND	RAND	DA	000		0- 0	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	02284520	BROWA	H2OT	RAND	DA	000		0- 0	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	51649391	BROWA	STGU	INST	BK	001		0- 0	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	51649391	BROWA	STGU	MEAN	DA	001		1987-1987	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	51649391	BROWA	STGD	INST	BK	002		0- 0	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	51649391	BROWA	STGD	MEAN	DA	002		1983-1988	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	51649391	BROWA	FLOW	INST	BK	CULV		0- 0	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	51649391	BROWA	FLOW	MEAN	DA	CULV		0- 0	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S143	143	BROWA	FLOW	MEAN	DA	SPIL		1969-1985	S-143 CULVERT ON LEVEE L-35B AT N. NEW RIVER CANA	164939	261033	802652
S34	02284699	BROWA	STGU	FWM	DA	001		1956-1967	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	02284700	BROWA	STGD	FWM	DA	002		1956-1965	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	02284700	BROWA	FLOW	MEAN	DA	CULV		1957-1967	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	53349391	BROWA	STGU	INST	BK	001		0- 0	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260957	802833

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S34	53349391	BROWA	STGU	MEAN	DA	001		1983	1989	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	53349391	BROWA	STGD	INST	BK	002		0	0	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	53349391	BROWA	STGD	MEAN	DA	002		1983	1989	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	53349391	BROWA	FLOW	INST	BK	CULV		0	0	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34	53349391	BROWA	FLOW	MEAN	DA	CULV		1983	1989	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34		BROWA	STGU	DWR	RI	001	STAF	1988	1989	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
S34		BROWA	STGD	DWR	RI	002	STAF	1988	1989	S-34 CULVERT ON NORTH NEW RIVER CANAL AT L-35	284939	260857	802633
GS-13	260354080341601	BROWA	WELL	RAND	RI	000		1951	1951	GS-13	295038	260354	803416
GS-144	261408080274301	BROWA	WELL	RAND	RI	000		1953	1953	GS-144 @ 26 MILE BND	294839	261408	802743
G-622	254750080431201	DADE	WELL	RAND	RI	000		1951	1951	G-622	16436	254750	804312
L28	02289037	BROWA	STG	MEAN	DA	000		1970	1980	LEVEE 28 TIE BACK, FLA.	305135	260020	805230
PB-841	262000080322001	PALM	WELL	RAND	RI	-125		1975	1976	PB-841	224738	262000	803220
S12A	254543080491100	DADE	STGU	MEAN	DA	001		1981	1989	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	254543080491101	DADE	STGD	MEAN	DA	002		1981	1989	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	254543080491101	DADE	FLOW	MEAN	DA	SPIL		1982	1989	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	52254351	DADE	STGU	MEAN	BK	001		0	0	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	52254351	DADE	STGU	MEAN	DA	001		1986	1986	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	52254351	DADE	STGD	MEAN	BK	002		0	0	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	52254351	DADE	STGD	MEAN	DA	002		1986	1986	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	52254351	DADE	FLOW	MEAN	BK	SPIL		0	0	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	52254351	DADE	FLOW	MEAN	DA	SPIL		0	0	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A	254543080491100	DADE	STG	FWM	DA	000		1982	1983	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A		DADE	STGU	DWR	RI	001		1988	1989	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12A		DADE	STGD	DWR	RI	002		1988	1989	S-12A SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225435	254541	804916
S12B	02289018	DADE	COND	RAND	DA	000		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289018	DADE	STGU	MEAN	DA	001		1969	1989	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289018	DADE	STGU	FWM	DA	001		1963	1983	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289018	DADE	FLOW	MEAN	DA	SPIL		1982	1985	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289018	DADE	H2OT	RAND	DA	000		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289019	DADE	STGD	MEAN	DA	002		1969	1989	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289019	DADE	STGD	FWM	DA	002		1963	1982	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289019	DADE	FLOW	MEAN	DA	SPIL		1982	1989	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	51754361	DADE	STGU	MEAN	BK	001		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	51754361	DADE	STGU	MEAN	DA	001		1986	1986	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	51754361	DADE	STGD	MEAN	BK	002		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	51754361	DADE	STGD	MEAN	DA	002		1986	1986	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	51754361	DADE	FLOW	MEAN	BK	SPIL		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	51754361	DADE	FLOW	MEAN	DA	SPIL		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289018	DADE	FLOW	INST	DA	SPIL		1982	1985	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B	02289018	DADE	FLOW	INST	RI	SPIL		0	0	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B		DADE	STGU	DWR	RI	001		1988	1989	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12B		DADE	STGD	DWR	RI	002		1988	1989	S-12B SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	195436	254541	804610
S12C	02289041	DADE	STGD	MEAN	DA	002		1969	1989	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	02289041	DADE	STGD	FWM	DA	002		1960	1983	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	02289041	DADE	FLOW	MEAN	DA	SPIL		1982	1989	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	52254361	DADE	STGU	MEAN	BK	001		0	0	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	52254361	DADE	STGU	MEAN	DA	001		1986	1986	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	52254361	DADE	STGD	MEAN	BK	002		0	0	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S12C	52254361	DADE	STGD	MEAN	DA	002		1986-1986	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	52254361	DADE	FLOW	MEAN	BK	SPIL		0- 0	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C	52254361	DADE	FLOW	MEAN	DA	SPIL		0- 0	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C		DADE	STGU	DWR	RI	001		1988-1989	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12C		DADE	STGD	DWR	RI	002		1988-1989	S-12C SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	225436	254542	804340
S12D	254543080405400	DADE	STGU	MEAN	DA	001		1981-1989	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	254543080405401	DADE	STGD	MEAN	DA	002		1981-1989	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	254543080405401	DADE	STGD	FWM	DA	002		1982-1983	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	254543080405401	DADE	FLOW	MEAN	DA	SPIL		1982-1989	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	52464361	DADE	STGU	MEAN	BK	001		0- 0	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	52464361	DADE	STGU	MEAN	DA	001		1986-1986	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	52464361	DADE	STGD	MEAN	BK	002		0- 0	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	52464361	DADE	STGD	MEAN	DA	002		1986-1986	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	52464361	DADE	FLOW	MEAN	BK	SPIL		0- 0	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	52464361	DADE	FLOW	MEAN	DA	SPIL		0- 0	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	254543080405400	DADE	STG	FWM	DA	000		1982-1983	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D	MRF401	DADE	RAIN	SUM	DA	000	BELF	1985-1989	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D		DADE	STGU	DWR	RI	001		1988-1989	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D		DADE	STGD	DWR	RI	002		1988-1989	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	135436	254543	804054
S12D.R	MRF291	DADE	RAIN	SUM	DA	000		1962-1977	S-12D SPILLWAY ON LEVEE L-29 AT CONSERV. AREA 3A	245436	254543	804056
S12E	50754371	DADE	STGU	MEAN	BK	001		0- 0	S-12E CULVERT ON LEVEE L-29 AT CONSERV. AREA 3A	75437	254539	804027
S12E	50754371	DADE	STGU	MEAN	DA	001		0- 0	S-12E CULVERT ON LEVEE L-29 AT CONSERV. AREA 3A	75437	254539	804027
S12E	50754371	DADE	STGD	MEAN	BK	002		0- 0	S-12E CULVERT ON LEVEE L-29 AT CONSERV. AREA 3A	75437	254539	804027
S12E	50754371	DADE	STGD	MEAN	DA	002		0- 0	S-12E CULVERT ON LEVEE L-29 AT CONSERV. AREA 3A	75437	254539	804027
S12E	50754371	DADE	FLOW	MEAN	BK	CULV		0- 0	S-12E CULVERT ON LEVEE L-29 AT CONSERV. AREA 3A	75437	254539	804027
S12E	50754371	DADE	FLOW	MEAN	DA	CULV		0- 0	S-12E CULVERT ON LEVEE L-29 AT CONSERV. AREA 3A	75437	254539	804027
S12	02289040	DADE	STGU	MEAN	DA	001		1969-1989	TAMIAMI C OUTLETS L67A TO 40 MI BND NR MIAMI, FL	225436	254542	804334
S12	02289040	DADE	STGU	FWM	DA	001		1963-1983	TAMIAMI C OUTLETS L67A TO 40 MI BND NR MIAMI, FL	225436	254542	804334
S12	02289040	DADE	FLOW	MEAN	DA	COMB		1963-1989	TAMIAMI C OUTLETS L67A TO 40 MI BND NR MIAMI, FL	225436	254542	804334
S12	02289040	DADE	FLOW	INST	DA	COMB		1982-1985	TAMIAMI C OUTLETS L67A TO 40 MI BND NR MIAMI, FL	225436	254542	804334
S140 PMP	50350355	BROWA	STGU	INST	BK	001		0- 0	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	50350355	BROWA	STGU	MEAN	DA	001		1978-1986	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	50350355	BROWA	STGD	INST	BK	002		0- 0	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	50350355	BROWA	STGD	MEAN	DA	002		1978-1986	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	50350356	BROWA	FLOW	INST	BK	PUMP		0- 0	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	50350355	BROWA	FLOW	MEAN	DA	PUMP		1970-1988	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	20350355	BROWA	FLOW	MEAN	DA	PUMP	TELE	1985-1989	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 PMP	40350351	BROWA	FLOW	MEAN	DA	PUMP	PLOG	1970-1986	S-140 PUMPS (ONLY) ON LEVEE L-28 AT CONSERV. AREA	35035	261017	804940
S140 SPW	50350352	BROWA	STGU	INST	BK	001		0- 0	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	50350352	BROWA	STGU	MEAN	DA	001		1978-1988	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	50350352	BROWA	STGD	INST	BK	002		0- 0	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	50350352	BROWA	STGD	MEAN	DA	002		1978-1988	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	50350352	BROWA	FLOW	INST	BK	SPIL		0- 0	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	50350352	BROWA	FLOW	MEAN	DA	SPIL		1978-1987	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	MRF145	BROWA	RAIN	SUM	DA	000	BELF	1971-1989	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	MRFE145	BROWA	EVAP	SUM	DA	000	APAN	1985-1989	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S140 SPW	20350352	BROWA	FLOW	MEAN	DA	SPIL	TELE	1985-1989	S-140 SPILLWAY ON LEVEE L-28 NEAR ALLIGATOR ALLEY	35035	261017	804942
S142	52849391	BROWA	STGU	INST	BK	001		0- 0	S-142 CULVERT ON LEVEE L-38W BETWEEN NNRC & C.A.	284939	280935	802647

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S142	52849391	BROWA	STGD	INST	BK	002		0-	0	S-142 CULVERT ON LEVEE L-38W BETWEEN NNRC & C.A.	284939	260935	802647
S142	52849391	BROWA	STGU	MEAN	DA	001		1987-	1987	S-142 CULVERT ON LEVEE L-38W BETWEEN NNRC & C.A.	284939	260935	802647
S142	52849391	BROWA	STGD	MEAN	DA	002		1983-	1988	S-142 CULVERT ON LEVEE L-38W BETWEEN NNRC & C.A.	284939	260935	802647
S142	52849391	BROWA	FLOW	INST	BK	CULV		0-	0	S-142 CULVERT ON LEVEE L-38W BETWEEN NNRC & C.A.	284939	260935	802647
S142	52849391	BROWA	FLOW	MEAN	DA	CULV		0-	0	S-142 CULVERT ON LEVEE L-38W BETWEEN NNRC & C.A.	284939	260935	802647
S14	02288990	DADE	STGU	MEAN	DA	001		1968-	1980	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	02288990	DADE	STGU	FWM	DA	001		1960-	1968	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	51654351	DADE	STGU	MEAN	BK	001		0-	0	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	51654351	DADE	STGU	MEAN	DA	001		1986-	1986	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	51654351	DADE	STGD	MEAN	BK	002		0-	0	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	51654351	DADE	STGD	MEAN	DA	002		0-	0	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	51654351	DADE	FLOW	MEAN	BK	CULV		0-	0	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S14	51654351	DADE	FLOW	MEAN	DA	CULV		0-	0	TAMIAMI CANAL AT 40-MILE BEND, NEAR MIAMI, FLA.	165435	254541	804920
S150	52847381	PALM	STGU	INST	BK	001		0-	0	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150	52847381	PALM	STGU	MEAN	DA	001		1981-	1987	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150	52847381	PALM	STGD	INST	BK	002		0-	0	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150	52847381	PALM	STGD	MEAN	DA	002		1984-	1989	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150	52847381	PALM	FLOW	INST	BK	CULV		0-	0	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150	52847381	PALM	FLOW	MEAN	DA	CULV		1969-	1987	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150	32847381	PALM	FLOW	MEAN	DA	CULV	TELE	1987-	1989	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150		PALM	STGU	DWR	RI	001		1988-	1989	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S150		PALM	STGD	DWR	RI	002		1988-	1989	S-150 CULVERT ON LEVEE L-5 AT LEVEE L-38W	214738	262004	803225
S333	50654371	DADE	STGU	MEAN	BK	001		0-	0	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	50654371	DADE	STGU	MEAN	DA	001		1978-	1982	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	50654371	DADE	STGD	MEAN	BK	002		0-	0	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	50654371	DADE	STGD	MEAN	DA	002		1978-	1982	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	50654371	DADE	FLOW	MEAN	BK	SPIL		0-	0	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	50654371	DADE	FLOW	MEAN	DA	SPIL		1976-	1982	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	02289050	DADE	STGU	MEAN	DA	001		1981-	1989	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	02289051	DADE	STGD	MEAN	DA	002		1982-	1989	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	02289050	DADE	FLOW	MEAN	DA	XX		1981-	1989	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333	02289050	DADE	FLOW	INST	DA	XX		1983-	1985	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333		DADE	STGU	DWR	RI	001		1988-	1989	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S333		DADE	STGD	DWR	RI	002		1988-	1989	TAMIAMI CANAL BELOW S-333 NR MIAMI,FL	65437	254542	804028
S339	51349361	BROWA	STGU	INST	BK	001		0-	0	S-339 SPILLWAY ON MIAMI CANAL NORTH OF FL HWY 84	134936	261252	804119
S339	51349361	BROWA	STGU	MEAN	DA	001		1981-	1989	S-339 SPILLWAY ON MIAMI CANAL NORTH OF FL HWY 84	134936	261252	804119
S339	51349361	BROWA	STGD	INST	BK	002		0-	0	S-339 SPILLWAY ON MIAMI CANAL NORTH OF FL HWY 84	134936	261252	804119
S339	51349361	BROWA	STGD	MEAN	DA	002		1981-	1989	S-339 SPILLWAY ON MIAMI CANAL NORTH OF FL HWY 84	134936	261252	804119
S339	51349361	BROWA	FLOW	INST	BK	SPIL		0-	0	S-339 SPILLWAY ON MIAMI CANAL NORTH OF FL HWY 84	134936	261252	804119
S339	51349361	BROWA	FLOW	MEAN	DA	SPIL		1984-	1989	S-339 SPILLWAY ON MIAMI CANAL NORTH OF FL HWY 84	134936	261252	804119
S340	50250371	BROWA	STGU	INST	BK	001		0-	0	S-340 SPILLWAY ON MIAMI CANAL SOUTH OF FLA. HWY 8	25037	260646	803631
S340	50250371	BROWA	STGU	MEAN	DA	001		1981-	1989	S-340 SPILLWAY ON MIAMI CANAL SOUTH OF FLA. HWY 8	25037	260646	803631
S340	50250371	BROWA	STGD	INST	BK	002		0-	0	S-340 SPILLWAY ON MIAMI CANAL SOUTH OF FLA. HWY 8	25037	260646	803631
S340	50250371	BROWA	STGD	MEAN	DA	002		1981-	1989	S-340 SPILLWAY ON MIAMI CANAL SOUTH OF FLA. HWY 8	25037	260646	803631
S340	50250371	BROWA	FLOW	INST	BK	SPIL		0-	0	S-340 SPILLWAY ON MIAMI CANAL SOUTH OF FLA. HWY 8	25037	260646	803631
S340	50250371	BROWA	FLOW	MEAN	DA	SPIL		1984-	1989	S-340 SPILLWAY ON MIAMI CANAL SOUTH OF FLA. HWY 8	25037	260646	803631
3A-L28	MRF292	BROWA	RAIN	SUM	DA	000		1963-	1973	CONSERVATION AREA 3 - L28	355035	260600	805000
3A-L67	MRF290	DADE	RAIN	SUM	DA	000		1962-	1979	CONSERVATION AREA 3 -L67A	245237	255400	803800

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
3A-NE	10548381	BROWA	STGW	INST	BK	000	TOW1	0-	0	GW-174 RAIN/WELL ON CONS. AREA 3A AT NE CORNER (3	54838	261642	803619
3A-NE	10548381	BROWA	STGW	MEAN	DA	000	TOW1	1982-	1989	GW-174 RAIN/WELL ON CONS. AREA 3A AT NE CORNER (3	54838	261642	803619
3A-NE	MRF174	BROWA	RAIN	SUM	DA	000	TOW2	1971-	1989	GW-174 RAIN/WELL ON CONS. AREA 3A AT NE CORNER (3	54838	261642	803619
3A-NW	11348351	BROWA	STGW	INST	BK	000	TOW1	0-	0	GW-173 RAIN/WELL ON CONS. AREA 3A AT NW CORNER (3	134835	261707	804634
3A-NW	11348351	BROWA	STGW	MEAN	DA	000	TOW1	1982-	1989	GW-173 RAIN/WELL ON CONS. AREA 3A AT NW CORNER (3	134835	261707	804634
3A-NW	MRF173	BROWA	RAIN	SUM	DA	000	TOW2	1971-	1989	GW-173 RAIN/WELL ON CONS. AREA 3A AT NW CORNER (3	134835	261707	804634
3A-NW		BROWA	STGU	DWR	RI	001		1988-	1989	GW-173 RAIN/WELL ON CONS. AREA 3A AT NW CORNER (3	134835	261707	804634
3A-SW	13451351	BROWA	STGW	INST	BK	000	TOW1	0-	0	GW-202 RAIN/WELL ON CONS. AREA 3A - SW CORNER (3-	345135	255922	805011
3A-SW	13451351	BROWA	STGW	MEAN	DA	000	TOW1	1981-	1989	GW-202 RAIN/WELL ON CONS. AREA 3A - SW CORNER (3-	345135	255922	805011
3A-SW	MRF202	BROWA	RAIN	SUM	DA	000	TOW2	1975-	1989	GW-202 RAIN/WELL ON CONS. AREA 3A - SW CORNER (3-	345135	255922	805011
3A-S	12350361	BROWA	STGW	INST	BK	000	TOW1	0-	0	GW-175 RAIN/WELL ON CONS. AREA 3A - SOUTH END (3-	235036	260459	804105
3A-S	12350361	BROWA	STGW	MEAN	DA	000	TOW1	1982-	1989	GW-175 RAIN/WELL ON CONS. AREA 3A - SOUTH END (3-	235036	260459	804105
3A-S	MRF175	BROWA	RAIN	SUM	DA	000	TOW2	1971-	1989	GW-175 RAIN/WELL ON CONS. AREA 3A - SOUTH END (3-	235036	260459	804105
3A-10	13348361	BROWA	STGW	INST	BK	000	A10	0-	0	CA3-10 STAGE/RAIN ON CONS. AREA 3A NORTH OF S-339	334836	261644	804425
3A-10	13348361	BROWA	STGW	MEAN	DA	000	A10	1978-	1989	CA3-10 STAGE/RAIN ON CONS. AREA 3A NORTH OF S-339	334836	261644	804425
3A-10	310	BROWA	STGW	MEAN	DA	000	A10	0-	0	CA3-10 STAGE/RAIN ON CONS. AREA 3A NORTH OF S-339	334836	261644	804425
3A-11	11349351	BROWA	STGW	INST	BK	000	A10	0-	0	CA3-11 STAGE/RAIN ON CONS. AREA 3A NR L-28 & FLA.	134935	261304	804439
3A-11	11349351	BROWA	STGW	MEAN	DA	000	A10	1981-	1989	CA3-11 STAGE/RAIN ON CONS. AREA 3A NR L-28 & FLA.	134935	261304	804439
3A-11	311	BROWA	STGW	MEAN	DA	000	A10	0-	0	CA3-11 STAGE/RAIN ON CONS. AREA 3A NR L-28 & FLA.	134935	261304	804439
3A-12	12049371	BROWA	STGW	INST	BK	000	A35	0-	0	CA3-12 STAGE/RAIN ON CONS. AREA 3A SOUTH OF S-339	204937	261007	804034
3A-12	12049371	BROWA	STGW	MEAN	DA	000	A35	1978-	1989	CA3-12 STAGE/RAIN ON CONS. AREA 3A SOUTH OF S-339	204937	261007	804034
3A-160	261557080464301	BROWA	RAIN	SUM	DA	000		1977-	1979	EVERGLADES 160 SOUTH OF PUMP STATION NEAR HARBOR	04836	261557	804643
3A-160	261557080464301	BROWA	STG	MIN	DA	000		1977-	1980	EVERGLADES 160 SOUTH OF PUMP STATION NEAR HARBOR	04836	261557	804643
3A-160	261557080464301	BROWA	STG	MEAN	DA	000		1978-	1980	EVERGLADES 160 SOUTH OF PUMP STATION NEAR HARBOR	04836	261557	804643
3A-28	02289043	DADE	PO4	MAX	DA	000		1978-	1979	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	02289043	DADE	RAIN	SUM	DA	000		1974-	1979	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	02289043	DADE	STG	MIN	DA	000		1977-	1980	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	02289043	DADE	STG	MEAN	DA	000		1974-	1980	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	02289043	DADE	STG	RAND	RI	000		1973-	1974	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	13453361	DADE	WELL	INST	BK	000		0-	0	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	13453361	DADE	STG	MEAN	DA	000		0-	0	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	02289043	DADE	FLOW	INST	DA	XX		1982-	1985	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28	365	DADE	STG	MEAN	DA	000		1953-	1985	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-28		DADE	STG	DWR	RI	000		1988-	1989	CA3A-28 CORPS WELL IN C.A. 3A MARSH NEAR S-12 (65	345336	254843	804320
3A-2	02286960	BROWA	RAIN	SUM	DA	000		1974-	1979	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2	02286960	BROWA	STG	MIN	DA	000		1977-	1980	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2	02286960	BROWA	STG	MEAN	DA	000		1974-	1980	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2	02286960	BROWA	STG	RAND	RI	000		1973-	1974	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2	10550361	BROWA	WELL	INST	BK	000		0-	0	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2	10550361	BROWA	WELL	MEAN	DA	000		0-	0	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2	362	BROWA	STG	MEAN	DA	000		0-	0	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-2		BROWA	STG	DWR	RI	000		1988-	1989	CA3A-2 CORPS WELL IN C.A. 3A MARSH NEAR C-60 (62)	324936	261026	804457
3A-3	02286998	BROWA	PO4	MAX	DA	000		1979-	1979	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3	02286998	BROWA	RAIN	SUM	DA	000		1974-	1979	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3	11549381	BROWA	WELL	INST	BK	000		0-	0	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3	11549381	BROWA	WELL	MEAN	DA	000		0-	0	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3	02286998	BROWA	STG	MIN	DA	000		1977-	1980	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3	02286998	BROWA	STG	MEAN	DA	000		1974-	1980	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
3A-3	MRF288	BROWA	RAIN	SUM	DA	000		1962	1983	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3	363	BROWA	STG	MEAN	DA	000		1962	1985	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-3		BROWA	STG	DWR	RI	000		1988	1989	CA3A-3 CORPS WELL IN C.A. 3A MARSH NEAR S-11 (63)	154938	261118	803209
3A-4	02286970	BROWA	RAIN	SUM	DA	000		1974	1979	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	02286970	BROWA	STG	MIN	DA	000		1977	1980	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	02286970	BROWA	STG	MEAN	DA	000		1974	1980	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	02286970	BROWA	STG	RAND	RI	000		1973	1974	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	13051371	BROWA	WELL	INST	BK	000		0	0	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	13051371	BROWA	WELL	MEAN	DA	000		0	0	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	MRF289	BROWA	RAIN	SUM	DA	000		1962	1983	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4	364	BROWA	STG	MEAN	DA	000		1962	1985	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-4		BROWA	STG	DWR	RI	000		1986	1989	CA3A-4 CORPS WELL IN C.A. 3A MARSH (64)	305137	255824	804018
3A-9	13449371	BROWA	STGW	INST	BK	000	A35	0	0	CA3-9 STAGE/RAIN ON CONS. AREA 3A NR C-123 & FLA.	344937	260721	803853
3A-9	13449371	BROWA	STGW	MEAN	DA	000	A35	1981	1989	CA3-9 STAGE/RAIN ON CONS. AREA 3A NR C-123 & FLA.	344937	260721	803853
3-160		BROWA	]]]]	]]]]	]]	****	]]]]	0	0	EVERGLADES 160 SOUTH OF PUMP STATION NEAR HARBOR	04836	261557	804643
G123P		BROWA	STGU	INST	BK	001		0	0	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G123P	53349392	BROWA	STGU	INST	BK	001		0	0	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G123P	53349392	BROWA	STGU	MEAN	DA	001		1985	1989	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G123P	53349392	BROWA	STGD	INST	BK	002		0	0	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G123P	53349392	BROWA	STGD	MEAN	DA	002		1985	1989	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G123P	53349392	BROWA	FLOW	INST	BK	PUMP		0	0	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G123P	53349392	BROWA	FLOW	MEAN	DA	PUMP		1985	1989	G-123 PUMP ON NNR CANAL TO CA-3A AT S-34	284939	260857	802633
G-968A	255600080270002	DADE	WELL	MEAN	DA	000		1961	1965	G-968A	45239	255600	802700
G-968	255600080027001	DADE	WELL	MEAN	DA	-050		1960	1973	G- 968 USGS OBS WELL NR CAROL CTY, FL	95239	255600	802700
G-968	255600080270001	DADE	WELL	MAX	DA	-050		1973	1988	G- 968 USGS OBS WELL NR CAROL CTY, FL	95239	255600	802700
L29-1	50654381	DADE	STGU	INST	BK	001	A35	0	0	L-29 CULVERT (G-69) IN L-29 AT TAMIAMI CANAL	65438	254540	803341
L29-1	50654381	DADE	STGU	MEAN	DA	001	A35	1980	1989	L-29 CULVERT (G-69) IN L-29 AT TAMIAMI CANAL	65438	254540	803341
L29-1	50654381	DADE	FLOW	MEAN	DA	CULV		0	0	L-29 CULVERT (G-69) IN L-29 AT TAMIAMI CANAL	65438	254540	803341
L29-1		DADE	STGU	DWR	RI	001		1988	1989	L-29 CULVERT (G-69) IN L-29 AT TAMIAMI CANAL	65438	254540	803341
L29-1		DADE	STGD	DWR	RI	002		1988	1989	L-29 CULVERT (G-69) IN L-29 AT TAMIAMI CANAL	65438	254540	803341
L30	02289100	DADE	STG	FWM	DA	000		1962	1963	LEVEE 30 NEAR MIAMI SPRINGS	75339	255020	802910
SHARK.1	254754080344300	DADE	STGU	MEAN	DA	001		1976	1989	SHARK RIVER SLOUGH NO.1 IN CONS.3B NR COOPERTOWN	295338	254754	803443
S151	51451381	BROWA	STGU	INST	BK	001		0	0	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	51451381	BROWA	STGU	MEAN	DA	001		1962	1989	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	51451381	BROWA	STGD	INST	BK	002		0	0	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	51451381	BROWA	STGD	MEAN	DA	002		1962	1989	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	51451381	BROWA	FLOW	INST	BK	CULV		0	0	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	51451381	BROWA	FLOW	MEAN	DA	CULV		1962	1989	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	21451381	BROWA	STGU	MEAN	DA	001	TELE	1985	1987	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	21451381	BROWA	STGU	INST	BK	001	TELE	0	0	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	21451381	BROWA	STGD	MEAN	DA	002	TELE	1985	1987	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	21451381	BROWA	STGD	INST	BK	002	TELE	0	0	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	21451381	BROWA	FLOW	MEAN	DA	CULV	TELE	1985	1987	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037
S151	31451381	BROWA	FLOW	MEAN	DA	CULV	TELE	1985	1987	S-151 CULVERT ON MIAMI CANAL AT LEVEE L-67	145138	260041	803037

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S31	02287105	DADE	COND	RAND	DA	000		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	02287105	DADE	STGU	FWM	DA	001		1982-	1982	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	02287105	DADE	FLOW	MEAN	DA	CULV		1982-	1982	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	02287105	DADE	H2OT	RAND	DA	000		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	50952391	DADE	STGU	INST	BK	001		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	50952391	DADE	STGU	MEAN	DA	001		1983-	1987	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	50952391	DADE	STGD	INST	BK	002		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	50952391	DADE	STGD	MEAN	DA	002		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	50952391	DADE	FLOW	INST	BK	CULV		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	50952391	DADE	FLOW	MEAN	DA	CULV		0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	20952391	DADE	STGU	MEAN	DA	001	TELE	1985-	1989	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	20952391	DADE	STGD	MEAN	DA	002	TELE	1985-	1989	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	20952391	DADE	STGU	INST	BK	001	TELE	0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	20952391	DADE	STGD	INST	BK	002	TELE	0-	0	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S31	20952391	DADE	FLOW	MEAN	DA	CULV	TELE	1985-	1989	S-31 CULVERT ON CANAL C-6 AT CONSERVATION AREA 3B	45239	255631	802627
S334	51154381	DADE	STGU	INST	BK	001		0-	0	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334	51154381	DADE	STGU	MEAN	DA	001		1978-	1989	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334	51154381	DADE	STGD	INST	BK	002		0-	0	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334	51154381	DADE	STGD	MEAN	DA	002		1978-	1989	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334	51154381	DADE	FLOW	INST	BK	SPIL		0-	0	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334	51154381	DADE	FLOW	MEAN	DA	SPIL		1978-	1989	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334		DADE	STGU	DWR	RI	001		1988-	1989	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S334		DADE	STGD	DWR	RI	002		1988-	1989	S-334 SPILLWAY ON TAMIAMI CANAL AT LEVEE L-31N	25438	254538	803003
S9XN	53450392	BROWA	STGU	INST	BK	001		0-	0	S-9XN CULVERT ON LEVEE L-37 TO CANAL C-11	345039	260340	802638
S9XN	53450392	BROWA	STGU	MEAN	DA	001		0-	0	S-9XN CULVERT ON LEVEE L-37 TO CANAL C-11	345039	260340	802638
S9XN	53450392	BROWA	STGD	INST	BK	002		0-	0	S-9XN CULVERT ON LEVEE L-37 TO CANAL C-11	345039	260340	802638
S9XN	53450392	BROWA	STGD	MEAN	DA	002		0-	0	S-9XN CULVERT ON LEVEE L-37 TO CANAL C-11	345039	260340	802638
S9XN	53450392	BROWA	FLOW	INST	BK	CULV		0-	0	S-9XN CULVERT ON LEVEE L-37 TO CANAL C-11	345039	260340	802638
S9XN	53450392	BROWA	FLOW	MEAN	DA	CULV		0-	0	S-9XN CULVERT ON LEVEE L-37 TO CANAL C-11	345039	260340	802638
S9XS	53450391	BROWA	STGU	INST	BK	001		0-	0	S-9XS CULVERT ON LEVEE L-33 TO CANAL C-11	345039	260340	802638
S9XS	53450391	BROWA	STGU	MEAN	DA	001		1984-	1987	S-9XS CULVERT ON LEVEE L-33 TO CANAL C-11	345039	260340	802638
S9XS	53450391	BROWA	STGD	INST	BK	002		0-	0	S-9XS CULVERT ON LEVEE L-33 TO CANAL C-11	345039	260340	802638
S9XS	53450391	BROWA	STGD	MEAN	DA	002		0-	0	S-9XS CULVERT ON LEVEE L-33 TO CANAL C-11	345039	260340	802638
S9XS	53450391	BROWA	FLOW	INST	BK	CULV		0-	0	S-9XS CULVERT ON LEVEE L-33 TO CANAL C-11	345039	260340	802638
S9XS	53450391	BROWA	FLOW	MEAN	DA	CULV		0-	0	S-9XS CULVERT ON LEVEE L-33 TO CANAL C-11	345039	260340	802638
3B-SE	13553381	DADE	STGW	INST	BK	000	A10	0-	0	CA3B-SE STAGE IN CONS. AREA 3B MARSH NW OF S-335	355338	254715	803000
3B-SE	13553381	DADE	STGW	MEAN	DA	000	A10	1984-	1989	CA3B-SE STAGE IN CONS. AREA 3B MARSH NW OF S-335	355338	254715	803000
L8.M CNL	MRF281	PALM	RAIN	SUM	MO	000		1944-	1980	CITY OF WPB PUMP @ L-8 (PUMP #2)	44340	264518	802045
L8.441	265501080364900	PALM	STG	MEAN	DA	000		1976-	1989	L-8 CANAL AT US HWY 441 NR CANAL POINT FLA	114137	265501	803649
L8.441	265501080364900	PALM	FLOW	MEAN	DA	XX		1976-	1988	L-8 CANAL AT US HWY 441 NR CANAL POINT FLA	114137	265501	803649
M2 CNL	02277750	PALM	STG	MEAN	DA	000		1973-	1977	M-2 CANAL IN ROYAL PALM BEACH COLONY	234240	264832	801841
PB-686	264833080185901	PALM	WELL	MAX	DA	-117		1973-	1977	PB-686	114240	264833	801859
PB-831	265106080241402	PALM	WELL	MAX	DA	000		1974-	1988	PB-831 IN COLBERT GA MGMT AREA	354139	265106	802414

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
PB-831	265106080241402	PALM	WELL	RAND	RI	000		1977	1978	PB-831 IN COLBERT GA MGMT AREA	354139	265106	802414
S76	51241371	PALM	STGU	INST	BK	001		0	0	S-76 SPILLWAY ON LEVEE L-8 AT LAKE OKEECHOBEE	124137	265540	803450
S76	51241371	PALM	STGU	MEAN	DA	001		0	0	S-76 SPILLWAY ON LEVEE L-8 AT LAKE OKEECHOBEE	124137	265540	803450
S76	51241371	PALM	STGD	INST	BK	002		0	0	S-76 SPILLWAY ON LEVEE L-8 AT LAKE OKEECHOBEE	124137	265540	803450
S76	51241371	PALM	STGD	MEAN	DA	002		0	0	S-76 SPILLWAY ON LEVEE L-8 AT LAKE OKEECHOBEE	124137	265540	803450
S76	51241371	PALM	FLOW	INST	BK	SPIL		0	0	S-76 SPILLWAY ON LEVEE L-8 AT LAKE OKEECHOBEE	124137	265540	803450
S76	51241371	PALM	FLOW	MEAN	DA	SPIL		0	0	S-76 SPILLWAY ON LEVEE L-8 AT LAKE OKEECHOBEE	124137	265540	803450
BELLE GL	MRF6119	PALM	RAIN	SUM	DA	000	CAN	1924	1988	BELLE GLADE EXPERIMENT STATION	104437	263924	803748
BELLE GL	MRFE619	PALM	EVAP	SUM	DA	000	APAN	1941	1968	BELLE GLADE EXPERIMENT STATION	104437	263924	803748
BELLE GL	MRFE619	PALM	EVAP	SUM	MO	000	APAN	1925	1940	BELLE GLADE EXPERIMENT STATION	104437	263924	803748
CHOSEN	MRF8003	PALM	RAIN	SUM	MO	000		1921	1932	CHOSEN (EDD)	264336	264201	804258
HGS4	53543611	PALM	STGU	INST	BK	001		0	0	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	53543611	PALM	STGU	MEAN	DA	001		0	0	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	53543611	PALM	STGD	INST	BK	002		0	0	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	53543611	PALM	STGD	MEAN	DA	002		0	0	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	53543611	PALM	FLOW	INST	BK	XX		0	0	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	53543611	PALM	FLOW	MEAN	DA	XX		0	0	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	MRF6040	PALM	RAIN	SUM	DA	000	CAN	1951	1954	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	MRF70	PALM	RAIN	SUM	DA	000		1951	1988	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	MRF7040	PALM	RAIN	SUM	DA	000	RECO	1942	1988	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	MRFE640	PALM	EVAP	SUM	DA	000	APAN	1948	1954	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	MRFE940	PALM	EVAP	SUM	MO	000	CPAN	1941	1954	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	02280500	PALM	FLOW	INST	DA	XX		1982	1985	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	02283495	PALM	FLOW	MEAN	DA	XX		1984	1989	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4	MRF7040	PALM	RAIN	SUM	MO	000		1937	1941	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4		PALM	STGU	DWR	RI	001		1988	1989	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
HGS4		PALM	STGD	DWR	RI	002		1988	1989	HGS-4 HURR. GATE ON L. OKEECHOBEE AT HILLS. & NNR	354361	264203	804254
NNRC.R1	MRF7055	PALM	RAIN	SUM	DA	000	RECO	1941	1966	NORTH NEW RIVER CANAL 1	164536	263400	804500
NNRC.R1	MRF7055	PALM	RAIN	SUM	MO	000		1940	1940	NORTH NEW RIVER CANAL 1	164538	263400	804500
PB-138	263910080451501	PALM	WELL	RAND	RI	-050		1942	1942	GS-3 US SUGAR CO BEAN CITY FL	84436	263910	804515
PB-203	264000080375001	PALM	WELL	RAND	RI	-213		1961	1980	BELLE GLADE EXP STA	34437	264000	803750
PB-517	264413080413601	PALM	WELL	MAX	DA	-010		1973	1976	43S36E13 PB-517	134336	264413	804136
PB-517	264413080413601	PALM	WELL	MEAN	DA	-010		1969	1973	43S36E13 PB-517	134336	264413	804136
PB-521	264413080413602	PALM	WELL	RAND	RI	-018		1975	1976	PB-521	134336	264413	804136
PB-736	264227080390701	PALM	WELL	MEAN	DA	-222		1969	1973	PB-736 QUAKER OATS	284337	264229	803905
PREWITT	MRF134	PALM	RAIN	SUM	DA	000		1964	1973	PREWITT - US SUGAR	354337	264123	803636
RUNYON	MRF67	PALM	RAIN	SUM	DA	000		1942	1973	RUNYON - US SUGAR	184337	264359	804029
SOUTH BA	MRF73	PALM	RAIN	SUM	DA	000	BELF	1959	1989	SOUTH BAY (BELFORT)	134436	263952	804207
SOUTH BA	MRF73C	PALM	RAIN	SUM	DA	000	CAN	1929	1973	SOUTH BAY (BELFORT)	134436	263952	804207
SSDD	50444361	PALM	STGU	INST	BK	001		0	0	PUMP STATION IN SOUTH SHORE NEAR U.S. HIGHWAY 441	44436	264000	804600
SSDD	50444361	PALM	STGU	MEAN	DA	001		0	0	PUMP STATION IN SOUTH SHORE NEAR U.S. HIGHWAY 441	44436	264000	804600
SSDD	50444361	PALM	STGD	INST	BK	002		0	0	PUMP STATION IN SOUTH SHORE NEAR U.S. HIGHWAY 441	44436	264000	804600

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
SSDD	50444361	PALM	STGD	MEAN	DA	002		0-	0	PUMP STATION IN SOUTH SHORE NEAR U.S. HIGHWAY 441	44436	264000	804600
SSDD	50444361	PALM	FLOW	INST	BK	PUMP		0-	0	PUMP STATION IN SOUTH SHORE NEAR U.S. HIGHWAY 441	44436	264000	804600
SSDD	50444361	PALM	FLOW	MEAN	DA	PUMP		0-	0	PUMP STATION IN SOUTH SHORE NEAR U.S. HIGHWAY 441	44436	264000	804600
S2 HILLS	02280500	PALM	COND	RAND	DA	000		1974-	1975	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	DS	MAX	DA	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	DS	MIN	DA	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	DSL	MAX	DA	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	DSL	MIN	DA	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	STGD	MEAN	DA	002		1976-	1989	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	STGD	MAX	DA	002		1964-	1974	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	STGD	MIN	DA	002		1964-	1974	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	STGD	FWM	DA	002		1962-	1982	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	FLOW	MAX	DA	XX		1964-	1974	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	FLOW	MIN	DA	XX		1964-	1974	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	FLOW	MEAN	DA	XX		1957-	1989	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	H2OT	MAX	DA	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	H2OT	MIN	DA	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	H2OT	RAND	DA	000		1974-	1975	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	COND	RAND	RI	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 HILLS	02280500	PALM	H2OT	RAND	RI	000		0-	0	HILLSBORO CA BL HGS-4 NR SOUTH BAY FLA	354336	264200	804245
S2 NNR	02283500	PALM	COND	RAND	DA	000		1974-	1975	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	DS	MAX	DA	000		0-	0	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	DS	MIN	DA	000		0-	0	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	DSL	MAX	DA	000		0-	0	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	DSL	MIN	DA	000		0-	0	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	STGD	MEAN	DA	002		1968-	1989	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	STGD	FWM	DA	002		1961-	1969	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	FLOW	MAX	DA	XX		1964-	1974	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	FLOW	MIN	DA	XX		1964-	1974	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	FLOW	MEAN	DA	XX		1960-	1989	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	H2OT	RAND	DA	000		1974-	1975	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	COND	RAND	RI	000		0-	0	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 NNR	02283500	PALM	H2OT	RAND	RI	000		0-	0	N NEW RIVER CANAL BL HGS-4 NR SOUTH BAY FLA	354336	264150	804250
S2 PMP	53543365	PALM	STGU	INST	BK	001		0-	0	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	53543365	PALM	STGU	MEAN	DA	001		0-	0	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	53543365	PALM	STGD	INST	BK	002		0-	0	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	53543365	PALM	STGD	MEAN	DA	002		0-	0	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	53543365	PALM	FLOW	INST	BK	PUMP		0-	0	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	53543365	PALM	FLOW	MEAN	DA	PUMP		0-	0	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	02283496	PALM	FLOW	MEAN	DA	FLUM		1984-	1989	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	42643361	PALM	FLOW	MEAN	DA	PUMP	PLOG	1984-	1987	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 PMP	23543365	PALM	FLOW	MEAN	DA	PUMP	TELE	1985-	1989	S-2 PUMP FROM HILLSBORO & N.N.R. TO LAKE OKEECHOB	354336	264204	804256
S2 SYPH	02283497	PALM	FLOW	MEAN	DA	FLUM		1984-	1989	S-2 PUMP STATION SIPHONING PORTION TO HILLS & NNR	0 0 0	264200	804256

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCOR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S2 TOTAL	02283498	PALM	STGU	MEAN	DA	001		1980-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	02283498	PALM	FLOW	MEAN	DA	COMB		1967-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	02283498	PALM	FLOW	INST	DA	COMB		1982-1985	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGU	MEAN	DA	001	TELE	1985-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGU	INST	BK	001	TELE	0- 0	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGD	MEAN	DA	002	TELE	1985-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGD	INST	BK	002	TELE	0- 0	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGD	MAX	DA	002	TELE	1988-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGD	MIN	DA	002	TELE	1988-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2 TOTAL	23543365	PALM	STGU	MAX	DA	001	TELE	1988-1989	COMBINED S-2 AND HGS-4 STATIONS @ HILLS & NNR CAN	354336	264200	804255
S2	MRF183	PALM	RAIN	SUM	DA	000		1973-1989	S-2	264336	264203	804254
S2		PALM	RAIN	DWR	RI	000		1988-1989	S-2	264336	264203	804254
WETHERAL	MRF128	PALM	RAIN	SUM	DA	000		1965-1973	WETHERALD - US SUGAR	294436	263750	804515
WETHERAL	MRF128C	PALM	RAIN	SUM	DA	000	BELF	1964-1973	WETHERALD - US SUGAR	294436	263750	804515
WETHERAL	MRF128	PALM	RAIN	SUM	MO	000		1964-1964	WETHERALD - US SUGAR	294436	263750	804515
HE-339	263700080550001	HENDR	WELL	MAX	DA	000		1973-1979	HE.339 ON SR.832 NEAR CLEWISTON, FLA.	274434	263700	805500
HE-339	263700080550001	HENDR	WELL	MEAN	DA	000		1964-1973	HE.339 ON SR.832 NEAR CLEWISTON, FLA.	274434	263700	805500
HE-339	263700080550001	HENDR	WELL	RAND	RI	000		1979-1988	HE.339 ON SR.832 NEAR CLEWISTON, FLA.	274434	263700	805500
HE-339	263700080550001	HENDR	CLD	RAND	RI	-013		1984-1987	HE.339 ON SR.832 NEAR CLEWISTON, FLA.	274434	263700	805500
HE-339	263700080550001	HENDR	COND	RAND	RI	-013		1984-1987	HE.339 ON SR.832 NEAR CLEWISTON, FLA.	274434	263700	805500
HGS3	53543352	PALM	STGU	INST	BK	001		0- 0	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3	53543352	PALM	STGU	MEAN	DA	001		0- 0	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3	53543352	PALM	STGD	INST	BK	002		0- 0	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3	53543352	PALM	STGD	MEAN	DA	002		0- 0	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3	53543352	PALM	FLOW	INST	BK	XX		0- 0	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3	53543352	PALM	FLOW	MEAN	DA	XX		0- 0	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3	02286401	PALM	FLOW	MEAN	DA	XX		1984-1989	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3		PALM	STGU	DWR	RI	001		1988-1989	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
HGS3		PALM	STGD	DWR	RI	002		1988-1989	HGS-3 HURRICANE GATE ON L. OKEECHOBEE AT MIAMI CA	354335	264155	804825
L1-1	51744341	HENDR	STG	INST	BK	000		0- 0	LEVEE L-1 3 MILES NORTH OF FLORIDA HIGHWAY 832	174434	263900	805700
L1-1	51744341	HENDR	STG	MEAN	DA	000		1981-1989	LEVEE L-1 3 MILES NORTH OF FLORIDA HIGHWAY 832	174434	263900	805700
L1 RANCH	MRF80	HENDR	RAIN	SUM	DA	000		1957-1982	L-1 RANCH	284434	263727	805855
MIAMI LO	MRF71	PALM	RAIN	SUM	DA	000	BELF	1974-1989	MIAMI LOCK (BELFORT)	114435	264054	804823
MIAMI LO	MRF71C	PALM	RAIN	SUM	DA	000	CAN	1941-1973	MIAMI LOCK (BELFORT)	114435	264054	804823
MIAMI LO	MRF71C	PALM	RAIN	SUM	MO	000		1929-1940	MIAMI LOCK (BELFORT)	114435	264054	804823
MOTT	MRF126	PALM	RAIN	SUM	DA	000		1963-1973	MOTT (BELFORT)	84435	264004	805207
MOTT	MRF126C	PALM	RAIN	SUM	DA	000	BELF	1963-1973	MOTT (BELFORT)	84435	264004	805207
PAIGE	MRF282C	HENDR	RAIN	SUM	DA	000	BELF	1982-1989	PAIGE RANCH (BELFORT)	44534	263619	805659
PB-506	264153080475201	PALM	WELL	MAX	DA	-015		1973-1986	43S35E36 PB-506	364335	264153	804752
PB-506	264153080475201	PALM	WELL	MEAN	DA	-015		1969-1973	43S35E36 PB-506	364335	264153	804752
PB-509	264153080475202	PALM	WELL	RAND	RI	-022		1975-1980	PB-509	364335	264153	804752
VAUGHN	MRF127	PALM	RAIN	SUM	DA	000	BELF	1962-1981	VAUGHN (BELFORT)	274435	263752	804954
VAUGHN	MRF127C	PALM	RAIN	SUM	DA	000	CAN	0- 0	VAUGHN (BELFORT)	274435	263752	804954

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
BOURNE	MRF129	PALM	RAIN	SUM	DA	000		1965	1973	BOURNE (BELFORT)	254137	265236	803452
BOURNE	MRF129C	PALM	RAIN	SUM	DA	000	BELF	1964	1973	BOURNE (BELFORT)	254137	265236	803452
BRYANT	MRF130	PALM	RAIN	SUM	DA	000		1963	1973	BRYANT - US SUGAR	34237	266056	803718
CANAL P2	MRF6042	PALM	RAIN	SUM	DA	000	CAN	1953	1988	CANAL POINT USDA	344137	265204	803737
CANAL P2	MRF6042	PALM	RAIN	SUM	MO	000		1922	1952	CANAL POINT USDA	344137	265204	803737
HGS5X	02278000	PALM	COND	RAND	DA	000		1974	1975	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278000	PALM	STGU	MEAN	DA	001		1968	1988	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278000	PALM	STGU	FWM	DA	001		1960	1968	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278000	PALM	FLOW	MEAN	DA	XX		1939	1988	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278000	PALM	H2OT	RAND	DA	000		1974	1975	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278002	PALM	STGD	MEAN	DA	002		1968	1988	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278002	PALM	STGD	FWM	DA	002		1962	1968	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	53341371	PALM	STGU	INST	BK	001		0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	53341371	PALM	STGU	MEAN	DA	001		1986	1986	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	53341371	PALM	STGD	INST	BK	002		0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	53341371	PALM	STGD	MEAN	DA	002		1986	1986	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	53341371	PALM	FLOW	INST	BK	XX		0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	53341371	PALM	FLOW	MEAN	DA	XX		0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	MRF55	PALM	RAIN	SUM	DA	000		1951	1988	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	MRF7041	PALM	RAIN	SUM	DA	000	RECO	1940	1987	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278000	PALM	COND	RAND	RI	000		0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	02278000	PALM	H2OT	RAND	RI	000		0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	23341371	PALM	STGD	MEAN	DA	002	TELE	1988	1989	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5X	23341371	PALM	RAIN	SUM	DA	000	TELE	0	0	HGS-5 HURR. GATE ON LAKE OKEECHOBEE TO W.P.B. CAN	334137	265149	803756
HGS5 7	02278000	PALM	FLOW	INST	DA	XX		1983	1985	WEST PALM BCH CA AT HGS-5 AT CANAL POINT FLA	0	0 0	265150 803765
MARTINEZ	MRF132	PALM	RAIN	SUM	DA	000		1967	1973	MARTINEZ	304238	264725	803358
MARTINEZ	MRF132C	PALM	RAIN	SUM	DA	000	BELF	1964	1973	MARTINEZ	304238	264725	803358
M1 CNL	02278760	PALM	STG	MEAN	DA	000		1972	1977	M-1 CANAL AT CANAL M NR ROYAL PALM BEACH, FLA.	44341	264555	801452
M AND M	MRF66	PALM	RAIN	SUM	DA	000		1957	1972	M AND M RANCH	364239	264618	802739
OSCEOLA	MRF58	PALM	RAIN	SUM	DA	000		1961	1981	OSCEOLA FARMS	174238	264934	803253
PAHOKEE1	MRF137	PALM	RAIN	SUM	DA	000		1957	1989	PAHOKEE 1	184238	264846	803350
PAHOKEE2	MRF138	PALM	RAIN	SUM	DA	000		1957	1989	PAHOKEE 2	344238	264701	803132
PB-441	263738080281401	PALM	WELL	MEAN	DA	000		1964	1967	PB-441	214439	263738	802814
PB-505	265240080372101	PALM	WELL	MAX	DA	000		1973	1986	PB-505 NEAR CANAL POINT, FLA.	354137	265240	803721
PB-529	265240080372102	PALM	WELL	RAND	RI	-010		1975	1980	PB-529 NR CANAL POINT	354137	265240	803721
PB-560	265240080372103	PALM	WELL	RAND	RI	-035		1975	1980	PB-560 NR CANAL POINT	354137	265240	803721
PEL LAK1	MRF135	PALM	RAIN	SUM	DA	000		1957	1989	PELICAN LAKE DRAINAGE DISTRICT #1	24237	265105	803649
PEL LAK2	MRF57	PALM	RAIN	SUM	DA	000		1957	1989	PELICAN LAKE DRAINAGE DISTRICT #2	24237	265030	803609
PEL 23	MRF131	PALM	RAIN	SUM	DA	000	BELF	1974	1989	PELICAN 23 - US SUGAR	234237	264843	803637
PEL 23	MRF131C	PALM	RAIN	SUM	DA	000	CAN	1963	1973	PELICAN 23 - US SUGAR	234237	264843	803637
PEL 23	MRF131C	PALM	RAIN	SUM	MO	000		1931	1952	PELICAN 23 - US SUGAR	234237	264843	803637
PEL 34	MRF65	PALM	RAIN	SUM	DA	000		1929	1973	PELICAN 34 - US SUGAR	344237	264627	803704
SENTER F	MRF74	PALM	RAIN	SUM	DA	000		1957	1971	SENTER FARMS	344338	264145	803218

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S5AW	02278520	PALM	FLOW	MEAN	DA	CULV		1968-1970	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	53243402	PALM	STGU	INST	BK	001		0- 0	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	53243402	PALM	STGU	MEAN	DA	001		1984-1987	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	53243402	PALM	STGD	INST	BK	002		0- 0	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	53243402	PALM	STGD	MEAN	DA	002		1984-1986	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	53243402	PALM	FLOW	INST	BK	CULV		0- 0	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	53243402	PALM	FLOW	MEAN	DA	CULV		1985-1986	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	23243402	PALM	STGU	MEAN	DA	001	TELE	1985-1989	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	23243402	PALM	STGU	INST	BK	001	TELE	0- 0	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AW	23243402	PALM	FLOW	MEAN	DA	CULV	TELE	0- 0	S-5AW CULVERT ON WEST PALM BEACH CANAL AT LEVEE L	324340	264105	802200
S5AX	50344381	PALM	STGU	INST	BK	001		0- 0	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	50344381	PALM	STGD	INST	BK	002		0- 0	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	50344381	PALM	FLOW	INST	BK	CULV		0- 0	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	50344381	PALM	FLOW	MEAN	DA	CULV		1985-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	STGU	MEAN	DA	001	TELE	1985-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	STGD	MEAN	DA	002	TELE	1985-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	STGU	INST	BK	001	TELE	0- 0	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	STGD	INST	BK	002	TELE	0- 0	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	FLOW	MEAN	DA	CULV	TELE	1985-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX		PALM	RAIN	DWR	RI	000		1988-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	STGU	MAX	DA	001	TELE	1985-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AX	20344381	PALM	STGD	MAX	DA	002	TELE	1985-1989	S-5AX CULVERT ON OCEAN CANAL WEST OF S-5A	34438	264041	803217
S5AY	50143381	PALM	STG	INST	BK	000		0- 0	S-5AY/DASC ON W.P.B. CANAL NEAR BIG MOUND CANAL	14338	264041	803217
S5AY	50143381	PALM	STG	MEAN	DA	000		0- 0	S-5AY/DASC ON W.P.B. CANAL NEAR BIG MOUND CANAL	14338	264041	803217
TALISMAN	MRF75	PALM	RAIN	SUM	DA	000		1957-1972	TALISMAN SUGAR - US SUGAR	14438	264047	802950
WPBC	10143381	PALM	STG	INST	BK	000		0- 0	WEST PALM BEACH CANAL AT BIG MOUND CANAL	14338	264600	803000
WPBC	10143381	PALM	STG	MEAN	DA	000		0- 0	WEST PALM BEACH CANAL AT BIG MOUND CANAL	14338	264600	803000
WPBC	20143381	PALM	STG	MEAN	DA	000	TELE	1985-1989	WEST PALM BEACH CANAL AT BIG MOUND CANAL	14338	264600	803000
WPBC	20143381	PALM	RAIN	SUM	DA	000	TELE	0- 0	WEST PALM BEACH CANAL AT BIG MOUND CANAL	14338	264600	803000
BIG B1	MRF226	PALM	RAIN	SUM	DA	000	CAN	1978-1982	BIG B RANCH OFFICE (MOVED 5 MI. W. PRIOR TO 10/82	334538	263039	803308
BIG B2	MRF96	PALM	RAIN	SUM	DA	000	BELF	1967-1982	BIG B RANCH LANDING STRIP	164537	263329	803858
HILL.6MI	21844381	PALM	STG	INST	BK	000	TELE	0- 0	HILLSBORO CANAL AT 6 MILE BEND	184438	263833	803452
HILL.6MI	21844381	PALM	STG	MEAN	DA	000	TELE	1985-1989	HILLSBORO CANAL AT 6 MILE BEND	184438	263833	803452
HILL.6MI	11844381	PALM	STG	INST	BK	000		0- 0	HILLSBORO CANAL AT 6 MILE BEND	184438	263833	803452
HILL.6MI	11844381	PALM	STG	MEAN	DA	000		1974-1987	HILLSBORO CANAL AT 6 MILE BEND	184438	263833	803452
HILL.6MI	21844381	PALM	STG	MAX	DA	000	TELE	1985-1989	HILLSBORO CANAL AT 6 MILE BEND	184438	263833	803452
LWD.B10	MRF8012	PALM	RAIN	SUM	MO	000		1928-1952	BOYNTON 10 (LWDD)	224543	263200	800300
MANTEE P	MRF79	PALM	RAIN	SUM	DA	000		1957-1982	MANTEE PLANTATION @ 6 MILE BEND	184438	263832	803437
PB-12	263750080334701	PALM	WELL	MEAN	DA	000		1944-1945	PB-12 @ 6 MILE BEND	184438	263750	803347
SAWYER R	MRF87	PALM	RAIN	SUM	DA	000		1957-1974	SAWYER RANCH	284538	263157	803245
SHAWANO5	MRF82	PALM	RAIN	SUM	DA	000		1958-1985	SHAWANO PUMP 5	194539	263200	802944
SHAWANO6	MRF86	PALM	RAIN	SUM	DA	000		1957-1985	SHAWANO PUMP 6	114538	263403	803111
STEWART	MRF83	PALM	RAIN	SUM	DA	000		1960-1971	STEWART PROPERTY	94539	263354	802713

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCOR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S6	02281200	PALM	STGU	MAX	DA	001		1957-1968	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	02281200	PALM	STGU	MEAN	DA	001		1975-1976	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	02281200	PALM	FLOW	MEAN	DA	XX		1957-1981	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	02281201	PALM	STGD	MEAN	DA	002		1957-1968	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	50046395	PALM	STGU	INST	BK	001	A35	0- 0	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	50046395	PALM	STGU	MEAN	DA	001	A35	1978-1987	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	50046395	PALM	STGD	INST	BK	002	A35	0- 0	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	50046395	PALM	STGD	MEAN	DA	002	A35	1978-1987	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	50046395	PALM	FLOW	MEAN	DA	PUMP	PLOG	1968-1987	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	MRF95	PALM	RAIN	SUM	DA	000	BELF	1980-1989	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	20046395	PALM	STGU	MEAN	DA	001	TELE	1985-1989	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	20046395	PALM	STGD	MEAN	DA	002	TELE	1985-1989	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	20046395	PALM	FLOW	MEAN	DA	PUMP	TELE	1985-1989	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6		PALM	RAIN	DWR	RI	000		1988-1989	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	40046391	PALM	STGU	MEAN	DA	001	PLOG	1985-1986	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6	40046391	PALM	STGD	MEAN	DA	002	PLOG	1985-1986	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
S6		PALM	FLOW	MEAN	DA	PUMP	PLOG	1985-1986	HILLSBORO CANAL AT S-6 NEAR SHAWANO	44639	262820	802645
FARAONE-	MRF324	PALM	RAIN	SUM	DA	000	POST	1982-1983	FARONE - WELLINGTON	104441	263833	801415
FARAONE	MRF373	PALM	RAIN	SUM	DA	000	POST	1985-1989	VINCE FARAONE RESIDENCE	144341	264354	801318
G124	0	PALM	FLOW	MEAN	DA	CULV		0- 0	G124	334341	264054	801532
G124	0	PALM	STGU	DWR	RI	001	STAF	0- 0	G124	334341	264054	801532
G124	0	PALM	STGD	DWR	RI	002	STAF	0- 0	G124	334341	264054	801532
G-2156	261837080130501	PALM	WELL	RAND	RI	-110		1975-1980	G-2156	04841	264104	802150
LOXAHATC	MRF8074	PALM	RAIN	SUM	DA	000	CAN	1941-1989	LOXAHATCHEE	324341	264114	801627
LOXAHATC	MRF7074	PALM	RAIN	SUM	DA	000	RECO	1942-1977	LOXAHATCHEE	324341	264114	801627
LOXAHATC	MRFE674	PALM	EVAP	SUM	DA	000	APAN	1948-1960	LOXAHATCHEE	324341	264114	801627
LOXAHATC	MRF7874	PALM	RAIN	SUM	MO	000		1940-1941	LOXAHATCHEE	324341	264114	801627
LOXAHATC	MRFE674	PALM	EVAP	SUM	MO	000	APAN	1941-1947	LOXAHATCHEE	324341	264114	801627
LOX GRO	02278732	PALM	STG	MEAN	DA	000		1973-1977	LATERAL CANAL IN LOX GROVES NR LOXAHATCHEE FLA	304341	264217	801754
PB-109A	264832080115201	PALM	WELL	RAND	RI	-073		1976-1976	PB-109A	134241	264832	801152
PB-1524	265443080152001	PALM	CLD	RAND	RI	-019		1986-1987	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	COND	RAND	RI	-019		1987-1987	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	N-KJ	RAND	RI	000		1986-1987	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	N-T	RAND	RI	000		1986-1987	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	P-OR	RAND	RI	000		1986-1987	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	P-T	RAND	RI	000		1986-1987	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	PH	RAND	RI	-019		1986-1986	PB -1524	0 0 0	265443	801520
PB-1524	265443080152001	PALM	H2OT	RAND	RI	-019		1986-1986	PB -1524	0 0 0	265443	801520
PB-1552	265443080152002	PALM	COND	RAND	RI	-110		1987-1987	PB -1552	0 0 0	265443	801520
PB-1552	265443080152002	PALM	CLD	RAND	RI	-110		1986-1987	PB -1552	0 0 0	265443	801520
PB-1552	265443080152002	PALM	N-KJ	RAND	RI	000		1986-1987	PB -1552	0 0 0	265443	801520
PB-1552	265443080152002	PALM	N-T	RAND	RI	000		1986-1987	PB -1552	0 0 0	265443	801520
PB-1552	265443080152002	PALM	P-OR	RAND	RI	000		1986-1987	PB -1552	0 0 0	265443	801520

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
PB-1552	265443080152002	PALM	P-T	RAND	RI	000		1986-1987	PB -1552		0 0 0	265443	801520
PB-1552	265443080152002	PALM	PH	RAND	RI	-110		1986-1986	PB -1552		0 0 0	265443	801520
PB-1552	265443080152002	PALM	H2OT	RAND	RI	-110		1986-1986	PB -1552		0 0 0	265443	801520
PB-1553	265443080152003	PALM	CLD	RAND	RI	-037		1986-1987	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	COND	RAND	RI	-037		1987-1987	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	N-KJ	RAND	RI	000		1986-1987	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	N-T	RAND	RI	000		1986-1987	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	P-OR	RAND	RI	000		1986-1987	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	P-T	RAND	RI	000		1986-1987	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	PH	RAND	RI	-037		1986-1986	PB -1553		0 0 0	265443	801520
PB-1553	265443080152003	PALM	H2OT	RAND	RI	-037		1986-1986	PB -1553		0 0 0	265443	801520
PB-1560	264856080203702	PALM	CLD	RAND	RI	-056		1986-1987	PB -1560		0 0 0	264856	802037
PB-1560	264856080203702	PALM	N-KJ	RAND	RI	000		1986-1987	PB -1560		0 0 0	264856	802037
PB-1560	264856080203702	PALM	N-T	RAND	RI	000		1986-1987	PB -1560		0 0 0	264856	802037
PB-1560	264856080203702	PALM	P-OR	RAND	RI	000		1986-1987	PB -1560		0 0 0	264856	802037
PB-1560	264856080203702	PALM	P-T	RAND	RI	000		1986-1987	PB -1560		0 0 0	264856	802037
PB-1560	264856080203702	PALM	PH	RAND	RI	-056		1986-1986	PB -1560		0 0 0	264856	802037
PB-1560	264856080203702	PALM	H2OT	RAND	RI	-056		1986-1986	PB -1560		0 0 0	264856	802037
PB-1561	264856080203703	PALM	CLD	RAND	RI	-116		1987-1987	PB -1561		0 0 0	264856	802037
PB-1561	264856080203703	PALM	N-KJ	RAND	RI	000		1987-1987	PB -1561		0 0 0	264856	802037
PB-1561	264856080203703	PALM	N-T	RAND	RI	000		1987-1987	PB -1561		0 0 0	264856	802037
PB-1561	264856080203703	PALM	P-OR	RAND	RI	000		1987-1987	PB -1561		0 0 0	264856	802037
PB-1561	264856080203703	PALM	P-T	RAND	RI	000		1987-1987	PB -1561		0 0 0	264856	802037
PB-1583	264057080151001	PALM	CLD	RAND	RI	-116		1986-1987	PB -1583		0 0 0	264057	801510
PB-1583	264057080151001	PALM	N-KJ	RAND	RI	000		1986-1987	PB -1583		0 0 0	264057	801510
PB-1583	264057080151001	PALM	N-T	RAND	RI	000		1986-1987	PB -1583		0 0 0	264057	801510
PB-1583	264057080151001	PALM	P-OR	RAND	RI	000		1986-1987	PB -1583		0 0 0	264057	801510
PB-1583	264057080151001	PALM	P-T	RAND	RI	000		1986-1987	PB -1583		0 0 0	264057	801510
PB-1584	264057080151002	PALM	CLD	RAND	RI	-070		1986-1987	PB -1584		0 0 0	264057	801510
PB-1584	264057080151002	PALM	N-KJ	RAND	RI	000		1986-1987	PB -1584		0 0 0	264057	801510
PB-1584	264057080151002	PALM	N-T	RAND	RI	000		1986-1987	PB -1584		0 0 0	264057	801510
PB-1584	264057080151002	PALM	P-OR	RAND	RI	000		1986-1987	PB -1584		0 0 0	264057	801510
PB-1584	264057080151002	PALM	P-T	RAND	RI	000		1986-1987	PB -1584		0 0 0	264057	801510
PB-1584	264057080151002	PALM	PH	RAND	RI	-070		1986-1986	PB -1584		0 0 0	264057	801510
PB-1584	264057080151002	PALM	H2OT	RAND	RI	-070		1986-1986	PB -1584		0 0 0	264057	801510
PB-1585	264057080151003	PALM	CLD	RAND	RI	-111		1987-1987	PB -1585		0 0 0	264057	801510
PB-1585	264057080151003	PALM	N-KJ	RAND	RI	000		1987-1987	PB -1585		0 0 0	264057	801510
PB-1585	264057080151003	PALM	N-T	RAND	RI	000		1987-1987	PB -1585		0 0 0	264057	801510
PB-1585	264057080151003	PALM	P-OR	RAND	RI	000		1987-1987	PB -1585		0 0 0	264057	801510
PB-1585	264057080151003	PALM	P-T	RAND	RI	000		1987-1987	PB -1585		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	CLD	RAND	RI	-015		1986-1987	PB-1590B		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	COND	RAND	RI	-015		1987-1987	PB-1590B		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	N-KJ	RAND	RI	000		1986-1987	PB-1590B		0 0 0	264057	801510

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
PB-1590B	264057080151005	PALM	N-T	RAND	RI	000		1986-1987 PB-1590B		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	P-OR	RAND	RI	000		1986-1987 PB-1590B		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	P-T	RAND	RI	000		1986-1987 PB-1590B		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	PH	RAND	RI	-015		1986-1986 PB-1590B		0 0 0	264057	801510
PB-1590B	264057080151005	PALM	H2OT	RAND	RI	-015		1986-1986 PB-1590B		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	CLD	RAND	RI	-018		1986-1987 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	COND	RAND	RI	-018		1987-1987 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	N-KJ	RAND	RI	000		1986-1987 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	N-T	RAND	RI	000		1986-1987 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	P-OR	RAND	RI	000		1986-1987 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	P-T	RAND	RI	000		1986-1987 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	PH	RAND	RI	-018		1986-1986 PB-1590C		0 0 0	264057	801510
PB-1590C	264057080151006	PALM	H2OT	RAND	RI	-018		1986-1986 PB-1590C		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	CLD	RAND	RI	-010		1986-1987 PB-1590D		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	N-KJ	RAND	RI	000		1986-1987 PB-1590D		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	N-T	RAND	RI	000		1986-1987 PB-1590D		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	P-OR	RAND	RI	000		1986-1987 PB-1590D		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	P-T	RAND	RI	000		1986-1987 PB-1590D		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	PH	RAND	RI	-010		1986-1986 PB-1590D		0 0 0	264057	801510
PB-1590D	264057080151007	PALM	H2OT	RAND	RI	-010		1986-1986 PB-1590D		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	CLD	RAND	RI	-015		1986-1987 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	COND	RAND	RI	-015		1987-1987 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	N-KJ	RAND	RI	000		1986-1987 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	N-T	RAND	RI	000		1986-1987 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	P-OR	RAND	RI	000		1986-1987 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	P-T	RAND	RI	000		1986-1987 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	PH	RAND	RI	-015		1986-1986 PB -1590E		0 0 0	264057	801510
PB-1590E	264057080151008	PALM	H2OT	RAND	RI	-015		1986-1986 PB -1590E		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	CLD	RAND	RI	-015		1986-1987 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	COND	RAND	RI	-015		1987-1987 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	N-KJ	RAND	RI	000		1986-1987 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	N-T	RAND	RI	000		1986-1987 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	P-OR	RAND	RI	000		1986-1987 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	P-T	RAND	RI	000		1986-1987 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	PH	RAND	RI	-015		1986-1986 PB -1590F		0 0 0	264057	801510
PB-1590F	264057080151009	PALM	H2OT	RAND	RI	-015		1986-1986 PB -1590F		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	CLD	RAND	RI	-020		1986-1987 PB -1590G		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	COND	RAND	RI	-020		1987-1987 PB -1590G		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	N-KJ	RAND	RI	000		1986-1987 PB -1590G		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	N-T	RAND	RI	000		1986-1987 PB -1590G		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	P-OR	RAND	RI	000		1986-1987 PB -1590G		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	P-T	RAND	RI	000		1986-1987 PB -1590G		0 0 0	264057	801510
PB-1590G	264057080151010	PALM	PH	RAND	RI	-020		1986-1986 PB -1590G		0 0 0	264057	801510

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
PB-1590G	264057080151010	PALM	H2OT	RAND	RI	-020		1986	1986 PB -1590G		0 0 0	264057	801510
PB-1590	264057080151004	PALM	CLD	RAND	RI	-020		1986	1987 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	COND	RAND	RI	-020		1987	1987 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	N-KJ	RAND	RI	000		1986	1987 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	N-T	RAND	RI	000		1986	1987 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	P-OR	RAND	RI	000		1986	1987 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	P-T	RAND	RI	000		1986	1987 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	PH	RAND	RI	-020		1986	1986 PB -1590A		0 0 0	264057	801510
PB-1590	264057080151004	PALM	H2OT	RAND	RI	-020		1986	1986 PB -1590A		0 0 0	264057	801510
PB-1609A	264658080200001	PALM	PH	RAND	RI	-013		1987	1987 PB-1609H		0 0 0	264658	802000
PB-1609A	264658080200001	PALM	CLD	RAND	RI	-013		1987	1987 PB-1609H		0 0 0	264658	802000
PB-1609A	264658080200001	PALM	N-KJ	RAND	RI	000		1987	1987 PB-1609H		0 0 0	264658	802000
PB-1609A	264658080200001	PALM	N-T	RAND	RI	000		1987	1987 PB-1609H		0 0 0	264658	802000
PB-1609A	264658080200001	PALM	P-OR	RAND	RI	000		1987	1987 PB-1609H		0 0 0	264658	802000
PB-1609A	264658080200001	PALM	P-T	RAND	RI	000		1987	1987 PB-1609H		0 0 0	264658	802000
PB-1609B	264658080200002	PALM	CLD	RAND	RI	-013		1987	1987 PB -1609B		0 0 0	264658	802000
PB-1609B	264658080200002	PALM	N-KJ	RAND	RI	000		1987	1987 PB -1609B		0 0 0	264658	802000
PB-1609B	264658080200002	PALM	N-T	RAND	RI	000		1987	1987 PB -1609B		0 0 0	264658	802000
PB-1609B	264658080200002	PALM	P-OR	RAND	RI	000		1987	1987 PB -1609B		0 0 0	264658	802000
PB-1609B	264658080200002	PALM	P-T	RAND	RI	000		1987	1987 PB -1609B		0 0 0	264658	802000
PB-1609C	264658080200003	PALM	CLD	RAND	RI	-010		1987	1987 PB -1609C		0 0 0	264658	802000
PB-1609C	264658080200003	PALM	PH	RAND	RI	-010		1987	1987 PB -1609C		0 0 0	264658	802000
PB-1609C	264658080200003	PALM	N-KJ	RAND	RI	000		1987	1987 PB -1609C		0 0 0	264658	802000
PB-1609C	264658080200003	PALM	N-T	RAND	RI	000		1987	1987 PB -1609C		0 0 0	264658	802000
PB-1609C	264658080200003	PALM	P-OR	RAND	RI	000		1987	1987 PB -1609C		0 0 0	264658	802000
PB-1609C	264658080200003	PALM	P-T	RAND	RI	000		1987	1987 PB -1609C		0 0 0	264658	802000
PB-1609D	264658080200004	PALM	CLD	RAND	RI	-010		1987	1987 PB -1609D		0 0 0	264658	802000
PB-1609D	264658080200004	PALM	PH	RAND	RI	-010		1987	1987 PB -1609D		0 0 0	264658	802000
PB-1609D	264658080200004	PALM	N-KJ	RAND	RI	000		1987	1987 PB -1609D		0 0 0	264658	802000
PB-1609D	264658080200004	PALM	N-T	RAND	RI	000		1987	1987 PB -1609D		0 0 0	264658	802000
PB-1609D	264658080200004	PALM	P-OR	RAND	RI	000		1987	1987 PB -1609D		0 0 0	264658	802000
PB-1609D	264658080200004	PALM	P-T	RAND	RI	000		1987	1987 PB -1609D		0 0 0	264658	802000
PB-1609F	264658080200006	PALM	CLD	RAND	RI	-014		1987	1987 PB-1609F		0 0 0	264658	802000
PB-1609F	264658080200006	PALM	PH	RAND	RI	-014		1987	1987 PB-1609F		0 0 0	264658	802000
PB-1609F	264658080200006	PALM	N-KJ	RAND	RI	000		1987	1987 PB-1609F		0 0 0	264658	802000
PB-1609F	264658080200006	PALM	N-T	RAND	RI	000		1987	1987 PB-1609F		0 0 0	264658	802000
PB-1609F	264658080200006	PALM	P-OR	RAND	RI	000		1987	1987 PB-1609F		0 0 0	264658	802000
PB-1609F	264658080200006	PALM	P-T	RAND	RI	000		1987	1987 PB-1609F		0 0 0	264658	802000
PB-1609G	264658080200007	PALM	CLD	RAND	RI	-012		1987	1987 PB -1609G		0 0 0	264658	802000
PB-1609G	264658080200007	PALM	PH	RAND	RI	-012		1987	1987 PB -1609G		0 0 0	264658	802000
PB-1609G	264658080200007	PALM	N-KJ	RAND	RI	000		1987	1987 PB -1609G		0 0 0	264658	802000
PB-1609G	264658080200007	PALM	N-T	RAND	RI	000		1987	1987 PB -1609G		0 0 0	264658	802000
PB-1609G	264658080200007	PALM	P-OR	RAND	RI	000		1987	1987 PB -1609G		0 0 0	264658	802000

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
PB-1609G	264658080200007	PALM	P-T	RAND	RI	000		1987	1987	PB -1609G	0 0 0	264658	802000
PB-1609H	264658080200008	PALM	CLD	RAND	RI	-011		1987	1987	PB-1609H	0 0 0	264658	802000
PB-1609H	264658080200008	PALM	PH	RAND	RI	-011		1987	1987	PB-1609H	0 0 0	264658	802000
PB-1609H	264658080200008	PALM	N-KJ	RAND	RI	000		1987	1987	PB-1609H	0 0 0	264658	802000
PB-1609H	264658080200008	PALM	N-T	RAND	RI	000		1987	1987	PB-1609H	0 0 0	264658	802000
PB-1609H	264658080200008	PALM	P-OR	RAND	RI	000		1987	1987	PB-1609H	0 0 0	264658	802000
PB-1609H	264658080200008	PALM	P-T	RAND	RI	000		1987	1987	PB-1609H	0 0 0	264658	802000
PB-1609	264658080200005	PALM	CLD	RAND	RI	-012		1987	1987	PB -1609E	0 0 0	264658	802000
PB-1609	264658080200005	PALM	PH	RAND	RI	-012		1987	1987	PB -1609E	0 0 0	264658	802000
PB-1609	264658080200005	PALM	N-KJ	RAND	RI	000		1987	1987	PB -1609E	0 0 0	264658	802000
PB-1609	264658080200005	PALM	N-T	RAND	RI	000		1987	1987	PB -1609E	0 0 0	264658	802000
PB-1609	264658080200005	PALM	P-OR	RAND	RI	000		1987	1987	PB -1609E	0 0 0	264658	802000
PB-1609	264658080200005	PALM	P-T	RAND	RI	000		1987	1987	PB -1609E	0 0 0	264658	802000
PB-300	264106080161901	PALM	WELL	MEAN	DA	000		1941	1950	PB-300 @ LOXAHATCHEE	324341	264106	801619
PB-561	264230080120501	PALM	WELL	MAX	DA	-011		1973	1988	PB-561	254341	264230	801205
PB-561	264230080120501	PALM	WELL	MEAN	DA	-011		1969	1973	PB-561	254341	264230	801205
PB-684	264041080171201	PALM	WELL	MAX	DA	000		1973	1977	PB-684	314341	264041	801712
PB-684	264041080171201	PALM	WELL	MEAN	DA	000		1973	1973	PB-684	314341	264041	801712
PB-685	264208080192201	PALM	WELL	MAX	DA	-017		1973	1977	PB-685	354340	264208	801922
PB-737	264656080145101	PALM	WELL	RAND	RI	-021		1975	1976	PB-737 NORTH OF ROYAL PALM BE	164341	264655	801451
SEMIN RD	02278698	PALM	STGU	MEAN	DA	001		1973	1977	LATERAL CANAL ON SEMINOLE RD NR LOXAHATCHEE FLA	124340	264429	801829
SLAYTON	MRF419	PALM	RAIN	SUM	DA	000	POST	1986	1989	SLAYTON PROPERTY	40 043	264619	802000
S6AE	02278600	PALM	STGD	MEAN	DA	002		1968	1988	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	02278600	PALM	STGD	FWM	DA	002		1960	1968	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	02278600	PALM	FLOW	MEAN	DA	CULV		1955	1988	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	53243406	PALM	STGU	INST	BK	001		0	0	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	53243406	PALM	STGU	MEAN	DA	001		1984	1986	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	53243406	PALM	STGD	INST	BK	002		0	0	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	53243406	PALM	STGD	MEAN	DA	002		1973	1988	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	53243406	PALM	FLOW	INST	BK	CULV		0	0	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	53243406	PALM	FLOW	MEAN	DA	CULV		1985	1986	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	02278600	PALM	FLOW	INST	DA	COMB		1983	1984	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	23243406	PALM	STGD	MEAN	DA	001	TELE	1985	1989	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	23243406	PALM	STGD	INST	BK	002	TELE	0	0	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AE	23243406	PALM	FLOW	MEAN	DA	CULV	TELE	1985	1988	S-5AE CULVERT ON CANAL C-51 AT LEVEE L-8	324340	264104	802150
S5AS	02278550	PALM	STGU	MEAN	DA	001		1968	1988	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	02278550	PALM	STGU	FWM	DA	001		1960	1968	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	02278550	PALM	FLOW	MEAN	DA	SPIL		1960	1988	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	53243403	PALM	STGU	INST	BK	001		0	0	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	53243403	PALM	STGU	MEAN	DA	001		1984	1986	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	53243403	PALM	STGD	INST	BK	002		0	0	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	53243403	PALM	STGD	MEAN	DA	002		1984	1987	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	53243403	PALM	FLOW	INST	BK	SPIL		0	0	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S5AS	53243403	PALM	FLOW	MEAN	DA	SPIL		1984	1988	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	23243403	PALM	STGU	MEAN	DA	001	TELE	1985	1989	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	23243403	PALM	STGD	MEAN	DA	002	TELE	1985	1989	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	23243403	PALM	STGU	INST	BK	001	TELE	0	0	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	23243403	PALM	STGD	INST	BK	002	TELE	0	0	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	3243403	PALM	FLOW	MEAN	DA	SPIL	COMP	1986	1988	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
S5AS	23243403	PALM	FLOW	MEAN	DA	SPIL	TELE	1985	1989	INFLOW TO CONSERVATION AREA 1 AT S-5AS SPILLWAY	324340	264101	802151
WPBCWELL	10344411	PALM	STG	INST	BK	000		0	0	WEST PALM BEACH CANAL AT WELLINGTON BRIDGE	354341	264049	801342
WPBCWELL	10344411	PALM	STG	MEAN	DA	000		1973	1989	WEST PALM BEACH CANAL AT WELLINGTON BRIDGE	354341	264049	801342
PB-683	263524080123401	PALM	WELL	MEAN	DA	000		1973	1973	PB-683	314442	263524	801234
PB-683	263524080124301	PALM	WELL	MAX	DA	000		1973	1988	PB-683	314442	263524	801234
C13.UNIV	12049411	BROWA	STG	INST	BK	000		0	0	CANAL C-13 AT UNIVERSITY DRIVE	204941	261000	801600
C13.UNIV	12049411	BROWA	STG	MEAN	DA	000		1977	1989	CANAL C-13 AT UNIVERSITY DRIVE	204941	261000	801600
G-1205	261052080131301	BROWA	WELL	RAND	RI	-013		1975	1977	G-1205	04941	261052	801313
G-1212A	261100080140402	BROWA	WELL	RAND	RI	-084		1978	1988	USGS OBS WELL AT FT LAUD, FL	154942	261100	801404
G-1212A	261100080140402	BROWA	CLD	RAND	RI	-084		1980	1988	USGS OBS WELL AT FT LAUD, FL	154942	261100	801404
G-1212A	261100080140402	BROWA	COND	RAND	RI	-084		1980	1988	USGS OBS WELL AT FT LAUD, FL	154942	261100	801404
G-1212A	261100080140402	BROWA	H2OT	RAND	RI	-084		1980	1981	USGS OBS WELL AT FT LAUD, FL	154942	261100	801404
G-1212	261100080140401	BROWA	WELL	RAND	RI	-122		1979	1980	USGS OBS WELL AT FT LAUD, FL	154942	261100	801404
G-1216	261201080141101	BROWA	WELL	MEAN	DA	000		1963	1963	G-1216	04941	261201	801411
G-2004	261211080122601	BROWA	WELL	RAND	RI	000		1975	1976	G-2004	04942	261211	801226
G-2005	261202080122701	BROWA	WELL	RAND	RI	000		1975	1979	G-2005	04941	261202	801227
G-2006	261204080121801	BROWA	WELL	RAND	RI	000		1975	1976	G-2006	04941	261204	801218
G-2101	261109080114301	BROWA	WELL	RAND	RI	-069		1975	1978	G-2101	04942	261109	801143
G-2102	261111080111601	BROWA	WELL	RAND	RI	-042		1976	1976	G-2102	04942	261111	801116
G-2108	261112080121401	BROWA	WELL	RAND	RI	-055		1976	1980	G-2108	04932	261112	801214
G-2117	261027080114201	BROWA	WELL	RAND	RI	-064		1976	1979	G-2117	174942	261027	801142
G-2118	261047080114701	BROWA	WELL	RAND	RI	-067		1976	1980	G-2118	04941	261047	801147
G-2119	261047080115301	BROWA	WELL	RAND	RI	-067		1975	1978	G-2119	04941	261047	801153
S125	52449401	BROWA	STGU	INST	BK	001		0	0	S-125 CULVERT ON CANAL C-42 SOUTH OF CANAL C-13	194941	260950	801752
S125	52449401	BROWA	STGU	MEAN	DA	001		0	0	S-125 CULVERT ON CANAL C-42 SOUTH OF CANAL C-13	194941	260950	801752
S125	52449401	BROWA	STGD	INST	BK	002		0	0	S-125 CULVERT ON CANAL C-42 SOUTH OF CANAL C-13	194941	260950	801752
S125	52449401	BROWA	STGD	MEAN	DA	002		0	0	S-125 CULVERT ON CANAL C-42 SOUTH OF CANAL C-13	194941	260950	801752
S125	52449401	BROWA	FLOW	INST	BK	CULV		0	0	S-125 CULVERT ON CANAL C-42 SOUTH OF CANAL C-13	194941	260950	801752
S125	52449401	BROWA	FLOW	MEAN	DA	CULV		0	0	S-125 CULVERT ON CANAL C-42 SOUTH OF CANAL C-13	194941	260950	801752
ALICO	MRF182	HENDR	RAIN	SUM	DA	000	BELF	1972	1989	ALICO PROPERTY (BELFORT)	14633	263045	805856
CROOKS	MRF246	HENDR	RAIN	SUM	DA	000		1979	1985	CROOKS	224632	262735	810656
DEVILS	MRF286	HENDR	RAIN	SUM	DA	000		1980	1989	DEVIL'S GARDEN TOWER (DUPLICATE)	44532	263609	810743
DEVILS	MRF5002	HENDR	RAIN	SUM	DA	000		1956	1989	DEVIL'S GARDEN TOWER (DUPLICATE)	44532	263609	810743
DEVILS	MRF6118	HENDR	RAIN	SUM	DA	000	CAN	1956	1988	DEVIL'S GARDEN TOWER (DUPLICATE)	44532	263609	810743
DEVILS	MRF5002	HENDR	RAIN	SUM	MO	000		1950	1954	DEVIL'S GARDEN TOWER (DUPLICATE)	44532	263609	810743
HE-5 2	263750081074001	HENDR	WELL	MAX	DA	000		1956	1974	44S32E27 HE-5 LA BELLE 4 NW	274432	263750	810740
HE-5 2	263750081074001	HENDR	WELL	MEAN	DA	000		1941	1949	44S32E27 HE-5 LA BELLE 4 NW	274432	263750	810740

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME		SETNRG	LAT	LONG
HE-5 2	263750081074001	HENDR	WELL	RAND	RI	000		0-	0	44S32E27 HE-5	LA BELLE 4 NW	274432	263750	810740
HE-5	263700081070001	HENDR	WELL	MAX	DA	000		1973	1983	HE-5		224432	263700	810700
HE-5	263700081070001	HENDR	WELL	RAND	RI	000		1980	1988	HE-5		224432	263700	810700
HE-5	263700081070001	HENDR	CLD	RAND	RI	000		1984	1987	HE-5		224432	263700	810700
HE-5	263700081070001	HENDR	COND	RAND	RI	000		1984	1987	HE-5		224432	263700	810700
HE-855	263035081073501	HENDR	WELL	MAX	DA	000		1900	1983	HE-855		114632	263035	810735
HE-855	263035081073501	HENDR	WELL	RAND	RI	000		1983	1988	HE-855		114632	263035	810735
HE-855	263035081073501	HENDR	CLD	RAND	RI	000		1984	1987	HE-855		114632	263035	810735
HE-855	263035081073501	HENDR	COND	RAND	RI	000		1984	1987	HE-855		114632	263035	810735
HE-856	263035081073502	HENDR	WELL	MAX	DA	000		1977	1983	45S32E34 HE-856	BIG CYPRESS NW	344532	263035	810735
HE-856	263035081073502	HENDR	WELL	RAND	RI	000		1983	1988	45S32E34 HE-856	BIG CYPRESS NW	344532	263035	810735
HE-856	263035081073502	HENDR	CLD	RAND	RI	000		1984	1987	45S32E34 HE-856	BIG CYPRESS NW	344532	263035	810735
HE-856	263035081073502	HENDR	COND	RAND	RI	000		1984	1987	45S32E34 HE-856	BIG CYPRESS NW	344532	263035	810735
LWD.L32	MRF83	PALM	RAIN	SUM	DA	000		1956	1989	LAT.32 AND RANGELINE (LWOD)		124640	262813	801219
C-54	261000080520001	COLLI	WELL	MAX	DA	-009		1951	1988	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	WELL	RAND	RI	-009		1976	1988	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	RAIN	SUM	DA	000		1976	1978	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	WELL	MEAN	DA	-009		1976	1977	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	COND	RAND	RI	000		1980	1988	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	WELL	MIN	DA	-009		1977	1978	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	CLD	RAND	RI	000		1980	1989	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
C-54	261000080520001	COLLI	H2OT	RAND	RI	000		1980	1988	49S34E36 C- 54 USGS	EVERGLADES 3 NW	364934	261018	805302
FRAZIER	MRF87	HENDR	RAIN	SUM	DA	000		1966	1971	FRAZIER HAMMOCK (L-1&L-3)		84734	262445	805735
HE-861	261735080534001	HENDR	WELL	MAX	DA	000		1977	1983	HE-861		244834	261735	805340
HE-861	261735080534001	HENDR	WELL	RAND	RI	000		1985	1988	HE-861		244834	261735	805340
HE-861	261735080534001	HENDR	CLD	RAND	RI	000		1985	1987	HE-861		244834	261735	805340
HE-861	261735080534001	HENDR	COND	RAND	RI	000		1985	1987	HE-861		244834	261735	805340
HE-862	261735080534002	HENDR	WELL	MAX	DA	000		1977	1988	HE-862		244834	261735	805340
HE-862	261735080534002	HENDR	WELL	RAND	RI	000		1985	1988	HE-862		244834	261735	805340
HE-862	261735080534002	HENDR	CLD	RAND	RI	000		1985	1987	HE-862		244834	261735	805340
HE-862	261735080534002	HENDR	COND	RAND	RI	000		1985	1987	HE-862		244834	261735	805340
L3	02289030	HENDR	STG	MEAN	DA	000		1959	1988	LEVEE 3 CANAL NEAR CLEWISTON, FL		44734	262550	805650
L3	02289030	HENDR	STG	FWM	DA	000		1978	1982	LEVEE 3 CANAL NEAR CLEWISTON, FL		44734	262550	805650
L3	02289030	HENDR	FLOW	MEAN	DA	XX		1969	1988	LEVEE 3 CANAL NEAR CLEWISTON, FL		44734	262550	805650
L3	02289030	HENDR	FLOW	INST	DA	XX		1982	1983	LEVEE 3 CANAL NEAR CLEWISTON, FL		44734	262550	805650
L3.2	262310080555001	HENDR	FLOW	MEAN	DA	XX		1982	1982	L-3 CANAL NR CLEWISTON FL		0 0 0	262310	805550
L3.2	262310080555001	HENDR	STG	MEAN	DA	000		1982	1988	L-3 CANAL NR CLEWISTON FL		0 0 0	262310	805550
L3.2	262310080555001	HENDR	STG	FWM	DA	000		1982	1982	L-3 CANAL NR CLEWISTON FL		0 0 0	262310	805550
S190	53048341	HENDR	STGU	INST	BK	001		0-	0	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190	53048341	HENDR	STGU	MEAN	DA	001		1978	1989	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190	53048341	HENDR	STGD	INST	BK	002		0-	0	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190	53048341	HENDR	STGD	MEAN	DA	002		1978	1989	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190	53048341	HENDR	FLOW	INST	BK	SPIL		0-	0	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190	53048341	HENDR	FLOW	MEAN	DA	SPIL		1969	1989	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190		HENDR	STGU	DWR	RI	001		1988	1989	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650
S190		HENDR	STGD	DWR	RI	002		1988	1989	S-190 SPILLWAY ON LEVEE L-28 INTERCEPTOR		304834	261711	805650

Table B-3. Hydrologic and Meteorologic Monitoring Stations Within the Water Conservation Areas Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
BIG CY	MRF6087	HENDR	RAIN	SUM	DA	000	CAN	1941-1969	BIG CYPRESS	124833	261900	805900
BIG CY	MRF7087	HENDR	RAIN	SUM	DA	000	RECO	1950-1952	BIG CYPRESS	124833	261900	805900
BIG CY	MRFE687	HENDR	EVAP	SUM	MO	000	APAN	1941-1943	BIG CYPRESS	124833	261900	805900
HE-3	261859080585401	HENDR	WELL	MAX	DA	-080		1956-1983	HE-3	74834	261859	805854
HE-3	261859080585401	HENDR	WELL	MEAN	DA	-080		1941-1944	HE-3	74834	261859	805854
HE-3	261859080585401	HENDR	WELL	RAND	RI	-080		1975-1988	HE-3	74834	261859	805854
HE-3	261859080585401	HENDR	CLD	RAND	RI	-080		1984-1988	HE-3	74834	261859	805854
HE-3	261859080585401	HENDR	COND	RAND	RI	-080		1984-1988	HE-3	74834	261859	805854
HE-868	262118081002901	HENDR	WELL	MAX	DA	000		1977-1978	HE-868	364732	262118	810029
HE-868	262118081002901	HENDR	WELL	RAND	RI	000		1985-1988	HE-868	364732	262118	810029
HE-868	262118081002901	HENDR	CLD	RAND	RI	000		1985-1987	HE-868	364732	262118	810029
HE-868	262118081002901	HENDR	COND	RAND	RI	000		1985-1987	HE-868	364732	262118	810029
L28.GAP	11350331	COLLI	STG	INST	BK	000		0- 0	LEVEE L-28 GAP 10 MILES WEST OF CONSERV. AREA 3A	135033	260700	805900
L28.GAP	11350331	COLLI	STG	MEAN	DA	000		1982-1989	LEVEE L-28 GAP 10 MILES WEST OF CONSERV. AREA 3A	135033	260700	805900
L28.GAP		COLLI	STG	DWR	RI	000		1988-1988	LEVEE L-28 GAP 10 MILES WEST OF CONSERV. AREA 3A	135033	260700	805900

PERMIT INFORMATION FOR WCAs AND THE EAA

The SWIM Act (Section 373.453(2) (c), F.S.), requires that all SWIM Plans include

> a list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are:
>
> (1) operating without a permit;
>
> (2) operating with a temporary operating permit; and
>
> (3) presently violating effluent limits or water quality standards.

A. LIST OF POINT AND NONPOINT SOURCES OF WATER POLLUTION

Tables B-4 through **B-8** contain all known point source permitted entities discharging within tributary basins of the WCAs and EAA (information from DER). It should be noted that a permitted discharge is not necessarily a source of pollution. The point sources are presented in the following categories:

- Industrial Waste
- Hazardous Waste
- Domestic Waste

Tables B-9 through **B-16** contain all known nonpoint source permitted entities discharging within tributary basins of the WCAs and EAA (information from DER and SFWMD). The point sources are presented in the following categories:

- SFWMD Surface Water Management Permits
- SFWMD Water Use Permits
- Waste Disposal Sites
- Underground Storage Tanks (by county)
- Underground Storage Facilities Contamination Site
- Dredge and Fill
- Well

B. OPERATING WITHOUT A PERMIT

A recent survey of permitting agencies (DER, SFWMD, USCOE, USEPA) was made to identify facilities which were operating without a permit. All agencies reported that no known sites presently existed. In the event that such a site is discovered (past examples), the facility owner/operator is immediately ordered to either cease operations or is granted a temporary operating permit provided immediate application is made.

C. OPERATING WITH A TEMPORARY OPERATING PERMIT

A recent survey was made of FDER to identify facilities which are currently under a Temporary Operating Permit. One facility was identified within the WCA and EAA study area.

5050P06111 Quaker Oats Co.

The industrial waste facility (Table B-5) permit was denied and is currently operating under a temporary operating permit and consent order.

D. PRESENTLY VIOLATING EFFLUENT LIMITS OR WATER QUALITY STANDARDS

1. Point Source Violations

A recent survey was made of FDER to identify facilities which are currently violating effluent limits or water quality standards. One facility was identified within the WCA and EAA study area.

5050P01642 Tri-Gas, Inc..

The industrial waste facility (Table B-5) is currently enforcement action on sludge disposal.

2. Nonpoint Source Violations

A large body of data and information exists on the Everglades ecosystem. The Florida Department of Environmental Regulation has determined that nutrient-induced impacts have been demonstrated in the Everglades Protection Area and have resulted in violations of the following water quality criteria (FDER, Water Quality Technical Series, Volume 3, Number 4, draft February, 1992):

17-302.510 (3) (q), F.A.C.	Nuisance Species
17-302.560 (7), F.A.C.	Biological Integrity
17-302.560 (13), F.A.C.	Dissolved Oxygen
17-302.560 (20), F.A.C.	Nutrients

There are numerous inflow water control strucutes (SFWMD, USCOE, private) from which water is discharged to the Everglades. The extent of these violations, identification of other water quality violations, and identification and potential enforcement of upstream dischargers is one of the primary topics described within the Everglades SWIM Plan (Planning Document).

Table B-4. Summary of Permit Data Concerning Point and Non-Point Sources in the Water Conservation Areas and the EAA Planning Area.

Permit Type	Permit Agency	Permitted Activity	Information Given on the Listings	Total Number
Point Source Permits				
Industrial Waste	DER	Industrial Treatment Systems	Site Name and Location Type of Treatment Disposal Methods Used Facility Activities Impoundment Information	32
Domestic Waste	DER	Sewage Treatment Plants	Site Name and Location Type of Treatment Disposal Methods Used Wastes Handled Landowner	67
Hazardous Waste	DER	Generation of Hazardous Wastes	Site Name and Location Disposal Methods Used Status Notification Wastes Handled	158
Non-Point Sources				
Landfill	DER	Sludge Disposal Sludge Composting Dumping Incineration	Site Name and Location Type of Treatment Disposal Methods Used Wastes Handled Landfill Total Acreage	27
Wells	DER	Injection Wells	Permittee and Site Location Disposal Methods Used Injection Well Information	8
Dredge and Fill	DER	Construction	Permittee Site Location Disposal Methods Used Water Body Wetlands	97
Surface Water Management	SFWMD	Storm Water Management Systems	Permittee Basin Use Type Project Size Receiving Body	1,196
Consumptive Use	SFWMD, Resource Control	Public Water Supply Industrial Agricultural Golf Courses Recreational Other	Location Uses Project Owner Acres Owned/Served Sources	230
Tank Operating	DER	Underground Storage Tanks	Facility Name Location # Gallons Tank Contents	635

Table B-5. Industrial Waste Permits for the WCAs and EAA Planning Area (Palm Beach and Broward Counties).
For explanation of codes see Table B-8.

Record #	Name	Facility Status	Type of Treatment	Disposal Methods Used	Wastes Handled
5050006105	RINKER MATERIALS CORP.	A	Liquid waste from wash out is discharged to 576 sq ft perc pond. Solids removed from site for fill.	IM, BU	310
5050P06109	SANITECH PROCESSING INC.	A as of 01/82	Treatment of domestic septic tank waste and restaurant waste for pathogens & o/g	LS	220, 225, 305, 310
5050P01642	TRI-GAS INC.	A	Oil/water separation using facet model VPC	SD, OT	310, 320
5050P02471	U.S. SUGAR CORP.-BRYANT SUGAR MILL	A as of 07/71		IM	310
5050P06209	US SUGAR CORP -US 98 SE OF CANAL POINT	A		IM, SD	
5050P06206	OSCEOLA FARMS CO 6			IM, SD, OT	
5050P06205	OKEELANTA	A		IM, OT	
5050P06204	SAVANNAH FOODS & INDUSTRIES, INC.	A as of 08/80	Percolation ponds-disposal method	IM, SD, OT	310
5050P98104	CEN-CON CORP.	A		IM	
5050P01634	CEN-CON CORP.	A	Water and residual concrete is discharged to seepage pit. Solids left as fill composition of waste: 2 cu yd of waste mixed with 1,000 gal water.	LA, DR, IM, BU	130, 305
5050P06208	TALISMAN SUGAR CORP-US 27	A		IM, SD	
5050P06111	QUAKER OATS COMPANY	A	Cooling and deep well injection	IN	310
5050P50029	LION COUNTRY SAFARI	K as of 05/84		BU	
5050P06207	SUGAR CANE GROWERS CO-OP	A		IM, SD, OT	
5050P06300	UNITED TECHNOLOGIES-PRATT & WHITNEY	A	Addition of microorganism control chemicals "Nalco" 7320, 7326, 7317 to cooling	IM	310
5050P07303	UNITED TECHNOLOGIES-PRATT & WHITNEY	A as of 10/82	Separation of fuel oil from water using oil/water separator	IM	310
5050P06304	UNITED TECHNOLOGIES-PRATT & WHITNEY	A as of 04/83	Cooling of condensate	IM	310
5050P06302	UNITED TECHNOLOGIES-PRATT & WHITNEY	A as of 01/83	None	IM	310
5050P02469	UNITED TECHNOLOGIES-PRATT & WHITNEY	K as of 11/81	Water collected in 8000 gal neutralization tank and neutralized with lime to form calcium fluoride discharging to a perc pond	IM	310
5006P09833	NEW INDUSTRIAL TECHNIQUES, INC.	I as of 09/82	None	IM, OT, IN	310
5006P09832	LANCE ENTERPRISES, INC.	A as of 03/82	Spent solutions are pumped to a sump-then to drainfield	DR, IM, OT	220, 930, 310
5006P98234	LONE STAR FLORIDA, INC	A		IM	
5006P98333	CITY OF SUNRISE	A		IM	
5006P98262	BROWARD CO UTILITIES DISTRICT A	A		IM	
5006P98301	CITY OF LAUDERHILL	A		IM	
5006P98312	ED MORSE CHEVROLET	A		IM	
5006P98313	MOTOROLA	A		IM	
5006P98303	MACARTHUR JERSEY FARM DAIRY	A		IM	
5006P98330	STAG'S RADIATOR	A		IM	
5006P98280	BOB ELLIS CHRYSLER- PLYMOUTH INC	A		IM	
5006P98259	LUKE BOLTON FORD	A		IM	
5006P98334	CITY OF SUNRISE WTP #2	A		IM	

Table B-6. Domestic Waste Permits for the WCAs and EAA Study Area (Palm Beach, Hendry and Broward Counties).
For explanation of codes see Table B-8.

Record #	Name	Facility Class	Facility Status	Type of Treatment	Disposal Methods Used	Wastes Handled
5050P03350	MARYS MIGRANT LABOR CAMP	03D	A	Extended aeration discharging to a percolation pond	IM	305, 225
5050P04602	G.E. JONES LABOR CAMP		A	Extended aeration stp with trickling filter to percolation pond	IM, SD	305, 225
5050P00023	PALM BEACH PARK OF COMM.		A as of 11/86	Activated sludge/extended air with disposal to absorbtion field	LA, OT	
5050P00433	CALIFORNIA MOTO-CROSS, INC.		I as of 04/78	Positive dose with sandfilters	LA, DR, BU	305
5050P01375	EVERGLADES YOUTH CAMP	03D	A as of 08/81	Extended aeration discharging to a perc pond	IM	305
5050P60002	CANAL POINT ELEMENTARY SCHOOL		A as if 06/83	Extended aeration with surge tank, digestor & filters, discharge to drainfield	DR, BU, LA	225,305
5050M00787	CITY OF PAHOKEE STP		A		IM, SD, IN	305
5050P02384	OSCEOLA FARMS CO.		I	Extended aeration with disch to on-site industrial pond	LA, IM, SD	
5050P00468	US SUGAR CORP-BRYANT VILLAGE	03C	A	Extended aeration discharging to an ash pond	IM, OT	305, 225
5050P00482	US SUGAR CORP-MIAMI LOCKS	03C	A	Two extended aeration units discharging to three percolation ponds	IM	305, 225
5050P08001	SUNSPORT GARDENS	03D	A	Extended aeration stp with a surge tank and pressure filters	IM	305,225
5050P00430	SUGAR CANE GROWERS CO LABOR CAMP #1	03C	A	0.423 extended aeration to FCD canal	SD	305
5050P00464	US SUGAR CORP. SOUTH SHORE VILLAGE	03C	A	Extended aeration discharge to two perc ponds	IM	305, 225
5050S01286	LOXAHATCHEE ROAD PRISON	03D	I as of 04/85	Extended aeration with discharge to open sand filter	LA, DR	305, 225
5050P04360	SOUTH FLORIDA FAIR & EXPOSITION		I as of 11/82	Dosing tank discharging into two open sand filters, to Palm Beach Co.	LA, DR, BU	305
5050P97561	FRED'S MOTEL		K as of 04/86	Extended aeration	IM, SD	305
5050P00250	EVERGLADES ACRES	740	A as of 02/83	Bio-reactor stp discharge to drainfield	DR, BU, LA	225,305
5050M05522	CITY OF SOUTH BAY WWTP	02B	A	RBC discharging to evap/perc ponds with overflow to canal	IM, SD	305, 225
5050P01353	TALISMAN SUGAR CORP	03D	A	Extended aeration	IM, BU	305, 225
5050P99064	BOWMAN AND SON DAIRY		I		IM	
5050P00428	SUGAR CANE GROWERS CO LABOR CAMP #3	03C	A as of 05/75	0.038 mgd extended aeration to fcd canal	SD	305
5050P00045	SHERBROOKE GOLF & COUNTRY CLUB	03D	A	Extended aeration discharging groundwater via absorption beds	DR	305
5050P01412	GOLD COAST CHRISTIAN SERVICE CAMP	02C	I	Septic tank with closed sand filter	LA, DR, BU	305
5050P01848	FT. LAUDERDALE RSC TBNCL-FAITH FARM	02C	A	Percolation pond	IM	305
5050P00215	IN THE PINES STP	03D	A	Extended aeration	IM	305
5050P04978	LION COUNTRY SAFARI		A	Contact stabilization to perc pond	IM	305

Table B-6. Domestic Waste Permits for the WCAs and EAA Study Area (Palm Beach, Hendry and Broward Counties). For explanation of codes see Table B-8.

Record #	Name	Facility Class	Facility Status	Type of Treatment	Disposal Methods Used	Wastes Handled
5050P05798	DUDA VILLA-DUDA & SONS LABOR CAMP	03C	A	Extended aeration discharging to perc pond	IM	225
5050P01415	BANYAN GOLF CLUB INC.		A	Extended aeration to sand filters	LA, DR, BU	305, 225
5050P91052	HES SLUDGE MANAGEMENT SYSTEMS INC.		A as of 12/85	Land spreading	LA, OT	225
5050P04890	PALM BEACH TRAP AND SKEET CLUB		I as of 10/84	Rotating biological contactor	DR, LA	225, 305
5050P02378	ATLANTIC SUGAR ASSOC.-MILLSITE	03D	A	Extended aeration emergency overflow to recirculating canal	IM, SD	305, 225
5050P02377	ATLANTIC SUGAR ASSOC.-LABOR CAMP	02C	A as of 11/84	Contact stabilization		
5050P05378	ACME IMPROVEMENT DISTRICT		A	Activated sludge-oxidation ditch	IM, LA, IN	305, 225
5050P00350	DUDA & SONS, INC.		A	Extended aeration with disch. to oxidation & percolation ponds	IM, BU	305
5050P99073	SEMINOLE SUGAR CORP		I		IM	
5050P00413	E-17 ELEMENTARY SCHOOL STP	03D	A as of 04/87	Extended aeration activated sludge with disposal to drainfield	DR, LA	
5050P94979	LION COUNTRY SAFARI R.V. PK		A as of 03/81	Complete mix discharging to a percolation pond	IM	225, 305
5050P00041	U.S. SUGAR CORPORATION-RUNYON VILLAGE	03C	A	Extended aeration discharging to 8,250 sq ft perc pond	IM	305, 225
5050P04534	HARLEY WATSON FARMS	03D	A	Extended aeration	IM	305
5050P06151	US SUGAR-PREWITT VILLAGE	03C	A	Extended aeration discharged to percolation pond	LA	305, 225
5050M01285	ARROWHEAD ESTATES		I as of 09/84	Extended aeration to polishing pond and connected to Belle Glade	SD, IM	305, 225
5050P99074	GLADE CORRECTIONAL INST.		I as of 01/82		IM	
5050M00549	CITY OF BELLE GLADE	02B	A as of 11/77	Activated sludge/oxidation ditch	IM, SD, IN	305, 225
5050P05660	PALM BEACH CO. SYS #9N (SR#2)	02B	A	Contact stab. to deep injection well with filters for emergency discharge	IN	305, 225
5050P05650	PALM BEACH CO. SYS #9S (SR #1)		A as of 03/82	Contact stab. with tertiary filters to deep injection well	IN	305, 225
5050P00289	PRATT & WHITNEY TEST AREA PLANT (#2)	03C	A as of 03/81	Extended aeration stp with disch. to storage ponds connected to drain system	IM, SD	305, 225
5006M10706	CORAL SPRINGS WESTSIDE TREATMENT PLANT	02B	I as of 09/81	Contact stab. with oxidation pond	IM, SD	305
5006M05816	CITY OF NORTH LAUDERDALE	02B	I as of 11/83	Activated sludge w/cont stab, discharge to percolation ponds & to canal.	IM, SD	225, 305
5006P01985	CITY OF TAMARAC WEST WWTP	02B	A as of 02/85	Contact stab. discharging to canal system with spray irrig.	LA, IM	305, 225
5006M01177	TAMARAC EAST STP	02C	I as of 03/84	0.165 mgd contact stab to C-13/conn. to GT Lohmeyer	SD	305, 225

Table B-6. Domestic Waste Permits for the WCAs and EAA Study Area (Palm Beach, Hendry and Broward Counties).
For explanation of codes see Table B-8.

Record #	Name	Facility Class	Facility Status	Type of Treatment	Disposal Methods Used	Wastes Handled
5006P01991	CORAL LAKE MHP	03C	I as of 01/85	Extended aeration stp discharging to a drainfield conn. to bcud n. reg.	LA, DR	225, 305
5006M10601	SUNRISE WWTP #1	02B	A	Contact stab perc ponds spray irrigation and evaporation	IN	305, 225
5006M10602	CITY OF SUNRISE PLANT 18	02B	K	Contact stab discharging to lagoons for spray irrigation	SD, LA, IM	225, 305
5006P90237 & 5006P98285	PLANTATION	02A	A as of 09/87	Activated sludge with screening grit removal, prim & sec. clarification, chlor.	IN	
5006M04705	LAUDERHILL WEST	02A	A	Contact stab with tertiary filters to percolation ponds	IM	305, 225
5006M01181	PLANTATION, #1 NORTH	02B	A as of 10/77	Contact stab with oxidation pond disch to Holloway Canal, C-11 Canal	SD	305, 225
5006M04542	LAUDERHILL EAST	02B	I	Complete mix activated sludge discharges to C-12 Canal, to bcud north reg.	SD	305
5006M02004	SUNRISE WWTP #3	02B	A as of 12/80	Contact stab with discharge to man-made canal	IN	305, 225
5006P02006	SUNSET COLONY MHP	03C	I as of 09/83	0.015 mgd ext. aeration to drainfield diverted to Lohmeyer	LA, DR, BU	305
5006P98285	PLANTATION, CENTRAL	02B	A as of 05/80	Contact stabilization	SD	305
5006M02003	SUNRISE PLANT #2	02B	A	Contact stab. step aeration with disch to injection wells @ Sunrise #3 wwtp site	OT	305, 225
5006S00121	EVERGLADES HOLIDAY PARK STP	03C	A	Extended aeration discharging to percolation ponds	IM, OT, LA	305, 225
5006C01984	BROWARD CORRECTIONAL INSTITUTE	03C	A	Extended aeration activated sludge with tertiary filtration	IM, LA	305
5006P04884	HOLLY LAKE WASTEWATER TREATMENT PLANT	02C	A as of 10/78	Contact stab. discharging to percolation ponds	IM, LA	305, 225
5226P05801	SAUNDERS LABOR CAMP	D	A as of 08/83	Extended aeration with effluent to spray irrigation	LA	225, 305

Point Sources

Table B-7. Hazardous Waste Facility Permits Within the WCAs & EAA Study Area (Broward & Dade Counties).
For explanation of codes see Table B-8.

Record #	Facility Name	Facility Type	Hazardous Waste Codes	Facility Status
5013P80987	DOCTOR DRYCLEAN, INC.	SQG	Not specified	A as of 12/86
5006P80853	ROGERS PLACE, INC.	SQG	F001, D001	A as of 12/86
5006P01407	LOU BACHRODT TOYOTA	SQG	F001, D001	A as of 07/88
5006P80980	SHELL CAR WASH	NHD	D000, D001, K052	A as of 07/80
5006P00095	HOME DEPOT #215	SQG	D001, D002	A as of 01/87
5006P81662	RAINBOW CLEANERS	SQG	F002	A as of 07/85
5006P80490	VISUAL GRAPHICS CORP	SQG	D001, F001, F002, F017	A as of 08/80
5006P81519	PRIDE CLEANERS	SQG	F002	A as of 08/85
5006P81739	VILLAGE POINT CLEANERS	SQG	F002	A as of 07/85
5006P81220	SUNOCO SERVICE STATION	NHD	D000 D001	A as of 08/80
5006P00046	AUTO PAINTING U S A	SQG	F003, U239, U220, U154	A as of 12/86
5006P81219	SUNOCO SERVICE STATION	NHD	D000, D001	A as of 03/83
5006P80275	CLASSIC FRENCH DRY CLEANERS	SQG	F002	A as of 06/85
5006P80176	MARNI CLEANERS	SQG	F002	A as of 06/85
5006P80129	MAGIC TOUCH FRENCH CLEANERS, INC.	SQG	F002	A as of 06/85
5006P80185	CHATEAU FRENCH DRY CLEANERS, INC	SQG	F002	A as of 06/85
5006P80149	THE CLEANERS	SQG	F002	A as of 06/85
5006P80491	HOLIDAY SUZZI	SQG	F002	A as of 07/85
5006P80489	MA AND PA CLEANERS	GEN	F002	A as of 07/85
5006P80113	BOSTON MAN CLEANERS	SQG	F002	A as of 06/85
5006P80492	AMERICLEAN	SQG	F002	A as of 07/85
5006P81703	SPEEDY CLEANERS	GEN, OOB	F002	A as of 06/85
5006P81906	DRYCLEAN USA	SQG	F002	A as of 08/85
5006P80032	BESTWAY DRY CLEANERS	SQG	F002	A as of 06/85
5006P80190	GARYS PROFESSIONAL DRY CLEANERS	SQG	F002	A as of 06/85
5006P01440	NU LOOK ONE HOUR CLEANERS, #51	SQG	Not specified	A as of 07/88
5006P01214	AAA STARTERS & ALTERNATORS, INC	SQG	D000, D001	A as of 04/88
5006P00384	BODY CRAFT, INC.	SQG	F003, F005, D001, D000	A as of 04/87
5006P00944	KOPY KAT FURNITURE OF BROWARD, INC.	SQG	F003, F005, D001, D000	A as of 01/88
5006P00130	MONARCH DODGE, INC.	SQG	Not specified	A as of 01/87
5006P00943	TROPIC MOTORS, INC	SQG	F003, F005, D000, D001	A as of 01/88
5006P80790	ALVEY CLEANERS, INC. CLEAN & SAVE	SQG	F002, D000	A as of 10/86
5006P80807	MARKET PLACE QUALITY DRY CLEANERS	SQG	F002, D000	A as of 10/86
5006P80728	DEMARC INC. DBA DEES CLEANERS	NHD	F003	A as of 05/86
5006P80655	DONZI MARINE CORP.	SQG	F002, D001	A as of 08/86
5006P80716	AMERICLEAN	OOB	F002	Unknown
5006P80603	REEF BUICK, INC.	SQG	F003, F005	A as of 02/86
5006P81212	SUNOCO SERVICE STATION	NHD	Not specified	A as of 03/83
5006P81226	SUNOCO SERVICE STATION	NHD	D000, D001	A as of 08/80

Point Sources

Table B-7. Hazardous Waste Facility Permits Within the WCAs & EAA Study Area (Broward & Dade Counties).
For explanation of codes see Table B-8.

Record #	Facility Name	Facility Type	Hazardous Waste Codes	Facility Status
506M01689	CITY OF SUNRISE, FLORIDA GARAGE	GEN	F002, F004, D001, D000	A as of 12/88
5006P01441	ONE PRICE DRY CLEANERS OF SUNRISE	SQG	D000, F002	A as of 07/88
5006P01504	STARCREST CLEANERS	SQG	D000, F002	A as of 08/88
5006P00446	ATLANTIC AUTO RPR, INC.	SQG	F002, F004, D000, D001	A as of 05/86
5006P01187	PROF AUTO PAINTING, INC.	SQG	F003, F005, D000, D001	A as of 04/88
5006P01211	S & S AUTO BODY	SQG	F003, F005, D000, D001	A as of 04/88
5006P01212	EASTERN MOTORS, INC.	SQG	F003, F005	A as of 04/88
5006P80762	KINGMOTOR OF SUNRISE	SQG	F001, D001	A as of 09/86
5006P81014	SHERWIN WILLIAMS CO.	NHD	D000, D001, D002, D003 F002, F003, F005, F017 F018, P090, U002, U031, U112, U150, U154, U159, U161, U220, U239	A as of 08/80
5006P80628	SUNRISE COUNTRY CLUB	NHD	D000	A as of 05/86
5006P80672	SAWGRASS CORPORATE PARK	NHD	D000, D004	A as of 05/86
5006P80401	MOTOROLA PORTABLE PRODUCTS	GEN, TSD	D000, D001, D002, F001, F002, F003, F005, F006, F007, F008, F009, P029, P030, P076,P078, P098,P099, P106,U002, U043, U151, U159, U213, U226	A as of 08/80
5006P81938	GOULD INC. C.S.D.	SQG	F001	A as of 11/83
5006P00219	JACARANDA EXXON SERVICE STATION	SQG	F001, D001	A as of 03/87
5006P81699	DRYCLEAN USA	SQG	F002	A as of 07/85
5006P00193	DRYCLEAN USA #119	SQG	F002, D000	A as of 02/87
5006P80960	PLANTATION IMPORTS	SQG	F001, D001	A as of 11/86
5006P81225	SUNOCO SERVICE STATION	NHD	Not specified	A as of 03/83
5006P81241	SUNOCO SERVICE STATION	NHD	Not specified	A as of 03/83
5006P80321	WESTGATE FRENCH CLEANERS/LAUNDRY, INC.	SQG	F002	A as of 06/85
5006P80268	VALETERIA, INC.	SQG	F002	A as of 06/85
5006P81842	N.J.H. ENTERPRISE, INC.	SQG	F002	A as of 07/85
5006P81767	KEY PHARMACEUTICALS, INC.	OOB	D001, F002 F003, F005,P922, P081, U002, U003, U044, U080, U154, U213, U220	A as of 12/83
5006P81609	DRYCLEAN USA	SQG	F002	A as of 07/85
5006P80606	IMPERIAL CARE CLEANERS	SQG	F002	A as of 12/85
5006M01777	PLANTATION GENERAL HOSPITAL	SQG	F003, D001	A as of 02/89
5006P01560	BUCKS PAINT & BODY SHOP, INC.	SQG	D001, F003, F005	A as of 09/88
5006P01519	TURNPIKE SHELL	SQG	D001	A as of 09/88
5006P01334	JACARANDA QUALITY DRY CLEANERS	SQG	F002, D000	A as of 05/88
5006P01269	MASADA AUTO BODY, INC.	SQG	F003, F005, D001, D000	A as of 04/88
5006P00265	DIRI AUTO BODY, INC.	SQG	F003, F005, D001, D000	A as of 03/87
5006P89804	DRYCLEAN USA (MJH ENTERPRISES, INC.)	GEN	F002, D000	A as of 10/86

Point Sources

Table B-7. Hazardous Waste Facility Permits Within the WCAs & EAA Study Area (Broward & Dade Counties).
For explanation of codes see Table B-8.

Record #	Facility Name	Facility Type	Hazardous Waste Codes	Facility Status
5006P00259	MASSEY YARDLEY CHRYSLER, INC.	SQG	F003, F005	A as of 03/87
5006P00131	DOCTOR DRYCLEAN, INC.	OOB	F002, D000	A as of 01/87
5006P80760	POTAMKIN OF BROWARD SUBARU, INC.	SQG	F001, D001	A as of 09/86
5006P80756	NORTON TIRE CO., INC.	GEN	F001, D001	A as of 09/86
5006P80707	HUMANA HOSPITAL BENNETT	SQG	F003, D001, D002	A as of 08/86
5006P80677	LUKE BOLTON FORD	SQG	F003, F005, D001	A as of 06/86
5006P80715	AMERICLEAN PLANTATION	SQG	F002	A as of 08/86
5006P80025	AIRPAX ELECTRONICS, INC.	OOB	D001, D002, F003, F005, F007, U220, U239	A as of 12/81
5006P00440	FLORIDA FINEBLANKING CORP	SQG	F001, D000	A as of 05/85
5006P00432	ACE AUTO REPAIR	OOB	F001, D001	A as of 05/85
5006P00430	R.L. STOKES PAINT DIST. INC.	GEN	D000	A as of 05/85
5006P00401	WOODARD AUTOMOTIVE	SQG	F001, D001	A as of 04/87
5006P00157	SPRING BRAKE & WHEEL	SQG	D001, D000	A as of 02/87
5006P80837	SIMMONDS PRECISION	SQG	F001, F003, F005, D001, D002	A as of 11/86
5006P80831	IMPERIAL AUTOMOTIVE	GEN	F001, D001	A as of 11/86
5006P80791	MONTE CAMPBELL CRANE CO., INC.	SQG	D001, D000	A as of 11/86
5006P80792	L & S, INC	SQG	D001, D000	A as of 10/86
5006P89649	FRED A KORMAN AUTO SALES	NNF,SQG NHD	Not specified	A as of 05/86
5006P80647	CORVETTE CITY, INC.	NNF,SQG	Not specified	A as of 05/86
5006P80646	DAVIE PAINT AND BODY	NNF,SQG	Not specified	A as of 05/86
5006P80645	HARDRIVES CO.	SQG,NNF	Not specified	A as of 05/86
5006P80644	9 TO 5 SUPPLY CORP	NNF,NHD	Not specified	A as of 05/86
5006P80639	LOGICAL DEVICES, INC.	SQG	F001, F005, D001	A as of 04/86
5006P80512	TOUCH OF CLASS CLEANERS	SQG	F002	A as of 10/85
5006P01359	WESCHLER ELECTRIC, INC.	SQG	F002, F005, U226, U220, U002, D001, D002	A as of 06/88
5006P01335	CORAL SPRINGS CLEANERS	SQG	F002, D000	A as of 05/88
5006P01268	AUTO WORKS AUTOMOTIVE REFINISHERS	SQG	F003, F005, D001, D000	A as of 04/88
5006P01272	SERVICE CLEANERS	SQG	F002	A as of 04/88
5006P01199	DRYCLEAN USA	SQG	F002	A as of 04/88
5006P00949	BODY CRAFT, INC.	SQG	D000, D001, F003, F005	A as of 01/88
5006P00921	CONTINENTAL AUTOMOTIVE, INC.	SQG	F002, F004, D000, D001	A as of 12/87
5006P00725	441 AUTO BODY	SQG	F003, F005, D000, D001	A as of 09/87
5006P00002	DRYCLEAN USA	SQG	F002	A as of 12/86
5006P00349	DRYCLEAN USA	SQG	D000, D001, F002	A as of 10/86
5006P00020	RIVIERA FRENCH DRY CLEANERS	GEN	D000, D001, F002	A as of 09/86
5013P01256	KBS INCORPORATED (Dade)	SQG	D001	A as of 04/88

Point Sources

Table B-7. Hazardous Waste Facility Permits Within the WCAs & EAA Study Area (Palm Beach County).
For explanation of codes see Table B-8.

Record #	Facility Name	Facility Type	Hazardous Waste Codes	Facility Status
5050C80651	PALM BEACH COUNTY MOTOR POOL PAHOKEE	GEN	F003, D001	A as of 01/87
5050S01596	PAHOKEE JR SR HIGH SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 10/88
5050P80629	AGRI-SYSTEMS, INC.	NNF,NHD	Not specified	A as of 01/86
5050P71623	W.R. GRACE & CO PESTICIDE WAREHOUSE	NHD	D000, D001, P035, P044, P050, P056, P071, P089, U038, U224	A as of 09/83
5050P80216	CHEMLAWN CORP. FLORIDA R & D CENTER	SQG	D000	A as of 08/80
5050S01123	ROSENWALD ELEMENTARY SCHOOL	SQG	F001,F002,F003,F004, F005, D001, D002, D003, D000	A as of 03/88
5050P80736	CAMPBELL TRUCK REPAIRS, INC.	SQG	F001, D001	A as of 09/86
5050P80789	GORDON CARTER, INC.	SQG	D001	A as of 12/86
5050S01864	PALM BEACH CO HIGH		Not specified	A as of 03/89
5050P80630	CHEMAIRSPRAY, INC.	GEN, NNF	Not specified	A as of 02/86
5050S01097	SCHOOL OF CHOICE	SQG	F001, F002, FPP3, F004, F005, D001, D002, D003 D000	A as of 03/88
5050S00500	GEORGE'S DIESEL SERVICE	SQG	D002	A as of 05/87
5050P00546	AL PACKER FORD WEST	SQG	F003, F005, D001, D000	A as of 05/87
5050S01855	SANDPIPER SHORES		Not specified	A as of 03/89
5050P01424	DRYCLEAN USA	SQG	F002	A as of 07/88
5050S01073	LOGGERS RUN MIDDLE SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 03/88
5050S01072	WHISPERING PINES ELEMENTARY SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 03/88
5050P00536	VOGUE CLEANERS	SQG	F002	A as of 05/87
5050S01058	LOXAHATCHEE GROVES SCHOOL	SQG	F001, F002, F003, F004, F05, D001, D003, D000	A as of 03/88
5050S01054	WELLINGTON LANDINGS MIDDLE SCHOOL	SQG	F001, F002, F003, F04, F005, D001, D002, D003, D000	A as of 03/88
5050S01053	WELLINGTON ELEMENTARY SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 03/88
5050P80794	LAIDLAW WASTE SYSTEMS, INC	SQG	D001, F001	A as of 12/86
5050P80059	OSCARS CLEANERS AND LAUNDRY	SQG	F002	A as of 08/85
5050P80214	CABIN DRY CLEANERS, INC	SQG	D001	A as of 08/85
5050P81506	GLADES LAUNDRY & DRY CLEANERS	SQG	D001	A as of 07/85
5050P80253	BROTHERS DRY CLEANERS	SQG	F002	A as of 08/85
5050S81949	UNIVERSITY OF FLORIDA, IFAS EREC	SQG	D000, D001, D002,D003, P039, P044, P066, P070, P075, P111, P123, U002, U007, U031, U032,U044, U077, U114, U123,U125, U127, U129, U154,U186, U239, U244, U122	A as of 10/84
5050P00027	A DUDA & SONS, INC	SQG	D001, F001, F003, F005	A as of 10/86

Point Sources

Table B-7. Hazardous Waste Facility Permits Within the WCAs & EAA Study Area (Palm Beach County).
For explanation of codes see Table B-8.

Record #	Facility Name	Facility Type	Hazardous Waste Codes	Facility Status
5050P80634	FPL GLADES SERVICE CTR.	SQG	D000, D001, D002, D003	A as of 08/80
5050P80702	FMC CORPORATION ACG	GEN, OOB	D000, P020, P037, P049, P050, P070, P071, P089, P122, U114, U224, U239	A as of 11/80
5050P00008	ROYAL PALM CLEANERS	SQG	F002	A as of 09/86
5050P81244	SUNOCO SERVICE STATION	NHD	D000, D001	A as of 08/80
5050S01119	GROVE ELEMENTARY SCHOOL	SQG	F001, F002, F003, F004, F005, D0001, D002, D003, D000	A as of 03/88
5050S01118	GLADEVIEW ELEMENTARY SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 03/88
5050S01117	GLADES CENTRAL HIGH SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 03/88
5050S01116	BELLE GLADE ELEM. SCHOOL	SQG	F001, F002, F003, F004, F005, D001, D002, D003, D000	A as of 03/88
5050P00748	LAKE COUNTRY FORD	SQG	F003, F005, F002, F004, D001	A as of 09/87
5050S00514	LAKE SHORE MIDDLE SCHOOL	SQG	D001, D002, D003, D000	A as of 05/87
5050S80605	WEST AREA MAINTENANCE SHOP	SQG	D001	A as of 12/86
5050S80604	WEST TECHNICAL EDUCATION CENTER	SQG	D001	A as of 12/86
5050P80650	LEE AVIATION	GEN,NNF	Not specified	A as of 05/86
5050P80649	SOUTH FLA CROP CARE INC.	NNF,NHD	Not specified	A as of 05/86
5050P80616	CHEMAIRSPRAY	NHD	Not specified	A as of 12/86
5050P80220	HOWELL OIL COMPANY	SQG	D000, D001	A
5050P80758	SIBONEY LEASE & FINANCE CO	SQG	D001	A as of 10/86
5050S01870	PALM BEACH CO ELEM.		Not specified	A as of 03/89
5050P80673	PALMS WEST HOSPITAL	SQG	U239, P105, U170 , U188, U048, U022, D009, U122, U220, U154, D001, D000	A as of 05/86
5050S80600	SFWMD	SQG	F003, F005	A as of 06/86

Table B-8. Department of Environmental Regulation Groundwater Management System Code List

Point Sources

FACILITY STATUS

A - ACTIVE
I - INACTIVE
K - CLOSED, BUT STILL PERMITTED
P - PHASED OUT
R - REMOVED
S - SPECIAL

DISPOSAL METHODS

AC - ACCIDENTAL SPILL, LEAK, ETC.
BU - BURIAL
DR - DRAINFIELD
EN - ENCAPSULATION
HZ - HAZARDOUS WASTE
IM - IMPOUNDMENT
IN - INJECTION
LA - LAND APPLICATION
LS - LAND SPREADING
SD - SURFACE WATER DISCHARGE
VR - VOLUME REDUCTION/RESOURCE RECOVERY
OT - OTHER (INCLUDING "DREDGE AND FILL" AND "H.W. NOTIFIER" FOR HAZARDOUS WASTE NON - INDUSTRIAL)

EPA HAZARDOUS WASTE CODES

Code	Hazardous Waste
D000	Toxic Waste
D001	Ignitable Waste
D002	Corrosive Waste
D003	Reactive Waste
F001	Spent halogenated solvents used in degreasing, including tetrachloroethylene, methylene chloride, carbon tetrachloride, 1,1,1-trichloroethane, and chlorinated fluorocarbons
F002	Spent halogenated solvents, including tetrachloroethylene, methylene chloride, trichloroethylene 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,1,1-trifluoroethane
F003	Spent non-halogenated solvents, including xylene acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol, or compounds derived from these chlorophenols
P020	2-sec-butyl-4,6-dinitrophenol
P044	Dimethoate
P050	Endosulfan
P051	Endrin

P066	Methomyl
P070	Aldicarb
P071	Methyl parathion
P089	Parathion
P123	Toxaphene
U002	Acetone
U011	Amitrole
U031	n-Butyl alcohol
U036	Chlordane
U038	Chlorobenzilate
U045	Chloromethane
U112	Ethyl acetate
U114	Ethylene bisdithiocarbamate
U117	Ethyl ether
U150	Melphalin
U154	Methanol
U161	Methyl isobutyl ketone
U192	Pronamide
U211	Carbon tetrachloride
U220	Toluene
U239	Xylene

Source: Code of Federal Regulations 40 DFR 261, 1987

FACILITY TYPE FOR HAZARDOUS WASTE FACILITIES

GEN - GENERATOR
SQG - SMALL QUANTITY GENERATOR
NNF - NON-NOTIFIER
NHD - NON-HANDLER
TSD - TRANSPORTED OFF SITE FOR DISPOSAL
00B - CLOSED/MOVED

CLASS CODES FOR TYPE I FACILITIES (Domestic Waste)

Level	Type Plant	Plant Size MGD			
		A	B	C	D
1	AWT	3 +	0.5 to 3	0.002 to 0.5	None
2	Activated Sludge/ Contact Stab.	5 +	1 to 5	0.002 to 1	None
3	Extended Air	8 +	2 to 8	0.025 to 20	0.025 to 0.025
4	Trickling Filter	10 +	3 to 10	0.025 to 3	0.025 to 0.025

TYPES OF WASTES HANDLED

Solid, Non-Hazardous (100's)

105 - Agricultural
110 - Residential
115 - Commercial
120 - Hospital/Clinical
125 - Mining
130 - Industrial

Sludges (200's)

205 - Water Treatment/Lime Softening
210 - Septic Tank
215 - Air Scrubber
220 - Industrial/Commercial
225 - Domestic
230 - Incinerator Residue
235 - Ion Exchange
295 - Hazardous Sludge

Wastewater (300's)

305 - Domestic
310 - Industrial
315 - Reject Water
320 - Cooling Water

Hazardous Solid/Liquid

905 - Caustic & Acid Solutions
910 - Explosives
915 - Heavy Metal Solutions
920 - Inorganic Chemicals
925 - Organic Chemicals
930 - Organic Solvents and Oils
935 - Paint and Ink Wastes
940 - Pesticides/ Fungicides
945 - Pathological/ Infectious
950 - Low-Level Radioactive
955 - Mining

Other

999 - Other

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
26000285	U S SUGAR CORPORATIO		AGR	00153600	OKEECHOBEE	28 34		081276	L OKEECHOBEE
26000385	J D THORNTON NURSERI		AGR	00006000	INDUSTRIAL C	14 43 34		081276	INDUSTRIAL C
26000405	U S SUGAR CORPORATIO		AGR	00890000	LAKE OKEECHO	00 43 33		081276	LAKE OKEECHO
26000775	CLEWISTON F.F.A. CHAPTER		AGR	00048000	C-43	23 43 32		031077	C-43
26001235	BRACKETT, H C		AGR	00138600	LAKE OKEECHO	17 43 31		041979	CALOOSAHATCH
26001285	W + K GROVES		AGR	00009200	CALOOSAHATCH	11 43 31		061280	CALOOSAHATCH
26001295	MEC ROCK, INC		MIN	00003600	C-21	24 43 34		071080	LAKE OKEECHO
26001315	WEEKS, J M - ROCK PIT		MIN	00003382	C-21	13 43 34		121180	L OKEECHOBEE
26001325	ROLAND + SWINDLE		MIN	00005000	C-21	24 43 34		121180	L OKEECHOBEE
2600133S01	REDDISH, C.W. - GEN PARTNER	HOLIDAY ISLES	RES	00006900	C-21	14 43 34	881230-2	021281	CANAL
2600144S01	MILBRODT, L.B. + F.I	MILBRODT GROVES	AGR	00004000	C-43	21 43 31	09181-A	021182	CANAL
26001455	RIDGDILL, M E		RES	00002259	INDUSTRIAL C	14 43 34		030982	CANAL
26001535	U.S. SUGAR CORP		AGR	00192000	C-43	15 43 32		081282	HAGEMAN CANA
26001635	CRUMB, G		AGR	00004000	C-43	21 43 31		011284	CANAL
26001655	STANAHAN, INC		RES	00001460	C-21	14 43 34		123083	INDUSTRIAL C
26001665	STANTON-RICHMOND, IN		RES	00002720	C-21	14 43 34		041284	INDUSTRIAL C
2600168S01	RIDGDILL, MORRIS E	RIDGDILL SUBDIVISION 1 & 2	RES	00009290	C-21	14 43 34	02268-A	051084	INDUST. CANA
26002165	LAKELAND PROPERTIES, INC	K-MART PLAZA	COM	00001330	CALOOSAHATCH	22 43 34	02127-E	091588	42FT CANAL
2600327S01	VALDEZ, GEORGE	SANTA BARBARA RANCH	AGR	00045000	C-43	10 43 31	08178-A	011289	CALOOSAHATCH
2600349S01	ESTEPA, MIGUEL & MIRIAM	M & M RANCH	AGR	00010600	C-43	27 43 32	10118-C	020989	C-43
2600003S02	ALBRITTON, IF, JS, NF & DE	TRI-BRITTON	AGR	00768000	C-43	00 44 31	06078-E	061688	C-43
2600010S	BROWARD CO GIRL SCOU		REC	00063100	FLAGHOLE DRA	06 44 33		071477	FLAGHOLE CAN
2600034S	U S SUGAR CORPORATIO		AGR	00128000	L-25	26 44 34		041576	L-25
2600039S	SOUTH BAY GROWERS		AGR	00384000	BOLLES CANAL	36 44 34		081276	BOLLES CANAL
2600115S01	JACKMAN, EVELYN & SONS	JACKMAN RANCH	AGR	01150000	C-139	00 44 33	05198-B	071378	C-139
2600156S01	CENTRAL COUNTY WATER CONTRO	MONTURA RANCH ESTATES	RES	00864000	EVERGLADES	00 44 32	06158-E	060983	L-2W CANAL
2600175S01	HILLIARD BROS. OF FLA., INC	HILLIARD BROTHERS FARM 1	AGR	01536000	CALOOSAHATCH	01 44 31	06278-H	101184	C-3 CANAL C-4 CANAL
2600175S02	ALICO, INC.	CITRUS GROVE - SYSTEM 5	AGR	00261000	CALOOSAHATCH	28 44 31	10267-E	070987	C-4
2600175S03	COLLINS SLOUGH WATER CNT. D	C-4,42FT CANAL	OTH	00000000	CALOOSAHATCH	28 44 31		070987	CALOOSAHATCH
2600318S01	AGRO, INC.	AGRO GROVES	AGR	00164000	C-43 & C-139	10 44 32	06138-D	090888	HEGMAN BORROL-1 CANAL
0600732S02	AMERICAN RESIDENTIAL PROPER	WINSTON PARK - PHASES 1 & 2	RES	00003890	HILLSBORO CA	05 45 42	07217-A	030888	CWCD CANAL
26000015	UNITED CANE COOP ASSOC		AGR	00512000	L-24	00 45 34		081674	L-24
26000515	THREE R'S, INC.		AGR	00128000	L-24	14 45 34		111276	L-24
26000725	HILLIARD, JOE A		AGR	00120000	EVERGLADES A	21 45 34		031077	L-24
2600304S01	DEVIL'S GARDEN WATER CONTRO	MIDWAY CANAL	AGR	00000000	C-139	00 45 32	12167-D	061688	L-2 CANAL
26000235	REYNOLDS & THOMAS, INC.		AGR	00208000	L-24	22 46 34		121975	L-24

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
26000255	REYNOLDS, CARLOS		AGR	00016000	L-24	15 46 34		021976	L-24
26000435	MANLEY, II, WALTER W	FARM	AGR	00128000	S-8	14 46 34		090976	L-24 CANAL
26000745	KNIGHT, JR., S N		AGR	00320000	L-24	10 46 34		031077	L-24
2600086501	LYKES BROTHERS, INC.	LITTLE CYPRESS	AGR	00519200	MIAMI CANAL	00 46 34		071577	L-24
2600086502	JOHNSON, E.L.	TOP TOMATO FARM	AGR	00064000	L-28	00 46 34	10068-A	120888	L-24
2600086503	WILLIAMS, JAMES E - JR.	WILLIAMS FARM	AGR	00064000	L-28	00 46 34	09238-K	120888	L-24
26001435	ZIPPERER FARMS		AGR	01150000	C-139	00 46 33		071483	L-3
2600160S01	ECKERD, JACK & RUTH-TRUSTEE	ECKERD FAMILY YOUTH ALTERNATIV	REC	00027000		06 46 34	10183-A	121583	L-2 CANAL
2600170S01	BAYROCK INVESTMENT COMPANY	BAY ROCK	AGR	00064000	S-8	13 46 34	04114-C	080984	CANAL L-24
2600282S01	U.S. SUGAR CORPORATION	DEVIL'S GARDEN CITRUS NORTH	AGR	00157500	C-139	12 46 32	08147-C	121087	DEER FENCE C
2600299S01	UNITED STATES SUGAR CORPORA	DEVIL'S GARDEN CITRUS SOUTH	AGR	00381600	C-139	00 46 32	08147-B	041488	DEER FENCE
2600300S01	COLLIER ENTERPRISES	CROWS NEST CITRUS DEVELOPMENT	AGR	00197300		01 46 31	06168-A	041488	BOGGY SLOUGH
2600303S01	JOHNSON, E.L.	LITTLE CYPRESS	AGR	00160000	C-139	00 46 34	10068-A	061688	L-3 CANAL
2600303S02	WILLIAMS, JAMES E - JR.	WILLIAMS FARM	AGR	00192000	C-139	00 46 34	09238-L	120888	L-3
0600011S01	LEADERSHIP HOUSING, INC.	DRAINAGE CONNECTION WITH L-36	RES	00000000	HILLSBORO CA	03 47 41	20923	101674	L-36 CANAL
06000345	DEERFIELD COUNTRY CLUB		LAN	00007600	HILLSBORO CA	36 47 42		081679	HILLSBORO CA
0600055S01	MECCA FARMS, INC	FARM - STRING BEANS	AGR	00048800	HILLSBORO CA	36 47 41	22103	121975	HILLSBORO CA
06000965	MCJUNKIN, W S		AGR	00000000	HILLSBORO C	26 47 41		121676	HILLSBORO C
06001555	NEILLCO FARMS		AGR	00070000	HILLSBORO CA	27 47 41		031678	HILLSBORO CA
06002365	PYLON HOMES, INC		RES	00010800	HILLSBORO CA	33 47 42		042979	HILLSBORO CA
06002375	YORK DEV CORPORATION		RES	00015580	HILLSBORO CA	33 47 42		041979	C-3 CANAL
0600372S03	FORUM GROUP, INC.	RETIREMENT COMMUNITY/DEERFIELD	RES	00000704	HILLSBORO CA	34 47 42	03148-B	093088	BCWMCD C-2
06004145	CROSSMAN FARMS, E R		AGR	00026300	HILLSBORO CA	34 47 41		051382	HILLSBORO CA
06004165	LEONARD, W		REC	00012910	HILLSBORO	32 47 42		051382	BCWMD #2 CAN
06004455	CROCKER + COMPANY		IND	00004317	HILLSBORO	01 47 42		110982	HILLSBORO CA
06004535	MAPLE LEAF DEVELOPME		RES	00002382	HILLSBORO CA	33 47 42		120182	C-3
0600491S01	OCA DEER DEVELOPEMENT CORP.	BOCA DEER DEVELOPMENT	RES	00000697	HILLSBORO CA	33 47 42	05203-A	090183	BCWMD C-3
06005275	SBA-RECEIVER FOR ROY		RES	00007150	HILLSBORO	33 47 42		041284	HILLSBORO CA
06005425	PORTEN SULLIVAN CORP		RES	00002190	HILLSBORO	34 47 42		052984	BCWMD C-2 CA
0600551S05	COCONUT CREEK ASSOCIATES, I	COCOMAR/COUNTRY CLUB LAKES	RES	00001919	HILLSBORO CA	31 47 42	11148-E	010389	CWCD

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600622S01	PINE TREE WATER CONTROL DIS	PINE TREE WATER CONTROL DIST.	RES	00348800	HILLSBORO CA	12 47 41	10044-D	121384	HILLSBO CAPTWCD A-3 CACOUNTY
0600766S01	HILLSBORO MOBILE HOME PARK	HILLSBORO MHP PHASE III	RES	00001000	HILLSBORO	31 47 42	09305-E	050286	N/A
0600800S01	TESCO SOUTH, INC.	HECTOR TURF WAREHOUSE/OFFICE	IND	00000351	HILLSBORO	35 47 42	12195-B	092286	HILLSBORO
0600801S01	DEERFIELD BEACH, CITY OF	EDITH WEIMER HACK PARK	REC	00000922		33 47 42	09186-A	100686	HILLSBORO CA
0600886S01	UPS-FLOTAMPAR	UPS DISTRIBUTION FACILITY	COM	00001583	HILLSBORO	35 47 42	12217-F	111287	N/A
26000115	HILLIARD, JOE A.		AGR	00000000	L-3 BORROW	05 47 34		050975	L-3 BORROW
2600041S01	UNITED STATES SUGAR CORP.		AGR	01152000		00 47 34	12086-G	072376	L-4
2600094S01	UNITED STATES SUGAR CORP	SOUTHERN DIVISION RANCH UNIT 1	AGR	01794730		00 47 34	10086-D	101377	L-28
2600116S01	BOWEN, B.F. / B.J. GROVES,	B J GROVES	AGE	00129400	FEEDER CANAL	12 47 31	05058-B	081078	L-28
26002135	GALLAGHER, C.R. + O R	FLYING V RANCH ROCK LAKE	AGR	00256000	FEEDER CANAL	13 47 32	08164-C	011085	LARD CAN CAN
2600239S01	MCDANIEL SR., J W - INC	BOBBY MCDANIEL CITRUS GROVE	AGR	00482600	C-43	00 47 33	10305-A	021386	L-28 CANAL
0600017S01	FOWLKES CHEVROLET	DRAINAGE CONNECTION-POMPANO CA	COM	00000485	OLD POMPANO	34 48 42	22701	111574	POMPANO CANA
06000475	ORIOLE HOMES CORP		RES	00000000	C-14	35 48 41		101075	C-14
0600058S01	BROWARD CO.DIV.PARKS & RECR	TRADEWINDS PARK	REC	00007400	HILLSBORO CA	17 48 42	27730	022076	HILLSBORO CA
06000645	BROWARD COUNTY		RES	00000000	C-14	35 48 41		061076	C-14
0600073S01	NORTH SPRINGS IMPROVEMENTS	NORTH SPRINGS IMPROVEMENTS DIS	RES	00543850	HILLSBORO CA	00 48 41	11308-A	070876	BORROW CANALC-14 CANAL
0600073S02	BROWARD COUNTY SCHOOL BOARD	PARKLAND HIGH SCHOOL	INS	00004440	HILLSBORO	05 48 41	02088-B	051288	C-14
0600073S03	FLA. NATIONAL PROPERTIES,IN	RIVERSIDE ACRES	RES	00001740	HILLSBORO	03 48 41	04088-D	071488	HILLSBORO CA
0600084S01	HOLIDAY SPRINGS PLAZA ASSOC	HOLIDAY SPRINGS VILLAGE	COM	00000920	C-14	23 48 41	42441	090976	HSDD CANAL
0600086S01	N.LAUDERDALE WATER CONTROL	N.LAUDERDALE WATER CONTROL DIS	RES	00190000	C-14	00 48 41	25322	100776	CYPRESS CRK
06000885	NARCO REALTY, INC		RES	00067110	HILLSBORO	02 48 41		100776	HILLSBORO CA
06001175	G & F ASSOCIATES		RES	00017750	C-14	14 48 41		071477	ONE MILE CAN
06001195	CORAL SPRINGS IMP DISTRICT	CORAL SPRGS IMP DIST-WEST GLEN	RES	00478700	C-14	27 48 41	07268-D	081177	L-202 C-2
0600139S01	CORAL GATE, INC	CORAL GATE	III	00019057	C-14	19 48 42	06077-C	111777	MARGATE CONV
0600139S02	SANCTUARY REALTY PARTNERS &	SANCTUARY GARDEN APARTMENTS	RES	00002410		19 48 42	12026-B	071786	C-14
06001445	ORIOLE HOMES CORP		RES	00027500	C-14	26 48 41		121577	MARGATE CANA
06001485	DE ANZA COL OF MARGATE		RES	00002880	C-14	24 48 41		011978	ONE MILE CAN
06001505	JUSTUS, W E		RES	00004085	C-14	26 48 41		021678	CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
06001535	BROWARD COUNTY		RES	00000000	SUNSHINE DDC	22 48 41		021678	SUNSHINE DDC
06001565	SYSTEMS CONSTRUCTION		RES	00000899	C-14	36 48 41		031678	MARGATE CANA
06001595	FIRST ATLANTIC BLDG		RES	00005790	C-14	31 48 42		031678	C-14
0600162S01	SUNSHINE DRAINAGE DISTRICT	SUNSHINE DRAINAGE DISTRICT	RES	00528050	C-14	14 48 41	12298-6	041378	C-14
06001725	SUNFLOWER MARGATE PR		RES	00008500	C-14	26 48 41		051178	1 MILE CANAL
06001745	POMPANO RETAIL WARE		COM	00000700	C-14	34 48 42		051178	21ST AVE DIT
06001805	ORIOLE HOMES CORP		COM	00006000	C-14	35 48 41		061578	MARGATE CANA
06001895	WESTINGHOUSE ELEC		IND	00003920	C-14	18 48 41		071378	SDD CANAL RR
06001985	MEARS, D J - INC.		COM	00003380	C-14	30 48 42		091478	MARGATE CANA
0600210S01	PHASE ONE LIMITED	VILLAGE LAKE & RACQUET CLUB	RES	00021300	C-14	31 48 42	08317-1	121478	MARGATE CANA
0600210S02	ALBERTSONS, INC.	ALBERTSONS STORE NO. 4351	COM	00000700	C-14	31 48 42		010782	MARGATE CANA
0600221S01	GREENWIN FLORIDA INVESTMENT	POMPANO INDUSTRIAL PARK	IND	00014280	C-14	21 48 42	10276-G	021579	COUNTY CANAL
0600222S01	RADICE CONSTRUCTION CORP.,	MEADOW LAKES	RES	00011000	HILLSBORO CA	11 48 42	11208-B	021572	BCWMD E-1 CA
0600222S02	MEADOWLANDS PLAZA ASSOCIATE	SAWGRASS COMMONS OFFICE COMPLE	COM	00000730	HILLSBORO CA	11 48 42	05268-D	092288	BCWMD E-1 CA
0600232S01	TARTAN DEV CORP OF FLA, INC	THE TOWNSHIP	RES	00073210	C-14	17 48 42	07287-C	031579	C-14
06002345	ARMSTRONG, D F		RES	00001100	HILLSBORO CA	14 48 42		041979	C-1
0600241S01	HAMMOCK AT COCONUT CRK, THE	HAMMOCK AT COCONUT CREEK	RES	00010900		30 48 42	02279-C	060779	WYNMOOR CANA
06002485	CORAL RIDGE PROPERTIES		RES	00001100	C-14	27 48 41		060779	CSID L-109
06002655	SCHWARTZ, M.		INS	00000500	C-14 EAST	26 48 41		110879	ON-SITE
06002665	DEERFIELD BCH, CITY		IND	00001400	HILLSBORO CA	02 48 42		081679	HILLSBORO CA
06002685	SPIELVOGEL, M R - PRES.		RES	00002000	C-14	27 48 41		091379	CSID L-109
06002695	SILL, R.		IND	00000400	C-14	22 48 42		091379	N/A
06002735	SAMPLE ENTERPRISES		RES	00001900	HILLSBORO	09 48 41		110879	N/A
06002825	POMPANO MERCHANDISE		COM	00000300	C-14	34 48 42		031380	POMPANO CANA
06002875	WYNMOOR FLA LTD PART		RES	00045700	C-14 EAST	29 48 42		041080	COUNTY DITCH
0600290S01	COMMERCIAL REALTY & DEVELOP	FLORIDA EAST COAST ADDITI	IND	00006363	C-14	27 48 42	01297-C	050880	C-14
0600290S02	KIMMEL INVESTMENTS, LTD.	UNIVERSAL BRANDS-FLA.E.CO	COM	00000700	C-14	27 48 42	02177-I	082687	C-14
06002915	SHOWCASE DEVELOPMENT, LTD		RES	00001900	C-14	14 48 41		050880	ONE-MILE CAN
06002965	BROWARD COUNTY		REC	00042700	HILLSBORO	04 48 42		071080	WMD #2 CANAL
0600305S01	WOLVERINE GENERAL DEV. CO.	LAKES, THE	RES	00006600	HILLSBORO	10 48 42	01307-H	091180	HILLSBORO

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
06003065	JUSTUS HOMES INC OF		RES	00001300	C-14	36 48 41		091180	DOGWOOD CANA
06003095	BURROUGHS CORP		IND	00000720	C-14 WEST	18 48 41		091180	CANAL
06003195	DEBARTOLO + CORP E J		COM	00009950	C-14	27 48 41		121180	CANAL C-1
06003325	ANTHES EQUIPMENT LTD		IND	00001030	C-14	27 48 42		011581	BCWCD #3
06003345001	ZAHN BUILDERS, INC	WOODLAKE ISLES	RES	00001400	C-14	31 48 42	10140-H	121180	MARGATE CANA
06003375	SUTTON PLACE DEV COM		RES	00001250	C-14 WEST	33 48 41		031281	CSID C L-102
06003385	M.A.P. BUILDERS		RES	00002070		33 48 41		031281	
06003475001	BROWARD COUNTY RECREATION	LYONS-TRADEWINDS PARK	REC	00042500	C-14	17 48 42	07160-C	061181	TARTAN PUD L
06003485001	MOTEL-6, INCORPORATED	MOTEL 6 - POMPANO BEACH	COM	00000760	C-14	33 48 42	01051-A	061181	FL TRNPK CAN
06003515001	EMSO CORPORATION	BUTLER FARMS	RES	00021600	HILLSBORO CA	12 48 41	10306-F	070981	HILLSBORO CA
06003565001	JEMS REALTY & INVESTMENT	TRAIL COMMERCE PARK	IND	00002800	HILLSBORO	02 48 42	06091-C	091081	BRO CO #2 DI
06003595001	DETAIL DEVELOPMENT CORP.	CRYSTAL VIEW TOWNHOMES	RES	00002830	HILLSBORO	14 48 42	07021-A	091081	BCWMD #2 CAN
06003605001	CROW-CHILDRESS-TAYLOR #2	QUORUM BUSINESS CENTER	COM	00002800	HILLSBORO	02 48 42	05011-B	012084	BCWMD #2 CAN
06003615002	VMS DANIA ASSOCIATES, LTD	OCEAN WALK	RES	00001230		05 48 42	08066-B	021287	INTRACOASTAL
06003715	CRYSTAL LAKE FARM #1		AGR	00010500	HILLSBORO CA	16 48 42		010782	TURNPIKE CAN
06003725001	D.C. PROPERTIES, INC	WEST HALF OF DEER CREEK	RES	00031882	HILLSBORO	03 48 42	08261-C	010782	BCWMD #2 C-2
06003725002	DEERFIELD BEACH, CITY OF	DEER CREEK PARK (CONSTITU	III	00000880	HILLSBORO CA	03 48 42	10277-3	110287	BCWMD C-2 CA
06003805	CRYSTAL LAKE FARM #2		AGR	00012000	HILLSBORO CA	16 48 42		010782	TURNPIKE CAN
06003815	MILLER, T J		RES	00005090	C-14E	27 48 42		010782	C-14
06003845	TAM O'SHANTER C CLUB		REC	00009700	HILLSBORO CA	15 48 42		021182	CRYSTAL LAKE
06003885	BEATY FARMS, INC. D.S.		AGR	00400000	HILLSBORO CA	06 48 41		021182	CONS AREA 2A
06003955	BUTLER, J E		AGR	00076000	HILLSBORO CA	00 48 42		031182	DIA CANALS
06003975	BUTLER, J		AGR	00012000	HILLSBORO CA	05 48 42		031182	TURNPIKE CAN
06004105	COCONUT CREEK PLAZA		COM	00003300	C-14	30 48 42		032682	CANAL
06004115	MITCHELL HOMES		COM	00003180	HILLSBORO CA	03 48 42		032982	C-2 CANAL
06004135001	WASTE MANAGEMENT, INC.	CENTRAL DIST SANITARY LAN	COM	00040560	C-14	16 48 42	08248-C	041582	BCWMD#2 C-3
06004155	TWIN S, LIMITED		IND	00000425	C-14	30 48 42		042282	C-14
06004215001	YORK CHASE RONTO COMPANY	YORK CHASE	RES	00034600	HILLSBORO	04 48 42	03256-C	061082	BCWMD #2 C-3
06004245001	BOSCO, CHARLES J	GLENOAKS	RES	00002062	C-14 WEST	33 48 41	11031-E	061082	CSID L-104
06004255	HOLIDAY VILLAGE CONDO AS		RES	00000658	C-14 WEST	16 48 41		061782	C-14 WEST
06004265001	NEWPORT CENTER ASSOC., LT	NEWPORT CENTER	IND	00011400	HILLSBORO CA	11 48 42	09291-C	070882	BRO CO C-1

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600426S02	KAY INDUSTRIAL DIAMOND CO	NEWPORT CENTER	IND	00000140	HILLSBORO CA	11 48 42	09308-1	042886	BRO CO C-1
0600426S03	AMEREA INTERNATIONAL, INC	NEWPORT CENTRE	COM	00000100		11 48 42	04296-A	120486	
0600426S04	COHEN, JACQUES	LONCETTI COSMETICS	COM	00000100		11 48 42	08286-A	021987	BRO CO C-1
0600426S05	SNAP ON TOOLS CORPORATION	NEWPORT CENTER/SNAP ON TO	COM	00000231	HILLSBOR CAN	11 48 42	09027-1	120287	
0600426S05	SNAP ON TOOLS CORPORATION	NEWPORT CENTER/SNAP ON TO	COM	00000231		11 48 42	09027-1	120287	BC CANAL C-1
06000429S	BOSCO, C J		RES	00001960	C-14	29 48 41		062582	WATERWAY SYS
06000430S	BOSCO, C J		RES	00001013	C-14 WEST	27 48 41		070782	CSID CA L109
06000434S	LES BYRON ASSOC		IND	00005980	C-14	28 48 42		090982	C-14
0600436S01	INDUSTRIAL DEVELOPMENT CO	POWERLINE BUSINESS PARK	IND	00000611	HILLSBORO	15 48 42	07082-A	082683	CRYSTAL LAKE
0600438S01	SCOTT, JOSEPH	JOSEPH SCOTT OFFICE COMPL	COM	00000560	HILLSBORO	02 48 42	04022-C	090982	N/A
0600442S01	MARGATE, CITY OF	MARGATE EASTERN TIER	OTH	00117800	C-14	19 48 42	11186-F	101482	C-14
0600442S02	ZERWECK, JOHN PROPERTY MG	CENTRAL PARK OF COMM.	COM	00000000		30 48 42	01262-C	092983	C-14
0600442S03	CORREIA, JACK	FISHERMANS LANDING	RES	00002670		19 48 42	11293-A	030784	C-14
0600442S04	BARRASSO, ANTHONY	RAINBOW SHOPPES	COM	00000960		30 48 42	01262-C	072784	C-14
0600442S05	NATIONAL SELF STORAGE	NATIONAL SELF STORAGE	COM	00000000		30 48 42	01262-C	121084	C-14
0600442S06	TOWNSHIP, THE	THE TOWNSHIP	RES	00005098		19 48 42	01262-C	030885	C-14
0600442S07	MARGATE IND CTR ASSOC	MARGATE INDUSTRIAL CTR	IND	00001200		19 48 42	01262-C	091285	C-14
0600442S08	ABUNDANT LIFE CHRISTIAN C	MARGATE EAST TIER/ABUNDAN	INS	00000720		30 48 42	11186-F	010787	C-14
0600442S09	WENAL, HAROLD S., TRUSTE	PEPPERTREE PLAZA/PERIMETE	COM	00004435	C-14	19 48 42	12167-4	070987	C-14 CANAL
0600442S10	MULLINAX, ED	MULLINAX FORD	COM	00001024	C-14	30 48 42	10017-E	010788	C-14
0600442S11	J.M. FAMILY ENTERPRISES,	WESTWOOD PLAZA	COM	00001856	C-14	19 48 42	08318-B	010589	C-14
0600443S01	VILLAGER TOWNHOMES, INC.	VILLAGER TOWNHOMES	RES	00001080	HILLSBORO	14 48 42	07062-D	100782	N/A
0600446S01	PARK CENTRAL OWNERS ASSOC	COPANS BUSINESS PARK	IND	00012530		22 48 42	02118-B	110982	
0600446S01	PARK CENTRAL OWNERS ASSOC	COPANS BUSINESS PARK	IND	00012530	C-14	22 48 42	02118-B	110982	COUNTY CANAL
0600447S01	WHISPERING WOODS, LTD	WHISPERING WOODS	RES	00032036	HILLSBORO	11 48 41	12157-B	110982	HILLSBORO CA
0600452S01	LACERTE, JEAN	WOODSETTER RETIREMENT INN	RES	00002605	HILLSBORO	14 48 42	06212-A	111582	
06000454S	M.A.P. BUILDERS		RES	00000526		22 48 41		120282	
0600454S01	PALM BEACH CONDOMINIUM AS	PALM VILLAGE CONDOMINIUMS	RES	00000526	C-14 WEST	22 48 41	08057-1	120282	C-14
06000455S	SCOTTY'S, INC		COM	00000630	C-14	30 48 42		120782	C-14
0600457S01	KURTZ, RICHARD L. - TRUST	THE CROSSROADS	COM	00001720	EAST C-14	16 48 42	10282-C	010383	C-14 CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600458S01	BROWARD CO DIVISION OF MA	COPANS RD BUS MAINTENANCE	IND	00002557	C-14 EAST	21 48 42	09232-B	010583	WYNMOOR CA S
0600463S01	SKYLARK PROMOTIONS, INC	PARK SUMMIT	RES	00000770	C-14 WEST	22 48 41	10042-B	020183	C-14
0600465S	DEVCON REALTY CORP		RES	00012830	POMPANO CANA	22 48 42		031083	POMPANO CANA
0600467S01	POMPANO BEACH, CITY OF	WATER TREATMENT PLANT IMP	IND	00001480	POMPANO CANA	35 48 42	02043-C	030883	POMPANO CANA
0600469S	HOSPITAL CORP OF AME		COM	00000510	C-14 EAST	24 48 41		031783	CITY CANAL
0600477S01	PORTEN SULLIVAN CORP. OF	ROYAL LAND	RES	00020994	C-14	15 48 41	07298-6	051283	C-14
0600478S	BROWARD JR COLLEGE		INS	00011000	C-14	32 48 42		060983	CITY CANAL
0600484S	TALLOWOOD		RES	00012500	HILLSBORO	05 48 42		081183	ON-SITE LAKE
0600485S01	M.A.P. BRITTANY COURT, IN	BRITTANY COURT	RES	00000601	C-14 WEST	22 48 41	04223-B	080183	C-14
0600488S01	M.A.P. VIEWPOINTE, INC.	VIEWPOINTE	RES	00001158		31 48 42	06083-B	082683	EXISTING LAK
0600489S	BROWARD CO PUBLIC WO		IND	00013200	C-14	28 48 42		090883	C-14
0600493S01	M.A.P. PARKSIDE, INC.	PARKSIDE	RES	00001999	C-14 WEST	21 48 41	06293-A	090883	C-14
0600504S01	ALBERTSONS-SOUTHCO	ALBERTSONS AT DEERFIELD B	COM	00000878	HILLSBORO	04 48 42	07113-A	112283	BCWMD C-3 CA
0600510S01	ZAHN BUILDERS, INC.	WOODLAKE SHORES	RES	00002671	C-14	31 48 42	07253-B	122883	C-14
0600519S01	WHISPERING LAKES COMMERCE	WHISPERING LAKES COMMERCE	IND	00003700	C-14	21 48 42	03248-4	030784	BCWMD C-3
0600520S01	COMPREHENSIVE CARE CORPOR	CARE UNIT-CORAL SPRINGS	INS	00000500	C-14 WEST	21 48 41	09263-E	030784	SDD CANAL Q
0600523S01	SAMPLE SQUARE, INC.	SAMPLE SQUARE	COM	00001398	C-14	21 48 42	11153-C	032384	BCWMD C-3
0600525S01	LINCOLN PARK NORTH, INC	LINCOLN PARK NORTH	COM	00000514	C-14	33 48 42	01044-A	032684	N/A
0600545S01	FIRST REALTY & DIVERSIFIE	SUTTON WATERSIDE	RES	00000555	C-14 WEST	22 48 41	02274-A	060884	SDD CANAL "J"
0600551S01	COCOMAR WATER CONTROL DIS		RES	00837000	HILLSBORO CA	00 48 41	07208-G	071284	HILLSBORO CA
0600551S02	WPK ASSOCIATES AND	COMMERCE CENTER - COCONUT	COM	00010600		18 48 42	02127-A	091187	C-14
0600551S02	WPK ASSOCIATES AND	COMMERCE CENT.OF COCONUT	COM	00010600	HILLSBORO CA	18 48 42	02127-A	091187	C-14
0600551S03	MORSE OPERATIONS, INC.	ED MORSE DODGE / MAZDA	COM	00001322	HILLSBORO CA	18 48 42	02168-B	060288	HILLSBORO CA
0600551S04	INDUSTRIAL DEVELOPMENT CO	COCOMAR/LYONS BUSINESS PA	IND	00003660	HILLSBORO	06 48 42	08098-E	120988	CWCD
0600551S06	AMREX REALTY, INC.	COCOMAR/PARKWOOD V	RES	00003190	HILLSBORO CA	08 48 42	11228-F	041389	CWCD
0600555S	PAGE, BILL TOYOTA	CORAL SPRINGS AUTO MALL-P	COM	00001200	C-14 WEST	33 48 41	04064-D	080784	CSID CANAL
0600556S	UNIVERSITY DR PROFESSIONA	CORAL SPRINGS OFFICE BLDG	COM	00000605	C-14	22 48 41	01234-A	080984	C-14
0600559S	ABDO, JOHN E	COURTYARDS OF WATERFORD A	RES	00001370	HILLSBORO	10 48 42	04094-A	081784	LAKE SYSTEM

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas.

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
06006895	SAMPLE RD WOODSIDE DR CORP	WOODSIDE ESTATES	RES	00002046	C-13	14 4841	05295-A	090385	SWD CANAL B
0600690S	LA QUINTA MOTOR INNS, INC	LA QUINTA MOTOR INN	COM	00000444	HILLSBORO CA	01 4842	06215-B	091285	ONSITE
0600694S01	FLA NTL PROP,BEST REAL ESTATE,	SPRINGS GATEWAY	RES	00007730	C-14	26 4841	07155-C	101085	CITY CANAL
0600700S	GRAMCO DEVELOPMENT CORP	DEERFIELD STORAGE	IND	00000486	HILLSBORO	03 4842	06035-G	100785	BCWMD CANAL
0600705S01	MILLER/NEVIASER PARTNERSHIP	WESTGATE CENTRE	IND	00001106	C-14	27 4842	10208-2	111385	C-14
0600707S01	PALM-AIRE-OXFORD LTD PARTNERSH	OXFORD PALM-AIRE	RES	00001800	C-14	32 4842	01235-A	111585	C-14 CANAL
0600717S01	FLORIDA NATIONAL PROPERTIES	GATEWAY MILE	RES	00002928	C-14	26 4841	04125-A	120685	MARGATE SYST
0600727S01	HOLMES LUMBER COMPANY	HOLMES LUMBER CO	COM	00000980	C-14	27 4842	08165-A	010786	C-14
0600731S01	WELLINGTON CONS AND REALTY, I	WATERFORD COURTYARDS ADDITION	RES	00002580	HILLSBORO CA	10 4842	10185-D	011386	HILLSBORO CA
0600732S01	MUSS, JOSHUA & ASSOCIATES	WINSTON PARK	RES	00017800	HILLSBORO	07 4842	08308-4	021386	HILLSBORO CA
0600733S01	WILLIAM LYON COMPANY, THE	HOLIDAY SPRINGS	RES	00056160	C-14	23 4841	05238-6	021386	ONE MILE CAN
0600733S03	ZAHN COMMUNITIES DEVELOP. CORP	FAIRWAY VIEWS AT CAROLINA	RES	00019580	C-14	23 4841	05108-A	062388	CITY CANAL
0600733S04	CENTEX HOMES	CAROLINA, PARCELS V & W	RES	00003062	C-14	23 4841	0721B-E	092188	CITY CANAL
0600742S01	OXFORD DEVELOPMENT ENTERPRISES	HIDDEN HARBOUR	RES	00003813		05 4841	09135-B	030386	TAMARAC, CIT
0600743S01	FLORIDA RESIDENTIAL CENTERS, I	FAIRWAY LAKES	RES	00003953	HILLSBORO	05 4842	08195-E	030486	HILLSBORO CA
0600746S01	COMBS, JOHN B	CORAL POINT NORTH	RES	00003030	HILLSBORO	11 4842	03317-E	030686	HILLSBORO CA
0600748S01	TURTLE RUN VENTURE	TURTLE RUN	RES	00046300	C-14	13 4841	93257-C	121186	C-14
0600748S02	SPRINGS DEVELOPMENT CORPORATIO	TURTLE RUN,THE ESTATES	RES	00007950	C-14	13 4841	08247-A	081387	C-14
0600758S01	CENTURY PARK ASSOCIATION	CENTURY PARK PLAZA	COM	00000307	HILLSBORO	02 4842	12195-A	040886	N/A
0600760S01	DINERSTEIN, JACK	MARGATE APARTMENTS	RES	00002113	N/A	31 4842	12065-A	041686	ON-SITE LAKE
0600780S01	NEWMAN, THOMAS L & SAAR, EDWAR	ISLAND BAY	RES	00002530	HILLSBORO CA	04 4842	02146-B	062586	HILLSBORO CA
0600795S01	HOUSING AUTHORITY OF POMPANO B	GOLDEN ACRES REDEVELOPMENT PHA	RES	00002540	POMPANO CANA	34 4842	02066-C	090286	C-14
0600807S01	BAUMANN ORGANIZATION, INC, THE	PLAZA AT DEERFIELD BEACH, THE	COM	00004409	HILLSBORO CA	04 4842	06026-D	111386	HILLSBORO CA
0600819S01	CYPRESS LANE ASSOCIATES, LTD	CORAL POINT SOUTH	COM	00002921		11 4842	06166-F	122386	HILLSBORO CA
0600833S01	GALOP CORPORATION	COPANS CENTER	COM	00003835	POMPANO CANA	26 4842	05157-D	070987	POMPANO CANA
0600833S02	COPANS MOTORS, INC.	(COPANS CENTER)CHAMPION MOTORS	COM	00000320	POMPANO CANA	26 4842	08127-3	113087	POMPANO CANA
0600834S01	WILKES, JOHN P - TRUSTEE	HILLSBORO BLVD SHOPPING CTR	COM	00001360	HILLSBORO	05 4842	10206-I	030387	N/A
0600846S01	CENTRUM SAWGRASS, INC	MARGATE PLAZA	COM	00005954	C-14	24 4841	03107-A	051487	C-14
0600846S02	HOME DEPOT, INC. - THE	HOME DEPOT	COM	00000762	C-14	24 4841	03098-5	060288	C-14
0600848S01	METRO DEVELOPMENT CORPORATION	COCO PARC	RES	00007090		31 4842	02137-C	061187	
0600848S01	METRO DEVELOPMENT CORPORATION	COCO PARC	RES	00007090		31 4842	02137-C	061187	

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0600851S01	LANZO CONSTRUCTION COMPANY	LANZO INDUSTRIAL CENTER	IND	00000910	HILLSBORO CA	15 4842	07186-C	060587	CRYSTAL LAKE
0600852S01	NEWS & SUN SENTINEL COMPANY	NEWS & SUN SENTINEL	IND	00002300	HILLSBORO	02 4842	07067-3	060887	HILLSBORO CA
0600871S01	WASTE MANAGEMENT INC, OF FLA.	CENTRAL TRUCK FACILITY	IND	00001841		16 4842	04067-B	081987	C-14
0600871S01	WASTE MANAGEMENT INC, OF FLA.	CENTRAL TRUCK FACILITY	IND	00001841		16 4842	04067-B	081987	
0600871S01	WASTE MANAGEMENT INC, OF FLA.	CENTRAL TRUCK FACILITY	IND	00001841	C-14	16 4842	04067-B	081987	C-14
0600874S01	GORY ASSOCIATED INDUSTRIES, IN	GORY TILE PLANT	IND	00000806	POMPANO CANA	34 4842	06027-A	091887	POMPANO CANA
0600884S01	BROWARD COUNTY PROPERTY DIVISI	COPANS/BLOUT INDUSTRIAL CENTER	IND	00000865	C-14 EAST	28 4842	06177-A	103087	N/A
0600884S02	GATEWAY INVESTMENT CORPORATION	PUBLIC STORAGE-COPANS RD SITE	COM	00000407	C-14	28 4842	05278-5	091388	C-14
0600890S01	SOUTHERN SANITATION SOUTHEAST	SOUTHERN SANITATION SOUTHEAST	IND	00000416	C-14	34 4842	07157-A	120287	POMPANO CAN
0600899S01	COSTCO WHOLESALE, INC.	COSTCO WHOLESALE/HASEY CENTER	COM	00001100	C-14 EAST	22 4842	06267-F	020888	FDOT SEWER
0600911S01	BROWARD COUNTY HOUSING AUTHORI	37 UNITS PULBIC HOUSING	RES	00000740	INTRACOASTAL	12 4842	08028-2	031088	N/A
0600916S01	CTS BROWARD DEV. CORP.	CORAL BAY PUD	RES	00023620	C-14	24 4841	09047-C	041488	CITY SYSTEM
0600933S01	MARGATE LINCOLN MERCURY, INC.	MARGATE LINCOLN MERCURY	COM	00000674	C-14 EAST	30 4842	06267-C	061688	N/A
0600939S01	COPANS LAKEVIEW PARTNERSHIP	COPANS LAKEVIEW	IND	00001660	C-14	28 4842	11047-A	071288	C-14
0600943S01	HELWIG, AL	HELWIG & YOCHER	COM	00001397	HILLSBORO CA	13 4842	09208-D	072988	N/A
0600944S01	BROWARD COUNTY ENVIRONMENTAL S	SEPTAGE RECEIVING FACILITIES	OTH	00001000	C-14	22 4842	03218-H	090888	C-14
0600963S01	BROWARD COUNTY ENGINEERING DIV	CORAL RIDGE DRIVE BRIDGE	IND	00000066	C-14 CANAL	31 4841	01207-Q	111088	C-14
0601022S01	CSX REALTY, INC.	INTERSTATE CENTER	COM	00002240	HILLSBORO CA	02 4842	07088-E	022289	C-1 CANAL
26000165	BIG CYPRESS CITRUS		AGR	00378000	FEEDER CANAL	00 4833		031676	L-28 FEEDER
26000885	FRY, S C		AGR	00032000	L-28	05 4833		060977	L-28
26001265	DEPT OF CORRECTIONS		AGR	00385100	OKALOACOOCHE	17 4831		091379	OKALOACOOCHE
26001365	BARFIELD FARMS, FRED		AGR	00384000	OKALOACOOCHE	28 4831		100881	OKALOACOOCHE
26001495	BARFIELD FARMS, FRED		AGR	00576000	TAMIAMI CANA	30 4832		051382	SLOUGH
2600162S01	ALICO, INC.	CITRUS GROVE	AGR	00032000	TAMIAMI CANA	27 4831	04087-H	011284	SECTION 34
26002325	SHOULTS, SR W.S. - ESTATE OF	W.S. SHOULTS PROPERTY	RDW	00384000		00 4832	04225-D	101085	KISSIMMEE BI
2600242S01	CITRUS PARTNERS, LTD.	SUNNILAND GROVE	AGR	00131000	TAMIAMI CANA	26 4831	08195-A	031386	UNNAMED CANA
2600245S01	BLOCKER, CURTIS AND	B & L FARM	AGR	00062000	TAMIAMI CANA	23 4831	04105-B	031386	UNNAMED CANA
2600269S01	A.B. CURRY FARMS	CITRUS GROVE	AGR	00016000	TAMIAMI CNAA	27 4831	04087-F	070987	SECTION 34
2600270S01	BETHEA,JR.,R.A. & BETHEA, W.	CITURS GROVE	AGR	00016000	TAMIAMI CANA	27 4831	04087-G	070987	SECTION 34
0600005S01	FIRST NAT'L BANK OF SUNRISE	FIRST NATIONAL BANK	COM	00000950	C-13	21 4941	21245	091374	C-13
0600006S01	SUNRISE DRAIANGE DISTRICT	CULVERT CONNECTION	OTH	00000350	C-13	21 4941	16705	091374	C-13
0600008S01	FLORALY DEVELOPMENT CORP	CULVERT CONNECTION	AGR	00001025	C-13	28 4942	21930	091374	C-13

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Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600009S01	FPA CORPORATION	PALM AIRE-GOLF COURSE DRAINAGE	REC	00016400	C-14	04 4942	20491	101574	C-14
0600015S01	SOMERSET - VIKING, INC.	DRAINAGE CONNECTION / NLDDC	OTH	00007600	N.LAUDERDALE	11 4941	21430	111574	NLDD CANAL
0600016S01	OAKHILL HOMES, INC.	OAKHILL HOMES	RES	00105000	C-42	13 4940	29814	111574	LWDD L-35A
0600016S02	LENNAR HOMES, INC.	INDEPENDENCE CLUB, THE	RES	00001480		13 4940	10297-C	022889	
0600016S02	LENNAR HOMES, INC.	INDEPENDENCE CLUB, THE	RES	00001480		13 4940	10297-C	022889	CITY SYSTEM
0600019S01	FLORIDA DEPT. OF TRANSPORTATIO	DRAINAGE CONNECTION/CORAL LAK	OTH	00004600	CORAL LAKE	23 4942	20156	121374	CORAL LAKE
0600020S01	BONVIE ENTERPRISES, ONC.	DRAINAGE CONNECTION C-14	OTH	00000250		03 4942	20728	011775	
0600020S01	BONVIE ENTERPRISES, ONC.	DRAINAGE CONNECTION C-14	OTH	00000250	C-14	03 4942	20728	011775	C-14
0600030S01	INDUSTRIAL LTD. PARTNERSHIP #1	DRAINAGE CONNECTION / C-14 SOU	OTH	00000000	C-14 SOUTH	03 4942	24706	050975	C-14
06000315	SUNRISE, CITY OF		RES	00108200	C-13 WEST	21 4941		050975	C-13
0600032S01	SUNRISE, CITY OF	DRAINAGE CONNECTION / C-13	OTH	00020000	C-13	21 4941	21342	050975	C-13
0600036S01	SNYDER, GARY R / WACKES, PAUL	DRAINAGE CONNECTION / C-14	OTH	00000210	C-14	03 4942	24466	050975	C-14 CANAL
0600041S01	HOLLAND BUILDERS, INC.	CULVERT CONNECTION	OTH	00000837	NORTH FORK M	26 4942	24642	071175	MIDDLE RIVER
0600045S01	FLA.DEPT.OF TRANSPORTATION	CULVERT CONNECTION - C-12	OTH	00000000	C-12 NORTH	35 4941		090575	C-12 NORTH
0600057S01	FLA DEPT.OF TRANSPORTATION	ROADWAY	HWY	00011000	C-12	05 4942	23217	121676	C-12
0600066S01	FLA DEPT.OF TRANSPORTATION	ROADWAY	HWY	00027500	NEW NORTH RI	36 4939	24330	061076	N.NEW RIVER
0600067S01	W.LAUDERDALE WATER CONTROL DIS	WEST LAUDERDALE WATER CONTROL	RES	00123800	NEW NORTH RI	05 4940	29462	070876	N.NORTH RIV.
0600083S01	SABAL PALM COUNTRY CLUB	SABAL PALM COUNTRY CLUB	AGR	00012000		12 4941	23332	090977	C-13
0600083S02	OXFORD DEV. ENTERPRISES, INC.	SPRING HO USE	RES	00001524	C-13	12 4941	11195-B	081486	C-13
06000915	FLA DEPT OF TRANSPORTATION		RES	00000000	MIDDLE RIVER	26 4942		111276	MIDDLE RIVER
0600105S	CORAL RIDGE COUNTRY CLUB		REC	00000000	INTRACOASTAL	13 4942		031077	INTRACOASTAL
0600107S	JHW FARMS, INC		AGR	00000000	C-42	31 4941		041477	C-42&OPWCDC
0600113S	BROWARD COUNTY		RES	00002730	C-13	15 4941		051277	TAMARAC CANA
0600114S	SUNRISE, CITY OF		RES	00000000	C-42	19 4941		060977	C-42
0600127S	HARRIS CORP/DANIEL		RES	00004300	C-14	08 4942		090877	POND
0600136S	BROWARD COUNTY		RES	00000000	C-14	10 4942		111777	SCL RR DITCH
0600140S	BROWARD COUNTY		RES	00000000	C-12	35 4941		111777	C-12
0600141S	BROWARD COUNTY		RES	00000000	C-14	09 4942		111777	C-14
0600158S	OAKLAND PARK, CITY		RES	00060000	C-13	00 4942		031678	C-13
0600160S	HARRIS CORPORATION		IND	00007850		08 4942		031678	SWALES

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas.

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600164S	N LAUDERDALE DEV COR		RES	00004700	C-14	02 4941		041378	C-14
0600165S	SELIGMAN OF FLA, INC		RES	00002420	C-14	01 4941		041378	MARGATE CANA
0600169S	HERITAGE PINES DEV		RES	00003700	C-14	06 4942		051178	C-14
0600176S	N LAUDERDALE WATER CONTROL DIS		RES	00012651	C-14 EAST	02 4941	05095-D	051178	C-14
0600178S	NEW ORLEANS LAKESITE		RES	00004010	NNR CANAL W	35 4940		051178	RETENTION LA
0600184S	STELIS DEV CORP		COM	00001930	C-13W	16 4941		061578	LAUDERHILL C
0600186S01	GULFSTREAM LAND + DEV CORP	GULFSTREAM LAND + DEV CORP	RES	00085800	NNR CANAL	04 4941	06208-C	051178	NNR CANAL
0600188S01	COMMERCIAL BLVD JOINT VENTURE	THE SPECTRUM	IND	00006000	C-13	16 4942	04218-A	071378	C-13
0600188S02	SKYLIGHT INNS, INC.	THE SPECTRUM	COM	00000279	C-13	16 4942	03216-A	050286	C-13
0600191S	SEGALL, E.M. - TRUSTEE		IND	00004800	C-14	09 4942		071378	BROWARD CANA
0600193S	POMPANO PK RACEWAY		LAN	00035000	C-14	03 4942		081078	C-14
0600195S01	SIDDON ASSOCIATES, INC.	VILLAS AT WOODLAND GREEN	RES	00002560	C-13	11 4941	07108-A	091478	BRO CO WM CA
0600195S02	FIRST NATIONWIDE NETWORK MORTG	WOODLAND POINT	RES	00001068	C-13	11 4941	11036-B	010887	BRO CO WM CA
0600199S	CITY PLANNED COMMUNITIES		RES	00003643	C-13	15 4941		091478	C-13
0600200S	BOULEVARD WOODS NORTH		RES	00012600	C-13	15 4941		091478	C-13
0600202S	SOBLE J.B		RES	00001650	C-13	22 4941		101978	LOCAL CANAL
0600204S	INVERRARY HOTEL CORP		RES	00000910	C-13	22 4941		101978	C-13
0600206S	CHARMEC CORP		RES	00002350	C-14	10 4941		111678	NLDD CANAL
0600225S	COMROCK, INC		RES	00002100	C-13	11 4941		000000	DETENTION LK
0600229S	W B HOMES, INC		RES	00015600	C-13	30 4941		031579	SDD CANAL
0600230S	MILLER, H H		RES	00005200	NNR CANAL BA	30 4941		031579	C-42
0600233S	FPA CORPORATION		RES	00004345	C-14	06 4942		031579	C-14
0600235S01	GENERAL ELECTRIC CREDIT CORP	PROSPECT IND & COM PARK	IND	00021600	C-13	18 4942	08137-D	041979	COUNTY CANAL
0600238S01	ORIOLE HOMES	CYPRESS BEND	RES	00012600	C-14	03 4942	02018-2	051779	C-14
0600238S02	STILES-HUNT PROPERTIES	STILES-HUNT SHOPPING CENTER	COM	00000134	C-14	03 4942	03099-A	041086	C-14
0600240S01	LYON REALTY COMPANY, THE		RES	00066600		19 4941	10016-D	041979	
0600240S02	CONTINENTAL ILLINOIS REALTY	WELLEBY	RES	00016000		19 4941	02059-B	061280	C-42 C-13
0600240S03	PALM ISLES DEVELOPMENT, INC	PALM ISLES AT WELLEBY	RES	00002358		20 4941	08023-C	041284	C-42 C-13
0600240S04	RALPH D. DENUZZIO & ASSOC	NEIGHBORHOOD, THE	RES	00004120		19 4941	02059-B	080784	C-42 C-13
0600240S05	ALL SAINTS CHURCH-ARCHDIOCESE	ALL SAINTS CATHOLIC CHURCH	RES	00001800		19 4941	05029-B	061985	C-43 C-13
0600240S06	DENUZZIO, ROSSI & EVANS PRTSHP	OAKLAND PARK BLVD EXECUTIVE PL	RES	00000095		19 4941	02059-B	071085	C-42
0600240S07	CALIFORNIA LIMITED PRTNSHIP	REFLECTIONS AT WELLEBY	RES	00001530		19 4941	02276-F	040486	C-42

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas.

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600240S08	KRON, DANIEL	SHOPPES AT SAWGRASS (WELLEBY)	COM	00000823	C-13	19 4941	12116-B	030387	C-13 CANAL C-42
0600240S09	MAYERN MICHAEL -	ISLES OF WELLEBY (WELLEBY)	RES	00000593	C-13	19 4941	04137-4	061287	C-13 CANAL C-42
0600240S10	BROWARD DISTRICT SCHOOLS	ELEMENTARY SCHOOL "T" (WELLEBY)	INS	00001411	C-13	19 4941	09027-2	092987	C-13 CANAL C-42
0600240S11	RELATED COMPANIES OF FLORIDA	LAKES OF WELLEBY, THE(WELLEBY)	RES	00002687	C-13	20 4941	06297-I	100787	C-13 CANAL C-42 CANAL
0600240S12	HEALTH QUEST DEVELOPMENT CORP	REGENTS WOODS & PARK (WELLEBY)	INS	00000892	C-13	20 4941	07247-5	121687	C-13 CANAL C-42 CANAL
0600240S13	SUN BANK/SOUTH FLORIDA, N.A. -	SUN BANK (WELLEBY)	COM	00000200	C-13	19 4941	08117-1	093087	C-13 CANAL C-42 CANAL
0600240S14	MARCELLA DEVELOPMENT	SOUTHPOINTE II	RES	00001067	C-13	19 4941	06127-C	040688	C-13 C-42
0600240S15	BESING, GRANT S.	HERON LAKE - WELLEBY DEVEL.	RES	00001905	C-13	19 4941	09147-C	051988	C-13 C-42
0600240S16	SUNRISE PROP & WELLEBY WALK, L	WELLEBY WALK	RES	00001812	C-13	19 4941	11106-H	051188	C-13 C-42
0600240S17	MAYER BUILDERS	WELLEBY ISLES (PARCEL 6)	RES	00000759	C-13	19 4941	02228-3	051388	C-13 C-42
0600246S	CORN, H		COM	00000500	C-13	13 4941		060779	
0600249S	SPRINGTREE, ECHARTE		RES	00001200	C-13	21 4941		060779	CANAL
0600251S	JIMMY BRYAN TOYOTA		COM	00000820	C-12	31 4942		071279	C-12
0600252S	BRUSCINO, R J		RES	00003100	C-13	11 4941		071279	LAKE
0600258S	LENNAR CORPORATION		RES	00003500	C-13	24 4941		101179	CANAL
0600259S01	CITY PLANNED COMMUNITIES CORP	BOULEVARD WOODS EAST	RES	00034140		15 4921	06186-L	101179	C-13 CANAL @
0600262S	SOMERSET LAKES HOMEOWNERS ASSO		RES	00005400	C-13 WEST	30 4942		101179	E GATE CANAL
0600264S	GENERAL ELECTRIC CRE		RES	00022400	C-13	20 4942		110879	ON-SITE LAKE
0600270S	CADILLAC SOUTHERN DE		RES	00003000	C-13	30 4941		082279	C-13
0600271S	VILLAS AT THE GATE		RES	00001900	C-13	11 4941		091379	BROWARD CANA
0600280S	F H ASSOCIATES, INC		COM	00000275	INTRACOASTAL	12 4942		021480	CANAL
0600289S	SABAL PALM DEV CORP		RES	00001000	C-13	12 4941		050880	DITCH
0600294S	SHOPPES OF MARGATE		COM	00000400	C-14	06 4942		071080	STORM SEWER
0600298S01	CITY PLANNED COMMUNITIES CORP	BOULEVARD WOODS WEST	RES	00010400	C-13	16 4941	4180-B	081480	LAUDERHILL C
0600299S	URBANEK/FG + BROS MG A		RES	00001900	C-13 WEST	13 4941		081580	C-13
0600300S	KNIGHT ENTERPRISES		COM	00000590	C-13	23 4941		081480	C-13
0600301S	FLA COAST BANK OF BR		RES	00000676	C-13	22 4941		081480	MIDDLE RIVER
0600302S	HEADWAY FLA, INC		COM	00007860	C-13	18 4942		081580	BCWMD CANAL
0600304S	INVER ISLES, INC		RES	00002500	C-13	22 4941		091180	C-13
0600312S	GEN ELECTRIC CREDIT		RES	00003700	C-13	17 4942		100980	ON-SITE
0600314S01	PALM AIRE VILLAGE, INC.	OAKLAND FOREST	RES	00022430	C-13 EAST AND WEST	20 4942	7027-4	111380	C-13
0600321S01	MINTO BUILDERS (FLA.), INC.	SPRINGDALE LAKES	RES	00001000	C-13	16 4941	0020-B	121180	CITY CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas.

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0600324S01	STILES, TERRY	CORPORATE PK. AT CYPRESS CREEK	IND	00006740	C-14	10 4942	7030-A	121180	BCWMD #4 CAN
0600325S01	TRAFALGAR DEVELOPERS OF FLA.	COMMERCIAL LAKE VILLAS	RES	00008770	C-13	18 4942	9240-A	121180	UNNAMED CANA
0600326S	KATZ, E		COM	00000940	C-14	02 4941		011581	N LAUD WCD
0600327S	NORTH RIDGE VA CENTE		INS	00000430	C-14 EAST	14 4942		011581	US 1 SYSTEM
0600328S	AUDET, J		RES	00000550	C-12	30 4942		011581	C-12
0600329S	LARJIM MGT CORP		RES	00000756	C-12	26 4941		011581	CANAL
0600331S01	FPA CORPORATION	OAKS COURSE ESTATES 3RD SECTIO	RES	00001790	C-14	05 4942	8037-B	011581	TURNPIKE CAN
0600333S	FPA CORPORATION		RES	00002610	C-14	05 4942		011581	C-14
0600335S	FPA CORPORATION		IND	00004060	C-14	04 4942		021281	OLD POMPANO
0600345S01	SUNRISE, CITY OF	SUNRISE INDUSTRIAL PARK	IND	00230500		34 4940	3051-A	051481	
0600345S01	SUNRISE, CITY OF	SUNRISE INDUSTRIAL PARK	IND	00230500		34 4940	3051-A	051481	N NEW RIVER
0600345S02	RACAL-MILGO, INC.	SUNRISE IND PARK/HARRISON PARK	IND	00010370	N NEW RIVER CANAL	34 4940	4087-2	081282	N NEW RIVER
0600345S04	FIRST FLORIDA DEV CORP	SUNRISE IND PARK/HARRISON PARK	IND	00002388	N NEW RIVER CANAL	34 4940	3051-A	021485	N NEW RIVER
0600345S07	AMERIFIRST DEVELOPMENT CORP &	AMERFIRST TRACT	IND	00120400	NORTH NEW RIVER CANA	26 4940	4208-A	111287	N.NEW RIV.CA
0600345S08	BROWARD CNTY BRD OF CNTY COMM	SUNRISE BLVD IMPROVEMENTS	HWY	00000768	NORTH NEW RIVER	26 4940	3118-1	051088	NEW RIV CAN
0600346S	KNIGHT		COM	00000310	C-14 EAST	10 4942		051481	C-14
0600349S	PARCEL 310 LAKE + DRAINA		RES	00009580	NNR CANAL	33 4941		061181	NNR CANAL
0600353S01	SUNRISE, CITY OF		IND	00049000		18 4941	6087-1	080681	
0600353S02	SUNRISE COMMERCE CENTRE ASSOC	SUNRISE COMMERCE CENTRE PH 1	IND	00000850	C-13	18 4941		110982	C-42
0600353S03	HIATUS, INC. (BEN HARGRAVES)	HIATUS ROAD INDUSTRIAL PARK	IND	00000390	C-13	18 4941		121583	C-42
0600353S04	ROBINSON-HUMPHREY/AM EXPRESS P	SUNRISE BUSINESS CENTER	IND	00000820	C-13	18 4941		020984	C-42
0600353S05	SUNRISE STORAGE ASSOCIATES	SUNRISE TOTAL STORAGE	IND	00000567	C-13	18 4941		080885	C-42
0600353S06	BRANHAM BUILDING CORPORATION		IND	00000360		18 4941		080886	
0600353S07	MERCEDE, JOHN F. - TRUSTEE	MERCEDE STORES & WAREHOUSES	IND	00000999	C-13	18 4941	5015-G	101085	C-42
0600353S08	SOVRAN/U-STORE-IT ASSOCIATES	SUNRISE IND PK-PH II TRACT 30	IND	00000381	C-13	18 4941		031386	C-42
0600353S09	PARCEL 79, INC.	SUNRISE IND PK PH 2 PARCEL 79	IND	00000383	C-13	18 4941		050886	C-42 CANAL
0600353S10	BORGE, CARL A & ANGELA	BORGE WAREHOUSES	IND	00000133	C-13	18 4941	7116-F	100386	C-13
0600353S11	LOUIS, ALLAN	BUDGET WAREHOUSE	IND	00000402	C-13	18 4941	2126-C	012687	C-13 CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas.

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600353S12	TRANSFLORIDA BANK	TRANSFLORIDA BANK	IND	00000059		18 4941	2156-D	021187	C-13
0600353S13	SAWGRASS INDUSTRIAL CENTER	SUNRISE IND PRK/SAWGRASS IND C	IND	00000214		18 4941	2127-H	052287	C-13
0600353S14	BORGE, CARL	BORGE WAREHOUSE	IND	00000220	C-13	18 4941	5047-2	071487	C-13
0600353S15	MATHIS, JAMES L.	SUNRISE DISTRIBUTATION CENTER	IND	00000200	C-13	18 4941	5217-4	062687	C-13
0600353S16	EDLEMAN, LEONARD - TRUSTEE	EDLEMAN-WHITE OFFICE/MANUFACTU	IND	00000440	C-13 WEST	18 4941	7067-E	100987	C-13
0600353S17	HERMAN, GENE L.	SPECTRUM WEST	IND	00000198	C-13 WEST	18 4941	2098-2	061588	C-13
0600353S18	CARLONE, FRANK	CAXTON MOLDING	IND	00000198	C-13 WEST	18 4941	2098-3	061588	C-13
0600353S19	NATINWIDE BUSINESS SYSTEMS,	NATIONWIDE BUSINESS SYSTEMS	IND	00000090	C-13 WEST	18 4941	1088-1	072088	C-13
0600353S20	NATIONWIDE BUSINESS SYSTEMS,	WAREHOUSE/OFFICE MARKINGS & EQ	INS	00000120	C-13 WEST	18 4941	3308-8	072088	C-13
0600353S21	GINSBERG, SONIA	ASSOC. FOR RETARDED CITIZENS	INS	00000842	C-13 WEST	19 4941	5058-6	081988	C-13
0600353S22	BORGE, CARL	SUNROSE WAREHOUSE, PHASE III	COM	00000220	C-13	18 4941	5068-7	091588	CITY CANAL
0600358S01	ORIOLE HOMES CORP	CASCADES AT LAUDERHILL	RES	00003620	C-13 WEST	16 4941	4231-C	091081	C-13
0600364S	PUBLIC STORAGE, INC		COM	00000300	C-12	31 4942		101981	NONE
0600366S	SELF STORAGE CONSTRUCTION		IND	00000260	C-12	31 4942		110381	C-12
0600370S	CITY PLANNED COMMUNITIES		RES	00002070	C-13	22 4941		121181	CANAL
0600386S	HAWLEY, D R - TRUSTEE		RES	00002020	C-14 EAST	02 4941		011882	C-14
0600389S01	FPA CORPORATION	OAKS COURSE ESTATES 2ND SECTIO	RES	00020020	C-14	05 4942	8037-5	021182	TURNPIKE CANC-14
0600418S01	LANDMARK GROUP, THE	LANDMARK OFFICE PARK	COM	00001350	C-13	21 4941	3032-F	050382	C-13
0600418S02	R.O.C. FLORIDA, INC.	LANDMARK OFFICE PARK	COM	00000650	C-13	21 4941	3032-F	060883	C-13
0600427S	PARAGON GROUP, INC		COM	00000306	N/A	13 4942		062582	N/A
0600437S	GOLF TAM VILLAGE		RES	00016500	NF MIDDLE RI	17 4942		101482	ON-SITE
0600441S	MARTIN CONSTRUCTION & DEV, INC		INS	00005253	C-13	11 4941		101482	C-13
0600450S01	RADICE CONSTRUCTION CORP.	RADICE CORPORATE CENTER	COM	00003000	C-14 EAST	11 4942	7092-A	110282	C-14 CANAL
0600456S01	FLORIDA PALM AIRE CORPORATION	GARDENS NORTH, THE	RES	00005240	C-14	06 4942	0038-2	010683	
0600456S01	FLORIDA PALM AIRE CORPORATION	GARDENS NORTH, THE	RES	00005240	C-14	06 4942	0038-2	010683	TURNPIKE CAN
0600460S01	ATRIUM 2000 ASSOCIATES, LTD.	ATRIUM 2000	COM	00000890	C-13 EAST	16 4942	1022-B	011883	C-13
0600461S01	SARTORI, ERNESTO J	SARTORI TRACT/MIRA LAGO	COM	00004798	C-13	18 4942	5086-G	021083	ONSITE LAKE
0600462S01	RICHMOND HEALTHCARE, INC	SUNRISE NURSING HOME	INS	00000790	C-13 WEST	17 4941	8192-A	012483	C-13
0600473S01	LABONTE DIVERSIFIED HOLDINGS	LDH OFFICE BLDG	COM	00000787	C-13 EAST	17 4942	2092-A	041383	C-13

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Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600665S	INDUSTRIAL 100, INC	COMMERCIAL CENTER OF BROWARD	COM	00000866	C-13	31 49 42	05015-A	061185	CBDD CANAL
06006665	PLANTATION, CITY OF	REGIONAL WASTEWATER TREATMENT	IND	00001480	C-12	34 49 41	01075-C	061185	C-12
06006695	MARKET PLACE ASSOCIATES	LAUDERDALE MARKET PLACE	COM	00003053	C-12	30 49 42	01175-C	062685	CITY CANAL
0600670S01	FLA DEPT OF TRANSPORTATION	I-75/ALLIGATOR ALLEY	HWY	00000000	N/A	00 49 38	08074-E	021386	CANAL
0600672S01	TRT TELECOMMUNICATIONS CORP.	TRT TELECOMMUNICATIONS	COM	00003191	C-12	31 49 42	02255-E	070385	C-12
0600673S01	NATIONAL SELF STORAGE EQUITIES	NATIONAL SELF STORAGE	COM	00000403	C-13 WEST	16 49 41	04055-A	070985	BRO CO CANAL
0600674S01	RAPPAPORT AT LAUDERHILL	MELBOURNE RAPPAPORT	RES	00000443	C-13	16 49 41	12026-G	070885	C-13 CANAL
0600675S01	STILES, TERRY W & FINKLE, MAUR	OAKLAND COMMERCE CENTER PH IV	COM	00000447	C-13 EAST	21 49 42	02135-A	070985	NONE
0600676S01	CYPRESS CREEK OFFICE JOINT VEN		COM	00000790		10 49 42	05165-C	070985	
0600680S01	UNITED ARTISTS COMMUNICATIONS	MOVIES AT LAUDERHILL	COM	00000828	C-13 WEST	16 49 41	05095-A	071885	C-13
0600682S01	BISTRITZ, JOSPEH M - TRUSTEE	FORUM AT SUNRISE	COM	00001000	C-13 WEST	21 49 41	12144-B	091285	C-13
0600682S02	KINDER-CARE LEARNING CENTER,IN	FORUM AT SUNRISE-KINDER-CARE	INS	00000080	C-13 WEST	21 49 41	08317-B	120987	C-13
0600688S01	441 SOUTH LIMITED, II	FOREST OFFICE PARK, THE	RES	00004031	C-14	01 49 41	07167-F	091285	C-14
0600692S01	FLA RESIDENTIAL CENTERS, INC	CYPRESS LAKE	RES	00002439	C-13	17 49 42	06075-A	091685	N/A
0600701S01	CENTER 44 ASSOCIATES, LTD.	PINE PLAZA	COM	00003078	C-13 WEST	20 49 41	04115-A	100785	C-13 CANAL
0600715S01	GUARANTY SERVICE CORPORATION	WATERFORD PARK	RES	00002107	C-13 WEST	15 49 41	09205-C	120385	C-13 WEST
0600716S01	MEDICAL CARE OF BROWARD	SUNRISE COMP. HEALTH CENTER	INS	00001454	C-13 WEST	19 49 41	05215-B	120685	C-13
0600719S01	AMERICAN TECTONICS	ADULT CONGREGATE LIVING FACIL	RES	00001820	C-13	17 49 42	08215-A	120985	C-13
0600722S01	K AND L DEVELOPMENT	YANKEE BOULEVARD INDUSTRIAL PK	IND	00000860	C-14 EAST	09 49 42	06105-F	121685	ON-SITE RETE
0600725S01	VILLAGE BUILDERS OF FLORDIA,	VILLAGE AT CORAL LAKE	RES	00005110	C-14 WEST	10 49 41	07086-L	010986	C-14
0600736S01	HOLLAND BUILDERS, INC.	DECORA OFFICE PARK	COM	00000468	NORTH FORK OF MIDDLE RIVER	16 49 42	10175-C	020386	
0600745S01	KART-MART CORPORATION	SPRINGTREE, TRACT 6	RES	00000673	C-13 WEST	21 49 41	02136-B	030686	SPRINGTREE C
0600753S01	RAUSMAN, MARTIN & EMIL	SOMERSET LAKES PLAZA	COM	00002431	C-13	30 49 42	09306-J	032886	C-13
0600754S01	NORTH LAUDERDALE, CITY OF	NORTH LAUDERDALE SPORTS COMPLE	REC	00002050	C-14	02 49 41	12245-B	040486	NLWCD
0600756S01	PARKWOOD HOMES LTD., INC.	PARKWOOD HOMES	RES	00001913	C-13 WEST	17 49 41	11205-E	040486	C-13 CANAL
0600757S01	MORLEY PROPERTIES, INC.	EXECUTIVE AIRPORT BUSINESS CTR	COM	00001220	C-13 EAST	17 49 42	12095-E	040486	N/A
0600764S01	GULFSTREAM CAPITAL GROUP, INC	HOTEL AT EXECUTIVE AIRPORT	COM	00000350	C-14 EAST	08 49 42	03057-3	042886	
0600765S01	MCNAB PARTNERSHIP, THE	MCNAB WAREHOUSE PROJECT	IND	00002550	C-13 WEST	11 49 41	01136-C	042986	C-13 CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas.

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600480S	KRAUT, W		RES	00000948	C-13	11 4941		060283	BCWMD CANAL
0600482S	NATL LIFE INSURANCE		IND	00006693	C-14E	02 4942		071483	STORM SEWER
0600486S01	POMPANO BEACH, CITY OF	POMPANO BEACH PUBLIC SAFETY CO	COM	00001297	POMPANO CANAL	02 4942	3143-C	080983	POMPANO CANA
0600487S01	AST CORPORATION	PARCELS A, S AND T	RES	00001910	C-14	01 4941	5133-A	080983	NLWCD CANAL
0600495S	P.D.S. DEV CORP		RES	00002444	C-12	26 4941		092083	C-12
0600497S01	CORN, H - TRUSTEE	441 MERCHANDISE MART	COM	00001670	C-13 WEST	13 4941	6203-B	100783	C-13
0600498S01	SOUTHERN BELL TELEPHONE + TELE	SOUTH FLORIDA TRAINING CENTER	COM	00001372	NNRC, WEST + C-12	33 4941	7253-D	101383	OPWCD CANAL
0600501S01	LINCOLN PROPERTY CSE, INC.	LINCOLN PARK	IND	00001040	C-14 EAST	10 4942	7253-A	111783	C-14 EAST
0600502S01	N LAUDERDALE, CITY OF	HAMPTON PINES PARK	REC	00003240	C-14 EAST	02 4941	7113-C	111583	C-14
0600506S01	CARDINAL INDUSTRIES OF FLA, IN	SOUTHGATE APARTMENTS	RES	00000527	C-14 WEST	03 4941	0033-A	112383	C-14
0600509S01	RICH, DONALD S.	CYPRESS VILLAGE CONDOMINIUM	RES	00001215	C-12	25 4941	8153-C	010484	C-12
0600514S01	AAA OFFERING ENTERPRISES OF FL	THE POINT	COM	00000655	C-13 WEST	16 4942	0133-C	012684	BCWMD CANAL
0600516S01	FPA CORPORATION	CYPRESS COURSE ESTATES, 3RD SE	RES	00001570	C-14	05 4942	6243-A	020384	TURNPIKE CAN
0600528S01	AUKER, ELDON L, FLA INV, INC.	STOCK BRIDGE LAKES	RES	00001080	C-13 WEST	17 4941	2053-C	032984	EX. LAKE
0600530S01	PALM AIRE VILLAGE, INC.	OAKLAND FOREST PHASE IV	RES	00002073	C-13 EAST & WEST	20 4942	2013-A	041884	C-13
0600532S01	NUTTER, SR., F.B.	SQUARE ONE OFFICE COMPLEX	COM	00000970	POMPANO CANAL	02 4942	8053-A	042584	POMPANO CANA
0600541S	TORN + WILSON, T-TRU H		RES	00002190	C-13 WEST	22 4941		052584	C-13
0600546S01	SPRINGTREE WEST III, INC.	SPRINGTRESS WEST IV,TRACT 49	RES	00001923	C-13 WEST	17 4941	2143-C	061184	C-13
0600548S	ROCK ISLAND LAND CORPORATION		RES	00003856		11 4941		071284	
0600548S01	FAIRFIELD COMMUNITIES, INC.	ROCK ISLAND/BAILEY RD RES	RES	00007973	C-13 (WEST)	11 4941	5146-F	071284	C-13
0600549S01	CYPRESS CREEK ASSOCIATES, INC.	REFLECTIONS	IND	00002210	C-14	10 4942	3194-A	071284	C-14
0600550S	LAUDERHILL, CITY OF		RES	00000000	C-13	15 4941		071284	C-13 CANAL
0600557S	SUNRISE OFFICE ASSOCIATES, LTD	PINE ISLAND COMMONS	COM	00001010	NNR CANAL	33 4941	4164-A	080984	OPWCD
0600566S01	PROMENADE AT INVERRARY, THE	THE PROMENADE AT INVERRARY	COM	00001055	C-13 WEST	15 4941	6214-B	091184	C-13
0600567S01	ADELSTEIN, STEVEN	SOUTHGATE MERCHANDISE MART	COM	00002000	C-14 EAST	02 4941	4264-A	091484	NLWCD CANAL
0600568S01	CALTAGIRONE, III, VINCENT T	SPRINGTREE APTS.	RES	00001679	C-13 WEST	21 4941	6014-B	091484	C-13
0600572S01	FLORDIA PALM - AIRE	CYPRESS COURSE ESTATES 4TH SEC	RES	00006680	C-14	05 4942	4034-D	101184	BCWCD 4-CANA

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600773S01	LOCHRIE, ROBERT B & SUN BANK &	OAKLAND LAKES	RES	00007600	C-13 EAST AND WEST	20 49 42	12044-D	041185	C-13
0600773S02	AMERICAN TECTONICS SOUTHEAST	OAKLAND LAKES/OAKLAND PRK SHOP	COM	00000690	C-13 EAST AND WEST	20 49 42	02076-E	052886	C-13
0600792S01	STERN, BEN - TRUSTEE	PINE ISLAND VILLAS	RES	00000792	C-13 WEST	20 49 41	03265-A	081386	C-13 CANAL
0600793S01	PICERNE DEV. CORP. OF FLORIDA	SUNSET KEY APTS.	RES	00000892	C-13 WEST	21 49 41	04146-A	090286	C-13
0600794S01	GREENWAY VILLAGE ASSOC., LTD	GREENWAY VILLAGES AT LANDERDAL	COM	00000641		24 49 41	04246-A	090286	C-13 CANAL
0600803S01	EXECUTIVE AIRPORT CENTER CORP	AMTEC EXECUTIVE CENTER	COM	00001436	NORTH FORK MIDDLE RIVER	16 49 42	04107-D	100286	
0600809S01	SUNRISE HOTEL CORPORATION	SUNRISE HOTEL	COM	00001190	C-13	28 49 41	03176-F	111986	C-13
0600813S01	BROWARD COUNTY/CITY OF FT LAUD	LAKE LAUDERDALE	RES	00012521	C-13 EAST	28 49 42	03218-G	121186	N/A
0600816S01	ALL-STATE PROEPRTIES LTD PRTSH	WIMBLEDON IV CONDOMINIUMS	RES	00000598	C-13 WEST	35 49 41	07076-K	120986	C-13
0600817S01	ISLAND PLAZA ASSOCIATES	PINE ISLAND PLAZA	COM	00000990	C-13	17 49 41	02126-F	121586	C-13
0600818S01	SCUBAL, T.L. & JACOBY, B.D	SHOPPES OF WELLEBY	COM	00000975	C-13 WEST	19 49 41	09056-I	122386	C-13 CANAL
0600820S01	BROWARD COUNTY	UNIVERSITY DRIVE - SR 817	HWY	00004700		03 49 41	09296-B	010887	LAKES, TAMAR
0600832S01	BAUMAUN, STAN	VILLAS, THE	RES	00002700	C-12	26 49 41	10027-5	021987	LAUD CANAL S
0600847S01	COMMONWEALTH SAVINGS & LOAN AS	LAKES OF CARRIAGE HILLS SHOPPI	COM	00000539		11 49 41	01217-H	051287	EX STORM SEW
0600854S01	PARKWOOD HOMES, LTD., INC.	PARKWOOD HOMES II	RES	00001302	C-13	17 49 41	08187-2	061087	C-13
0600864S01	OAKLAND HILLS APTS LTD	OAKLAND HILLS APARTMENTS	RES	00001900	C-14	06 49 42	03188-4	070687	C-14
0600875S01	OLYMPIA & YORK CYPRESS CORP &	RETAIL CENTER AT CORPORATE PRK	COM	00000664	C-14	10 49 42	04307-C	092887	STORM SEWERS
0600878S01	INDUSTRIAL "100"	EAST END	COM	00000421	C-12	31 49 42	07227-4	100987	COUNTY CANAL
0600885S01	MONIER COMPANY	MONIER ROOF TILE COMPANY	IND	00001052	C-13	28 49 42	05207-D	110287	EXIST.ST.SEW
0600891S01	U.S. POSTAL SERVICE	FT.LAUDERDALE MAIN POST OFFICE	COM	00002560	C-13	28 49 42	11127-D	120287	C-13
0600895S01	FPA CORPORATION	CYPRESS COURSE ESTATES-3RD SEC	RES	00001145	C-14 CANAL	05 49 42	09227-A	123187	TURNPIKE CAN
0600896S01	HOLLAND BULIDERS, INC.	EXECUTIVE AIRPORT CORPORATE CE	COM	00001251	NORTH FORK OF MID-RIVER	17 49 42	03108-2	010688	N/A
0600897S01	REGIONAL HOLDINGS, LTD.	CAPITAL BANK PLAZA	COM	00000987	C-13 EAST	25 49 42	11177-C	011988	MIDDLE RIVER
0600907S01	KEENAN DEVELOPMENT LTD.	CYPRESS CREEK BUSINESS PARK	COM	00001700	C-14 WEST	08 49 42	07067-4	021988	BCC B-2
0600919S01	SPRINGTREE WALK GENERAL PARTNE	SPRINGTREE WALK	RES	00000484	C-13 WEST	21 49 41	12107-C	041588	C-13 WEST
0600922S01	WOODMONT GARDENS, INC.	WOODMONT GARDENS	RES	00000703	C-14	04 49 41	01218-A	050388	C-14
0600925S01	FEDERAL PROPERTY MGMT CORP	SPRINGTREE WALK NURSING FACILI	INS	00000414	C-13 WEST	21 49 41	12107-D	051188	CITY CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600929S01	KELLY, JOHN & RUTH	PALM PONTIAC	COM	00001220	C-14 EAST	01 49 41	03018-B	060188	NONE
0600935S01	PARKWOOD HOMES LTD., INC.	PARKWAOOD HOMES III	RES	00001465	C-13 WEST	17 49 41	02048-D	062488	C-13
0600941S01	POMPANO PK ASSOC.JOINT VENTURE	ARVIDA POMPANO PARK	COM	00022521	C-14	03 49 42	05048-1	081188	C-14
0600956S01	TAMARAC, CITY OF	TAMARAC UTILITIES CIVIL FACILI	COM	00001740	C-13 WEST	07 49 41	01268-C	101188	N/A
0600962S01	CRAIG R. WEINER ASSOCIATES	SUNRISE TOWN CENTER	COM	00003300	C-13 WEST	21 49 41	06298-G	102888	C-13
0600965S01	MOTEL "6", OPERATING L.P	MOTEL "6", SITE #778	COM	00000266		36 49 41	08038-B	112188	SR 838 SYSTE
0600971S01	NORTH LAUDERDALE, CITY OF	BOULEVARD OF CHAMPIONS	HWY	00000320	C-14	01 49 41	11298-Z	121988	C-14
0600972S01	BROWARD CO. ENGINEERING DEPT.	MCNAB ROAD STATIONS 181 TO 212	HWY	00000780	C-14	02 49 42	01048-1	122988	FDOT DITCH
0601000S01	U.S. POSTAL SERVICE	SUNRISE POST OFFICE	COM	00000592	C-13 WEST	19 49 41	08158-B	011389	C-42
0601004S01	CORAL RIDGE PRESBYTERIAN	CORAL RIDGE PRESBYTERIAN CHURC	INS	00000899	N FORK OF THE MIDDLE RIVER	13 49 42	08018-C	020289	NONE
0601006S01	SHELTAIR EXECUTIVE SOUTH, INC	AIRCRAFT HANGAR COMPLEX	COM	00000503	N/A	08 49 42	10048-2	020189	ON-SITE RET
0601009S01	EDC ASSOCIATES, LTD	RINKY DINK GOLF CENTER	REC	00002497	C-13	30 49 42	12308-N	020889	N/A
0601037S01	POMPANO COMMERCIAL CORP.INC.	POMPANO MARKET PLACE	COM	00001930	INTRACOASTAL	01 49 42	11298-B	032789	INTRACOASTAL
11000375	HIH GROVES		AGR	00023800	L-28	10 49 34		051178	L-28I
11002175	CMC HEARTLANDS		AGR	00512000	TAMIAMI CANA	00 49 32		010782	KISSIMMEE BI
11002385	BUNDSCHU, TRUSTEE C		AGR	00760000	L-28 TIEBACK	00 49 32		120982	CANAL
11003185	BAKER, THOMAS R + RHONDA K	BUCK ISLAND	AGR	00113500	TAMIAMI CANAL	05 49 32	07024-B	031485	ONSITE WETLA
0600012S01	C.R.C. DEVELOPMENT CORP.	DRAINAGE CONNECTION	OTH	00000520		09 50 42	21361	111574	N.FORK/N.RIV
0600028S01	BROWARD COUNTY	DRAINAGE CONNECTION	AGR	00072000	C-11 SOUTH	27 50 39	22101	041175	C-11
0600029S01	BROWARD COUNTY	DRAINAGE CONNECTION / C-11	AGR	00141000	C-11	25 50 39	22016	041175	C-11
0600033S01	SUNRISE DRAINAGE DISTRICT	DRAINAGE CONNECTION / C-12	OTH	00000250	C-12	02 50 41	22456	050975	C-12
0600037S01	FINE, JESSE D.		AGR	00035500	NORTH NEW RIVER CANAL	16 50 41		061375	N.NEW RIV.CA
0600050S01	DAVIE PROPERTIES, INC	CULVERT CONNECTION - C-11	OTH	00000000		01 50 39		111475	
0600050S01	DAVIE PROPERTIES, INC	CULVERT CONNECTION - C-11	OTH	00000000		01 50 39		111475	C-11
0600053S01	PLANTATION HARBOR	PLANTATION HARBOR	RES	00015000	ATLANTIC OCEAN	14 50 41	23933	121975	N.NORTH RIVE
06000605	ARVIDA CORPORATION		AGR	01286500	C-11	27 50 39		012376	C-11
0600065S01	FLAMINGO GARDENS ASSOCIATION	FLAMINGO GARDENS	RES	00021000	C-11 SOUTH	25 50 40	03014-E	061076	SNAKE CREEK
0600085S01	E.R. CROSSMAN FARMS	FARM - SWEET CORN	AGR	00018100	LOWER EAST COAST	05 50 41	41318	090976	OPWCD CAN 3&
06000875	FORMANS DAIRY PALM N		AGR	00000000	NNR	14 50 41		100776	NNR
06000925	BROWARD COUNTY		RES	00000000	NFNR	05 50 42		111276	NFNR
06001115	LAGO MAR C CLUB		RES	00032330	NNRC	02 50 40		091478	NNRC
06001155	FLA ENV DEV CORP		RES	00009000	C-11	35 50 39		071477	C-11

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
06001248	SMITH, R.C.		RES	00008515	NNR	09 50 41		090877	OPWCD C2L-2E
06001288	BROWARD COUNTY		AGR	00129600	C-11	26 50 39		090877	C-11
0600133S01	IVANHOE LAND INVESTMENTS, INC	IVANHOE ESTATES	RES	00102660	C-11	04 50 40	11097-B	101377	C-11
06001518	PINE LAKE DEV CORP		RES	00005140	C-11	30 50 41		021678	CBDDC S-24
06001528	CENTRAL BROWARD DRAI		RES	00003741	LWDD	21 50 41		021678	CBDD N-11
06001548	WATER RESOURCES MGT DIV		RES	00003360	C-11	35 50 39		031678	COUNTY CANAL
06001618	WATER RESOURCE MGT DIV		RES	00004300	C-11	26 50 39		041378	C-11
06001778	PASKAL, G G		COM	00000710	C-10	33 50 42		051178	C-10
06001798	AMCHIR, J B		RES	00001993	C-11	26 50 40		051178	N/A
06001838	BERGERON, R M		RES	00001920	C-11	33 50 41		061578	CBDD
06001858	OLD PLANTATION WATER CONTROL D		RES	00000000	NNR CANAL	00 50 41		051178	NNR CANAL
06001908	LINCOLN DEV, INC		RES	00002810	C-11 EAST	15 50 41		071378	N-9 CANAL
06001948	WOOD OF ROLLING HILL		RES	00004000	CBDD	28 50 41		081078	CBDD N-5 + 11
06002018	GRIFFIN, A D		RES	00004750	NNR CANAL	12 50 40		101978	CBDD CANAL
06002058	MCCRORY, J M		RES	00004090	C-11	33 50 40		111678	DIKE ROAD CA
06002088	SELIGMAN, B.		RES	00011230	C-11	35 50 39		111678	DURANGO E + W
06002128	CENTRAL BROWARD DD		RES	00008700	C-11	11 50 40		121478	CBDD CANALS
06002158	SEEBER, L.		RES	00003800	C-11	31 50 40		011879	BDD CANALS
06002168	INNOVATIVE COMM, INC		RES	00001900	C-11 EAST	21 50 41		011879	CBDD N-12
06002178	NEHAMA, J		RES	00003800	C-11	21 50 40		011879	CBDD CANAL
0600218S01	PINE ISLAND RIDGE DEVCO	PINE ISLAND RIDGE	RES	00055638	C-11	17 50 41	10258-B	011879	C-11
0600218S02	OAK KNOLL AT PINE ISLAND RIDGE	PINE LAKE RIDGE	RES	00005320	C-11 EAST	17 50 41	07295-B	010986	C-11
06002208	PLANTATION, CITY OF		RES	00007800	NNR	05 50 41		000000	OPWCD C#2
06002248	BROWARD COUNTY		RES	00005000	C-10	33 50 42		021579	C-10
06002398	HAMLIN, C		RES	00002000	C-11	31 50 42		051779	LAKE
0600243S01	WIND, OSCAR	NEW RIVER ESTATES-84 SOUTH	RES	00065239	C-11 WEST	04 50 40	12157-2	051779	CBDD N-31 CA
0600243S02	M & H PROPERTIES	OFFICE BUILDING	COM	00000541	C-11 WEST	04 50 40	03036-4	041186	EXIST SYSTEM
0600243S03	FLORIDA PSYCHIATRIC CENTER	RETREAT, THE	INS	00000700	C-11 WEST	09 50 40	06027-2	101587	CBDD N-31 CA
0600243S04	WEST FIVE, INC	84 SOUTH-WEST POINTE PLAZA	COM	00001134	C-11 WEST	04 50 40	890217-8	040789	CBDD N-3 CAN
06002478	LAUREL OAKS EAST HOMEOWN		RES	00006600	C-11	25 50 40		060779	CBDD N-20
06002508	MEADOWBROOK LAKES		RES	00003500	TIDAL WATERS	34 50 42		071279	TIDAL WATERS
06002538	STIRLING ROAD NURSER		AGR	00002000	C-11	34 50 41		081679	C-11
06002558	BRAND, K		AGR	00001500	C-11	34 50 39		081679	C-11
06002568	FARBER, LEONARD L., THE		COM	00006500	N/A	01 50 42		081679	INTRACOASTAL
06002618	M L DEVELOPMENT, INC		COM	00001800	NNR CANAL	03 50 41		101179	OPWCD CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600275S	DIAMOND B DEV, INC		RES	00004400	C-11W	13 50 40		121379	CBDD N-20 CA
0600276S	OFFICE/WAREHOUSE PK		COM	00003930	C-11	25 50 41		011080	FL TURNPIKE
0600277S	FLA COASTAL DEV, INC		RES	00001600	N NEW RIVER	01 50 40		021480	DDD C-1
0600281S	CHERON VILLAGE MH PK		RES	00000900	C-11 WEST	11 50 40		021480	CBDD N-23 CA
0600286S	BROWARD COUNTY		HWY	00001730	C-11 EAST	32 50 41		041080	CBDD S-7,S24
0600292S	KEEHN, T F		RES	00008000	C-11	22 50 40		050880	CBDD N-27
0600307S	OAKRIDGE COUNTRY CLU		LAN	00030000	INTRACOASTAL	31 50 42		021281	DANIA CUTOFF
0600311S	BROWARD CO PARKS DEP		REC	00066500	NNR	04 50 40		091180	NNR CANAL
0600320S01	SUTTER CONSTRUCTION	DAVIE OAKS SECOND ADDITION	RES	00001740	C-11	14 50 40	12199-A	121180	VAN KIRK CAN
0600323S01	RAVENSWOOD MGMT ASSOCIATION IN	RAVENSWOOD NORTH	RES	00011110	INTRACOASTAL	32 50 42	09250-A	121180	UNNAMED CANA
0600330S	VES CARPENTER CONTRA		RES	00002830	C-11 WEST	14 50 40		011581	CBDD N-23
0600339S01	BROWARD CO BRD OF CO COMM.	FORT LAUDERDALE/HOLLYWOOD AIRP	COM	00030120	TIDAL	22 50 42	07228-C	031281	DANIA CUTOFF
0600340S	HIBBS, S		AGR	00009194	C-11 WEST	25 50 40		031281	C-11
0600345S03	EVERGLADES EXPRESSWAY ASSOC	SUNRISE INDUSTRIAL PARK	IND	00002320	N NEW RIVER CANAL	03 50 40	03051-A	121384	N NEW RIVER
0600345S05	STILES CORP	SUNRISE IND PRK/OMC MARINE DIS	IND	00002508	N NEW RIVER CANAL	03 50 40	03218-3	100986	N NEW RIVER
0600345S09	JOHN H. HARLAND COMPANY	MARINA WEST - PARCEL A	IND	00000496	NORTH NEW RIVER CANAL WEST	03 50 40	11247-3	061688	NNRC L-35
0600352S	ALBO BUILDERS		IND	00000750	C-11 EAST	23 50 41		070981	ROCK PIT
0600362S	BROWARD COUNTY PARKS		REC	00025500	C-11 EAST	29 50 41		100881	C-11,N-5A
0600367S	BARCELONA ENTERPRISE		RES	00004000	C-11 WEST	23 50 40		113081	CBDD CAN N23
0600369S	FLORIDA COMMUNITIES	LAKES OF NEWPORT - PHASE I	RES	00007500	C-12	03 50 41		121081	OPWCD
0600392S01	BRO CO EQUIP & FACILITIES MGMT	BROWARD CO OFFICE BLDG.	COM	00000384	NEW RIVER CANAL	22 50 42	12181-D	012582	ON-SITE RETE
0600405S	GEORGES, G V		RES	00003160	C-11 EAST	28 50 41		030982	N/A
0600417S01	ASSEMBLY HALL OF JEHOVAHS WITN	WEST BROWARD WORSHIP CENTER	INS	00001068	C-11 WEST	27 50 39	02122-A	050382	C-11 WEST
0600419S	POWELL BROS, INC		IND	00006622	SFNR	30 50 42		090982	SFNR
0600428S	MOTEL 6, INC		COM	00000390	N/A	35 50 42		062582	INTRACOASTAL
0600432S	FORMAN, P		IND	00002650	S NEW RIVER	24 50 41		081182	N/A
0600433S	CHAPLIN, TRUSTEE J B		RES	00010000	C-11 WEST	23 50 40		090982	CBDD N-25 CA
0600440S01	SEPIELLI, RUSSELL	COUNTRYSIDE WEST	RES	00001797	C-11 EAST	32 50 41	06082-F	091582	C-11
0600444S01	COOPER TOWN GARDENS, INC	COOPER TOWN GARDENS	RES	00001810	C-11 EAST	32 50 41	01042-C	100882	C-11 EAST
0600449S01	TOYS-R-US	TOYS-R-US	COM	00000615	N NEW RIVER CANAL WEST	04 50 41	05192-A	110182	OPWCD LAKE

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600451S	AVIS RENT-A-CAR SYST		IND	00000670	INTRACOASTAL	28 50 42		111082	DANIA CUTOFF
0600459S01	DAVIE COMMERCE CENTER, LTD.	DAVIE COMMERCE CENTER	COM	00005220	C-11 EAST	36 50 41	05217-B	021083	ONSITE LAKE
0600466S01	REGENCY PARK AT JACARANDA, LTD	REGENCY PARK	COM	00001440	NORTH NEW RIVER - WEST	09 50 41	01133-A	030183	OPWCD NO 2
0600468S01	LAUDERDALE BEACH ASSOCIATION	MARRIOTT'S FT. LAUD. RESORT &	COM	00001654	N/A	13 50 42	01253-B	031483	MAYAN LAKE
0600471S01	BROWARD CO. SOLID WASTE DIVISI	BROWARD CO. SANITARY LANDFILL	IND	00020970	C-11	22 50 40	01068-A	041483	CBDDC N-27
0600472S01	PLANTATION IMPROVEMENT	PLANTATION ACRES	RES	00206500	NORTH NEW RIVER CANAL	01 50 40	10221-B	051283	N NEW RIV CA
0600472S02	MCL DEVELOPMENT CORP	OUTBACK, THE	RES	00001970	C-42	01 50 40	890314-1	041389	C-42
0600479S	FLA DEPT OF TRANSPORTATION		RDW	00000000	TIDAL	00 50 42		060983	DANIA CUT-OF
0600481S	CLEARY PLACE ASSOC		RES	00002051	NNR WEST	04 50 41		060783	OPWCD CAN #2
0600490S01	RIDGE ASSOCIATES, LTD.	RIDGE/T.J. MAXX PLAZA	COM	00001626	N/A	17 50 41	06143-C	083183	PINE ISL RDG
0600492S01	PLANTATION COLONY ASSOCIATES,	PLANTATION COLONY	RES	00001721	NNR - EAST	16 50 41	04073-F	090883	LAKE
0600494S	BROWARD CO PARKS + R		REC	00001230	INTRACOASTAL	32 50 42		091583	DANIA CUT-OF
0600499S01	VENTURE PLANTATION, INC.	CHATEAULAINE	RES	00001220	C-11 WEST	01 50 40	07072-B	110383	DIXIE DRAINA
0600500S01	ARCADIA PROPERTIES, INC.	TOWN PLAZA AT DAVIE	COM	00000899	C-11	33 50 41	06163-D	110983	CBDDC
0600505S01	ELBRIDGE N.V.	TRANSWORLD MARINE	COM	00000467		34 50 42	08103-B	112383	DANIA C.O.CA
0600505S01	ELBRIDGE N.V.	TRANSWORLD MARINE	COM	00000467	N/A	34 50 42	08103-B	112383	CANAL
0600508S01	DCA AT WATERSIDE, INC	WATERSIDE VILLAGE	RES	00003065	NNR CANAL	04 50 40	12177-B	120683	CBDD N-31 CA
0600512S01	RADNOR/HIGIER PARTNERSHIP	WESTON SQUARE	COM	00001400		04 50 40	09153-A	011684	BCDD N-31
0600513S	GRIFFITH'S CENTER PA		COM	00000966	C-11 WEST	02 50 40		012084	C-11
0600521S01	E.P.O.C. DEVELOPERS, INC.	EMERALD PARK OFFICE CENTER	COM	00000569	C-10	32 50 42	11103-D	030784	BCWMD SYSTEM
0600524S	LAKE PINE VILLAGE, L		RES	00004630	C-11 WEST	12 50 40		041284	CBDD CANAL N
0600526S01	DANTO, MARVIN I & BETTY J	DESIGN CENTER OF THE AMERICAS	COM	00004410	C-10	33 50 42	02097-I	041687	EX. BORROW P
0600529S01	SCHOOL BOARD OF BROWARD COUNTY	CENTRAL VOCATIONAL CENTER	INS	00002450	C-11 EAST	22 50 41	01304-A	032984	CBDD N-7
0600536S	FT LAUDERDALE, CITY		IND	00002860	C-11	25 50 41		051084	SFNR
0600538S	HERTZ CORP., THE		COM	00001023	DANIA CUTOFF	28 50 42		050284	DANIA CUTOFF
0600539S	GENERAL DEV CORP		RES	00000785	NNR	02 50 40		052384	NNR CANAL
0600543S01	SCARBOROUGH ASSOCIATES	SCARBOROUGH I, II & III	RES	00010230	C-11 WEST	07 50 41	08177-C	061884	C-11 WEST
0600544S	MODE, INC		RES	00002589	C-11	25 50 40		060184	C-11 SOUTH
0600554S01	ORIOLE HOMES CORP.	WOODGATE	RES	00003780		09 50 40	02244-B	080684	CBDD N-31

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600563S	SIEGAL, J.A. & TURNER, L.W.	RAINBOW PLANTATION	RES	00005854	NORTH NEW RIVER WEST	02 50 40	06274-E	091384	NORTH NEW RI
0600564S	COOPERSHIP, LTD	THE COLONY AT STIRLING	RES	00001810	C-11 EAST	32 50 41	03304-D	090684	C-11 EAST
0600614S01	GULFSTREAM LAND & DEV CO.	JACARANDA PLANNING	RES	00007090		05 50 41	07198-B	121384	
0600614501	GULFSTREAM LAND & DEV CO.	JACARANDA PLANNING	RES	00007090	NORTH NEW RIVER WEST	05 50 41	07198-B	121384	OPWCD CANAL
0600625S01	OLAF CORPORATION	SHOPPES OF ARROWHEAD	COM	00003230	C-11 EAST	21 50 41	04064-A	110884	CBDD CANAL S
0600625S02	GRANADA COMPANIES, INC.	SUNPOINTE COVE/SHOPPES OF ARRO	COM	0000150E	C-11	21 50 41	04064-A	120685	C-11 EAST
0600625S03	MARMEL ASSOCIATES	SHOPPES OF ARROWHEAD, TRACT F	COM	00000092	C-11 EAST	21 50 41	10175-D	060686	C-11 EAST
0600628S01	COUNTRYSIDE SHOPS ASSOC., LTD.	COUNTRYSIDE SHOPS	COM	00004145	C-11 WEST	36 50 40	09214-F	011085	ONSITE RETEN
0600631S01	ALPINE WOODS ASSOCIATES, LTD.	ALPINE WOODS CENTER	COM	00000460	C-11 EAST	28 50 41	09104-A	020185	C-11
0600635S01	GENERAL CHARTER CORPORATION	ENCLAVE, THE - PHASE I	RES	00036054	NNRC WEST	07 50 41	02214-E	031485	NNRC
0600636S01	MODE INCORPORATED	FLEMING GARDENS & VILLAS	RES	00009870	C-11 WEST	36 50 40	01138-C	031485	C-11S
0600640S01	DAVIE, TOWN OF	POLICE + FIRE FACILITIES	COM	00000939	C-11 EAST	27 50 41	11064-C	030585	N/A
0600649S01	AIRPORT COMMERCE PARK, LTD.	AIRPORT COMMERCE PARK	COM	00000663	INTRACOASTAL	29 50 42	04216-D	040985	NONE
0600650S01	MACMARX PROPERTIES, INC.	STIRLING TRAIL WEST	COM	00001730	C-11 EAST	33 50 41	08094-B	041685	CBDD CANAL
0600663S01	CTSB PROPERTIES, INC.	PARK CROSSINGS	RES	00002199	HILLSBORO	04 50 40	06026-C	060785	CBDD N-31 CA
0600671S01	BROCK HOTEL CORPORATION	HOLIDAY INN BEACHFRONT	COM	00000620	COASTAL	36 50 42	04295-B	070285	ONSITE RETEN
0600678S01	BRANDON ACQUISITION GROUP, THE	LOEHMANN'S PLAZA	COM	00002466	C-11	21 50 41	05105-D	071885	C-11
0600685S01	GULFSTREAM LAND & DEV CO	JACARANDA PLANNING ZONE S	RES	00033407	N NEW RIVER WEST & EAST	09 50 41	04148-2	091285	OPWCD #2
0600685S02	LINCOLN PRESTIGE JOINT VENTURE	FOUNTAINS SHOPPING CENTER, THE	COM	00006000	N NEW RIVER WEST & EAST	09 50 41	03137-A	021287	OPWCD #2
0600691S	THOMAS, M.L.	AIRVIEW HOTEL	COM	00001120	INTRACOASTAL	28 50 42	06035-B	091285	DANIA CUTOFF
06006985	GREEN, MARVIN	RICK CASE ACURA	COM	00000644	C-12	01 50 41	07195-A	100385	C-12 CANAL
0600702S01	EQUITABLE LIFE ASSURANCE, THE	LAKEVIEW WAREHOUSE	IND	00001572	INTRACOASTAL	32 50 42	02216-F	101485	ON-SITE LAKE
0600703S01	PORT EVERGLADES AUTHORITY	OFFICE & TRANSIT SHED	COM	00002500	INTRACOASTAL	14 50 42	04128-4	101785	FP&L CANAL
0600704S01	JACARANDA DEVELOPMENT CORP	WESTPORT, 1ST SECTION	RES	00012923	NORTH NEW RIVER WEST	06 50 41	01148-D	111485	OPWCE CANAL
0600709S01	INDIAN TRACE COMM DEV DISTRICT	INDIAN TRACE & WESTON ROAD	RES	01286500	C-11 WEST	00 50 40	890406-2	121285	C-11
0600709S02	WEST BROWARD ASSOCIATES, LTD.	FAIRLAKE APARTMENTS	RES	00002089		08 50 40	07088-C	071786	C-11
0600710S01	BONAVENTURE ASSOCIATES	BONAVENTURE-TRACT 56	RES	00005504	NORTH NEW RIVER CANAL-WEST	05 50 40	10087-3	121285	N.NEW RIV CA
0600713S01	BERTLER CORPORATION	IVANHOE O-LOT LINE HOMES	RES	00002170	C-11	22 50 40	10175-B	121285	C-11

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600714S01	TRIAD VENTURE GROUP, INC.	CENTRE WEST	COM	00001238		04 50 40	10085-B	120385	CBNN N-31
0600718S01	GARY KAPLAN, GVM, INC.	HONEY LAKE	RES	00002630	C-11 WEST	11 50 40	08055-A	120685	C-11 CANAL
0600720S01	HINSON, JOHN A	OSCEOLA CREEK APARTMENTS	RES	00001323	INTRACOASTAL	21 50 42	06256-A	121085	OSCEOLA CREE
0600724S01	DEUSCHLE, BRIAN C. TRUSTEE	SHENANDOAH SECTION ONE	REC	00060160	NNRC WEST	03 50 40	10067-E	010986	N NEW RIVER
0600724S02	SHENANDOAH SQUARE ASSOCIATES.	SHENANDOAH SQUARE - PARCEL B-2	COM	00001833	NEW NORTH RIVER	10 50 40	12047-A	030888	N.NORTH RIVE
0600724S03	ARCHDIOCESE OF MIAMI	ST BONAVENTURE PARISH CENTER	INS	00001150	NORTH NEW RIVER CANAL	10 50 40	05168-F	090788	NNR CANAL
0600724S04	DAVIE, TOWN OF	SHENANDOAH PARK	REC	00001350	NORTH NEW RIVER CANAL	10 50 40	09298-C	011389	N.NEW RIVER
0600726S01	TIMBERLAKE ASSOCIATION	TIMBERLAKE PLAZA	COM	00000615	C-11	28 50 41	12165-B	122785	C-11 CANAL
0600735S01	HASCO COMPANIES	EMERALD LAKE CORPORATE PARK	COM	00002489		31 50 42	09095-A	020386	
0600738S01	RENAISSANCE ASSOCIATES	RENAISSANCE PLAZA	COM	00001349	C-11 EAST	33 50 41	10245-B	020486	CBDD S-16
0600749S01	198TH HOMEOWNERS ASSOCIATION	198TH TERRACE PLAT	RES	00009180		26 50 39	10014-D	041086	C-11W
0600751S01	COOPER LAND CORPORATION	FOREST LAKE	RES	00011000	C-11	36 50 40	03048-1	041086	C-11 CANAL
0600752S01	NORKIN, MURRAY	S.E. MINI STORAGE	COM	00000384	NORTH NEW RIVER	14 50 41	12055-A	040386	NNR CANAL
0600755S01	SYBAR PLAZA-84 JOINT VENTURE	THE PLAZA	COM	00003571	C-11 WEST	12 50 40	06255-A	040486	CBDD N-20
0600767S01	AMERICAN HOME SERVICE CORP.	COLLEGE COURT TOWNHOUSES	RES	00000900	C-11 EAST	22 50 41	11225-D	050286	C-11
0600769S01	FLA TRUST FOR HISTORIC PRESERV	BONNET HOUSE	REC	00001578	INTRACOASTAL	01 50 42	03076-B	050786	INTRACOASTAL
0600770S01	SOUTH FLORIDA WAREHOUSE CORP.	NEW TOWN COMMERCE CENTER	IND	00018000	C-11 EAST	25 50 41	05157-C	061286	CBDD CANAL
0600774S01	FLA DEPT OF TRANSPORTATION	I-595 INTERCHANGE	HWY	00022000	C-11	19 50 41	11066-J	061286	N. NEW RIVERPOND APPLE SS NEW RI
0600776S01	MAIN STREET DEV., INC.	SHOPPES OF MAIN STREET	COM	00001625	C-11 EAST	33 50 41	03056-B	061786	CBDD CANALS
0600779S01	VILLAGE AT HARMONY LAKE, INC.	VILLAGE AT HARMONY LAKE	RES	00012520	C-11 WEST	18 50 41	03136-F	071086	C-11 WEST
0600782S01	MILLER, TODD L. - TRUSTEE	GRIFFIN 3-4-5	RES	00020000		01 50 39	03216-J	081486	C-11 CANAL
0600788S01	FLA DEPT OF TRANSPORTATION	I-595 INTERSTATE	HWY	00008420	C-11	07 50 41	03316-F	081486	NO NEW RIVER
0600791S01	VILLAGE BUILDERS OF FLA, INC	VILLAGE AT ROLLING HILLS	RES	00003557	C-11 EAST	28 50 41	05016-E	080586	C-11 EAST
0600796S01	PICERNE DEVELOPMENT, INC.		RES	00000848		21 50 41	06066-E	092286	
0600797S01	FLORIDA DEPT OF TRANSPORTATION	I-595 INTERSTATE - PKG K	HWY	00011700	C-11	00 50 41	11246-O	100986	N NEW RIVER RET. PONDS BORROW PIT
0600799S01	SIDCO REALTY CORP	VALUE RENT-A-CAR	COM	00000786		27 50 42	03106-E	100386	
0600802S01	LETO, JOHN - PRESIDENT	LETO BROTHERS	RES	00001709	C-11 WEST	14 50 40	09305-C	101086	CBDD N-23
0600804S01	D.D.K. ENTERPRISES, INC.	CROWNE PLAZA	COM	00000935	TIDAL	27 50 42	06126-C	101386	

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600858S01	FLORIDA DEPT.OF TRANSPORTATION	INTERSTATE 595;PACKAGE "N"	HWY	00000000	N/A	14 50 41	03167-A	070987	NNR CANAL
0600859S01	17TH STREET ASSOCIATION LIMIT	17TH STREET QUAY	COM	00000701	INTRACOASTAL	14 50 42	02187-E	061987	INTRACOASTAL
0600869S01	JEWISH FEDERATION/S.BROWARD	JEWISH COMMUNITY CENTER	REC	00002430	C-11 EAST	22 50 41	06027-C	080687	CBDD S-16CNL
0600872S01	BRYAN OAKS	BRYAN OAKS BUSINESS PARK	IND	00001842	C-10	33 50 42	01207-F	090187	N/A
0600873S01	S.FLORIDA WAREHOUSING I	N-1 CANAL RELOCATION	OTH	00000000	C-11	25 50 41	11178-5	090987	C-11
0600876S01	THOMAS, MICHAEL - INC.	AIRPORT COMMERCE CENTER	COM	00002496	C-10	33 50 42	05207-A	092887	NONE
0600877S01	MERRILL INDUSTRAIL CENTER, INC	COMMERCE COMPLEX	IND	00000981	INTRACOASTAL	20 50 42	04107-A	100287	B.CNTY LAKE
0600880S01	KIMMINS CORPORATION	SUNFOREST	RES	00004650	C-11 EAST	22 50 41	06047-B	111287	CBDD N-7 CAN
0600881S01	REDEVCO CORPORATION	DAVIE TOWNE CENTER	COM	00008982	C-11 EAST	15 50 41	10038-A	111287	CBDD CANAL
0600883S01	NT'L SELF STORAGE EQUITIES FLA	NATIONAL SELF STORAGE	COM	00000447	C-11 EAST	33 50 41	09087-A	103087	
0600893S01	SEA RANCH PROPERTIES, INC	FOREST RIDGE	RES	00061750	C-11 EAST	20 50 41	07218-F	010788	C-11
0600910S01	1ST NATIONWIDE NETWORK MORTGAG	COUNTRY CREEK	RES	00004640	C-11 EAST	27 50 41	08026-A	041488	CBDD N-7 CAN
0600927S01	PORT EVERGLADES AUTHORITY	SOUTHPORT TERMINAL YARD	IND	00004400	INTRACOASTAL	25 50 42	03178-C	061688	INTRACOASTAL
0600930S01	PUBLIC STORAGE, INC.	PUBLIC STORAGE	COM	00000342	C-11 EAST	15 50 41	07287-4	060788	STORM SEWER
0600934S01	BROWARD COUNTY DIV. OF MASS TR	FT. LAUDERDALE BUS TERMINAL	COM	00000322	NEW RIVER	03 50 42	09287-C	062088	N/A
0600938S01	TATE DEVELOPMENT CORPORATION	VLAENCIA ACRES	RES	00003730	C-11 (WESTER	13 50 40	11067-D	071088	N-20 CANAL
0600940S01	G & E INVESTMENTS,	DISIGNERS PLACE AT DANIA	IND	00000621	INTRACOASTAL	32 50 42	07247-C	071988	SUBSURFACE P
0600948S01	CHAMBERS & HUNTER - TRUSTEES	GUARDIAN SELF STORAGE	COM	00000000	HILLSBORO CA	36 50 41	04068-2	081988	PERCOLATION
0600952S01	BMB DEVELOPMENT CORPORATION	VICTORIA PARK CENTRE	COM	00000357	COASTAL	02 50 42	01198-I	082988	N/A
0600953S01	EXOTIC ACRES, INC	EXOTIC ACRES	RES	00008990	C-11 EAST	34 50 41	04158-8	100688	CBDD CANAL
0600955S01	DAVIS, MICHAEL	UNIVERSIRY PARK AT DAVIE	COM	00001795	C-11	33 50 41	12087-B	092188	CBDD S-14 CA
0600961S01	SEABOARD HOSPITALITY	HOWARD JOHNSON HOTEL SITE	INS	00000300	COASTAL	26 50 42	12107-E	090888	N/A
0600967S01	BROWARD COUNTY SCHOOL DISTRICT	S.E.D. CENTER	INS	00001320	NORTH NEW RI	18 50 42	06238-C	120588	N/A
0600968S01	ZEDEK, MURRAY - TRUSTEE	FRONTIER TRAILS	RES	00003006	WESTERN C-11	36 50 39	01287-F	120988	N/A
0600970S01	HEALTH TRUST, INC.	PLANTATION GENERAL HOSPITAL	INS	00000860	C-11 EAST	01 50 41	12068-2	121988	C-11 EAST
0601005S01	PERFORMING ARTS CENTER AUTH.	PERFORMAING ARTS CENTER	INS	00000500	TIDAL	10 50 42	10268-D	020189	NEW RIVER
0601010S01	ALANDCO CORPORATION	ALANDCO PROPERTY	COM	00027380	INTRACOASTAL	20 50 42	11237-F	030989	N.NEW RIVER DANIA CANALS
0601036S01	KAPLAN, GARY	DAVIE COUNTRY ESTATES	RES	00000782	C-11 EAST	27 50 41	890202-2	032489	CBSS N-8 CAN
0601038S01	NOJOSY CORPORATION	NOJOSY CORP ORNAMENTAL NURSERY	AGR	00004340	C-11 WEST	26 50 39	10148-A	040489	C-11
0601045S01	BROWARD	JUDICIAL PARKING GARAGE	COM	00000426	N/A (TIDAL)	10 50 42	05068-D	041389	N.NEW RIVER
0600014S01	WHITCOMB, ARTHUR - TRUSTEE	DRAINAGE CONNECTION / C-9	OTH	00128000	C-9	25 51 39	20939	111574	HRD CANAL #7
0600018S01	WHITCOMB, ARTHUR - TRUSTEE	DRAINAGE CONNECTION / C-9	AGR	00035000	C-9	36 51 39	21493	121774	C-9

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600022S01	HOLLYWOOD,INC.	HOLLYWOOD, INC.	RES	00062000	C-11	01 51 40	21434	011775	C-11
0600022S02	PULTE HOME CORPORATION	LE CRISTAL TRACT	RES	00001170	C-11	01 51 40	03317-D	080587	C-11S
0600040S01	UNIVERSITY PARK CORPORATION	CULVERT CONNECTION - C-9	OTH	00000000	C-9	21 51 41	24490	071175	SNAKE CREEK
0600095S01	S.BROWARD DRAINAGE DISTRICT	SBDD S-3 BASIN	RES	00614000	C-9 WEST	00 51 40	11076-D	021077	C-9
0600095S02	HOLLYWOOD LKS.COUNTRY CLUB,INC	HOLLYWOOD LKS.COUNTRY CLUB,INC	REC	00050500	C-9 WEST	16 51 40	07118-B	040188	C-9 WEST
06000975	DADE DEV SERVICE COR		RES	00000000	C-9	28 51 40		021077	C-9 & HRD-C4
06001185	S BROWARD PK DIS COM		REC	00026950	C-11S	14 51 40		071477	C-11S
06001255	BROWARD COUNTY		RES	00013800	C-9	27 51 41		090877	C-9
06001575	REALTY GUILD CORP		RES	00001818	C-11	03 51 41		031678	CBDDC S-15
06001665	RANCHO LAGOS TRAILS		RES	00004810	C-9	23 51 40		041378	HOLL REC C-4
06001675	CHINNELLY, TRUSTEE J C		RES	00003850	C-9	23 51 40		041378	HOLL REC C-4
06001685	AMERICAN NATL DEV CO		RES	00007100	N/A	29 51 41		041378	LAKE
06001755	MIRAMAR, CITY OF		RES	00002250	C-9	26 51 41		051178	TURNPIKE CAN
06001925	RAINBOW COMM CORP		RES	00005000	C-9	26 51 41		081078	C-9
06002035	SUNDANCE OF STIRLING		RES	00002500	C-11	03 51 41		101978	CBDD CANAL
06002095	PROCTOR, M - REVEREND		RES	00002000	C-11	05 51 41		121478	CBDD S-98
06002135	BERK, S		RES	00002800	C-11	35 51 41		121478	CBDD CAN S-4
06002145	GIBRALTAR INV + DEV		RES	00004000		20 51 41		011879	RETENTION LA
06002195	E LAKES IN PEMBROKE		RES	00008800	C-9 EAST	08 51 41		000000	PALM AVE CAN
06002275	VILLAS ON THE PARK		RES	00003800	C-10	05 51 42		031579	C-10
0600228S01	BROWARD COMMUNITY COLLEGE	BROWARD COMMUNITY COLLEGE	INS	00003170	C-9	15 51 41	03168-D	031579	SBDD S-1 CAN
06002545	MORTON, E		RES	00005400	HOLLYWOOD RE	28 51 41		081679	HRD CANAL
06002575	BERNARD, M		COM	00000700	INTRACOASTAL	26 51 42		091379	CANAL
0600260S01	LENNAR CORPORATION	MEADOWS OF MIRAMAR	RES	00016500	C-9	29 51 41	04058-A	101179	CITY CANAL
0600263S01	TURTLE BAY JOINT VENTURE	TURTLE BAY JOINT VENTURE	RES	00020200	C-9 EAST	20 51 41	07247-6	110879	PALM AVE CAN
0600263S02	V.S.M. DEVELOPMENT, INC	TURTLE BAY, SEC 1, PH 2	RES	00005457	C-9 EAST	20 51 41	06186-K	121186	PALM AVE CAN
06002675	KOONS DEV COMPANY		COM	00001341	C-11	01 51 41		081679	ON-SITE
0600278S01	SKOMILL VENTURE	SKOMILL	COM	00015000	C-9 EAST	17 51 41	08169-C	021480	PALM AVE CAN
0600278S02	PEMBROKE DEVELOPMENT CORP.	TANGLEWOOD & THE GARDENS	RES	00002052	C-9 EAST	17 51 41	10137-D	052386	PALM AVE CAN
06002795	ABRAHAM, R		RES	00004900	WESTERN C-9	27 51 40		021480	HOLLYWOOD RE
0600283S01	KOENIG, PAUL AND	CHAPEL TRAIL	RES	00188000		10 51 39	03127-D	041080	
0600283S01	KOENIG, PAUL AND	CHAPEL TRAIL	RES	00188000	C-11	10 51 39	03127-D	041080	C-11
06002845	BROWARD COUNTY		HWY	00001880	C-11 WEST	06 51 41		041080	CBDD S-26A,B

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600285S	BROWARD COUNTY		HWY	00000610	C-11 WEST	08 51 41		041080	PALM AVE CAN
0600288S	GLOTTMANN + CIMA DEV		RES	00002600	C-11	08 51 41		050880	HOLLYWOOD RE
0600293S	FLA DEPT OF TRANSPORTATION		HWY	00024400	C-9 WEST	22 51 40		061260	C-8
0600297S01	F.W.D.C., INC	CENTURY VILLAGE AT PEMBROKE PI	RES	00073100	C-9 WEST	14 51 40	09116-K	081580	C-9
0600303S01	PEMBROKE LAKES SOUTH	PASADENA PLACE APTS.	RES	00048525	C-9 EAST	24 51 40	08188-2	081480	C-9 PALM AVE CA
0600303S02	LOKEY PROPERTIES -	PEMBROKE BAY	RES	00002658	C-9	13 51 40	01148-E	031588	PALM AVE CAN
0600315S01	MIRAMAR PARK HOMES	MIRAMAR PARK FIFTH ADDITION	RES	00005880	C-9	27 51 41	02206-D	111380	C-9
0600317S	PROPERTY SYSTEMS,INC		COM	00000880	INTRACOASTAL	27 51 42		111380	INTRACOASTAL
0600322S01	DEVELOPMENT CORP. OF AMERICA	PEMBROKE POINT	RES	00018900	S-7	18 51 41	09128-C	121180	C-11
0600355S01	BOND, JOHN L.A	ATLANTIS	REC	00005680	C-10	04 51 42	05261-B	091081	N/A
0600361S01	U.S. LEND LEASE, INC	PIRATES WORLD	RES	00008490	TIDAL	02 51 42	03128-A	100881	INTRACOASTAL
0600363S	AVATAR PROPERTIES		RES	00019160	N/A	23 51 42		100881	INTRACOASTAL
0600368S	NIELANDER, J		RES	00002000	C-11 WEST	15 51 39		113081	US 27 CANAL
0600382S	BROWARD CO PARKS + R		REC	00018000	C-11 EAST	05 51 41		010782	CBDD S-19
0600391S01	OPERATING ENGINEERS LOCAL	REGENCY PARK	COM	00000530		27 51 42	11131-A	012582	BISCAYNE AQU
0600409S	ZEDECK, L.E.		RES	00004760	C-9 WEST	34 51 40		041582	BLUE GILL CA
0600423S01	VES CARPENTER CONTRACTORS	SANDPIPER BAY SOUTH	RES	00001702	C-10	10 51 42	02102-A	060482	C-10
0600439S01	SHOPPES OF CARRIAGE HILLS, THE	SHOPPES OF CARRIAGE HILLS	COM	00000246	C-11 E	02 51 41	04222-A	091482	C-11 CANAL
0600448S01	L.J HOOKER DEVELOPMENT	SEAWALK AT THREE ISLANDS	COM	00003390		26 51 42	890407-1	110182	INTRACOASTAL
0600464S01	SANTI, PETE & ASSOCIATES, INC	PALM-TAFT SECTIONS 1 AND 2	COM	00000760	HRD 2-7 BASI	08 51 41	06181-C	100981	PALM AVE CAN
0600470S	DCA AT PALM PLACE		RES	00000740	C-9	17 51 41		032283	C-9
0600474S01	COMPSON FLORIDA, INC.	PALM JOHNSON PLAZA	COM	00000892	C-9	17 51 41	12162-C	041383	C-9
0600476S01	DCA HOMES, INC	HOLLYWOOD PINE LAKE	RES	00001594	C-9	17 51 41	12162-B	051183	C-9
0600507S01	FOXCRAFT LTD	FOXCRAFT - PHASE II	RES	00003316	C-9	29 51 41	07083-A	121583	
0600507S01	FOXCRAFT LTD	FOXCRAFT - PHASE II	RES	00003316		29 51 41	07083-A	121583	MEADOWS MIRI
0600522S01	STS BUILDING ASSOCIATES, L.P.	VENTURE CORPORATE CENTER	COM	00002525	C-10	17 51 42	11283-C	031384	C-10
0600540S	TEMPLE BETH SHALOM W		INS	00001000	C-11 EAST	05 51 41		052484	N/A
0600547S01	SIEGEL, JAY ALLEN & TURNER, LE	RAINBOW PINES	RES	00003694	C-9 EAST	20 51 41	03014-A	062184	PALM AVE CAN
0600547S02	PEMBROKE DEVELOPMENT CORP	TANGLEWOOD LAKES SOUTH	RES	00002100	C-9 EAST	20 51 41	11146-A	020587	PALM AVE CAN
0600552S01	PEMBROKE LAKES PRO CENTER, INC	PEMBROKE PINES PROF PRK-PH III	COM	00000456	C-11 WEST	12 51 40	02274-B	071984	HOLLYWOOD RE
0600561S01	LEVITT HOMES, INC.	CINNAMON PLACE	RES	00016275	C-9 EAST	21 51 41	06278-A	091384	C-9
0600571S01	SUNBEAM PROPERTIES, INC.	MIRAMAR PARK OF COMMERCE	IND	00008593	C-9 EAST	30 51 41	05224-B	091184	PALM AVE.CAN
0600615S01	STS BUILDING ASSOCIATES, L.P.	OAKWOOD HILLS	RES	00007540	C-10	04 51 42	11205-F	121384	C-10 CANAL

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600626S01	SOUTH BROWARD PARKS DISTRICT	NORTH BEACH PARK	REC	00001870	INTRACOASTAL	01 51 42	08274-B	120684	N/A
0600627S01	FLORIDA POWER & LIGHT CO.	ANDYTOWN-FLAGAMI 240 KV TRANSM	OTH	00000000		01 51 40	08014-B	011085	N/A
0600632S01	GIBRALTAR SERVICE CORPORATION	VISTA GREEN GOLF VILLAS AT PEM	RES	00001437	C-9 EAST	13 51 40	09144-C	123184	PALM AVE CAN
0600639S01	STS BUILDING ASSOCIATES, L.P.	OAKWOOD HILLS COMMERCE CENTER	IND	00003930	C-10	04 51 42	07307-2	030185	C-10 CANAL
0600648S01	GILBRALTOR SERVICE CORPORATION	EAGLE CREEK/PEMBROKE LAKES SOU	RES	00003638	C-9	24 51 40	06177-F	040485	C-9 CANAL
0600660S01	CEMTRUM PEMBROKE, INC.	ROLAND'S 80 ACRE COMMER SITE	COM	00007921	C-9 (WEST)	14 51 40	06157-C	061385	C-9 CANAL
0600660S02	CENTRUST SAVINGS	CENTRUST SAVINGS BANK	COM	00000069	C-9 (WEST)	13 51 40	05147-1	082887	C-9 CANAL
0600660S03	BARNETT BANK OF S.FLA ,N.A.	BARNETT BANK-PEMBROKE PINES PL	COM	00000054	C-9 WEST	14 51 40	02248-3	041188	C-9 CANAL
0600660S04	SAVINGS OF AMERICA	SAVINGS OF AMERICA, INC.	COM	00000069	C-9 WEST	14 51 40	10137-1	041388	C-9 WEST
0600660S05	AUTO HARBOR SHOPS OF PEMBROKE	AUTO HARBOR OF PEMBROKE PINES	COM	00000102	C-9 WEST	14 51 40	11218-3	120988	C-9 WEST
0600660S06	MCDONALD'S CORPORATION	MCDONALD'S RESTAURANT	COM	00000070	C-9 WEST	14 51 40	890113-9	021489	C-9 WEST
0600677S01	DCA HOMES, INC.	LAKESIDE SOUTH	RES	00009176	C-9 EAST	20 51 41	01296-G	091186	C-9 CANAL
0600679S01	HOLLYWOOD CORP CIRCLE ASSOC	CORPORATE CIRCLE CENTER	COM	00000998		17 51 42	09157-E	071885	
0600679S01	HOLLYWOOD CORP CIRCLE ASSOC	CORPORATE CIRCLE CENTER	COM	00000998	C-10	17 51 42	09157-E	071885	
0600693S01	COSTAIN FLORIDA, INC.	EMERALD OAKS	RES	00001820	C-10	05 51 42	01147-H	091985	C-10
0600697S01	PEMBROKE PLACE NORTH, A JOINT	PEMBROKE PLACE NORTH	COM	00000563	C-11	08 51 41	890106-9	100285	C-11
0600699S01	DAVIE, TOWN OF	WASTEWATER TREATMENT FACILITIE	IND	00002380	C-11	03 51 41	07305-C	100485	C-11
0600706S01	HOLLY RIDGE APTS., LTD.	HOLLY RIDGE APARTMENTS	RES	00000613	C-9 EAST	30 51 42	08205-D	111585	N/A
0600708S01	CDB DEVELOPMENT COMPANY	PEMBROKE PINES SHOPPING CENTER	COM	00002000	EASTERN C-9	16 51 41	07235-D	111985	C-9
0600729S01	BROWARD COUNTY	VILLAGE SHOPPES AT PEMBROKE PI	COM	00000947	C-9 EAST	15 51 41	06265-A	010286	C-9 CANAL
0600734S01	ROZZO, L W - INC.	SESSA SIX	COM	00008005	C-9	18 51 40	11125-A	021386	N/A
0600734S02	WEEKLY ASPHALT & PAVING, INC	WEEKLY ASPHALT & PAVING	COM	00001500	C-9	18 51 40	02246-E	061286	C-9 CANAL
0600737S01	JET BUILDING CORPORATION	CORAL LAKES TOWNHOMES	RES	00002609	C-11	18 51 41	09027-G	020486	HOLLYWOOD RE
0600759S01	WEITZER MIRAMAR, LTD.	RIVER RUN	RES	00010260	EAST C-9	29 51 41	01166-D	050886	C-9 CANAL
0600759S02	HUNT, TED A. - MANAGING PARTNE	STILES-HUNT PROPERTIES	COM	00000990	C-9	29 51 41	11097-C	032588	SBDD #2 CANA
0600761S01	PEMBROKE PLACE DEV CORP	VICTORIA PARK	RES	00005321	C-9 EAST	17 51 41	02186-F	050886	C-9 CANAL
0600761S02	PEMBROKE CHARTER CORPORATION	TANGLEWOOD LAKES, - ESTATES OF	RES	00002865	C-9	17 51 41	07277-A	111387	PALM AVE CAN

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600768S01	DRAIZIN, CLAUDIA	DRAIZIN PROPERTY	COM	00000995	EASTERN C-11	05 51 41	01076-B	050786	C-11 CANAL
0600775S01	MILLER, W. ROBERT INC.	WYNFIELD INN & RESTAURANT	COM	00000550	C-10	04 51 42	03196-J	061286	C-10
0600781S01	PASADENA HOMES, INC	PIERPOINT III	RES	00001420	C-11/C-9	12 51 40	03066-C	072286	C-9 CANAL
0600781S02	SPEAR ASSOCIATES	PIERPOINT IV	RES	00001453	C-9	12 51 40	04017-C	090187	
0600784S01	BROWARD CO. UTILITIES DIVISION	INTERIM CONTINGENCY SANITARY L	IND	00058800		02 51 39	12025-B	071086	C-11 CANAL
0600789S01	MARK, LEO - TRUSTEE	PORTOFINO CLUB	RES	00001620	C-11 EAST	01 51 41	11186-B	080486	E TURNPIKE C
0600790S01	PASADENA HOMES, INC	PIERPOINTE VII	RES	00000917	C-9	12 51 40	03246-N	080586	
0600798S01	CORBALLY, J.E., FURMAN, J.M.	HOLLYWOOD RECLAMATION DISTRICT	AGR	00147300	C-9 CANAL	00 51 40	03216-G	100986	
0600805S01	BROOKS, RICHARD	ACURA CAR DEALERSHIP	COM	00000410	C-9 EAST	25 51 41	06026-E	103086	N/A
0600808S01	PINES PALM DEVELOPERS, INC.	PINE PALM OFFICE PARK	COM	00000821	C-9 EAST	17 51 41	07306-H	111386	HOLLYWOOD RD
0600815S01	TAFT STREET ASSOCIATES, LTD	KERLAND	RES	00003080		08 51 41	03286-E	120386	HRD S-7 BASI
0600825S01	GATES & LANDY, FLORIDA PARTNER	VILLAGE CENTER AT DAVIE, THE	COM	00001197	C-11 EAST	03 51 41	07026-L	012087	CBCC S-15
0600826S01	SOUTH BROWARD DRAINAGE DISTRIC	S-1 BASIN	OTH	00416000	C-9	00 51 41	06238-F	021287	SFWMD C-9 SBDD C-1
0600826S02	PINES HOME CENTER ASSOCIATES	HOME IMPROVEMENT CENTER	COM	00002140	C-9 CANAL	16 51 41	11056-A	041487	JOHNSON ST C
0600826S03	S.BROWARD HOSPITAL DISTRICT	S.BROWARD MEMORIAL HOSPITAL	INS	00001200	C-9	16 51 41	07088-6	081788	
0600828S01	6363 TAFT ASSOCIATES	ANF SHOPPING CENTER	COM	00000302	EASTERN C-9	09 51 41	10236-F	020387	C-9
0600841S01	CENTRUM DEVELOPMENT, INC.	SHOPS OF COOPER CITY	COM	00000570	C-11 WEST	01 51 40	12196-F	040787	ROCK CR PUD
0600844S01	PEMBROKE PINES, CITY OF	PEMBROKE PINES HUMAN RESOURCE	INS	00003000	C-11 ACTUAL/	11 51 40	10086-C	042787	
0600849S01	PEMBROKE PINES, CITY OF	PEMBROKE PINES CITY HALL	INS	00001500	C-9 EAST	18 51 41	01167-G	052287	
0600853S01	HOLLYWOOD - OLD DIXIE SELF	HOLLYWOOD SELF STORAG	IND	00000323		10 51 42	03277-F	060887	
0600853S01	HOLLYWOOD - OLD DIXIE SELF	HOLLYWOOD SELF STORAGE	IND	00000323	INTRACOASTAL	10 51 42	03277-F	060887	N/A
0600868S01	KELSEY, CHARLES M., JR.	HOLLYWOOD TRACT	COM	00000890	C-11 EAST	20 51 42	02107-H	072487	CBDD S-16CAN
0600870S01	BROWNING PROPERTY COMPANY	RUNAWAY BAY&COUNTRY CLUB APTS.	RES	00010210	C-9	16 51 41	10156-E	040987	
0600870S02	PEMBROKE OXFORD LTD PARTNERSHI	RUNAWAY BAY & COUNTRY CLUB APT	RES	00002515	C-9 (EAST)	16 51 41	03307-I	081787	C-9

Table B-9. SFWMD Surface Water Management Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No	Issued	Receiving Body
0600629S01	BROWARD CO. EXPRESSWAY AU	SAWGRASS/DEERFIELD EXPRES	HWY	00002280		00 48 40	07204-A	021485	RETENTION ARDETENTION A
0600630S01	STILES, TERRY W. &	DEERFIELD R & D CENTER	IND	00002746	HILLSBORO CA	10 48 42	03276-A	020185	CANAL C-80
0600637S01	SCOTTY'S	SCOTTY'S DEERFIELD BCH DI	COM	00003000	HILLSBORO CA	02 48 42	11024-D	030185	C-1 CANAL
0600638S01	KONTOGIANNIS, GEORGE	CRYSTAL POINTE	RES	00001280	HILLSBORO CA	14 48 42	10194-A	030185	N/A
0600642S01	J.C. ENTERPRISES	STATION SQUARE	COM	00000827	POMPANO CANA	24 48 42	11134-A	031485	N/A
0600647S01	MILLS, WILLIAM P., JR-PRES	MUTUAL WHOLESLE CO DISTR	IND	00001417	C-14 EAST	22 48 42	12144-E	040385	COUNTY SYSTE
0600656S01	NORTH BROWARD HOSPITAL DI	CORAL SPRINGS MEDICAL PAR	INS	00002598	C-14 WEST	21 48 41	09305-A	050185	SWCD CANAL R
0600661S01	MANCHESTER CORPORATION &	MANCHESTER & TARHEEL TRAC	IND	00005800	HILLSBORO	10 48 41	09246-C	061385	C-2 CANAL HILLSBORO
0600662S01	M.A.P. BEACON PLACE, INC.	BEACON PLACE	RES	00000660	C-14 WEST	22 48 41	03285-B	060685	SWCD CANAL
0600668S01	LASSER, LEE - TRUSTEE	CRYSTAL LAKE BUSINESS PAR	COM	00003300	HILLSBORO CA	15 48 42	03018-7	061485	CRYSTAL LAKE
0600683S	PEMBROKE DEV CORP +	OFFICE PARK	COM	00000703	HILLSBORO	15 48 42	04225-E	081285	ONSITE
0600684S	DAVRON DEVELOPMENT CORPOR	LYONS PLAZA	COM	00000990	C-14 EAST	30 48 42	04305-B	081285	BCWMD #3 CAN
0600643S01	JOHNSON, WAYNE - TRUSTEE	OAKBROOK PLAZA	COM	00000692	C-13	22 49 41	2104-B	031485	C-13
0600645S01	TAM O'SHANTER ASSO., LTD.	TAM O'SHANTER PLAZA	COM	00003000	C-14 EAST	01 49 41	0234-B	040285	WATER CONTRO
0600646S01	CROW-CHILDRESS-DONNER, LTD	2101 COMMERCIAL	COM	00000567	C-13	17 49 42	2214-C	040385	COUNTY CANAL
0600654S01	RICHBUILT, INC.	WATERSIDE VILLAS	RES	00000520	C-12	23 49 41	1115-C	042585	C-12
0600655S01	INVERRARY PLAZA, LTD.	INVERRARY PLAZA WEST	COM	00000560	C-13	22 49 41	1165-C	050185	C-13
0600657S01	B1ST ASSOCIATES LTD.	SHOPPES OF MCNAB	COM	00000910	C-14	11 49 41	1295-A	050885	C-14
0600658S01	CARVEL STORES OF FLORIDA, INC	CARVEL-COMMERCIAL BLVD.	COM	00000420	C-13 WEST	18 49 42	1095-C	052085	C-13
0600659S01	LINPRO LONESTAR LAND PART.LTD.	LINPRO LONESTAR PARK	COM	00002639	C-13	18 49 42	1085-B	052285	COUNTY CANAL
0600664S	BROWNING PROPERTY COMPANY	COBBLESTONE APARTMENTS	RES	00002410	C-14 EAST	06 49 42	02215-A	060785	BCWCD NO. 4
0600836S01	CENTEX HOMES ENTERPRISES, INC	COUNTRY ADDRESS ENCORE	RES	00005350	C-11 EAST	32 50 41	01167-F	040987	CBDD S-11 CA
0600839S01	MOBIL OIL CORPORATION	MOBIL TANK FARM	COM	00000540	INTRACOASTAL WATERWAY	23 50 42	11056-E	040987	INTRACOASTAL
0600840S01	ATRIA, JR., JAMES V.	PLANTATION BUSINESS PARK	COM	00002460	C-12	01 50 41	09266-E	033087	C-12 CANAL
0600842S01	DAVIS, MICHAEL	UNIVERSITY DODGE DEALERSHIP	COM	00000643	C-11	33 50 41	09126-E	040887	C-11
0600843S01	GREENGLADES COUNTRY RANCHES	MEMPHUS PLAT - 80 ACRE DAVIE P	AGR	00008000	C-11 EAST	18 50 41	02237-C	051487	N/A
0600850S01	WILLIAM LYON COMPANY, THE	NOB HILL VILLAGE	RES	00008420	C-11 WEST	18 50 41	10197-E	061187	C-11 WEST
0600850S02	AMREX REALTY, INC.	PARKWOOD ISLES	RES	00002830	C-11 WEST	18 50 41	06078-A	112188	
0600850S02	AMREX REALTY, INC.	PARKWOOD ISLES	RES	00002830		18 50 41	06078-A	112188	C-11

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0600887S01	FLORIDA POWER & LIGHT	ANDYTOWN-TRANSMISSION LINE	OTH	00000980	C-11 CANAL	11 51 39	06247-A	111387	N/A
06008895	CHAPEL TRAIL, LTD.			00118000		10 51 39	11046-G	121087	
0600892S01	ENGLE GROUP, INC., THE	STIRLING FARMS/EMBASSY LAKES	RES	00060560	C-11 WEST	06 51 41	02028-A	010788	CBDD S-22 CA
0600892S02	COSAN FLORIDA, INC.	EMBASSY LAKES - PARCEL "N"	RES	00003058	C-11 WEST	06 51 41	06278-G	101188	C-11 WEST
0600898S01	SOUTH BROWARD DRAINAGE DISTRIC	S-2 & S-7 BASINS	OTH	00768000	C-9 CANAL	00 51 40	06278-A	021188	C-9 CANAL
0600898S02	PEMBROKE DEVELOPMENT CORP.	LANDINGS, THE	RES	00002961	C-9 EAST	19 51 41	12187-F	051288	C-9 EAST
0600909S01	GALLIER, RICHARD	U.S. BORDER PATROL STATION	AGR	00000470	C-9 EAST	22 51 41	01088-B	022588	N/A
0600920S01	TAFT OFFICE COMPLEX, INC.	TAFT STREET OFFICE COMPLEX	COM	00000295	C-11 EAST	11 51 41	01228-B	041588	C-11 EAST
0600923S01	1ST NATIONWIDE NETWORK MORTGAG	EMERALD POINTE	RES	00003930	C-10	05 51 42	10137-B	050988	C-10
0600931S01	UNITED STATES POSTAL SERVICE	HALLANDALE MAIN POST OFFICE	COM	00000910	INTRACOASTAL	27 51 42	10207-C	061588	N/A
0600932S01	GOLD COAST SELF STORAGE 5 ASSO	HOLLYWOOD SELF-STORAGE II	COM	00000718	C-11 EAST	03 51 41	02168-H	061688	C-11
0600954S01	GULFSTREAM PARK RACING ASSOC.	GULFSTREAM PARK RACING	COM	00025600	INTRACOASTAL	27 51 42	09298-D	081188	INTRACOASTAL
0600966S01	PEMBROKE PINES, CITY OF	WALTER SETH KIPNIS RECREATION	COM	00001226	N/A	18 51 41	04068-H	112988	
0600998S01	DIXIE BUSINESS CENTER, INC.	DIXIE BUSINESS CENTER	IND	00000314	COASTAL ZONE	10 51 42	09128-F	011189	ON-SITE RET
0601016S01	SUN BANK, SOUTH FLA. N.A.	SUN BANK, S.FL.N.A.-GATE CITY	COM	00000329	AREA B	10 51 42	12148-1	021489	ON-SITE
1100247S01	EXXON CORPORATION	RACOON POINT FIELD ACCESS ROAD	HWY	00000000		00 51 34	08016-F	041483	N/A
1100426S01	VARNADOE, GEORGE L., TRUSTEE	BAREFOOT 240 TRUST	MIN	00024000	HENDERSON CR	04 51 36	10027-B	010788	ON-SITE
06005605	COUNTRY'S POINT CORPORATI	COUNTRY'S POINT	RES	00025710	HILLSBORO	01 48 41	02144-A	091384	CANAL A-2
0600562S01	GIGLIOTTI-TIVOLI CORP.	VILLAGES OF TIVOLI	RES	00015268	HILLSBORO CA	01 48 42	06284-D	091384	BRO CO C-1
0600562S02	RICH, DONALD S.	VILLAGES AT TIVOLI-SECTIO	RES	00001201	HILLSBORO CA	01 48 42	10015-B	011386	BRO CO C-1
0600562S03	BARNETT-RANGE CORP.	THE COURTYARDS AT TIVOLI-	RES	00015268	HILLSBORO CA	01 48 42	12025-C	021086	BRO CO C-1
0600562S04	SIESTA KEY LIMITED PARTNE	VILLAGES AT TIVOLI	RES	00002287		01 48 42	06256-B	112486	MASTER SYSTEBRO CO C-1
0600562S05	TIVOLI SPRINGS VENTURES	VILLAGES@TIVOLI-TIVOLISPR	RES	00001370	HILLSBORO CA	01 48 42	05297-C	080387	CTY CNAL C-1
0600562S06	PICERNE DEVELOPMENT CORP.	VILLAGES AT TIVOLI/SIESTA	RES	00001703	HILLSBORO CA	01 48 42	02178-H	072788	COUNTY CANAL
0600611S01	BROWARD ASSOCIATES	LAKEWOOD MALL PHASE III	COM	00001320	N/A	31 48 42	08074-B	091285	ON-SITE LAKE
0600613S01	PUBLIX SUPER MARKETS, INC	DEERFIELD BCH REGIONAL DI	COM	00007400	HILLSBORO	02 48 42	07166-D	110684	BCWMD C-1 CA
0600622S02	AMERICAN NAT'L COMMUNITIE	HIDDEN HAMMOCKS ESTATES	RES	00007659	HILLSBORO CA	11 48 41	10137-C	041488	PTWCD SYSTEM
0600624S01	BANYAN BAY, LTD.	BANYAN BAY	RES	00002954	C-14 EAST	31 48 42	08024-A	120384	C-14

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Permit	Permittee	Project	Use Type	Acerage	Basin	S T R	App. No.	Issued	Receiving Body
0600572S02	POST FLORIDA	POST CROSSING	RES	00001310	C-14	05 49 42	3248-3	081987	BCWCD 4-CANA
0600572S03	YOUNG AT HEART, INC	GOLDEN POND	RES	00001625	C-14	05 49 42	8108-C	31089	BCWCD-4 CAN
0600612S01	WELLEBY LAKES DEVELOPMENT, INC	WELLEBY LAKES VILLAS	RES	00002450	C-13 WEST	19 49 41	7104-B	110884	C-13
0600621S01	EQUITY EXCHANGE	WOODSDALE	RES	00001080	C-12	25 49 41	6274-D	111584	C-12
0600633S01	VINE, STANLEY - TRUSTEE	INVERRARY BOULEVARD ESTATES	RES	00002560	C-13	15 49 41	2153-D	020885	C-13
0600634S01	ROLAND INTERNATIONAL CORPORATI	BANYAN CLUB	RES	00001650	C-13	22 49 41	1214-D	030185	C-13
0600641S01	MORLEY PROPERTIES, INC.	EXECUTIVE AIRPORT BUSINESS CTR	COM	00001160	C-13	16 49 42	1014-C	031485	C-13 CANAL
0600806S01	ROLLING HILLS ASSOCIATES	ROLLING HILLS OFFICE CENTER	COM	00001073	C-11 EAST	21 50 41	04036-F	103086	C-11 EAST
0600810S01	FLORIDA DEPT OF TRANSPORTATION	I-595 & I-95 PKGS D, E & F	HWY	00080000		00 50 42	07316-D	121186	DANIA CUTOFFOSCEOLA CRK
0600811S01	CHANEY, MARVIN T. - TRUSTEE	SPACE PLUS	IND	00001021	C-11	24 50 41	02246-G	111986	BRO CO CANAL
0600821S01	LACROIX, BARBARA	SHADY RIDGE ESTATES	RES	00000904	INTRACOASTAL	31 50 42	09056-G	011387	N/A
0600823S01	FLORIDA DEPT OF TRANSPORTATION	CRASH FIRE RESCUE BRIDGE	HWY	00000000		28 50 42	11076-A	011387	N/A
0600824S01	ATRIA, JR., JAMES V.	PLANTATION BUSINESS PARK TWO	COM	00000848		01 50 41	05076-J	011587	C-12
0600827S01	D AND C - BARNETT PLAZA, LTD	BARNETT PLAZA, LTD	COM	00000928		02 50 40	07176-K	013087	N NEW RIVER
0600829S01	GALLERIA QUARTERS INTERESTS	GALLERIA GUEST QUARTERS	COM	00000393		01 50 42	09226-I	020387	INTRACOASTAL
0600830S01	DAVIE, TOWN OF	COLLEGE AVENUE ROADWAY CONSTRU	HWY	00000400		15 50 41	07156-B	020387	PRIVATE LAKE
0600831S01	ARD GRIFFIN ASSOCIATES, LTD	GRIFFIN CENTER	COM	00000950		28 50 42	09266-B	020387	INTRACOASTAL
0600870S03	TRIANGULAR CONTRACTORS	WINDMILL LAKES	RES	00002220	EASTERN C-9	16 51 41	08187-E	101687	
0600870S04	PINES POINTE ASSOCIATES	PINES POINT AT RUNAWAY BAY	RES	00002449	C-9	16 51 41	04188-A	092388	SBDD C-1 CAN
0600879S01	FLORIDA DEPT OF TRANSPORTATION	SR-995 & SR-823 IMPROVEMENTS	HWY	00000000	C-9	21 51 40	03257-1	111287	C-9

Table B-10. SFWMD Water Use Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit No.	Project	Owner	S/T/R	Issued	Acres Owned/ Serviced	Uses	Annual/ Monthly Alloc	Sources
2600024W	CLEWISTON WATER TREATMENT PLAN	U.S. SUGAR CORPORATION	00 00 00	121975	01420000 05420000	PWS IND	00116000 00000000	WATBAQ LOKEEC
2600003W	FARM	HILLIARD BROS OF FLA, I	00 43 31	091374	03004400 01438100	AGR	02088876 00328320	C00043
2600294W	HENDRY COUNTY GROVE	PERRY, THOS E & M CATHE	09 43 31	031088	00017500 00009500	AGR	00004370 00001608	WSURA
2600327W	SANTA BARBARA RANCH	VALDEZ, GEORGE	10 43 31	011289	00028400 00024840	AGR	00011425 00004205	WSURAQ
2600128W	BERCHTOLD GROVES	BERCHTOLD GROVES, INC.	11 43 31	061280	00009200 00008600		00003956 00001456	
2600261W	CHIPCO GROVE	CHIPCO CORPORATION	11 43 31	061187	00008000 00005100	AGR	00002346 00000863	CCANAL
2600026W	R-BAR GROVE	STOKES - HANCOCK GROVES	13 43 31	071577	00169700 00127400	AGR	00058598 00021567	C00043
2600	TORRES RANCH	TORRES, OSCAR	14 43 31	031088	00022490 00020530	AGR	00016377 00003668	C00043
2600123W	JEBCO GROVES	BRACKETT, HAROLD C.	17 43 31	041979	00138600 00129800	AGR	00079599 00000000	WSURAQ C00043
2600144W	MILBRODT GROVES	MILBRODT, L.B. + F.I.	21 43 31	021187	00004000 00003350	AGR	00001541 00000567	SSANDS
2600165W	G & S GROVES	CRUMB, GEORGE	21 43 31	011284	00004000 00003400	AGR	00001560 00000580	LPLAKE
2600310W	WITT BROTHERS GROVE	WITT BROTHERS GROVE	23 43 31	071488	00010800 00010800	AGR	00004967 00001828	WSURAQ
2600235W	WITT GROVE	WITT GROVE LTD PARTNERS	25 43 31	111485	00208800 00161400	AGR	00074236 00027373	WSURAQ C00043
2600317W	CHUCK WINN NURSERY	WINN, JAMES CHESTER	27 43 31	090888	00003710 00003030	AGR	00002990 00000450	STAMZI OSCANA
2600250W	STITT RANCH	STITT RANCH, INC.	22 43 32	050686	00034100 00030000	AGR	00044748 00006478	CHENDR
2600077W	FARM	CLEWISTON F.F.A. CHAPT	29 43 32	031077	00048000 00031800	AGR	00034046 00005613	HEGMCA STAMZI
2600292W	HENDRY GROVES	HENDRY, JOE M.	26 43 32	021186	00171883 00127500	AGR	00058644 00021564	CCANAL
2600234W	DEMETER GROVES	DEMETER GROVES, INC.	28 43 32	111485	00066870 00061300	AGR	00028195 00010377	CHENDR
2600259W	VALDEZ HOLDING COMPANY	VALDEZ HOLDING COMPANY,	34 43 32	051487	00020397 00015010	AGR	00006904 00002541	CCANAL
2600137W	CLEWISTON DRAINAGE DISTRICT	CLEWISTON DRAINAGE DIST	00 43 34	111281	00308773 00217000	AGR GOL	00275665 00040219	C00021
2600021W	MAIN OFFICE	U.S. SUGAR CORPORATION	09 43 34	121975	00000150 00000150	IND	00010362 00000000	WATBAQ
2600131W		WEEKS, J M - ROCK PIT	13 43 34	121180	00003382 00003382	MIN	00105100 00000000	WATBAQ
2600042W	E HENDRY CO DRAINAGE DISTRICT	E HENDRY CO DRAINAGE DI	23 43 34	090976	00115000 00080000	AGR	00101049 00015649	LOKEEC
2600254W	RIDGDILL BORROW PIT NO. 4	RIDGDILL, MORRIS E	23 43 34	111386	00001350 00001350	MIN UND	00014400 00000000	WATBAQ
2600129W	MEC ROCK	MEC ROCK, INC	24 43 34	071080	00003600 00003600	MIN	00015000 00000000	WATBAQ
2600132W		ROLAND + SWINDLE	24 43 34	121180	00005000 00001800	MIN	00032400 00000000	WATBAQ
2600255W	CITRUS NURSERY	U.S. SUGAR CORPORATION	28 43 34	031287	00002300 00000855	AGR	00000936 00000344	STAMII
2600174W	INTERIM PLANTING OF SUGARCANE	ALICO, INC.	00 44 31	101184	00322400 00266300	AGR	00352862 00051826	C00003 SSANDS DOTHAQ
2600271W	CITRUS GROVE	ALICA, INC.	00 44 31	070987	00261000 00216200	AGR	00099442 00036600	SSANDS
2600306W	TRI - BRITTON	ALBRITTON, I.F.; ALBRIT	00 44 31	061688	00768000 00108800	AGR	00067514 00018905	C00043
2600318W	AGRO GROVES	AGRO, INC.	10 44 32	090888	00164900 00070000	AGR	00032197 00011850	SSANDS-
2600139W	FLAGHOLE DRAINAGE DISTRICT	FLAGHOLE DRAINAGE DISTR	00 44 33	121081	02380675 02253278	AGR	02901054 00484672	C00043
2600156W		CENTRAL CO W.C.D.	19 44 33	061484	00000000 00000000	MIN	00000000 00000000	CCANAL
2600039W	MOTT & VAUGHN PLANTATIONS	SOUTH BAY GROWERS, INC.	00 44 34	081276	00384000 00353300	AGR	00346139 00060167	C00L25 CRITTA
2600115W		JACKMAN, EVELYN & SON	00 44 34	091478	01150000 01150000	AGR	00000000 00169000	WATBAQ C00139
2600040W	TOWNSITE PLANTATION	U.S. SUGAR CORPORATION	00 44 34	081276	00896000 00833300	AGR	00000000 00000000	CINDUS
2600138W	GROVE	SUGARLAND DRAINAGE D	00 44 34	121081	01007300 00906570	AGR	01868828 00271222	C00020

Table B-10. SFWMD Water Use Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit No.	Project	Owner	S/T/R	Issued	Acres Owned/ Serviced	Uses	Annual/ Monthly Alloc	Sources
2600034W	MOTT UNIT 3	U.S. SUGAR CORPORATION	26 44 34	041576	00128000 00117800	AGR	00116079 00020061	C00L25 000000
2600113W	FARM	TECAN, INC.	27 44 34	061578	00128000 00031000	AGR	00030547 00005279	C000L1
2600001W	UNITED CANE COOPERATIVE ASSN	UNITED CANE COOPERATIVE	00 45 34	081674	00440100 00440100	AGR	00433671 00074949	C00L24
2600068W		ASPRING, INC.	07 45 34	011377	00256900 00240000	AGR	00096725 00008030	DLOWHW
2600048W	FARM	PAIGE, B.F.	09 45 34	100776	00088500 00014300	AGR	00019480 00001944	STAMII
2600051W	GROVE	THREE R'S, INC.	13 45 34	111276	00128000 00128000	AGR	00126130 00021799	CL0024
2600072W	GROVE	HILLIARD, JOE A	21 45 34	031077	00128000 00124000	AGR	00184960 00026774	STAMII C00L24
2600047W	TONNIES MOUND	MILLS RANCH	28 45 34	100776	00064000 00058500	AGR	00066194 00010362	STAMII
2600266W	FARM	BARRON COLLIER COMPANY/	31 46 31	070987	00171600 00121200	AGR	00077233 00018651	WATBAQ
2600267W	FARM	COLLIER ENTERPRISES	31 46 31	070987	00192000 00135000	AGR	00134606 00028564	WATBAQ
2600020W	RANCH	HILLIARD, JOE A	00 46 32	111475	02048000 01638400	AGR	00462528 00038016	WSURAQ
2600073W	DEVIL'S GARDEN CITRUS SOUTH	U.S. SUGAR CORPORATION	00 46 32	031077	00381600 00275000	AGR	00126487 00046554	STAMII
2600083W	CROOKS RANCH	CROOKS RANCH, INC.	11 46 32	051277	00204000 00013500	AGR	00013177 00002665	WSURAQ
600083W	ROOKS RANCH	ROOKS RANCH, INC.	11 46 32	051277	00204000 00013500	AGR	00013177 00002665	WSURAQ
600282W	EVIL'S GARDEN CITRUS NORTH	.S. SUGAR CORPORATION	12 46 32	121087	00157500 00112000	AGR	00051515 00018960	STAMII
2600143W	DEVIL'S GARDEN FARM	ZIPPERER FARMS	00 46 33	021182	01152000 00399000	AGR	00346211 00084712	STAMII C00RIM
2600069W	MOCASSIN HOLE	MILLS RANCH	09 46 33	021077	00040100 00035000	AGR	00035413 00004320	WATBAQ
2600070W	SALT WELL	MILLS RANCH	18 46 33	021077	00226800 00222000	AGR	00052560 00004320	WATBAQ
2600108W	IRRIGATION	ALICO, INC	00 46 34	051176	11952400 02320000	AGR	01553150 00127660	WATBAQ
2600074W	KNIGHT LAND	U.S. SUGAR CORPORATION	10 46 34	031077	00320000 00294400	AGR	00379207 00062156	C00L24
2600170W	BAY-ROCK	BAY-ROCK INVESTMENT COM	13 46 34	080984	00064000 00048500	AGR	00037923 00013958	WSURAQ
2600043W	OKEELANTA CORP. LESSEE	MANLEY, II, WALTER W	14 46 34	090976	00128000 00115200	AGR	00087168 00016688	C00L24
2600098W	FARM	HARBEN, FRANK P (OWNER)	18 46 34	111777	00032000 00030000	AGR	00030354 00005361	WATBAQ
2600085W	LITTLE CYPRESS	LYKES BROTHERS, INC.	36 46 34	071577	00510400 00479900	AGR	00363120 00069520	C00L24
2600112W	FARM	BARRON COLLIER III - TR	00 47 31	061578	01679300 00633400	AGR	00366811 00089196	WATBAQ
2600300W	CROWS NEST CITRUS	COLLIER ENTERPRISES, IN	00 47 31	061688	00188900 00141200	AGR	00064945 00023903	STAMZI
2600116W	B-J GROVES	BOWEN, B.F./B-J GROVES,	13 47 31	081078	00129405 00075700	AGR	00034818 00012815	WSURAQ
2600087W	BOBBY MCDANIEL CITRUS	MCDANIEL, SR.,ROBERT E.	01 47 33	060977	02304000	AGR	00602043 00148000	STAMII
2600257W	SOUTHERN DIV RANCH UNIT 2	U.S. SUGAR CORPORATION	01 47 34	040987	01152000 00096000	MIN UND	00276000 00000000	WATBAQ
2600252W	BORROW PIT	U.S. SUGAR CORPORATION	05 47 34	091186	01330000 00000600	MIN	00368000 00000000	WATBAQ
2600253W	S DIVISION CITRUS GROVE - PH 2	U.S. SUGAR CORPORATION	17 47 34	091186	00420600 00420600	UND	00340000 00000000	WATBAQ
0600242W	PARKLAND UTILITIES	PARKLAND UTILITIES, INC	02 47 41	051779	00000000 00066630	PWS	00018610 00000000	BISCAQ
0600096W		MCJUNKIN, W S	26 47 41	121676	00015700 00014000	AGR	00060400 00011700	C000HC
0600155W		NEILLCO FARMS	27 47 41	031678	00070000 00054000	AGR	00166000 00034200	CHILLS
0600010W		S CANAL UTILITIES	33 47 41	101074	00000000 00707200	PWS	00289800 00000000	BISCAQ
0600414W		CROSSMAN FARMS, E R	34 47 41	051382	00026300 00021000	AGR	00058900 00018600	CHILLS
0600126W		MARSH, N NURSERY	35 47 41	101377	00003000 00002600	AGR	00009400 00000521	CLLAKE C000HC
0600055W		MECCA FARMS, INC	36 47 41	121975	00048800 00048800	AGR	00140200 00038300	C000HC

Table B-10. SFWMD Water Use Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit No.	Project	Owner	S/T/R	Issued	Acres Owned/ Serviced	Uses	Annual/ Monthly Alloc	Sources
0600082W	PUBLIC WATER SUPPLY	DEERFIELD BCH, CITY OF	00 47 42	111279	00000000 00720000	PWS	00427000 00000000	BISCAQ
0600244W	DEER CREEK COUNTRY CLUB	D.C. PROPERTIES	00 47 42	051279	00058800 00020400	GOL	00093600 00005040	LPLAKE
0600416W	ADIOS COUNTRY CLUB	LEONARD, W	32 47 42	051382	00013700 00010240	GOL	00015930 00002530	BISCAQ LPLAKE
0600837W	S-4 PUMPING STATION	BROWARD CO W.C. DISTRI	35 47 42	031287	00000000 00000000	OTH	00000000 00000000	CHILLS
2600164W		HENDRY CORRECTIONAL	16 48 31	011284	00000000 00385000	PWS	00012380 00000000	WATBAQ DTAMAQ
2600126W	HENDRY CO CORRECTIONAL INSTITU	FLORIDA, STATE OF	17 48 31	091379	00385200 00275600	AGR	00279462 00029009	WATBAQ
2600245W	B & L FARM	BLOCKER, CURTIS AND	23 48 31	031386	00062000 00017500	AGR	00009664 00003050	WATBAQ
2600242W	SUNNILAND GROVE	CITRUS PARTNERS, LTD	26 48 31	031386	00131000 00088000	AGR	00000000 00014897	WSURAQ
2600162W	CITRUS GROVE	ALICO, INC.	27 48 31	011284	00032000 00025000	AGR	00019548 00007195	STAMII
2600270W	CITRUS GROVE	BETHEA,JR ,R.A. & BETHE	27 48 31	070987	00016000 00012500	AGR	00009774 00003597	STAMII
2600269W	CITRUS GROVE	A.B. CURRY FARMS	27 48 31	070987	00012500 00012500	AGR	00009774 00003597	STAMII
2600136W	BURDINE PROPERTY	FRED BARFIELD FARMS	33 48 31	100881	00256000 00245131	AGR	00224083 00049202	WSURAQ
2600149W		BARFIELD FARMS, FRED	30 48 32	051382	00576000 00025000	AGR	00053400 00018700	WATBAQ
2600016W	CITRUS GROVE	BIG CYPRESS CITRUS, INC	00 48 33	081575	00378000 00120000	AGR	00093830 00034535	STAMII C00L2B
2600088W	FARM	FRY, S.C.	05 48 33	060977	00032000 00032000	AGR	00032377 00005718	STAMII
2600041W	SOUTHERN DIV RANCH UNIT 2	U.S. SUGAR CORPORATION	00 48 34	011377	01152000 01143500	AGR	01132400 00201082	C000L4 CCANAL
2600146W	SOUTHERN DIVISION RANCH UNIT 2	U.S. SUGAR CORP	00 48 34	041582	01142200 01142200	OTH	00001971 00000162	WATBAQ
2600094W	SOUTHERN DIV RANCH UNIT #1	U.S. SUGAR CORPORATION	00 48 34	101377	01784500 01330000	AGR	00611737 00223029	STAMII
0600102W	PUBLIC WATER SUPPLY WELLFIELD	CORAL SPRINGS, CITY OF	00 48 41	031077	00000000 00576000	PWS	00212000 00000000	BISCAQ
0600121W		MARGATE, CITY OF	00 48 41	081177	00000000 00730000	PWS	00360000 00000000	BISCAQ
0600388W		BEATY FARMS, INC D.S.	06 48 41	021182	00400000 00400000	AGR	00579400 00129600	CHILLS
0600274W	PUBLIC WATER SUPPLY	NORTH SPRINGS IMPROVEME	10 48 41	121379	00000000 00542300	PWS	00019300 00000000	BISCAQ
0600862W	TURTLE RUN	TURTLE RUN VENTURE	13 48 41	070987	00055000 00055000	MIN UND	00263000 00000000	BISCAQ
0600003W	PUBLIC WATER SUPPLY	ROYAL UTILITY COMPANY	15 48 41	091374	00000000 00032000	PWS	00015700 00000000	BISCAQ
0600376W	BROKEN WOODS COUNTRY CLUB	BROKEN WOODS COUNTRY CL	15 48 41	010782	00008800 00004500	LAN	00005643 00000843	DOTHAQ
0600377W		COUNTRY CLUB OF BROWARD	20 48 41	010782	00010300 00010300	LAN	00021000 00002900	LPLAKE
0600021W		NATIONWIDE BUILDERS	23 48 41	022875	00009000 00012000	REC	00052000 00002530	LMANMA
0600100W	PUBLIC WATER SUPPLY	CORAL SPRINGS IMPROVEME	27 48 41	031077	00000000 00500000	PWS	00130000 00000000	BISCAQ
0600412W	VILLAGE IX GOLF COURSE	TOURNAMENT PLAYERS CLUB	30 48 41	041582	00064000 00013600	GOL	00000000 00003360	LPLAKE
0600110W	ORIOLE GARDENS CONDO	ORIOLE GARDENS CONDO AS	35 48 41	041477	00003135 00002000	LAN	00002073 00000328	C00014
0600142W	DISTRICT 2A	BROWARD COUNTY UTILITES	00 48 42	121577	00000000 01595000	PWS	00486000 00000000	BISCAQ
0600396W	DEERFIELD IRRIGATION ASSOC	BUTLER, J	00 48 42	031182	00270000 00270000	AGR	00000000 00190000	CHILLS
0600395W	BUTLER FARMS COMPANY	BUTLER, J E	00 48 42	031182	00076000 00076000	AGR	00000000 00068200	CCANAL
0600034W	DEERFIELD COUNTRY CLUB	DEERFIELD COUNTRY CLUB	01 48 42	050975	00007620 00006270	GOL	00007376 00001124	BISCAQ
0600951W	TIVOLI SPRINGS	TIVOLI VENTURES, LTD.	01 48 42	090888	00001370 00000450	AGR	00000529 00000080	DOTHAQ
0600076W		CENTURY VILLAGE EAST	02 48 42	081276	00078000 00078000	LAN	00450400 00021900	LPLAKE
0600074W		KRAFT GARDENS, INC	03 48 42	081276	00004000 00002800	AGR	00003300 00000561	WATBAQ LPPOND
0600310W	QUIET WATERS PARK	BROWARD CO DIV OF PARKS	04 48 42	091180	00043200 00043200	REC	00011388 00000000	BISCAQ

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0600397W		BUTLER, J	05 48 42	031182	00012000 00012000	AGR	00000000 00010700	CCANAL
0600402W		SMITTY 'K' FARM, INC	06 48 42	031182	00017000 00017000	AGR	00007950 00004100	CCANAL
0600937W	WINSTON PARK PHASE II	WINSTON PARK, LTD	08 48 42	071488	00026000 00026000	UND	00053100 00000000	LPLAKE
0600379W		JOHNS, E F	09 48 42	010782	00009200 00007000	AGR	00000000 00005300	ROCKPI
0600048W		HIGHLAND MEADOWS M H	11 48 42	111475	00005000 00005000	LAN	00028800 00001400	CWMD#2
0600059W	HIGHLAND VILLAGE MOBILE HOME P	WILLOW LAKE ESTATES, IN	11 48 42	021976	00004000 00002000	LAN	00002353 00000358	BISCAQ
0600385W	DEERFIELD BCH HIGH SCHOOL	DEERFIELD BEACH HIGH SC	12 48 42	021182	00004000 00001750	LAN	00001814 00000288	BISCAQ
0600101W		HILLSBORO BCH, TOWN	13 48 42	031077	00000000 00030000	PWS	00040900 00000000	BISCAQ
0600384W		TAM O'SHANTER C CLUB	15 48 42	021182	00009700 00009000	LAN	00000000 00002530	LPLAKE
0600394W		CRYSTAL LAKE C CLUB	15 48 42	031182	00012100 00011700	GOL	00022000 00003290	LPLAKE
0600371W		CRYSTAL LAKE FARM #1	16 48 42	010782	00010500 00007000	AGR	00000000 00005409	WATBAQ CCANAL
0600888W	CONCRETE PERIMETER DITCH FOR C	WASTE MANAGEMENT OF N A	16 48 42	111287	00000000 00000000	UND	00000000 00000000	BISCAQ
0600380W		CRYSTAL LAKE FARM #2	16 48 42	010782	00012000 00010000	AGR	00017910 00007727	WATBAQ CTURNP
0600347W	LYONS-TRADEWINDS PARK	BROWARD CO REC DEPT	17 48 42	061181	00042500 00042500	REC	00000000 00000960	LPLAKE
0600336W	BLIMP BASE	GOODYEAR TIRE + RUBB	25 48 42	021281	00003000 00003000	LAN	00004670 00000777	BISCAQ
0600068W		FOREST LAWN MEMORIAL	26 48 42	070676	00004000 00004000	LAN	00021600 00001080	BISCAQ
0600007W		POMPANO BCH, CITY OF	27 48 42	091374	00000000 00004400	AGR	00023800 00000405	BISCAQ
0600741W	CENTURA PARC	WYNMOOR LTD PARTNERSHIP	28 48 42	031386	00013900 00008500	LAN	00000000 00001523	LPLAKE
0600039W		WYNMOOR LIMITED	29 48 42	061375	00000000 00013000	REC	00000000 00001370	BISCAQ
0600401W		SMITTY 'K' FARM, INC	30 48 42	031182	00011500 00011500	AGR	00005380 00002750	CTARTO
0600061W		POMPANO BCH, CITY OF	36 48 42	090976	00004500 00004500	REC	00024400 00001210	WATBAQ
1100217W	LAMAR ROU RANCH/FARM	CMC HEARTLANDS	00 49 32	010782	00512000 00028000	AGR	00038500 00005240	WATBAQ
1100318W	BUCK ISLAND	BAKER, THOMAS R + RHOND	05 49 32	031485	00148000 00029000	AGR	00000000 00004929	WSURAQ
1100037W	HIH GROVES	HIH GROVES	10 49 34	051178	00023800 00023800	AGR	00111400 00005410	WATBAQ
0600483W	HARRISON PARK	RACAL-MILGO, INC	34 49 40	081183	0000991B 00003320	LAN	00000000 00000654	LPLAKE
0600652W	HARRISON PARK PHASE II	DUGAN, ROBERT M/FIRST F	34 49 40	050985	00015000 00004080	LAN	00000000 00000803	LPLAKE
0600969W	SAVANNAH P.U.D.	AMERIFIRST DEVELOPMENT	35 49 40	011289	00118340 00003550	::D 05H	00004527 00000699	:D05HC #::D05 HD#:D0
0600103W	PUBLIC WATER SUPPLY	PLANTATION, CITY OF	00 49 41	031077	00000000 00525000	PWS	00165000 00000000	BISCAQ
0600112W	DISTRICT I/BROADVIEW SERVICE A	BROWARD COUNTY UTILITIE	00 49 41	051277	00000000 00044800	PWS	00026860 00000000	BISCAQ
0600185W	OLD PLANTATION WATER CONTROL D	OLD PLANTATION WATER CO	00 49 41	050880	00970000 00601600	AGR	00984600 00185870	C00NNR C00042
0600129W	PUBLIC WATER SUPPLY	LAUDERHILL, CITY OF	00 49 41	101377	00000000 00428200	PWS	00251000 00000000	BISCAQ
0600122W		FT LAUDERDALE, CITY	00 49 41	000000	00000000 00024800	REC	00137600 00006580	BISCAQ
0600004W		N LAUDERDALE,CITY OF	01 49 41	091374	00000000 00200000	PWS	00160000 00000000	BISCAQ
0600071W	PUBLIC WATER SUPPLY	TAMARAC, CITY OF	03 49 41	061076	00000000 00710000	PWS	00000000 00000000	BISCAQ
0600089W		MONTWOOD, INC	04 49 41	100776	00028100 00028100	LAN	00052900 00007900	LPLAKE
0600921W	STAR OF DAVID	STAR OF DAVID MEMORIAL	11 49 41	051288	00004550 00002500	AHR	00003135 00000468	LPPOND
0600083W	SABAL PALM COUNTRY CLUB	SABAL PALM COUNTRY CLUB	12 49 41	090976	00013800 00012000	REC	00057200 00002970	CTURNP WATBAQ

Table B-10. SFWMD Water Use Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit No.	Project	Owner	S/T/R	Issued	Acres Owned/ Serviced	Uses	Annual/ Monthly Alloc	Sources
0600094W		WOODLANDS GOLF ASSOC	14 49 41	111276	00024500 00024500	REC	00141400 00006880	LPLAKE
0600814W	PARKWOOD HOMES	PARKWOOD HOMES, LTD , I	17 49 41	121186	00001913 00001198	LAN	00000000 00000086	LPLAKE
0600344W		INVERRARY COUNTRY CL	23 49 41	051481	00034500 00032000	LAN	00045700 00005410	WATBAQ
0600181W		LAUDERDALE LAKES, CI	24 49 41	061576	00001000 00000800	REC	00004700 00000300	WATBAQ
0600024W	WORLD OF PALM AIRE	FPA CORPORATION	00 49 42	021678	00137680 00066200	LAN GOL	00077874 00011863	BISCAQ LPLAKE C00014
0600146W	DISTRICT 1A & 1B	BROWARD COUNTY	00 49 42	011978	00000000 00635000	PWS	00331000 00000000	BISCAQ
0600098W	GARDEN POINT AIR CONDITIONING	GARDEN POINT, INC	01 49 42	031077	00000000 00000000	COM	00007369 00000000	BISCAQ
0600193W	POMPANO PARK RACEWAY	POMPANO PARK RACEWAY	03 49 42	081078	00035000 00009030	LAN GOL	00010622 00001299	BISCAQ CCANAL C00014
0600357W		PALM-AIRE COUNTRY CLUB	04 49 42	091081	00003800 00001900	LAN	00003360 00000511	LPLAKE
0600960W	FERN FOREST PARK	BROWARD CO PARKS & RECR	05 49 42	110388	00026000 00026000	REC	00000000 00015500	C00014
0600106W	OUR LADY QUEEN OF HEAVEN CEMET	CATHOLIC CEMETARIES OF	06 49 42	041477	00010000 00003500	LAN	00011680 00000633	DOTHAQ
0600109W		JOHNS, E F	10 49 42	041477	00000000 00007000	AGR	00038000 00001880	C00014
0600165W		CORAL RIDGE COUNTRY CLU	13 49 42	031077	00000000 00021200	REC	00116800 00006020	WATBAQ
0600786W	AMERICAN V MUELLER PLANT	AMERICAN V MUELLER, INC	16 49 42	081486	00000000 00000000	OTH	00011800 00000000	BISCAQ
0600382W		TAMARAC COUNTRY CLUB	17 49 42	021182	00014500 00014500	LAN	00011280 00003600	LPLAKE
0600374W		GARDENS, INC	26 50 39	010782	00003000 00003000	AGR	00000000 00000800	WATBAQ CCANAL
0600365W	PUBLIC WATER SUPPLY	COOPER CITY, CITY OF	01 50 40	112181	00000000 00525300	PWS	00083300 00000000	BISCAQ
0600345W	SAWGRASS INTERNATION CORP PARK	STILES CORPORATION	03 50 40	090888	00041300 00006820	AGR	00008696 00001340	OSLAKE OSCANA
0600949W	SAWGRASS INTERNATIONAL CORP PK	SHELL OIL COMPANY	03 50 40	090888	00020000 00002400	LAN	00003060 00000472	OSLAKE
0600108W		BONAVENTURE ASSOC	05 50 40	041477	00000000 00024300	REC	00142600 00007170	WATBAQ
0600245W		HIGH SCHOOL CCC, BRO	11 50 40	060779	00004000 00002500	LAN	00013780 00000710	CCOUNT WATBAQ
0600398W		FLAMINGO GARDENS	25 50 40	031182	00011000 00004000	AGR	00000000 00000510	LPLAKE
0600120W	PUBLIC WATER SUPPLY	SUNRISE, CITY OF	00 50 41	081177	00000000 03842000	PWS	00497500 00000000	BISCAQ
0600134W	PUBLIC WATER SUPPLY	DAVIE, TOWN OF	00 50 41	021579	00000000 00634700	PWS	00112420 00000000	BISCAQ
0600915W	SERVICE OFFICE AIR CONDITIONIN	RICK CASE ACURA	01 50 41	041488	00000640 00000100	COM	00018396 00000000	BISCAQ
0600044W		PLANTATION, CITY OF	02 50 41	081575	00000000 00600000	PWS	00310000 00000000	BISCAQ
0600107W		JHW FARMS, INC	05 50 41	041477	00000000 00136000	AGR	00435000 00118300	C00042 COPWCD
0600917W	JACARANDA OFFICE PARK	SIMPSON, ALFRED L.	09 50 41	041488	00006000 00002300	LAN	00002754 00000436	LPLAKE
0600408W		PLANTATION GOLF CLUB	10 50 41	041582	00021400 00003200	GOL	00005800 00000910	CCANAL
0600056W		FT LAUDERDALE C CLUB	12 50 41	121975	00026000 00028000	LAN	00154400 00007950	BISCAQ
0600043W	PUBLIC WATER SUPPLY	BROADVIEW PARK WATER CO	13 50 41	071175	00000000 00064000	PWS	00027880 00000000	BISCAQ
0600087W		FORMANS DAIRY PALM N	14 50 41	100776	00003000 00003000	AGR	00010660 00000582	COONNR
0600696W	ARROWHEAD COUNTRY CLUB	GOLF, INCORPORATED	16 50 41	101085	00013400 00012600	GOL	00015087 00002387	DOTHAQ BISCAQ
0600914W	PARK OF COMMERCE	GULFSTREAM LAND & DEV C	16 50 41	041488	00005000 00001120	LAN	00001341 00000212	LPLAKE
0600149W		JACARANDA C CLUB	17 50 41	021678	00026000 00026000	REC	00143400 00007380	BISCAQ COONNR
0600908W	PINE ISLAND RIDGE	PINE ISLAND RIDGE COUNT	17 50 41	031088	00053700 00013400	GOL	00016045 00002539	COONNR LPLAKE

Table B-10. SFWMD Water Use Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit No.	Project	Owner	S/T/R	Issued	Acres Owned/ Serviced	Uses	Annual/ Monthly Alloc	Sources
0600711W	ROLLING HILLS GOLF RESORT	ROLLING HILLS HOTEL & R	21 50 41	121285	00000400 00000400	IND	00014020 00000000	BISCAQ
0600375W	AGR RESEARCH & ED CENTER	UNIVERSITY OF FLORIDA	22 50 41	010782	00009800 00005000	AGR	00012666 00001998	BISCAQ CCANAL LPLAKE
0600667W	CENTRAL CAMPUS	BROWARD COMMUNITY COLLE	22 50 41	071185	00015000 00008700	LAN	00009200 00001532	BISCAQ DOTHAQ
0600170W	FERNCREST UTILITIES WATER TREA	FERNCREST UTILITIES, IN	24 50 41	051178	00000000 00120000	PWS	00034000 00000000	BISCAQ
0600393W		ROLLING HILLS GOLF RESO	28 50 41	031182	00022000 00016000	GOL	00000000 00004500	BISCAQ
0600069W		NATIONAL NURSERIES	31 50 41	070876	00003500 00003500	AGR	00012440 00000679	LPLAKE
0600131W		NATIONAL NURSERIES	31 50 41	101377	00001100 00001000	AGR	00003600 00000194	LPPOND
0600945W	NATIONAL NURSERIES	NATIONAL NURSERIES, LTD	31 50 41	090886	00002200 00002000	AGR	00008980 00001421	BISCAQ
0600407W		COOPER COLONY COUNTRY C	32 50 41	041582	00006890 00006000	GOL	00003500 00001700	BISCAQ
0600090W		NAUGLE NURSERY	33 50 41	111276	00001600 00001600	AGR	00005680 00000310	LPLAKE
0600253W		STIRLING ROAD NURSER	34 50 41	081679	00002000 00002000	AGR	00006300 00000984	COCBDD
0600123W	PUBLIC WATER SUPPLY	FT LAUDERDALE, CITY OF	00 50 42	081177	00000000 02650000	PWS	01916000 00000000	BISCAQ
0600145W	DISTRICT 3A	BROWARD CO UTILITIES DI	00 50 42	011978	00000000 00700000	PWS	00156500 00000000	BISCAQ
0600431W	FT LAUDERDALE/HOLLYWOOD AIRPOR	BROWARD CO AVIATION	27 50 42	081282	00020700 00005450	LAN	00000000 00001400	BISCAQ
0600503W	LAUDERDALE STEAM ELECTRIC P	FLA POWER + LIGHT CO	30 50 42	121583	00000000 00000000	IND	00013510 00000000	BISCAQ
0600307W		OAKRIDGE COUNTRY CLU	31 50 42	021281	00030000 00017000	LAN	00030600 00004830	LPLAKE
0600889W	CHAPEL TRAIL	CHAPEL TRAIL, LTD	10 51 39	121087	00188000 00026500	LAN	00016938 00003527	BISCAQ LPLAKE
0600104W	PUBLIC WATER SUPPLY	BROWARD CO CORRECTIO	11 51 39	031077	00009000 00009000	PWS	00004350 00000000	BISCAQ
0600435W	PUBLIC WATER SUPPLY	SOUTH BROWARD UTILITY,	04 51 40	090982	00000000 00093000	PWS	00023944 00000000	BISCAQ
0600496W	PEMBROKE LAKES SOUTH	RAINTREE COUNTRY CLUB,	13 51 40	101383	00054700 00009500	GOL	00000000 00001800	LPLAKE
0600515W	CENTURY VILLAGE AT PEMBROKE PI	F.W.D.C., INC	14 51 40	020984	00072400 00009128	GOL	00000000 00001215	LPLAKE
0600533W	CENTURY VILLAGE AT PEMBROKE PI	F.W.D.C., INC	14 51 40	051084	00072400 00025600	LAN	00010226 00002130	DOTHAQ
0600950W	C.B. SMITH PARK	BROWARD CO BRD OF CO COMMISS	14 51 40	090888	00032000 00016000	LAN	00010226 00002130	DOTHAQ
0600686W	CENTURY VILLAGE AT PEMBROKE PI	CENVILL PROPERTIES, INC	14 51 40	091285	00000000 00000000	IND	00005913 00000000	BISCAQ
0600054W	MIRAMAR WATER TREATMENT PLANT	MIRAMAR, CITY OF	00 51 41	091975	00000000 00650000	PWS	00124100 00000000	BISCAQ
0600147W	DISTRICT'S 3B + 3C	BROWARD CO UTILITIES DIVISIO	00 51 41	011978	00000000 00298000	PWS	00169000 00000000	BISCAQ
0600135W	PUBLIC WATER SUPPLY	PEMBROKE PINES, CITY OF	00 51 41	011978	00000000 01163000	PWS	00218600 00000000	BISCAQ
0600075W		HOLLYWOOD MEM GARDEN	02 51 41	081276	00004565 00004565	LAN	00025200 00001270	CCOUNT
0600382W	SPORTS COMPLEX	BROWARD CO PARKS + R	05 51 41	090182	00018000 00008500	LAN	00014000 00001940	CCANAL LPLAKE
0600026W		PEMBROKE LAKES GOLF	07 51 41	041175	00008000 00008000	REC	00023600 00001600	LPLAKE
0600763W	QUIK MART STORE	SOUTHLAND CORPORATION	09 51 41	050886	00000080 00000080	OTH	00003650 00000000	WATBAQ
0600063W		HOLLYWOOD MEM GARDEN	12 51 41	061076	00002882 00002882	LAN	00015880 00000819	WATBAQ
0600354W	JUDSON SAMUELS SOUTH CAMPUS	BROWARD COMMUNITY COLLE	15 51 41	091081	00010300 00002187	LAN	00003308 00000414	BISCAQ DOTHAQ
0600406W	HOLLYBROOK GOLF & TENNIS CLUB	HOLLYBROOK GOLF & TENNI	20 51 41	041582	00028500 00017000	GOL	00020355 00003221	DOTHAQ

Table B-10. SFWMD Water Use Permits within the Water Conservation Areas & EAA SWIM Planning Areas

Permit No.	Project	Owner	S/T/R	Issued	Acres Owned/ Serviced	Uses	Annual/ Monthly Alloc	Sources
0600964W	MIRAMAR PARK OF COMMERCE	SUNBEAM PROPERTIES, INC	30 51 41	120888	00016723 00002476	LAN	00002965 00000469	BISCAQ DOTHAQ
0600038W	PUBLIC WATER SUPPLY	HOLLYWOOD, CITY OF	00 51 42	050975	00000000 01600000	PWS	00820200 00000000	BISCAQ
0600187W		DANIA, CITY OF	00 51 42	121478	00000000 00280000	PWS	00077000 00000000	BISCAQ
0600138W	PUBLIC WATER SUPPLY	HALLANDALE, CITY OF	00 51 42	071378	00000000 00280000	PWS	00210000 00000000	BISCAQ
0600061W		EMERALD HILLS COUNTRY	05 51 42	041576	00010850 00010850	REC	00059800 00000000	LPLAKE
0600130W	TOPEEKEEGEE YUGNEE PARK	SOUTH BROWARD PARK DIST	05 51 42	101377	00019000 00010000	LAN	00011974 00001894	BISCAQ LPLAKE
0600062W		EMERALD HILLS C CLUB	06 51 42	051376	00006470 00006470	REC	00035600 00001680	LPLAKE
0600052W		HOLLYWOOD, CITY OF	17 51 42	111475	00020500 00020500	REC	00113000 00005820	BISCAQ
0600687W	EXXON SERVICE STATION 4-5278	EXXON COMPANY, U.S.A.	17 51 42	091285	00000000 00000000	IND	00010500 00000000	BISCAQ
0600099W		HILLCREST GOLF & C C	19 51 42	031077	00000000 00014000	REC	00079200 00003976	LPLAKE
0600954W	GULFSTREAM PARK RACING ASSOC.	GULFSTREAM PARK RACING	27 51 42	081188	00035600 00001650	LAN	00004345 00000556	BISCAQ

Table B-11. Waste Disposal Sites Within the WCA/EAA Study Area

For locations see Figure B-1. Codes explained in Table B-16.

County	# Class (Map #)	Status	Name	T-R-S	DER #
Palm Beach County	PB-13 500	A	LION COUNTRY SAFARI	43S-40E-23	
	PB-14 400	A	JUICY ORANGE GROVE	44S-40E-03	5050P50185
	PB-15 400	A	HES-SUNSHINE STEER SLDGE	43S-40E-27	5050P50185
	PB-20 400	A	HES CORP SR-7 SLDGE DISP	44S-41E-24	5050P50160
	PB-21 100	A	PBC LNDFL #1 (LANTANA)	44S-42E-31	5050C50080
	PB-39 400	A	H&H LIQUID SLDGE DISP INC	47S-41E-29	5050P50170
	PB-42 400	A	RYL PLM CULTIV SLDG DISP	43S-40E-29,4	
	PB-44 100	A	PBC LANDFILL #4 PAHOKEE	42S-37E-09	5050C50110
	PB-45 500	I	PAHOKEE SW DISPOSAL	42S-37E-19	
	PB-46 610	A	CITY OF PAHOKEE INCIN	42S-37E-19	5050M50070
	PB-47 500	A	GLADES CORRECT INST DUMP	43S-37E-19	
	PB-48 100	A	CITY OF BELLE GLADE LF	43S-36E-25	5050M04599
	PB-49 320	A	GLADES REG SW PROC & DSP	44S-36E-01	5050C50180
	PB-50 500	I	DAVIS ROAD DUMP	44S-43E-19	
Broward County	BR-05 100	I	CORAL SPRINGS DUMP	48S-41E-18	5006M00040
	BR-06 400	A	BR CO UTL DST 4 SLDG DSP	48S-42E-28	5006C06080
	BR-09 400	A	TAMARAC UTL SLDG DSP ST	49S-41E-07	5006M06032
	BR-10 400	A	GULFSTREAM SLDG LANDSPRD	49S-41E-31	5006M00027
	BR-16 300	A	E.MARSH NRSY TRASH LF#2	50S-42E-26	5006P06051
	BR-17 610	K	BRWD CNTY INCINERATOR #1	50S-40E-27	5006C00010
	BR-19 400	A	MDN POLLTN CTRL SLDG DSP	51S-41E-04	5006P06040
	BR-24 999	K	C B SMITH PARK DUMP	51S-40E-13	5006M00035

Figure B-1. Waste Disposal Sites within the Water Conservation Areas & EAA Planning Areas.

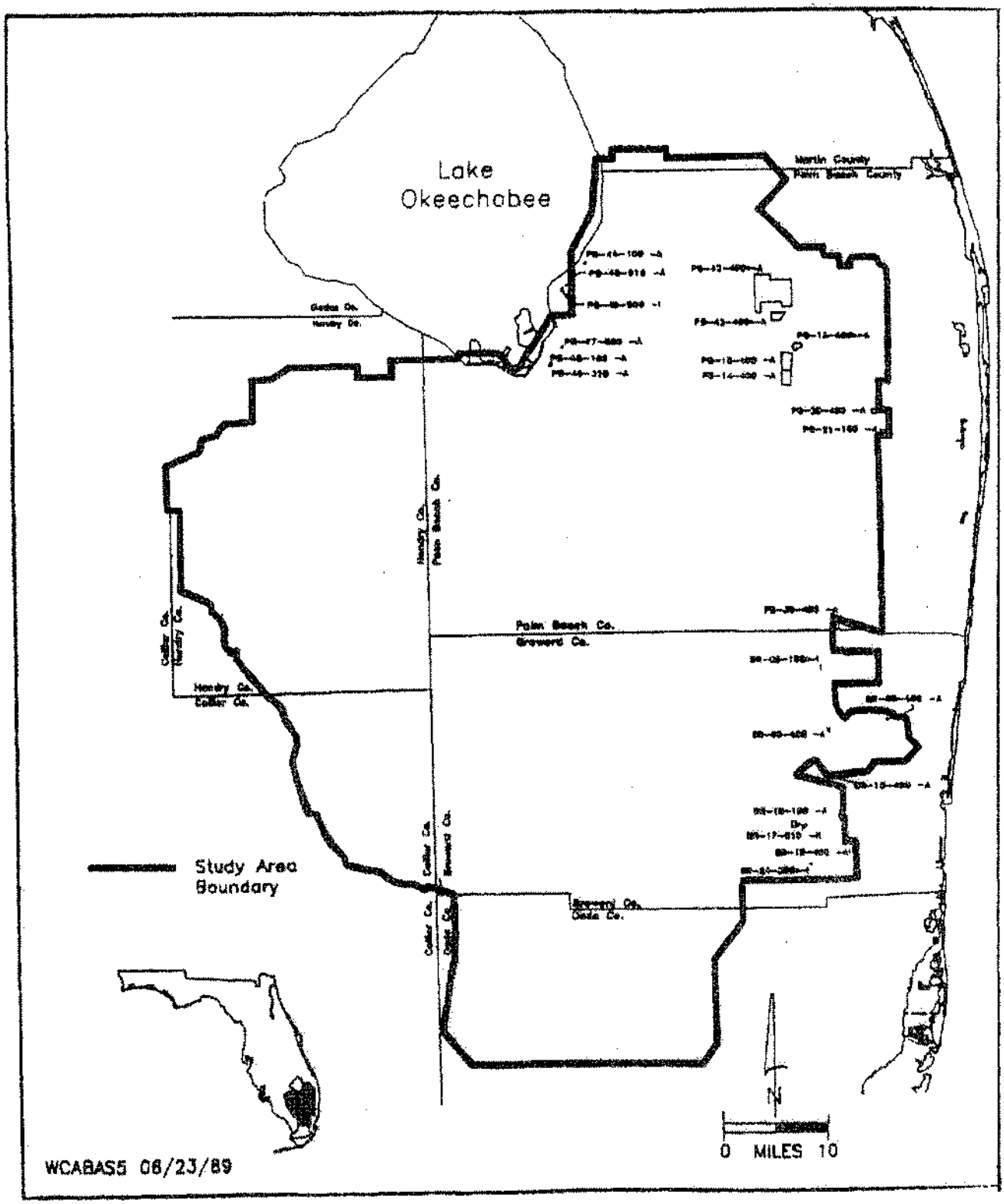

Table B-12. Underground Storage Tanks Within the WCA Study Area (Broward County)

Source: DER data retrieved from a SFWMD Database. For Explanation of Codes See Table B-16.

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT	LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
06	MOBIL #02-573	10000 W GRIFFIN RD	COOPER CITY	260348	801650	029	50S	41E	068501759	01759	00006000	B	
06	COOPER CITY,CITY-PUBLIC WORKS	11551 SW 49TH ST	COOPER CITY	260331	801814	025	50	40	87 068732400	32400			
06	COOPER COLONY COUNTRY CLUB	5050 SW 90TH ST	COOPER CITY						87 068733099	33099	00000500	A	
06	FARM STORE #1061	11345 STIRLING RD	COOPER CITY	260236	801758				88 068838490	38490	00010000	B	
06	CORAL SPGS,CITY-BUCHANAN FIRE STATION	4550 ROCK ISLAND RD	CORALSPGS						88 068841148	41148	00000550	M	
06	CHEVRON #47277	2251 UNIV DR	CORALSPRINGS	261533	801502	021	48Z	41E	068501765	01765	00001000	L	
06	GULF #00367276	9550 W SAMPLE RD	CORALSPRINGS			021	48S	41E	068501766	01766	00006000	A	
06	GULF #00367276	9550 W SAMPLE RD	CORALSPRINGS			021	48S	41E	068501766	01766	00006000	B	
06	GULF #00367276	9550 W SAMPLE RD	CORALSPRINGS			021	48S	41E	068501766	01766	00006000	B	
06	GULF #00367276	9550 W SAMPLE RD	CORALSPRINGS			021	48S	41E	068501766	01766	00006000	D	
06	CORAL SPRINGS IMPROVEMENT DISTRICT	10300 NW 11TH MANOR	CORALSPRINGS			028	48S	41E	068501767	01767	00000600	D	
06	CORAL SPRINGS IMPROVEMENT DISTRICT	10300 NW 11TH MANOR	CORALSPRINGS			028	48S	41E	068501767	01767	00002000	D	
06	CORAL SPRINGS IMPROVEMENT DISTRICT	10300 NW 11TH MANOR	CORALSPRINGS			028	48S	41E	068501767	01767	00007500	D	
06	MOBIL #02-KAC	2291 CORAL RIDGE DR	CORALSPRINGS	261530	801655	020	48S	41E	068501768	01768	00005000	B	
06	EXXON #40238	8395 W ATLANTIC BLVD	CORALSPRINGS	261407	801415				068501921	01921	00006000	B	
06	MOBIL #02-594	10739 W ATLANTIC BLVD	CORALSPRINGS	261426	801608	032	48S	41E	068502349	02349	00010000	B	
06	MOBIL #02-533	7801 W SAMPLE RD	CORALSPRINGS	261620	801315	014	48S	41E	068502368	02368	00012000	B	
06	ONE WAY YOUR WAY #15	2290 CORAL SPRINGS DR	CORALSPRINGS						068502423	02423	00004000	D	
06	ONE WAY YOUR WAY #15	2290 CORAL SPRINGS DR	CORALSPRINGS						068502423	02423	00008000	B	
06	MOBIL #02-535	1351 UNIVERSITY DR	CORALSPRINGS			028	48S	41E	068502839	02839	00008000	B	
06	ROYAL UTILITY CO.,INC.	8820 NW 43TH ST	CORALSPRINGS	261702	801441	015	048	041	068502843	02843			
06	X-BAR RANCH	8415 WILES RD	CORALSPRINGS			010	048	41E	068502900	02900	00001000	Y	
06	7-ELEVEN FOOD STORE #25749	10950 WILES RD	CORALSPRINGS			017	48S	41E86	068622205	22205	00006000	D	
06	7-ELEVEN FOOD STORE #25749	10950 WILES RD	CORALSPRINGS			017	48S	41E86	068622205	22205	00010000	A	
06	CORAL SPRINGS AUTO MALL	9330 W ATLANTIC BLVD	CORALSPRINGS			033	48S	41E86	068622449	22449	00000550	Z	
06	CORAL SPRINGS AUTO MALL	9330 W ATLANTIC BLVD	CORALSPRINGS			033	48S	41E86	068622449	22449	00002000	D	
06	CORAL SPRINGS,CITY-PUBLIC WORKS	4181 NW 121ST AVE	CORALSPRINGS	261650	801622	018	48S	41E86	068622461	22461	00001000	B	
06	CORAL SPRINGS,CITY-PUBLIC WORKS	4181 NW 121ST AVE	CORALSPRINGS	261650	801622	018	48S	41E86	068622461	22461	00005000	D	
06	FL POWER & LIGHT CO. #7332	3701 NW 120TH AVE	CORALSPRINGS			018	48S	41E86	068622463	22463	00006000	A	
06	CHEVRON #52057	300 UNIVERSITY DR	CORALSPRINGS	261404	801515	033	48S	41E86	068622478	22478	00010000	B	
06	BROWARD CNTY UTILITIES DIV-L/S 460	4181 NW 121ST AVE	CORALSPRINGS			018	048	04186	068622494	22494			
06	BROWARD CNTY UTILITIES DIV-L/S 462	3800 NW 85TH AVE	CORALSPRINGS			015	048	04186	068622495	22495			
06	NEWTN LTD/FRANK	200 FT S OF SAMPLE RD/SR 441	CORALSPRINGS			024	048	04186	068622530	22530	00002000	D	
06	WESTINGHOUSE COMMUNITIES, INC.	4100 NW 121 AVE	CORALSPRINGS			018	485	41E86	068627622	27622	00000500	L	
06	WESTINGHOUSE COMMUNITIES, INC.	4100 NW 121 AVE	CORALSPRINGS			018	485	41E86	068627622	27622	00008000	B	
06	WESTINGHOUSE COMMUNITIES, INC.	4100 NW 121 AVE	CORALSPRINGS			018	485	41E86	068627622	27622	00008000	B	
06	L&S PAVING	11500 W SAMPLE RD	CORALSPRINGS					86	068627664	27664	00004000	D	
06	CORAL SPRINGS,CITY-BOOSTER STATION	10200 N W 29TH AVE	CORALSPRINGS					87	068732832	32832	00002000	M	
06	CORAL SPRINGS,CITY-PUBLIC SAFETY BLDG	2801 CORAL SPRINGS DR	CORALSPRINGS					87	068732833	32833	00002000	M	
06	CORAL SPRINGS,CITY-FIRE STATION	500 RAMBLEWOOD DR	CORALSPRINGS					87	068733151	33151	00000275	M	
06	CORAL SPRINGS,CITY-CAGLE FIRE STATION	11800 NW 41ST ST	CORALSPRINGS					87	068733153	33153	00000275	M	
06	NEW INDUSTRIAL TECHNIQUES, INC.	12325 W SAMPLE RD	CORALSPRINGS					87	068733222	33222	00000500	L	
06	FAA-RML	9500 WILES RD	CORALSPRINGS					87	068733223	33223	00000515	A	

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COUNTY	FACILITY NAME	ADDRESS	CITY	LAT	LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
06	INDIAN TRACE COMMUNITY DEVELOPMENT	NW CORNER WESTON & INDIAN TRACE	CORALSPRINGS	260614	802151	008	050	04088	068840236	40236			
06	CORAL SPRINGS MEDICAL CENTER	3000 CORAL HILLS DR	CORALSPRINGS					88	068840452	40452	00000250		Z
06	AMOCO #60100	WILES & RIVERSIDE PLAZA	CORALSPRINGS					88	068841651	41651	00010000		B
06	AMOCO #60100	WILES & RIVERSIDE PLAZA	CORALSPRINGS					88	068841651	41651	00010000		B
06	CORAL SPRINGS,CITY-WATER TREATMENT	3800 N W 85TH ST	CORSLSPRINGS					87	068732834	32834	00002000		M
06	DONZI MARINE CORP.	2740 NW 29TH TERR	LAUDERDALE LAKE					86	068622546	22546	00001500		A
06	FORMER TREASURY STORE #5024	3001 N SR 7	LAUDERDALE LAKE					87	068733185	33185	00000550		L
06	OAKLAND CLUB, INC.	4200 NW 41TH ST	LAUDERDALE LAKE					87	068733199	33199	00000550		A
06	GULF #00367573	4449 N SR 7	LAUDERDALE LAKES	260957	801218	01349S	41E		068501775	01775	00010000		A
06	GULF #00367573	4449 N SR 7	LAUDERDALE LAKES	260957	801218	01349S	41E		068501775	01775	00010000		B
06	GULF #00367573	4449 N SR 7	LAUDERDALE LAKES	260957	801218	01349S	41E		068501775	01775	00010000		B
06	MOBIL #02-A37	3100 W OAKLAND PARK BLVD	LAUDERDALE LAKES	260953	801118	03049S	42E		068502241	02241	00006000		A
06	MOBIL #02-A37	3100 W OAKLAND PARK BLVD	LAUDERDALE LAKES	260953	801118	03049S	42E		068502241	02241	00010000		A
06	FORMER MOBIL STATION	2851 N SR 7	LAUDERDALE LAKES						068502355	02355	********		L
06	EXXON #7114-OAKLAND WEST	3991 W OAKLAND PK BLVD	LAUDERDALE LAKES			03049S	42E		068502411	02411	00003000		A
06	EXXON #7114-OAKLAND WEST	3991 W OAKLAND PK BLVD	LAUDERDALE LAKES			03049S	42E		068502411	02411	00004000		B
06	FINA #7365	4090 N SR 7	LAUDERDALE LAKES			01949S	42E		068502523	02523	00012000		A
06	SHELL-LAKES CARWASH	3101 N SR 7	LAUDERDALE LAKES						068502622	02622	00010000		B
06	TENNECO #127	2400 N SR 7	LAUDERDALE LAKES						068502758	02758	00010000		B
06	TENNECO #127	2400 N SR 7	LAUDERDALE LAKES						068502758	02758	00010000		B
06	BROWARD CNTY-UTILITIES DIV-L/S 410	950 NW 39TH AVE	LAUDERDALE LAKES			006050	042	86	068622505	22505			
06	BROWARD CNTY UTILITIES DIV-WTP 1A	3701 N SR 7	LAUDERDALE LAKES					86	068622519	22519	00001000		A
06	LAUDERDALE LAKES,CITY	4300 NW 36TH ST	LAUDERDALE LAKES	261011	801230	02449S	41E	86	068622723	22723	00000500		L
06	LAUDERDALE LAKES,CITY	4300 NW 36TH ST	LAUDERDALE LAKES	261011	801230	02449S	41E	86	068622723	22723	00000550		Y
06	LAUDERDALE LAKES,CITY	4300 NW 36TH ST	LAUDERDALE LAKES	261011	801230	02449S	41E	86	068622723	22723	00001000		M
06	JIFFY LUBE-LAUDERDALE LAKES	1950 N SR 7	LAUDERDALE LAKES					86	068627933	27933	00001000		Q
06	REEF BUICK, INC.	2300 N SR 7	LAUDERDALE LAKES			03049S	42E	86	068627939	27939	00008000		A
06	BROWARD CNTY SCHOOL BD.-BOYEDANDERSON	3050 NW 41ST ST	LAUDERDALE LAKES					87	068733479	33479	00000500		D
06	FIRST AMERCIAN SERVICE CORP.	2851 SR 7	LAUDERDALE LAKES					88	068841348	41348	********		Y
06	HESS STATION	2099 NW 40TH AVE	LAUDERHILL			02549S	41E		068501542	01542	00006000		A
06	CHEVRON #47248	1189 N SR 7	LAUDERHILL	260825	801212	03649S	41E		068501709	01709	00010000		A
06	FINA #7364	1601 NW 40TH AVE	LAUDERHILL	260845	801220	03649S	41E		068501730	01730	00012000		B
06	BEST CAR WASH	1360 N SR 7	LAUDERHILL	260836	801205				068501875	01875			
06	EXXON #6331-CASTLE GARDEN	2599 NW 40TH AVE	LAUDERHILL	261040	801220	02549S	41E		068501932	01932	00003000		A
06	EXXON #6331-CASTLE GARDEN	2599 NW 40TH AVE	LAUDERHILL	261040	801220	02549S	41E		068501932	01932	00003000		B
06	EXXON #0058	5590 N UNIVERSITY DR	LAUDERHILL	261135	801607				068501935	01935	00006000		B
06	GULF #00589423	4695 N UNIVERSITY DR	LAUDERHILL			01649S	41E		068502049	02049	00010000		A
06	GULF #00589423	4695 N UNIVERSITY DR	LAUDERHILL			01649S	41E		068502049	02049	00010000		B
06	HESS #09285	1200 W 40TH AVE (SR 7)	LAUDERHILL	260827	801210	03149S	42E		068502101	02101	00010000		A
06	BJW., INC.	1020 NW 40TH AVE	LAUDERHILL						068502247	02247	00000550		L
06	MOBIL #02-562	5600 W OAKLAND PARK BLVD	LAUDERHILL	260951	801339	02649S	41E		068502346	02346	00012000		B
06	SHELL STATION	7000 W COMMERCIAL BLVD	LAUDERHILL						068502628	02628	00010000		B
06	SONNY'S CAR WASH	1890 N SR 7	LAUDERHILL						068502654	02654	00010000		B
06	AMOCO #7051	4401 N UNIV DR	LAUDERHILL						068502840	02840	********		Y
06	AMOCO #7051	4401 N UNIV DR	LAUDERHILL						068502840	02840	00010000		B
06	BROWARD CNTY UTILITIES DIV-L/S 452	2101 NW 49TH AVE	LAUDERHILL			025049	041	86	068622515	22515			

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06	BROWARD PUMP & SUPPLY CO., INC.	3761 NW 16TH ST	LAUDERHILL					86	068627635	27635			
06	TAYLOR RENTAL	6580 N PINE ISLAND RD	LAUDERHILL					86	068628180	28180	00001000	L	
06	MORSE CHEVROLET,ED	1640 NW 40TH AVE	LAUDERHILL	260850	801209	03149S	42E	86	068628186	28186	00002000	O	
06	KMART #4279	1010 NW 40TH AVE	LAUDERHILL			03149S	42E	86	068628191	28191	00001000	L	
06	TRT TELECOMMUNICATIONS CORP.	1352 NW 40TH AVE	LAUDERHILL					88	068628195	28195	00009000	M	
06	COLONY CLEANERS	1187 NW 40 AVE	LAUDERHILL					87	068732023	32023	00004000	J	
06	FRONRATH USED CARS/GARY	1100 NW 40TH AVE	LAUDERHILL					87	068732100	32100	00007500	I	
06	FIRESTONE TIRE & RUBBER CO.	7300 W COMMERICAL BLVD	LAUDERHILL					87	068733078	33078	00000250	L	
06	LAUDERHILL TIRE & SERVICE	1250 NW 40TH AVE	LAUDERHILL					87	068733182	33182	00000500	L	
06	FIRESTONE #1825-016063	1801 NW 40TH AVE	LAUDERHILL					87	068733183	33183	00000400	D	
06	INVERRARY COUNTRY CLUB	3840 INVERRARY BLVD	LAUDERHILL	261108	801338			87	068736557	36557	00001000	D	
06	FARM STORE #1079	8201 W COMMERCIAL BLVD	LAUDERHILL					88	068839073	39073	00010000	A	
06	LAUDERHILL EAST CONDOMINIUM,INC.	4301 NW 16TH ST	LAUDERHILL					88	068840465	40465	00000275	O	
06	LOXAHATCHEE GROVES WATER CONTROL DIST	101 W "D" RD	LOXAHATCHEE			032041	043	87	068736156	36156	00004000	M	
06	FORMER MARGATE GEN. HOSPITAL	5850 MARGATE BLVD	MARAGTE					87	068733108	33108	00000500	D	
06	HESS #08216	150 N SR 7	MARGATE			00348S	41E		068501521	01521	00010000	B	
06	SHELL-ATLANTIC	505 N SR 7	MARGATE						068501567	01567	00010000	B	
06	AMOCO #6205	804 N SR 7	MARGATE						068501693	01693	00006000	B	
06	AMOCO #6205	804 N SR 7	MARGATE						068501693	01693	00010000	B	
06	CHEVRON #47276	490 N SR 7	MARGATE			03648S	41E		068501716	01716	00000550	L	
06	CHEVRON #47276	490 N SR 7	MARGATE			03648S	41E		068501716	01716	00010000	A	
06	CHEVRON #47276	490 N SR 7	MARGATE			03648S	41E		068501716	01716	00010000	B	
06	FINA #7363	5789 MARGATE BLVD	MARGATE			03648S	41E		068501735	01735	00012000	A	
06	CUMBERLAND FARMS #0950	6900 W ATLANTIC BLVD	MARGATE						068501791	01791	00008000	A	
06	GULF #00626473	4990 COCONUT CREEK PKWY	MARGATE	260957	801124	03148S	42E		068502046	02046	00010000	B	
06	KURDEN ENTERPRISES,INC	1501 N SR 7	MARGATE						068502302	02302	00002000	B	
06	KURDEN ENTERPRISES,INC	1501 N SR 7	MARGATE						068502302	02302	00004000	A	
06	MOBIL #02-FVP	2099 N ST RD 7	MARGATE	261513	801206	02548S	41E		068502303	02303	00008000	B	
06	MOBIL #AQB	7844 W SAMPLE RD	MARGATE	261629	801439				068502304	02304	00010000	A	
06	SHELL-MARGATE	5700 COCONUT CREEK PKWY	MARGATE						068502305	02305	00010000	A	
06	GULF #00367904	2101 N SR 7	MARGATE	261427	801211	24 48S	42E		068502384	02384	00010000	B	
06	TENNECO #130-FOOD STORE	2485 N SR 7	MARGATE						068502753	02753	00010000	A	
06	TENNECO #133	690 S SR RD 7	MARGATE						068502754	02754	00010000	B	
06	WAY-LO #22222	891 N SR 7	MARGATE	261427	801219	03648S	41E		068502869	02869	00000550	L	
06	WAY-LO #22222	891 N SR 7	MARGATE	261427	801219	03648S	41E		068502869	02869	00004000	B	
06	WAY-LO #22222	891 N SR 7	MARGATE	261427	801219	03648S	41E		068502869	02869	00010000	B	
06	TAMARAC AIR COND., INC.	5600 NW 8TH ST	MARGATE					86	068625894	25894	00010000	B	
06	TEXACO #021-024	1291 N SR 7	MARGATE					86	068626276	26276	00010000	A	
06	NORTHWEST REGIONAL HOSPITAL	5801 COLONIAL DR	MARGATE			02448S	41E	86	068628022	28022	00005000	M	
06	KMART #3246	560 N SR 7	MARGATE			03648S	42E	86	068628116	28116	00001000	L	
06	CAROLINA COUNTRY CLUB	3300 HOLIDAY SPRINGS BLVD	MARGATE					87	068732113	32113	00001000	A	
06	JFL AUTO SERVICE	1340 SR 7	MARGATE					87	068733191	33191	00000250	L	
06	NEWTH LTD./FRANK	3401 N SR 7	MARGATE					87	068735752	35752	00000250	O	
06	NEWTH LTD./FRANK	3401 N SR 7	MARGATE					87	068735752	35752	00000500	B	
06	MARGATE,CITY-PUBLIC WORKS COMPOUND	101 ROCK ISLAND RD	MARGATE	261433	801211	03548S	41E	88	068837422	37422	00006000	A	
06	HALL-A-WAY,INC.	605 MAPLE DR	MARGATE					88	068837865	37865	00000500	D	

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06	LANCE AUTO REPAIR	1491 N SR 7	MARGATE					88	068838640	38640	00004000	A	
06	LANCE AUTO REPAIR	1491 N SR 7	MARGATE					88	068838640	38640	00004000	B	
06	FL POWER & LIGHT CO.	1982 N SR 7	MARGATE	261506	801203			88	068840990	40990			
06	ORIOLE GOLF & TENNIS CLUB OF MARGATE	8000 MARGATE BLVD	MARGATE					88	068841819	41819	00001000	D	
06	GULF #00367292	6961 MIRAMAR PKWY	MIRAMAR			00951S	41E		068502338	02338	00004000	B	
06	GULF #00367292	6961 MIRAMAR PKWY	MIRAMAR			00951S	41E		068502338	02338	00004000	B	
06	MOBIL #02-HW7	4090 S SR 7	MIRAMAR	255822	801223	02551S	41E		068502339	02339	00008000	A	
06	SHELL #1006	2900 S SR 7	MIRAMAR						068502340	02340	00010000	B	
06	EXXON #6985-A&D PRODUCTS	3100 S UNIV DR	MIRAMAR			02851S	41E		068502441	02441	00003000	A	
06	QUEEN OF HEAVEN CEMETERY SHOP	1500 N SR 7	N FTLAUDERDALE					88	068837391	37391	00001035	B	
06	7-ELEVEN FOOD STORE #22787	955 SW 81 ST AVE	NLAUDERDALE	261300	801415	002	49S41E		069501422	01422	00006000	C	
06	CIRCLE K #4946	1200 S SR 7	NLAUDERDALE						068502268	02268	00010000	B	
06	CIRCLE K #4946	1200 S SR 7	NLAUDERDALE						068502266	02266	00010000	C	
06	MOBIL #02-AL1	7120 SOUTHGATE BLVD	NLAUDERDALE	261340	801316	002	49S41E		068502655	02655	00006000	B	
06	BROWARD CNTY UTILITIES DIV-L/S 458	901 SW 71ST AVE	NLAUDERDALE			002	049041	86	068622496	22496			
06	BROWARD CNTY UTILITIES DIV-L/S 456	7001 SW 17TH ST	NLAUDERDALE	261222	801300	012	049041	86	068622501	22601			
06	STAR OF DAVID CEMETARY	7701 BAILEY RD	NLAUDERDALE					88	068838247	38247	00001000	B	
06	AMOCO #6226-KIMBERLY RD	1051 S SR 7	NORTHLAUDERDALE	261250	801220				068502222	02222	00006000	A	
06	AMOCO #6226-KIMBERLY RD	1051 S SR 7	NORTHLAUDERDALE	261250	801220				068502222	02222	00010000	B	
06	AMOCO #7020	1050 SW 81 AVE	NORTHLAUDERDALE						068502401	02401	00010000	B	
06	MOBIL #02-A3Q	1301 S SR 7	NORTHLAUDERDALE			001	49S 41E	86	068628121	28121	00010000	A	
06	NORTH LAUDERDALE,CITY	701 SW 71ST AVE	NORTHLAUDERDALE					88	068828189	28189	00000550	D	
06	NORTH LAUDERDALE,CITY	701 SW 71ST AVE	NORTHLAUDERDALE					86	068628189	28189	00002000	D	
06	MACHO	2560 KIRBY AVE NE	PALMBAY					87	068736725	36725	00000150	M	
06	SCHULZ LANDSCAPE SERVICE	9701 HOLMBERG RD	PARKLAND					87	068734119	34119	00000550	B	
06	STEVENS/J.W.	6950 NW 87TH AVE	PARKLAND					87	068735755	35755	00000550	A	
06	HENDRIX ENTERPRISES,INC./R.V.	8801 NW 72ND ST	PARKLAND					87	068736308	36308	00000650	D	
06	FOUR B'S NURSERY,INC.	6886 NW 82ND TERRACE	PARKLAND					88	068838222	38222	00000350	B	
06	PARKLAND,CITY	6500 PARKSIDE DR	PARKLAND					88	068838379	38379	00001000	B	
06	HENDRIX ENTERPRISES,INC./R.V.	8801 NW 72ND ST	PARKLAND					88	068840070	40070	00000500	D	
06	FAA	BLDG 992	PATRICK AFB					86	068628151	28151	00000750	M	
06	FLOWERS BAKING CO.	3260 W PEMBROKE RD	PEMBROKE PK					86	068622371	22371			
06	WEEKLEY ASPHALT PAVING, INC. #1	3211 W HALLANDALE BCH BLVD	PEMBROKE PK			02951S	42E	86	068622450	22450	00015000	D	
06	WEEKLEY ASPHALT PAVING, INC. #1	3211 W HALLANDALE BCH BLVD	PEMBROKE PK			02951S	42E	86	068622450	22450	00020000	D	
06	TRINITY TOWERS	3300 PEMBROKE RD	PEMBROKE PK					88	068840487	40487	00000250	M	
06	BOLTON FORD/LUKE	707 N SR 7	PLANATION					87	068733089	33089	00000500	J	
06	AMOCO-EDDIE'S	951 N SR 7	PLANTATION			00150S	41E		068501545	01545	00004000	A	
06	CHEVRON #47251-B12	6901 W BROWARD BLVD	PLANTATION	260716	801418	00350S	41E		068501703	01703	00010000	B	
06	CHEVRON #47231	3 SW 40TH AVE	PLANTATION	260713	801209	01250S	41E		068501706	01706	00003000	B	
06	CHEVRON #47278-COLLINS	8741 W BROWARD BLVD	PLANTATION	260715	801554	00450S	41E		068501743	01743	00010000	A	
06	CHEVRON #47278-COLLINS	8741 W BROWARD BLVD	PLANTATION	260715	801554	00450S	41E		068501743	01743	00010000	B	
06	EXXON #46024	5601 W SUNRISE BLVD	PLANTATION	260809	801329				069501929	01929	00006000	B	
06	EXXON-JACARANDA	1301 S UNIVERSITY DR	PLANTATION			01650S	41E		068501933	01933	00001000	L	
06	EXXON-JACARANDA	1301 S UNIVERSITY DR	PLANTATION			01650S	41E		068501933	01933	00003000	A	
06	EXXON-JACARANDA	1301 S UNIVERSITY DR	PLANTATION			01650S	41E		068501933	01933	00004000	B	
06	EXXON-JACARANDA	1301 S UNIVERSITY DR	PLANTATION			01650S	41E		068501933	01933	00010000	B	
06	PLANTATION,CITY	8801 W BROWARD BLVD	PLANTATION			00550S	41E		068502065	02065	00006000	M	

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06	MOBIL #02-522	1799 N UNIV DR	PLANTATION			03349S	41E		068502367	02367	00008000	B	
06	AMOCO #902-PETERS RD	1211 S SR 7	PLANTATION	260620	801150				068502456	02456	00010000	B	
06	AMOCO #902-PETERS RD	1211 S SR 7	PLANTATION	260620	801150				068502456	02456	00010000	B	
06	TEXACO #021-369	501 N SR 7 & 40TH AVE	PLANTATION						068502483	02483	00004000	B	
06	TEXACO #021-369	501 N SR 7 & 40TH AVE	PLANTATION						068502483	02483	00004000	B	
06	TEXACO #021-369	501 N SR 7 & 40TH AVE	PLANTATION						068502483	02483	00008000	A	
06	TEXACO #021-369	501 N SR 7 & 40TH AVE	PLANTATION						068502483	02483	00010000	D	
06	SHELL-SCOTT'S	1800 N PINE ISLAND RD	PLANTATION						068502593	02593	00010000	A	
06	SHELL STATION	4701 W SUNRISE BLVD	PLANTATION						068502627	02627	00010000	A	
06	SHELL STATION	7901 W BROWARD BLVD	PLANTATION						068502631	02631	00010000	A	
06	PLANTATION SERVICE CENTER,INC.	4680 NW 9TH CT	PLANTATION						068502667	02667	00008000	B	
06	MOBIL #03A22	201 SW 40TH AVE	PLANTATION	260704	801209	01250S	41E		068502702	02702	00010000	B	
06	MOBIL #02-A43	4691 W SUNRISE BLVD	PLANTATION	261630	800564	03649S	41E		068502713	02713	00005000	B	
06	SHELL-WESTGATE	7021 SW 18TH ST	PLANTATION						068502886	02886	00010000	B	
06	PLANTATION,CITY-S WWTP	8500 SW 16TH ST	PLANTATION	260607	801407	01550S	41E	86	068622508	22508			
06	PLANTATION,CITY-E WW TREATMENT PLANT	500 NW 65TH AVE	PLANTATION	260740	801402	00350S	41E	86	068622510	22510	00001000	D	
06	PLANTATION,CITY-E WW TREATMENT PLANT	500 NW 65TH AVE	PLANTATION	260740	801402	00350S	41E	86	068622510	22510	00002000	M	
06	PLANTATION,CITY-WASTEWATER TREATMENT	6500 NW 11TH PL	PLANTATION	260825	801402	03449S	41E	86	068622511	22511	00001000	A	
06	PLANTATION,CITY-WASTEWATER TREATMENT	6500 NW 11TH PL	PLANTATION	260825	801402	03449S	41E	86	068622511	22511	00010000	B	
06	SEARS ROEBUCK & CO.	100 BROWARD MALL	PLANTATION	260700	815314			86	068626158	26158	00006000	B	
06	PLANTATION,CITY-WATER CONTROL	8800 N NEW RIVER CANAL RD	PLANTATION			01650S	41E	86	068627656	27656	00001000	M	
06	7-ELEVEN FOOD STORE #25569	640 N SR 7	PLANTATION	260742	801211			86	068627775	27775	00010000	B	
06	7-ELEVEN FOOD STORE #26811	13250 W BROWARD BLVD	PLANTATION	260750	801903	00250S	40E	86	068627778	27778	00010000	C	
06	MASSEY YARDLEY CHRYSLER-PLYMOUTH,INC.	777 N SR 7	PLANTATION					86	068628119	28119			
06	PLANTATION AMC/JEEP, INC.	440 S SR 7	PLANTATION					86	068628182	28182	00000250	L	
06	PLANTATION,CITY-PUBLIC WORKS	8851 W BROWARD BLVD	PLANTATION	260722	801610	00504I	05D	87	068732085	32085			
06	POTAMKIN OF BROWARD SUBARU	600 N SR 7	PLANTATION	260705	801610			87	068732342	32342	00000500	L	
06	OMEGA CONDOMINIUMS BLDG #1	1681 NW 70TH AVE	PLANTATION					87	068733084	33084	00000275	D	
06	PENNEY/J.C.	900 BROWARD MALL	PLANTATION					87	068733096	33096	00000280	M	
06	PINE ISLAND MEDICAL CENTER	350 N PINE ISLAND	PLANTATION					87	068733111	33111	00000075	M	
06	ASSOCIATED GROWERS	P O BOX 16094	PLANTATION					87	068733154	33154	00000250	A	
06	ROGER'S AUTO REPAIR CENTER	4215 PETERS RD	PLANTATION					87	068733171	33171	00000300	L	
06	NORTON TIRE CO., INC. #18	381 S ST 7	PLANTATION					87	068733186	33186	00000550	L	
06	JEWISH COMMUNITY CENTER	6501 W SUNRISE BLVD	PLANTATION					87	068737221	37221	00000300	D	
06	PHILLIPS 66-PLANTATION	5271 W BROWARD BLVD	PLANTATION					88	068838150	38150	00004000	B	
06	PHILLIPS 66-PLANTATION	5271 W BROWARD BLVD	PLANTATION					88	068838150	38150	00004000	D	
06	MAYFAIR CONTRACTING CO.,INC.	1017 SW SR 7	PLANTATION					88	068839307	39307	00000250	D	
06	UNIVERSAL MEDICAL CENTER	6701 W SUNRISE BLVD	PLANTATION	260745	801440			88	068840268	40268			
06	VALETERIA,INC.	339 N SR 7	PLANTATION					88	068840489	40489	00000550	M	
06	MOTOROLA,INC.	8000 W SUNRISE BLVD	PLANTATION					88	068840522	40522	00000318	M	
06	PLANTATION,CITY-POLICE STATION	451 NW 70TH TERRACE	PLANTATION	260734	801434	00350S	41E	88	068840712	40712			
06	FL POWER & LIGHT-CENTRAL DIST. OFFICE	7201 CYPRESS RD	PLANTATION					88	068840829	40829	00000500	M	
06	JACARANDA COUNTRY CLUB	9200 W BROWARD BLVD	PLANTATION					88	068840966	40966	00002000	D	
06	VALENTINE,INC	4409 PETERS RD	PLANTATION					88	068841391	41391	00000550	D	
06	CONDUIT & FOUNDATION	284 S UNIVERSITY AVE	PLANTATION					88	068841647	41647	00001000	A	
06	PLANTATION,CITY	770 NW 91ST AVE	PLANTATION	260722	801610	00541S	50E	88	068841653	41653			
06	EMBICK BROS ROOFING	4420 PETERS RD	PLANTATION					88	068841695	41695	00004000	A	

C* = Tank Contents

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
06	DOCTORS GENERAL HOSPITAL	6701 W SUNRISE BLVD	PLANTATION				88	068842034	42034	00010000	M	
06	HUMANA HOSPITAL-BENNETT	8201 W BROWARD BLVD	PLANTATION				88	068842086	42086	00005000	M	
06	GULF #00367417	6000 W OAKLAND PARK BLVD	SUNRISE		02649S	41E		068502485	02485	00000550	L	
06	GULF #00367417	6000 W OAKLAND PARK BLVD	SUNRISE		02649S	41E		068502485	02485	00008000	B	
06	MOBIL #02-A44	2185 UNIV DR	SUNRISE		02849A	41E		068502708	02709	00006000	B	
06	CHEVRON #47242	1200 NW 61ST AVE	SUNRISE		03649S	41E		068502717	02717	00010000	A	
06	EXXON STATION	3301 N UNIV DR	SUNRISE	261141 801510				068502718	02718	00006000	A	
06	TENNECO #144	2695 N UNIVERSITY	SUNRISE					068502751	02751	00010000	A	
06	AMOCO STATION	7980 W OAKLAND PARK BLVD	SUNRISE	260953 801500	02149S	41E		068502826	02826	00010000	B	
06	MOBIL #02-A42	5998 W OAKLAND PARK BLVD	SUNRISE	260451 801354	02649S	41E		068502883	02883	00006000	A	
06	KING MOTOR CO. OF SUNRISE	3100 N UINIV DR	SUNRISE		02149S	41E	86	068622285	22285	00000500	D	
06	KING MOTOR CO. OF SUNRISE	3100 N UINIV DR	SUNRISE		02149S	41E	86	068622285	22285	00000550	L	
06	KING MOTOR CENTER	700 E SUNRISE BLVD	SUNRISE		00250S	42E	86	068622286	22286	00000550	L	
06	KING MOTOR CENTER	700 E SUNRISE BLVD	SUNRISE		00250S	42E	86	068622286	22286	00002500	B	
06	FL TURNPIKE-ADMINISTRATION	MP 15	SUNRISE		03649S	41E	86	068622423	22423			
06	SUNRISE,CITY-DEL LAGO S.W.P.	900 N SUNRISE BLVD & 1100 E SUNS	SUNRISE				86	068622436	22436	00000275	D	
06	SUNRISE,CITY-CITY GARAGE	6400 21ST ST	SUNRISE				86	068622437	22437	00000550	D	
06	SUNRISE,CITY-FIRE STATION #3	10770 W OAKLAND PK BLVD	SUNRISE				86	068622439	22439	00001000	D	
06	SUNRISE,CITY-SPRINGTREE C. C.	8350 SPRINGTREE DR	SUNRISE				86	068622442	22442	00000500	D	
06	CENTRAL BROWARD SERVICE CENTER	4401 NW 112TH AVE	SUNRISE	261046 801758	01349S	40E	86	068622467	22467	00000250	D	
06	SUNRISE,CITY-CITY HALL	10770 W OAKLAND PK BLVD	SUNRISE				86	068622525	22525	00006000	M	
06	MOBIL STATION	16800 WESTON DR	SUNRISE		00450S	40E	86	068622551	22551	00006000	A	
06	MOBIL STATION	16800 WESTON DR	SUNRISE		00450S	40E	86	068622551	22551	00010000	B	
06	SOUTHEAST UNDERGROUND	14150 NW 8TH ST	SUNRISE				86	068625850	25850	00001000	B	
06	XCEL FOOD STORE #19	8490 NW 44TH ST	SUNRISE		02148S	41E	86	068627711	27711	00010000	B	
06	FARM STORE #1073	10001 SUNSET STRIP	SUNRISE				86	068627898	27898	00010000	B	
06	KMART #3113	8050 W OAKLAND PARK BLVD	SUNRISE				86	068628004	28004	00001000	Z	
06	JIFFY LUBE OF SUNRISE	4359 N UNIVERSITY DR	SUNRISE				87	068731644	31644	00003000	L	
06	RACAL-MILGO DIVISION	1601 N HARRISON PKWY	SUNRISE				87	068731811	31811	00001000	D	
06	RACAL-MILGO DIVISION	1601 N HARRISON PKWY	SUNRISE				87	068731811	31811	00001000	Z	
06	BEELINE ENGINEERING &CONSTRUCTION,INC	1751 NW 136TH AVE	SUNRISE				87	068732111	3211100001500	B		
06	BEELINE ENGINEERING &CONSTRUCTION,INC	1751 NW 136TH AVE	SUNRISE				87	068732111	3211100004000	J		
06	BEELINE ENGINEERING &CONSTRUCTION,INC	1751 NW 136TH AVE	SUNRISE				87	068732111	3211100007000	J		
06	SUNRISE COUNTRY CLUB	7400 NW 24TH PL	SUNRISE				87	068732116	32116	00001000	J	
06	DCA GENERAL CONTRACTORS INC.	2951 N FLAMINGO RD	SUNRISE				87	068732152	32152	00000275	Z	
06	DCA GENERAL CONTRACTORS INC.	2951 N FLAMINGO RD	SUNRISE				87	068732152	32152	00000550	O	
06	DCA GENERAL CONTRACTORS INC.	2951 N FLAMINGO RD	SUNRISE				87	068732152	32152	00008000	M	
06	MOBIL #02-AER	15988 SR 84	SUNRISE	260715 802105	00450S	43E	87	068732343	32343	00008000	B	
06	JACK'S SERVICE CENTER, INC.	4397 PINE ISLAND RD	SUNRISE				87	068733109	33109	00000275	L	
06	BROWARD CNTY SCHOOL BD.-PIPER H/S	8000 NW 44TH ST	SUNRISE				87	068733477	33477	00000300	B	
06	SOUTHERN BELL-SUNRFLCC	8650 W OAKLAND PK BLVD	SUNRISE	261010 801558	02149S	41E	87	068734212	34212	00010000	W	
06	CIRCLE K #8534	INDIAN TRACE CENTER	SUNRISE	260608 802044	01050S	40E	88	068840243	40243	00010000	B	
06	TEXACO-A&J TAMARAC	2400 NW 53RD ST	TAMARAC	261147 801043	01749S	42E		068501448	01448	00004000	I	
06	AMOCO #835	4990 N SR 7	TAMARAC	261115 801215				068501543	01543	00004000	B	
06	AMOCO #835	4990 N SR 7	TAMARAC	261115 801215				068501543	01543	00004000	D	
06	AMOCO #835	4990 N SR 7	TAMARAC	261115 801215				068501543	01543	00010000	B	

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COUNTY	FACILITY NAME	ADDRESS	CITY	LAT	LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
06	MOBIL #02-FM3	5000 N SR 7	TAMARAC			01849S	42E		068502202	02202	00006000	A	
06	MOBIL #02-FM3	5000 N SR 7	TAMARAC			01849S	42E		068502202	02202	00012000	B	
06	SHELL #1076	5001 N SR 7	TAMARAC						068502639	02639	00010000	A	
06	STOP-N-GO CONVENIENCE STORES	6400 W COMMERCIAL BLVD	TAMARAC			01549S	41E		068502691	02691	00010000	A	
06	MOBIL #02-A35	4999 N US 441	TAMARAC	261109	801216	01349S	41E		068502707	02707	00006000	B	
06	MOBIL #02-559	7705 NW 88TH AVE	TAMARAC	261301	801629	00549S	41E		068502742	02742	00012000	B	
06	SHELL-CARWASH	5755 NW 88TH AVE	TAMARAC						068502743	02743	00010000	A	
06	SHELL-CARWASH	5755 NW 88TH AVE	TAMARAC						068502743	02743	00010000	D	
06	TEXACO #021-903	6900 UNIVERSITY DR	TAMARAC						068502842	02842	00008000	B	
06	TEXACO #021-903	6900 UNIVERSITY DR	TAMARAC						068502842	02842	00010000	B	
06	TEXACO #021-903	6900 UNIVERSITY DR	TAMARAC						068502842	02842	00010000	D	
06	SHELL #1171-W MCNAB	7000 N UNIV DR	TAMARAC						068502882	02882	00010000	B	
06	BROWARD CNTY-UTILITIES DIV-L/S 454	4191 W COMMERCIAL	TAMARAC			013049	041	86	068622485	22485			
06	TAMARAC,CITY-CITY HALL	5811 NW 88TH AVE	TAMARAC			009049	041	86	068625825	25825	00002000	B	
06	FINA #6505	2401 W COMMERCIAL BLVD	TAMARAC					86	068625863	25863	00006000	A	
06	FINA #6505	2401 W COMMERCIAL BLVD	TAMARAC					86	068625863	25863	00006000	D	
06	FINA #6505	2401 W COMMERCIAL BLVD	TAMARAC					86	068625863	25863	00006000	B	
06	EXXON #4-0227	8351 NW 88TH AVE	TAMARAC	261346	801557	00549S	41E	86	068625875	25875	00012000	B	
06	TAMARAC,CITY-FIRE STATION #2	4801 W COMMERCIAL BLVD	TAMARAC	261124	801231	013495	41E	86	068627655	27655			
06	TAMARAC,CITY-FIRE STATION #1	7501 NW 88TH AVE	TAMARAC	261245	801617	01349S	41E	86	068627688	27688			
06	UNIVERSITY COMMUNITY HOSPITAL	7201 N UNIVERSITY DR	TAMARAC					86	068627701	27701			
06	TAMARAC,CITY-PUBLIC WORKS COMPLEX	5650 NW 88TH AVE	TAMARAC	261139	801602	00949S	41E	86	068627703	27703	00000500	M	
06	TAMARAC,CITY-PUBLIC WORKS COMPLEX	5650 NW 88TH AVE	TAMARAC	261139	801602	00949S	41E	86	068627703	27703	00002000	W	
06	TAMARAC,CITY-UTILITIES WEST	7805 NW 61ST ST	TAMARAC			01749S	42E	86	068627745	27745	00006000	M	
06	NORTON TIRE CO., INC.	4001 W COMMERICAL BLVD	TAMARAC					87	068733087	33087	00000550	L	
06	NORTON TIRE CO., INC. #26	6852 N UNIVERSIRY DR	TAMARAC					87	068733240	33240	00000550	L	
06	TAMARAC,CITY-EAST PUMP STATION	5501 NW 22ND TERRACE	TAMARAC	261141	801015	017049	042	87	068734602	34602			
06	TAMARAC, CITY-RESERVOIR & PUMP	7750 NW 100 AVE	TAMARAC	261205	801720	006749S	41E	87	068736140	35140			
06	TAMARAC NURSING CENTER	NW 79TH ST	TAMARAC					87	068736068	36068	00000150	M	
06	COLONY WEST COUNTRY CLUB	6800 NW 88TH AVE	TAMARAC					88	068841670	41670	00000550	D	
06	EXXON #0142	8550 N UNIV DR	TAMARAC	261346	801519				068501922	01922	00008000	B	

C* = Tank Contents

Table B-12. Underground Storage Tanks Within the WCA Study Area (Dade County)

Source: DER data retrieved from a SFWMD Database. For explanation of codes see Table B-16.

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
13	EVERGLADES STORE	38005 INGRAHAM AVE	FL CITY				86	138622252	22252	00001000	B	
13	GULF-#00369389	1490 NE 1ST AVE	FLCITY		019	57S39E		138504700	04700	00000550	L	
13	GULF-#00369389	1490 NE 1ST AVE	FLCITY		019	57S39E		138504700	04700	00010000	A	
13	CORNELIUS & SONS	101 NW 1ST AVE	FLORIDA CITY					138504294	04294	00001000	D	
13	ECOL #821	1350 KROME AVE	FLORIDA CITY		019057	039		138504943	04943	00008000	A	
13	ECOL #821	1350 KROME AVE	FLORIDA CITY		019057	039		138504943	04943	00010000	A	
13	IORI FARMS, INC.	20410 SW 360 ST	FLORIDA CITY		03457S	38E		138504993	04993	00002000	B	
13	JACK'S BAIT & TACKLE	35412 S FEDERAL HWY	FLORIDA CITY		030057	39E		138505023	05023	00004000	B	
13	JACK'S BAIT & TACKLE	35412 S FEDERAL HWY	FLORIDA CITY		030057	39E		138505023	05023	00004000	D	
13	TORCISE FARMS-JOE	500 N KROME AVE	FLORIDA CITY					138505060	05060	00006000	A	
13	TORCISE FARMS-JOE	500 N KROME AVE	FLORIDA CITY					138505060	05060	00006000	D	
13	SUNSHINE TREE CORP.	35701 SW 202ND AVE	FLORIDA CITY					138506155	06155			
13	TEXACO #021-297	10 SE 1ST AVE	FLORIDA CITY					138506213	06213	00008000	B	
13	TEXACO #021-297	10 SE 1ST AVE	FLORIDA CITY					138506213	06213	00010000	D	
13	TEXACO #021-297	10 SE 1ST AVE	FLORIDA CITY					138506213	06213	00012000	B	
13	FL POWER & LIGHT CO.-TURKEY POINT	9 1/2 MI E OF FL CITY ON PALM DR	FLORIDA CITY		03357S	40E	85	138521992	21992	00001000	B	
13	FL POWER & LIGHT CO.-TURKEY POINT	9 1/2 MI E OF FL CITY ON PALM DR	FLORIDA CITY		03357S	40E	85	138521992	21992	00001000	B	
13	FL POWER & LIGHT CO.-TURKEY POINT	9 1/2 MI E OF FL CITY ON PALM DR	FLORIDA CITY		03357S	40E	85	138521992	21992	00001000	E	
13	CITY OF FL-PUBLIC WORKS	466 NW 6TH AVE	FLORIDA CITY		024057	038	85	138522067	22067	00001060	B	
13	FL ROCK & SAND CO., INC.	15900 SW 408TH ST	FLORIDA CITY		01758S	39E	86	138622083	22083	00004000	B	
13	FL ROCK & SAND CO., INC.	15900 SW 408TH ST	FLORIDA CITY		01758S	39E	86	138622083	22083	00005100	D	
13	FL ROCK & SAND CO., INC.	15900 SW 408TH ST	FLORIDA CITY		01758S	39E	86	138622083	22083	00008000	D	
13	FL ROCK & SAND CO., INC.	15900 SW 408TH ST	FLORIDA CITY		01758S	39E	86	138622083	22083	00008000	D	
13	SUN KWIK #1-JUST OIL	237 N KROME AVE	FLORIDA CITY				86	138622180	22180	00002000	B	
13	SUN KWIK #1-JUST OIL	237 N KROME AVE	FLORIDA CITY				86	138622180	22180	00004000	A	
13	CARDILLO/ FRED	225 SW 3RD ST	FLORIDA CITY				86	138622233	22233			
13	DE LEON/ARTURO	26001 SW 187TH AVE	FLORIDA CITY				86	138622264	22264	00001000	A	
13	FL ROCK & SAND CO.,INC.	354 SW 7TH ST	FLORIDA CITY				86	138622297	22287	00004000	A	
13	FL ROCK & SAND CO.,INC.	354 SW 7TH ST	FLORIDA CITY				86	138622287	22287	00005000	B	
13	9TH AVE MARKET	1205 NW 9TH AVE	FLORIDA CITY				86	138622304	22304			
13	GATEWAY VILLAGE	11 SE 1ST ST	FLORIDA CITY				86	138628847	28847	********	A	
13	GATEWAY VILLAGE	11 SE 1ST ST	FLORIDA CITY				86	138628847	28847	********	D	
13	TORCISE FARMS/JOE	451 W PALM DR	FLORIDA CITY				86	138628961	28961	00002000	H	
13	AT&T COMMUNICATIONS-FL CITY	47600 CARD SOUND RD	FLORIDA CITY				86	138629098	29098	00010000	M	
13	FL DEPT. OF CORRECTIONS-DADE	19000 SW 377TH ST	FLORIDA CITY				87	138732760	32760	00002000	B	
13	LAWRENCE OIL #713	1485 NE 1 AVE	FLORIDA CITY		01957S	39E	87	138735502	35502	00004000	A	
13	LAWRENCE OIL #713	1485 NE 1 AVE	FLORIDA CITY		01957S	39E	87	138735502	35502	00004000	D	
13	PARK ROYAL INN	100 US 1	FLORIDA CITY				87	138736709	36709	00000280	D	
13	CIRCLE K #2372	970 PALM DR	FLORIDA CITY		02457S	38E	88	138840288	40288	00010000	A	
13	SUN KWIK #4	895 W PALM DR	FLORIDA CITY				88	138840547	40547	00008000	B	
13	UNION 76 #863-9270/BURLESONS	20490 OLD CUTLER RD	FRANJO	253440 802008	00956S	40E		138503580	03580			

* Tank Contents

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
13	CHEVRON #47371-MOORE	OLD CUTLER RD	FRANJO	253444 802008	009565	40E		138505470	05470	00010000	A	
13	ANDERSON'S CORNER, INC.	15750 SW 232ND ST	GOULDS		020056	039		138503850	03850	00003000	B	
13	EVERGLADES NATL PK-PINE ISLAND	EVERGLADES NATIONAL PARK	PINEISLAND				88	138839253	39253	00001000	D	
13	EVERGLADES NATL PK-PINE ISLAND	EVERGLADES NATIONAL PARK	PINEISLAND				88	138839253	39253	00001000	I	
13	EVERGLADES NATL PK-PINE ISLAND	EVERGLADES NATIONAL PARK	PINEISLAND				88	138839253	39253	00004000	B	
13	EVERGLADES NATL PK-AIRSTRIP	EVERGLADES NATIONAL PARK	PINEISLAND				88	138839272	39272	00002000	E	

* Tank Contents

Table B-12. Underground Storage Tanks Within the WCA Study Area (Palm Beach County)

Source: DER data retrieved from a SFWMD Database, For explanation of codes see Table B-16.

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
50	TIME SAVER #3475	SR 80 & TABIT	BELLE GLADE				86	508630588	30588	00000000		A
50	KENNEDY & SON, INC./A.N.	SR-827.6 MI S OF CITY (ON FARM)	BELLEGLADE					508513782	13782			
50	BIG B RANCH DIVISION	US 27 6 MI S OF S BAY	BELLEGLADE					508513889	13889	00001000		D
50	BIG B RANCH DIVISION	US 27 6 MI S OF S BAY	BELLEGLADE					508513889	13889	00001000		D
50	BIG B RANCH DIVISION	US 27 6 MI S OF S BAY	BELLEGLADE					508513889	13889	00003000		B
50	BIG B RANCH DIVISION	US 27 6 MI S OF S BAY	BELLEGLADE					508513889	13889	00006000		D
50	TEXACO-BURDEN'S	654 SW AVE E	BELLEGLADE					508513945	13945	********		A
50	CHAMBLEE FARMS	UNKNOWN	BELLEGLADE					508513975	13975	00002000		A
50	CHEVRON #48242	550 SW 16 ST	BELLEGLADE		006	44S	37E	508513979	13979	00001000		L
50	CHEVRON #48242	550 SW 16 ST	BELLEGLADE		006	44S	37E	508513979	13979	00005000		B
50	UNION 76-ICHOSEN	101 SW 16TH ST	BELLEGLADE		031	43S	37E	508513991	13991	00003000		D
50	UNION 76-ICHOSEN	101 SW 16TH ST	BELLEGLADE		031	43S	37E	508513991	13991	00004000		A
50	CHEVRON #48240-CONNELL'S	480 S MAIN ST	BELLEGLADE	264056 804008	031	43S	37E	508514009	14009	00010000		B
50	NANA'S PETROLEUM, INC. #129	148 N MAIN ST	BELLEGLADE					508514079	14079	00003000		C
50	NANA'S PETROLEUM, INC. #129	148 N MAIN ST	BELLEGLADE					508514079	14079	00006000		C
50	NANA'S PETROLEUM, INC.	572 SE CANAL ST	BELLEGLADE					508514102	14102	00002000		A
50	NANA'S PETROLEUM, INC.	572 SE CANAL ST	BELLEGLADE					508514102	14102	00005100		A
50	F&W FARMS	UNKNOWN	BELLEGLADE		028	44S	36E	508514125	14125	00001000		D
50	STEIN FARMS/FRITZ	400 NW 16TH ST	BELLEGLADE		022	43S	29E	508514171	14171	00001000		A
50	FRONTIER PRODUCE	UNKNOWN	BELLEGLADE		032	43S	39E	508514172	14172	00010000		D
50	GULF-COCHRAN'S	507 S MAIN ST	BELLEGLADE					508514213	14213	00010000		A
50	HICKORY NUT FARMS	701 NW 12TH ST	BELLEGLADE					508514233	14233	00000500		D
50	HICKORY NUT FARMS	701 NW 12TH ST	BELLEGLADE					508514233	14233	00000550		D
50	HICKORY NUT FARMS	701 NW 12TH ST	BELLEGLADE					508514233	14233	00002000		A
50	JONES CO./HOOKER	600 NW AVE L	BELLEGLADE		031	43S	37E	508514244	14244			
50	J-MARK FISH CAMP	SR 717	BELLEGLADE		026	43S	36E	508514279	14279	00000250		J
50	J-MARK FISH CAMP	SR 717	BELLEGLADE		026	43S	36E	508514279	14279	00001000		A
50	FINA-BELLE GLADE	281 S MAIN ST	BELLEGLADE	264102 804003				508514348	14348	00003000		A
50	FINA-BELLE GLADE	281 S MAIN ST	BELLEGLADE	264102 804003				508514348	14348	00010000		B
50	MACE SOD SERVICE-FARM ONE	US 27 25 MI S OF S BAY	BELLEGLADE		037	46S	40E	508514384	14384	00004000		D
50	WILSON & PERKINS PARTNERSHIP	6 MI E ON SR 80 & 827	BELLEGLADE		020	44S	38E	508514411	14411			
50	NANA'S PETROLEUM, INC.	1240 NW 16TH ST	BELLEGLADE		025	43S	36E	508514476	14476	00004000		A
50	NANA'S PETROLEUM, INC.	1240 NW 16TH ST	BELLEGLADE		025	43S	36E	508514476	14476	00004000		B
50	NANA'S PETROLEUM, INC. #3	709 NW 16 ST	BELLEGLADE					508514525	14525	00001000		A
50	ROTH FARMS, INC.-GLD	UNKNOWN	BELLEGLADE		007	44S	39E	508514572	14572	00004000		D
50	ROTH FARMS, INC.-GLD	UNKNOWN	BELLEGLADE		007	44S	39E	508514572	14572	00010000		D
50	SEMINOLE SUGAR CORP.	SR-80 & ATLANTIC SUGAR RD	BELLEGLADE		004	44S	39E	508514623	14623	00001000		D
50	SEMINOLE SUGAR CORP.	SR-80 & ATLANTIC SUGAR RD	BELLEGLADE		004	44S	39E	508514623	14623	00001050		D
50	SEMINOLE SUGAR CORP.	SR-80 & ATLANTIC SUGAR RD	BELLEGLADE		004	44S	39E	508514623	14623	00002000		D
50	SEMINOLE SUGAR CORP.	SR-80 & ATLANTIC SUGAR RD	BELLEGLADE		004	44S	39E	508514623	14623	00005200		D
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE		001	44S	38E	508514635	14635	00000500		D
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE		001	44S	38E	508514635	14635	00000800		D

C* = Tank Contents

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT	LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE			001	44S	38E	508514635	14635	00001000	D	
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE			001	44S	38E	508514635	14635	00001000	D	
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE			001	44S	38E	508514635	14635	00001500	D	
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE			001	44S	38E	508514635	14635	00002000	D	
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE			001	44S	38E	508514635	14635	00004000	D	
50	DOUBLE D PROPERTIES,INC.	UNKNOWN	BELLEGLADE			001	44S	38E	508514635	14635	00010000	D	
50	SLIMS FISH CAMP, INC.	SR 717	BELLEGLADE						508514648	14648	00000550	A	
50	SLIMS FISH CAMP, INC.	SR 717	BELLEGLADE						508514648	14648	00001000	A	
50	HOWELL OIL CO.	808 NW 12TH ST	BELLEGLADE	264135	804105				508514672	14672	00002000	D	
50	HOWELL OIL CO.	808 NW 12TH ST	BELLEGLADE	264135	804105				508514672	14672	00010000	D	
50	HOWELL OIL CO.	808 NW 12TH ST	BELLEGLADE	264135	804105				508514672	14672	00025000	D	
50	STEIN SUGAR FARMS	SR 715 & ROCK RD	BELLEGLADE			036	43S	36E	508514678	14678	00001000	A	
50	SUGAR CANE GROWERS CO-OP OF FL	OFF ARPT RD NW OF BELLE GLADE	BELLEGLADE			043	37S	28E	508514703	14703	00001000	D	
50	SUGAR CANE GROWERS CO-OP OF FL	OFF ARPT RD NW OF BELLE GLADE	BELLEGLADE			043	37S	28E	508514703	14703	00015000	D	
50	SUGAR CANE GROWERS CO-OP OF FL	OFF ARPT RD NW OF BELLE GLADE	BELLEGLADE			043	37S	28E	508514703	14703	00030000	A	
50	SUNSHINE SOD CO.	WILLARD SMITH RD	BELLEGLADE			027	45S	36E	508514717	14717	00001000	A	
50	SWIFTY FOOD STORE #1 -BERNER OIL CO.	640 SW 16TH ST	BELLEGLADE	264148	804102				508514723	14723	00005000	B	
50	TOP FARMS, INC.	SR 80 / 5.5 MI E OF BELLE GLADE	BELLEGLADE			013	44S	37E	508514727	14727			
50	TALISMAN SUGAR CORP.-MILLING PLANT	UNKNOWN	BELLEGLADE	262737	804019	008	46S	36E	508514728	14728	00003000	D	
50	TALISMAN SUGAR CORP.-MILLING PLANT	UNKNOWN	BELLEGLADE	262737	804019	008	46S	36E	508514728	14728	00005000	A	
50	TALISMAN SUGAR CORP.-MILLING PLANT	UNKNOWN	BELLEGLADE	262737	804019	008	46S	36E	508514728	14728	00005000	D	
50	TALISMAN SUGAR CORP.-MILLING PLANT	UNKNOWN	BELLEGLADE	262737	804019	008	46S	36E	508514728	14728	00010000	D	
50	TALISMAN SUGAR CORP.-MILLING PLANT	UNKNOWN	BELLEGLADE	262737	804019	008	46S	36E	508514728	14728	00010000	D	
50	SUGAR SUPPLY, INC.	1281 S MAIN ST	BELLEGLADE						508514737	14737	00010000	B	
50	TIME SAVER #2443	1540 NW AVE L	BELLEGLADE						508514766	14766	00010000	B	
50	TIME SAVER #2445	301 N MAIN ST	BELLEGLADE						508514769	14769	00010000	A	
50	TIME SAVER #2448	9 NW AVE L	BELLEGLADE						508514770	14770	00010000	B	
50	TIME SAVER #2448	9 NW AVE L	BELLEGLADE						508514770	14770	00010000	D	
50	TRIANGLE SOD FARMS	RTE 827 & HILLSBORO CANAL	BELLEGLADE						508514790	14790	00001000	A	
50	UNION OIL CO.-J.E. WILSON&SON,INC.	125 SW 16TH ST	BELLEGLADE			031	43S	37E	508514815	14815	00004000	A	
50	UNION OIL CO.-J.E. WILSON&SON,INC.	125 SW 16TH ST	BELLEGLADE			031	43S	37E	508514815	14815	00004000	A	
50	UNION OIL CO.-J.E. WILSON&SON,INC.	125 SW 16TH ST	BELLEGLADE			031	43S	37E	508514815	14815	00004000	B	
50	UNION OIL CO.-J.E. WILSON&SON,INC.	125 SW 16TH ST	BELLEGLADE			031	43S	37E	508514815	14815	00004000	B	
50	UNION OIL CO.-J.E. WILSON&SON,INC.	125 SW 16TH ST	BELLEGLADE			031	43S	37E	508514815	14815	00004000	D	
50	UNION OIL CO.-J.E. WILSON&SON,INC.	125 SW 16TH ST	BELLEGLADE			031	43S	37E	508514815	14815	00004000	Z	
50	SCHLECHTER & SONS/W.E.	UNKNOWN	BELLEGLADE			035	44S	38E	508514829	14829			
50	PALM BCH CNTY SOLID WASTE AUTHORITY	W CANAL ST	BELLEGLADE	264100	804131	001	44S	36E86	508623025	23025			
50	WEDGWORTH FARMS,INC.	651 NW 9TH ST	BELLEGLADE			031	43S	37E86	508623027	23027			
50	WEDGWORTH FARMS,INC.-FARM #2	SR 80-9 MI E	BELLEGLADE			005	44S	38E86	508623030	23030	00002000	D	
50	RINKER MATERIALS CORP.	SR 715 & FEC RR	BELLEGLADE			036	43S	36E86	508623032	23032	00004000	D	
50	DEPT. OF TRANSPORTATION	2728 SR 15	BELLEGLADE			020	43S	37E86	508623056	23056	00001000	D	
50	WEDGWORTH FARMS,INC.-FARM #5	4 MI E ON AIRPORT RD	BELLEGLADE			030	44S	38E86	508623085	23085	00001000	D	
50	WEDGWORTH FARMS,INC.-FARM #8	SR 715 0.6 MI N OF HOOKER HWY	BELLEGLADE					86	508623086	23086	00000550	M	
50	WEDGWORTH FARMS,INC.-FARM #6	5 MI E ON AIRPORT RD	BELLEGLADE			029	44S	38E86	508623087	23087	00007000	D	
50	WEDGWORTH FARMS,INC.-FARM #10	6 MI DOWN BROWN'S FARM RD	BELLEGLADE			011	45S	38E86	508623088	23088	00010000	D	
50	QO CHEMICALS, INC.	W SUGAR HOUSE RD	BELLEGLADE			028	43S	37E86	508623099	23099	00002000	D	

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50	QO CHEMICALS, INC.	W SUGAR HOUSE RD	BELLEGLADE			028	43S	37E	86	508623099	23099	00107000	D
50	WEDGWORTH FARMS,INC.-B/G SHOP	2260 SR 80	BELLEGLADE			000	000	00	086	508623101	23101	00002000	B
50	ROMA SERVICE, INC.	AIRPORT RD	BELLEGLADE						86	508623121	23121		
50	TOP FARMS	US 441 SIX MILE E	BELLEGLADE						86	508623130	23130	00001000	D
50	US SUGAR CORP.-PREWITT PLANTATION	PREWITT PLANTATION	BELLEGLADE						86	508623134	23134	00001000	B
50	US SUGAR CORP.-RUNYON PLANTATION	RUNYON PLANTATION	BELLEGLADE						86	508623137	23137	00001000	B
50	US SUGAR CORP.-RUNYON PLANTATION	RUNYON PLANTATION	BELLEGLADE						86	508623137	23137	00001000	D
50	BELLE GLADE,CITY-PUBLIC WORKS	2050 W CANAL ST	BELLEGLADE	264141	804119	036	43S	36E	86	508623152	23152	00005000	A
50	BELLE GLADE,CITY-PUBLIC WORKS	2050 W CANAL ST	BELLEGLADE	264141	804119	036	43S	36E	86	508623152	23152	00010000	D
50	GLADES FORMULATING CORP	909 NW 13TH ST	BELLEGLADE						86	508623153	23153	00001000	D
50	SOUTH BAY GROWERS, INC.-E LETTUCEDIV.	1 MI N ARPT RD & 2 MI E HATTON	BELLE GLADE			01843	3S	38E	86	508623155	23155		
50	BELLE GLADE,CITY -POLICE DEPT.-WCANAL	40 W CANAL ST S	BELLE GLADE	264109	804011	03143	3S	37E	86	508623156	23156		
50	HELENA CHEMICAL CO.	1336 NW AVE L	BELLEGLADE			031	43S	37E	86	508623175	23175		
50	PALM BCH CNTY-WEST CNTY COURTHOUSE	2920 SR 15	BELLEGLADE			]29	43S	37E	86	508623180	23180	00012000	B
50	FL POWER & LIGHT CO, #4231	1318 W AVE A	BELLEGLADE			031	43S	37E	86	508623206	23206	00002000	D
50	CHATHAM SUGAR COMPANY	SR 80	BELLEGLADE			001	44S	38E	86	508623210	23210	00004000	B
50	CHATHAM SUGAR COMPANY	SR 80	BELLEGLADE			001	44S	38E	86	508523210	23210	00004000	D
50	CHATHAM SUGAR COMPANY	SR 80	BELLEGLADE			001	44S	38E	86	508623210	23210	00004000	D
50	LITTLE DISTRIBUTING,INC./BERNIE	916 NW 12TH ST	BELLEGLADE			020	43S	37E	86	508623223	23223		
50	SOUTH FL WATER MGMT DIST.-S-2	L-20 & L-14 & LK OKEECHOBEE	BELLEGLADE			027	43S	36E	86	508623225	23225	00025000	M
50	UNIV. OF FL-IFAS-EVERGLADES RESEARCH	US 441 2 MI E OF BELLE GLADE	BELLEGLADE			003	44S	37E	86	508623236	23236	00000250	M
50	UNIV. OF FL-IFAS-EVERGLADES RESEARCH	US 441 2 MI E OF BELLE GLADE	BELLEGLADE			003	44S	37E	86	508623236	23236	00000500	M
50	UNIV. OF FL-IFAS-EVERGLADES RESEARCH	US 441 2 MI E OF BELLE GLADE	BELLEGLADE			003	44S	37E	86	508623236	23236	00002000	M
50	AIR CROP CARE, INC.	BELLE GLADE AIRPORT/AIRPORT RD	BELLEGLADE			027	42S	38E	86	508623266	23266	00008000	E
50	SOUTH FL CONSERVANCY DISTRICT	2852 HWY 441	BELLEGLADE			020	43S	37E	86	508623262	23262	00005000	D
50	SOUTH FL CONSERVANCY DISTRICT	2852 HWY 441	BELLEGLADE			020	43S	37E	86	508623262	23262	00010000	D
50	SOUTH FL CONSERVANCY DISTRICT	2852 HWY 441	BELLEGLADE			020	43S	37E	86	508623262	23262	00010000	D
50	SOUTH FL CONSERVANCY DISTRICT	2852 HWY 441	BELLEGLADE			020	43S	37E	86	508623262	23262	00010000	D
50	COUNTRY STORE	1800 E PALM BCH RD	BELLEGLADE						86	508623273	23273	00002000	B
50	ASGROW FL CO.	425 NW AVE L	BELLEGLADE						86	508623282	23282		
50	EASTGATE FARMS, INC.	UNKNOWN	BELLEGLADE						86	508623286	23286	00000500	B
50	EASTGATE FARMS, INC.	UNKNOWN	BELLEGLADE						86	508623286	23286	00001000	D
50	EASTGATE FARMS, INC.	UNKNOWN	BELLEGLADE						86	508623286	23286	00002500	D
50	MACE SOD SERVICE-FARM TWO	UNKNOWN	BELLEGLADE			037	047	00	786	508623282	23288		
50	DUDA & SONS,INC.-BELLE GLADE	DUDA RD	BELLEGLADE						86	508623289	23289	00000550	M
50	DUDA & SONS,INC.-BELLE GLADE	DUDA RD	BELLEGLADE						86	508623289	23289	00000550	M
50	DUDA & SONS,INC.-BELLE GLADE	DUDA RD	BELLEGLADE						86	508623289	23289	00004000	O
50	DUDA & SONS,INC.-BELLE GLADE	DUDA RD	BELLEGLADE						86	508623289	23289	00020000	D
50	DUDA & SONS,INC.-BELLE GLADE	DUDA RD	BELLEGLADE						86	508623289	23289	00020000	D
50	SOUTH FL WATER MGMT DIST.-S-3	L-25 & LAKE OKEECHOBEE	BELLEGLADE	264159	804852	035	43S	35E	86	508623290	23290		
50	SOUTH FL WATER MGMT DIST.-S-5,6	L-L & L-7 &L-L5 &L-39	BELLEGLADE			003	46S	39E	86	508623291	23291	00025000	M
50	ROTH FARMS, INC.-GRESSINGER FARM	UNKNOWN	BELLEGLADE			020	45S	38E	86	508623294	23294	00004000	A
50	ROTH FARMS, INC.	OFF SR 80	BELLEGLADE			006	44S	40E	86	508623296	23296	00010000	D
50	DIVISION OF FORESTRY-BELLE GLADE	US HWY 441	BELLEGLADE			005	44S	37E	86	508630535	30535		
50	ROYAL'S, INC.	324 SW 16TH ST	BELLEGLADE						86	508630571	30571		
50	MCARTHUR DAIRY, INC.	1308 NW 16TH ST	BELLEGLADE						86	508630579	30579		
50	PALM BCH CNTY SCHOOL BD-GOVE ELEM	900 SE AVE "G"	BELLEGLADE	264039	803948	005	44S	37E	86	508630581	30581		

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COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
50	PALM BCH CNTY SCHOOL BD-GLADEVIEWELEM	1100 SW AVE "G"	BELLE GLADE	264039 804056	00644S	37S	86	508630583	30583			
50	PALM BCH CNTY SCHOOL BD-LAKE SHORE	1101 SW AVE E	BELLEGLADE	264059 804045	031	43S	37E86	508630598	30598	********	M	
50	GLADES ROOFING CO., INC.	424 SE AVE E	BELLEGLADE				86	508630601	30601			
50	SHELL-PLAZA	AVE E	BELLEGLADE				86	508630616	30616	00004000	A	
50	SHELL-PLAZA	AVE E	BELLEGLADE				86	508630616	30616	00006000	B	
50	PALM BCH CNTY SCHOOL BD-WEST TRANS.	1901 NW 16TH ST	BELLEGLADE		030	43S	37E86	508630624	30624	00000250	Z	
50	PALM BCH CNTY SCHOOL BD-WEST TRANS.	1901 NW 16TH ST	BELLEGLADE		030	43S	37E86	508630624	30624	00005000	A	
50	SIBONEY LEASE & FINANCE CO.	1340 1/2 NW AVE "L"	BELLEGLADE				86	508630656	30656	00000300	O	
50	SIBONEY LEASE & FINANCE CO.	1340 1/2 NW AVE "L"	BELLEGLADE				86	508630656	30656	00008000	J	
50	GLADE GENERAL HOSPITAL	1201 S MAIN ST	BELLEGLADE				86	508630664	30664	00006000	B	
50	GLADES PRECOOLER, INC.	2900 HWY 441 N	BELLEGLADE		017	43S	37E86	508630672	30672			
50	SHELL STATION	813 W CANAL ST N	BELLEGLADE				86	508630719	30719	00012500	A	
50	SHELL STATION	813 W CANAL ST N	BELLEGLADE				86	508630719	30719	00020000	B	
50	TIME SAVER #2441	1624 NE AVE L	BELLEGLADE				86	508630731	30731	00004000	A	
50	KIRCHMAN OIL CORP.	1201 W LAKE RD	BELLEGLADE				86	508630770	30770	00014000	M	
50	KIRCHMAN OIL CORP.	1201 W LAKE RD	BELLEGLADE				86	508630770	30770	00020000	A	
50	KIRCHMAN OIL CORP.	1201 W LAKE RD	BELLEGLADE				86	508630770	30770	00020000	B	
50	PALM BCH CNTY SCHOOL BD-BELLE GLADE	7TH & CANAL STS NW	BELLEGLADE		031	043	03786	508630779	30779			
50	EVERGLADES FARM EQUIPMENT	SR 715 N CHASER RD	BELLEGLADE				86	508630786	30786	00001000	B	
50	PRIDE OF FL-GLADES DIVISION	US 441 N	BELLEGLADE				87	508732772	32772	00000560	B	
50	FL DEPT. OF CORRECTIONS-GLADES	500 ORANGE AVE CIRCLE	BELLEGLADE				87	508732611	32811	00001000	M	
50	FL DEPT. OF CORRECTIONS-GLADES	500 ORANGE AVE CIRCLE	BELLEGLADE				87	508732811	32811	00002500	M	
50	SOUTHERN BELL-BLGLFLSE	112 SW AVE "C"	BELLEGLADE	270534 802049	031	43S	37E87	508734202	34202			
50	BAIR'S ELECTRONICS SERVICE, INC.	557 SE AVE E	BELLEGLADE				87	508734539	34539	00000550	B	
50	CHAPMAN & SONS/KERMIT	UNKNOWN	BELLEGLADE				87	508734545	34545	00000550	A	
50	GRANADA FARMS	2 MI W OF BROWN'S FARM RD	BELLEGLADE		012	045	03887	508735871	35871	00001000	D	
50	GRANADA FARMS	2 MI W OF BROWN'S FARM RD	BELLEGLADE		012	045	03887	508735871	35871	00001000	D	
50	USDA-ARS	3300 E PALM BCH RD	BELLEGLADE				87	508736011	36011	00000550	D	
50	USDA-ARS	3300 E PALM BCH RD	BELLEGLADE				87	508736011	36011	00001500	B	
50	KNIGHT & SONS,INC./S.N.	SR 80	BELLEGLADE				87	508736752	36752	00001000	M	
50	KNIGHT & SONS,INC./S.N.	SR 80	BELLEGLADE				87	508736752	36752	00001000	M	
50	KNIGHT & SONS,INC./S.N.	SR 80	BELLEGLADE				87	508736752	36752	00001000	M	
50	KNIGHT & SONS,INC./S.N.	SR 80	BELLEGLADE				87	508736752	36752	00010000	D	
50	ATLANTIC SUGAR ASSOCIATION	SR 80	BELLEGLADE	263742 802807	020	44S	40E88	508837436	37436	00012300	D	
50	TALISMAN SUGAR CORP.-ABEL'S FLYING	US 27	BELLEGLADE				88	508839284	39284	00004000	F	
50	J.E.T. FARMS,INC. #1	SR 80	BELLEGLADE		024	44S	37E88	508839684	39684	00000550	B	
50	J.E.T. FARMS,INC. #1	SR 80	BELLEGLADE		024	44S	37E88	508839684	39684	00001000	D	
50	J.E.T. FARMS,INC. #4	OLD SR 80	BELLEGLADE		018	44S	38E88	508839685	39685	00001000	M	
50	J.E.T. FARMS,INC.-#2	OLD SR 80	BELLEGLADE				88	508839886	39886	00000550	D	
50	J.E.T. FARMS,INC.	OLD SR 80 & BROWNS FARM RD	BELLEGLADE				88	508839887	39887	00000550	D	
50	WEDGWORTH FARMS,INC.	S END OF FARM #1	BELLEGLADE				88	508840810	40810	00000550	M	
50	EAST SHORE WATER CONTROL DISTRICT	US 441	BELLEGLADE				88	508840864	40864	00012000	M	
50	DOC'S GAS	157 NW 16TH ST	BELLEGLADE				88	508841861	41861	00008000	B	
50	NANA'S PETROLEUM, INC.	300 S W AVE E	BELLEGLADE				86	508630489	30489	00004000	A	
50	PALM BCH CNTY-W TECH. EDUCATIONCENTER	2625 SR 715	BELLE GLADE				87	508733123	33123	00000550	A	
50	PALM BCH CNTY-W TECH. EDUCATIONCENTER	2625 SR 715	BELLE GLADE				87	508733123	33123	00000550	M	

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50	MIAMI SOD CO.	FARM RD 827-8 MI 5 BROWNS FARM	BELLEGLADE		01445S	38E		508514410	14410	00000250		D
50	MIAMI SOD CO.	FARM RD 827-8 MI 5 BROWNS FARM	BELLEGLADE		01445S	38E		508514410	14410	00002000		B
50	HUNDLEY FARMS, INC.	15 MI E OF BELLGLADE-SR 80	BELLGLADE		03243S	39E		508514251	14251			
50	US SUGAR CORP.-BRYANT PLANTATION	BRYANT PLANTATION	BRYANT				86	508623131	23131	00001000		A
50	US SUGAR CORP.-BRYANT PLANTATION	BRYANT PLANTATION	BRYANT				86	508623131	23131	00001000		D
50	US SUGAR CORP.-BRYANT PLANTATION	BRYANT PLANTATION	BRYANT				86	508623131	23131	00001000		Z
50	US SUGAR CORP.-BOY PLANTATION	BOY PLANTATION	BRYANT				86	508623235	23235	00001000		D
50	US SUGAR CORP.-BOY PLANTATION	BOY PLANTATION	BRYANT				86	508623235	23235	00001000		D
50	PELICAN LAKE WATER CONTROL DISTRICT	US 98	BRYANT				88	508840863	40863	00010000		M
50	AUTO TECH CENTER, INC.	101 LAKESHORE DR	CANALPOINT		033	041	037	508513858	13858	00004000		A
50	AUTO TECH CENTER, INC.	101 LAKESHORE DR	CANALPOINT		033	041	037	508513858	13858	00004000		D
50	QUALITY MARKET	US 441 & FLA 15 N	CANALPOINT		025	041	037	508514541	14541	00001000		A
50	JONES CO., INC/S.M.	UNKNOWN	CANALPOINT		033	41S	37E	86 508630637	30637			
50	USDA-SUGARCANE PROD SYSTS RESEARCH,CP	STAR RT BOX 8	CANALPOINT				86	508630708	30708	00001000		B
50	STUART'S FARM SERVICE, INC.	HWY 441	CANALPOINT				87	508734620	34620	00000500		B
50	PALM BCH CNTY SCHOOL BD-CANAL POINT	300 EVERGLADES ST	CANALPOINT	265206 803739			87	508736511	36511			
50	HARRINGTON/A. R.	HWY 441 N	CANALPOINT				87	508737081	37081	00000265		B
50	WATSON FARM/HARLEY	OLD US 27 1/2 MI S	LAKEHARBOR					508514225	14225			
50	GLADES CHEMICAL/KIRCHMAN OIL	43 DEPO ST	LAKEHARBOR				86	508623021	23021			
50	CANE CONTRACTORS, INC.	400 WATSON RD	LAKEHARBOR		003	44S	36E	86 508623075	23075	00000550		B
50	CANE CONTRACTORS, INC.	400 WATSON RD	LAKEHARBOR		003	44S	36E	86 508623075	23075	00003500		D
50	FL GAME & FRESH WATER FISH COMMISSION	LAKE HARBOR WATERFOWL AREA	LAKEHARBOR		016	45S	35E	87 508735327	35327	00001000		M
50	US SUGAR CORP.-MIAMI LOCKS	MIAMI LOCKS PLANTATION	LAKEHARBOR		011	44S	35E	87 508736131	36131	00002000		B
50	EL RODEO INVESTMENT CORP	POWERLINE RD OFF MIAMI CANAL	LAKEHARBOR				88	508841530	41530	00002000		D
50	EL RODEO INVESTMENT CORP	MIAMI CANAL S & OKEELANTA RD	LAKEHARBOR				88	508841532	41532	00001000		D
50	EL RODEO INVESTMENT CORPORATION	100 CORKSCREW BLVD	LAKEHARBOR				88	508841681	41681	00000500		D
50	BLUE TRACE GROVES	120TH ST	LOXAHATCHEE		02344S	41E		508513900	13900	00004000		D
50	CALLERY-JUDGE GROVE	SEMINOLD PRATT WHITNEY RD	LOXAHATCHEE		01243S	40E		508513953	13953	00002000		A
50	CALLERY-JUDGE GROVE	SEMINOLD PRATT WHITNEY RD	LOXAHATCHEE		01243S	40E		508513953	13953	00003000		A
50	CALLERY-JUDGE GROVE	SEMINOLD PRATT WHITNEY RD	LOXAHATCHEE		01243S	40E		508513953	13953	00003000		D
50	CALLERY-JUDGE GROVE	SEMINOLD PRATT WHITNEY RD	LOXAHATCHEE		01243S	40E		508513953	13953	00003000		D
50	CALLERY-JUDGE GROVE	SEMINOLD PRATT WHITNEY RD	LOXAHATCHEE		01243S	40E		508513953	13953	00006000		D
50	D & V SERVICE STATION	14721 SOUTHERN BLVD	LOXAHATCHEE					508514046	14046	00006000		B
50	J.E.T. FARMS,INC.	FLYING COW RD	LOXAHATCHEE		03644S	40E		508514274	14274	00000550		M
50	J.E.T. FARMS,INC.	FLYING COW RD	LOXAHATCHEE		03644S	40E		508514274	14274	00001000		A
50	SEMINOLE HARVESTING, INC.	SEMINOLE-PRATT WHITNEY RD	LOXAHATCHEE		01243S	40E		508514622	14622	00003000		A
50	GLADES AGRICULTURAL SERVICE,INC.	16112 E GRAND NATIONAL	LOXAHATCHEE		03243S	39E	86	508623022	23022	00010000		E
50	DIVISION OF FORESTRY	600 D RD	LOXAHATCHEE		032043	041	86	508623150	23150	00002000		B
50	CONRAD FARMS/BOB	1/4 MI N OF SR 80 & W OF "A" RD	LOXAHATCHEE		025435	40E	86	508623182	23182	00003000		D
50	SOUTH FL WATER MGMT DIST. S-5A	L-8 & L-40 & W.P.B CANAL	LOXAHATCHEE				86	508623285	23285	00004000		B
50	SOUTH FL WATER MGMT DIST. S-5A	L-8 & L-40 & W.P.B CANAL	LOXAHATCHEE				86	508623285	23285	00025000		M
50	PALMS WEST HOSPITAL	LOXAHATCHEE	LOXAHATCHEE				86	508630715	30715	00008000		M
50	CIRCLE K CONSTRUCTION CO.,INC.	3738 D RD	LOXAHATCHEE		01743S	41E	88	508838149	38149	00000270		L
50	CIRCLE K CONSTRUCTION CO.,INC.	3738 D RD	LOXAHATCHEE		01743S	41E	88	508838149	38149	00002000		B
50	FATHER & SON CONSTRUCTION CORP.	16280 E TRAFALGAR RD	LOXAHATCHEE				88	508839043	39043	00000300		D
50	J.E.T.FARMS,INC.-HAGEN RANCH	P O BOX 1370	LOXAHATCHEE		03445S	42E	88	508839683	39683	00000550		B
50	DEPT. OF TRANSPORTATION	14955 SOUTHERN BLVD	LOXAHATCHEE		03243S	41E	88	508839763	39763	00000500		K

C* = Tank Contents

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S T R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
50	DEPT.TRANSPORTATION	14955 SOUTHERN BLVD	LOXAHATCHEE		03243S 41E	88	508839763	39763	00004000	A
50	TOBY'S GROVE	3508 "A" RD	LOXAHATCHEE			88	508839817	39817	00000500	D
50	D & V SERVICE STATION	14781 SOUTHERN BLVD	LOXAHATCHEE			88	508840887	40887	00008000	A
50	PALM BCH CNTY SCHOOL BD-GLADES H.S.	425 W CANAL ST	NBELLE GLADE	264124 804023	031 43S37E	86	508630660	30660	00000500	M
50	APELGREN CORP.	UNKNOWN	PAHOKEE		19W042 037		508513841	13841		
50	BELK/FRANK L.	3597 AIRPORT RD	PAHOKEE		02642S 36E		508513877	13877	00001000	J
50	NANA'S PETROLEUM, INC. #22	251 E MAIN ST	PAHOKEE		01842S 37E		508513947	13947	00004000	B
50	PAHOKEE FORD	194 E MAIN ST	PAHOKEE				508513980	13980		
50	DIAMOND C SUGAR CO.	SR 80 - 10 MI W OF W PALM BCH	PAHOKEE		014044 040		508514077	14077	00001000	A
50	WESCO-GLEN'S	198 S LAKE AVE	PAHOKEE		018042 037		508514196	14196	00002000	J
50	WESCO-GLEN'S	198 S LAKE AVE	PAHOKEE		018042 037		508514196	14196	00004000	A
50	JHW FARMS, INC.	1049 E MAIN ST	PAHOKEE		031050 41E		508514275	14275	00001000	D
50	EXXON #5-NANAS	730 BELLE GLADE RD	PAHOKEE				508514442	14442	00006000	A
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00000525	D
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00000525	D
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00000560	K
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00001000	O
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00008000	D
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00008000	J
50	NEW HOPE SUGAR CO-OP	HWY 98- 8 MI W 20 MI BEND BRIDGE	PAHOKEE				508514444	14444	00010000	B
50	OSCEOLA FARMS CO.	US 98 & HATTON HWY	PAHOKEE		00842S 38E		508514478	14478	00008000	B
50	OSCEOLA FARMS CO.	US 98 & HATTON HWY	PAHOKEE		00842S 38E		508514478	14478	00024000	D
50	PAHOKEE MARINA	171 N LK AVE	PAHOKEE				508514483	14483	00003000	A
50	PANHOKEE S.S.-J.E. WILSON & SON, INC.	760 E MAIN ST	PAHOKEE		008 42S 37E		508514484	14484	00004000	A
50	PANHOKEE S.S.-J.E. WILSON & SON, INC.	760 E MAIN ST	PAHOKEE		008 42S 37E		508514484	14484	00004000	B
50	PALM BCH CNTY-GLADES AIRPORT	SR 715	PAHOKEE		02542S 36E		508514489	14489	00001000	J
50	PALM BCH CNTY-GLADES AIRPORT	SR 715	PAHOKEE		02542S 36E		508514489	14489	00004000	J
50	PAUL'S STATION	540 E MAIN ST (US 441)	PAHOKEE				508514514	14514	00004000	Y
50	RED DEVON RANCH	135 BASOM POINT RD	PAHOKEE		02445S 38E		508514550	14550	00001000	D
50	ROYVAN, INC.	SOUTHLAKE AVE	PAHOKEE				508514582	14582	00001000	B
50	SIMONSON FARMS	968 E 7TH ST	PAHOKEE		020042 037		508514645	14645	00001000	D
50	STOP-N-GO #1718	869 SR 441 S	PAHOKEE		02042S 37E		508514699	14699	00010000	B
50	SWIFTY FOOD STORE #3	680 EAST MAIN ST	PAHOKEE	264935 803937			508514722	14722	00004000	B
50	TIME SAVER #2444	3451 E MAIN ST	PAHOKEE				508514768	14768	00010000	A
50	VERTOMMEN FARMS	997 E 7TH ST	PAHOKEE		01742S 37E		508514823	14823	00000560	D
50	VERTOMMEN FARMS	997 E 7TH ST	PAHOKEE		01742S 37E		508514823	14823	00000560	Z
50	MITCHELL/MCCURDY-PAHOKEE	1000 N STATE MARKET RD	PAHOKEE			86	508623089	23089	00001000	B
50	US SUGAR CORP.-MARTINEZ PLANTATION	MARTINEZ PLANTATION	PAHOKEE			86	508623133	23133	00001000	D
50	US SUGAR CORP.-PELICAN PLANTATION	PELICAN LAKE PLANTATION	PAHOKEE			86	508623138	23138	00001000	A
50	US SUGAR CORP.-PELICAN PLANTATION	PELICAN LAKE PLANTATION	PAHOKEE			86	508623138	23138	00001000	D
50	RINKER MATERIALS CORP.	2981 E MAIN ST	PAHOKEE		004042 037	86	508623144	23144	00004000	B
50	BOYNTON FARMS,/J.T.	135 BACOM POINT RD	PAHOKEE		00243S 38E	86	508623159	23159	00001000	B
50	US SUGAR CORP.-BOURNE & BRYANT	BOURNE & BRYANT PLANTATION	PAHOKEE			86	508623233	23233	00001000	D
50	US SUGAR CORP.-BOURNE & BRYANT	BOURNE & BRYANT PLANTATION	PAHOKEE			86	508623233	23233	00001000	D
50	US SUGAR CORP.-BRYANT & BOURNE PLANT.	BRYANT & BOURNE PLANTATION	PAHOKEE			86	508623234	23234	00001000	D
50	US SUGAR CORP.-BOURNE PLANTATION	BOURNE PLANTATION	PAHOKEE			86	508623237	23237	00001000	D

C* = Tank Contents

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT	LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
50	THEIS & SONS OF CENTRAL FL/WM.	2911 E MAIN ST	PAHOKEE					86	508623271	23271	00002000		I
50	GLADES & GROVE SUPPLY CO.	580 STATE MARKET RD	PAHOKEE					86	508626166	26166	********		A
50	GLADES & GROVE SUPPLY CO.	580 STATE MARKET RD	PAHOKEE					86	508626166	26166	00001500		A
50	SOUTHERN BELL-PAHKFLMA	826 E MAIN ST REAR	PAHOKEE	264938	803930	008425	37E	87	508734194	34194			
50	BROWN'S USED EARS	214 E MAIN ST	PAHOKEE					87	508734542	34542	00000550		E
50	FAA-VORTAC	INTL AIRPORT	PAHOKEE			03642S	36E	87	508734560	34560	00000500		A
50	FAA-RCAG	HWY 441	PAHOKEE			02942S	37E	87	508734564	34564	00000500		M
50	WADDELL & SON	1337 BELLE GLADE RD	PAHOKEE					87	508736040	36040	00000500		D
50	TRUCANE SUGAR CORP.	US 98A & HATTON HWY	PAHOKEE			02542S	38E	88	508837597	37597	00001000		D
50	TRUCANE SUGAR CORP.	US 98A & HATTON HWY	PAHOKEE			02542S	38E	88	508837597	37597	00001000		D
50	TRUCANE SUGAR CORP.	US 98A & HATTON HWY	PAHOKEE			02542S	38E	88	508837597	37697	00008000		D
50	VANN,INC./W. H.	372 BARFIELD HWY	PAHOKEE			017042	037	88	508840391	40391	00001000		D
50	FRIEND FARMS,INC.LEWIS	HWY 98	PAHOKEE					88	508840612	40612	00000550		D
50	EAST BEACH WATER CONTROL DISTRICT	US 441	PAHOKEE					88	508840862	40862	00010000		M
50	PAHOKEE WATER CONTROL DISTRICT	SR 717	PAHOKEE					88	508840865	40865	00012000		M
50	PALM BCH CNTY SCHOOL BD-PAHOKEE JR-SR	360 E MAIN ST	PAHOKEE					88	508840919	40919			
50	FRIEND FARMS,INC.,LEWIS	US 98	PAHOKEE			007043	039	88	508840975	40975	00001000		D
50	FRIEND FARMS,INC.,LEWIS	980 STATE MARKET RD	PAHOKEE			009042	037	88	508840976	40976	00001000		B
50	EVERGLADES GATOR LAND	P O BOX 271	S BAY						508514118	14118	********		Y
50	MOTES,INC./R.E.,	300 N US 27	S BAY						508514431	14431	00003000		B
50	BOB'S TRUCK STOP	345 N US 27	SOUTHBAY			011	044	036	508513905	13905	00002000		A
50	GAS & SHOP	110 US 27 & PALM BCH RD	SOUTHBAY	263948	804300	014	44S	36E	508513981	13981	00005000		B
50	GAS & SHOP	110 US 27 & PALM BCH RD	SOUTHBAY	263948	804300	014	44S	36E	508513981	13981	00008000		B
50	GULF & WESTERN FOOD PRODUCTS CO.	6 MI S OF SOUTH BAY	SOUTHBAY			016	45S	36E	508514204	14204	00010000		D
50	GULF & WESTERN FOOD PRODUCTS CO.	6 MI S OF SOUTH BAY	SOUTHBAY			016	45S	36E	508514204	14204	00012000		D
50	SHELL STATION	US 27 S	SOUTHBAY						508514633	14633	00004000		A
50	SHELL STATION	US 27 S	SOUTHBAY						508514633	14633	00004000		B
50	SOUTH BAY GROWERS, INC.-SOD DIV.	US 27-18 MI S OF SOUTH BAY	SOUTHBAY			025	46S	37E	508514657	14657	00002000		B
50	SWIFTY FOOD STORE #2	800 HWY 27 S	SOUTHBAY			000	44S	36E	508514721	14721	00010000		A
50	SWIFTY FOOD STORE #2	800 HWY 27 S	SOUTHBAY			000	44S	36E	508514721	14721	00010000		D
50	US SUGAR CORP.-SOUTH BAY	SR 80	SOUTHBAY			000	000	00086	508623014	23014	00001000		A
50	SLC PROPERTIES, INC.	15 MILES S US 27	SOUTHBAY					86	508623110	23110	00002000		D
50	SLC PROPERTIES, INC.	15 MILES S US 27	SOUTHBAY					86	508623110	23110	00004000		A
50	SLC PROPERTIES, INC.	15 MILES S US 27	SOUTHBAY					86	508623110	23110	00004000		D
50	SLC PROPERTIES, INC.	15 MILES S US 27	SOUTHBAY					86	508623110	23110	00005500		D
50	SOUTH BAY GROWERS-CENTRAL PURCHASING	900 N US 27	SOUTHBAY			011	44S	36E	86 508623157	23157	00001000		B
50	SOUTH BAY GROWERS-S LETTUCE DIV.	3 1/2 MI S OF S BAY ON US 27	SOUTHBAY			035	44S	36E	86 508623158	23158			
50	TALISMAN SUGAR CORP.	HWY 27-18 MI S OF SOUTH BAY	SOUTHBAY					86	508623252	23252	00005000		D
50	TALISMAN SUGAR CORP.	HWY 27-18 MI S OF SOUTH BAY	SOUTHBAY					86	508623252	23252	00008000		D
50	TALISMAN SUGAR CORP.	HWY 27-18 MI S OF SOUTH BAY	SOUTHBAY					86	508623252	23252	00015000		D
50	SOUTH BAY GROWERS, INC.-S BAY SHOP	1/2 MI W OF S BAY-US 27	SOUTHBAY					86	508630591	30591	00004000		A
50	SOUTH BAY GROWERS, INC.-W LETTUCEDIV.	1/2 MI S OF ROGERS RD	SOUTH BAY			01944S	36E	86	508630595	30595	00002000		A
50	SOUTH BAY GROWERS, INC.-W LETTUCEDIV.	1/2 MI S OF ROGERS RD	SOUTH BAY			01944S	36E	86	508630595	30595	00004000		M
50	TIME SAVER #2450	US 27	SOUTHBAY					86	508630623	30623	00010000		A
50	TIME SAVER #2450	US 27	SOUTHBAY					86	508630623	30623	00010000		D
50	OKEELANTA COMMUNICATIONS	12 MI S	SOUTHBAY					86	508630679	30679	00004000		M

* = Tank Contents

COUNTY	FACILITY NAME	ADDRESS	CITY	LAT LONG	S	T	R	ENTRY	FAC-ID	FAC-NUM	#GAL	C*
50	NANA'S PETROLEUM, INC. #13	480 N US 27	SOUTHBAY				86	508630723	30723	00003000	D	
50	NANA'S PETROLEUM, INC. #13	480 N US 27	SOUTHBAY				86	508630723	30723	00004000	A	
50	NANA'S PETROLEUM, INC. #15	110 N US 27	SOUTHBAY				86	508630726	30726	00002000	A	
50	ROGERS CORP./BILLY	205 SE 3RD AVE	SOUTHBAY		016	31S	34E 86	508630737	30737			
50	OKEELANTA CORP.	6 MI S OF SOUTH BAY	SOUTHBAY				87	508736721	36721	00003000	B	
50	WHITE CONSTRUCTION CO.	US 27	SOUTHBAY		035	44S	36E 88	508837512	37512	00010000	D	
50	EL RODEO INVESTMENT CORP	SHELTON LAND & CATTLE CO	SOUTHBAY		002	046	03788	508841529	41529	00001000	D	
50	MOBIL #582	12781 FOREST HILL BLVD	WELLINGTON	264002 801447	00344S	41E		508513903	13903	00012000	B	
50	CHEVRON #51342	11858 FOREST HILLS BLVD	WELLINGTON		01144S	41E		508514844	14844	00001000	L	
50	CHEVRON #51342	11858 FOREST HILLS BLVD	WELLINGTON		01144S	41E		508514844	14844	00010000	B	
50	PALM BCH CNTY SCHOOL BD-CRESTWOOD M S	64 SPARROW DR	ROYAL PAL BCH				88	508841936	41936	********	M	
50	MOBIL #02-589	11503 SOUTHERN BLVD	ROYAL PALM BCH		035	43S	41E	508514583	14583	00008000	A	
50	ROYAL PALM BCH, VILLAGE	1050 ROYAL PALM BCH	ROYAL PALM BCH		026	43S	41E 86	508623112	23112	00004000	B	
50	NORTON TIRE CO., INC. #33	11451 SOUTHERN BLVD	ROYAL PALM BCH				87	508734584	34584	00000550	L	
50	FARM STORE #671	OKEECHOBEE RD & PARTRIDGE	ROYAL PALM BCH				88	508839076	39076	00010000	A	
50	FL POWER & LIGHT CO.	SR 7	ROYAL PALM BCH				88	508841142	41142	00006000	D	
50	AMOCO #60035	11901 SOUTHERN BLVD	ROYAL PALM VILLAGE				88	508838280	38280	00010000	B	
50	AMOCO #60035	11901 SOUTHERN BLVD	ROYAL PALM VILLAGE				88	508838280	38280	00010000	B	

C* = Tank Contents

Table B-13. Underground Storage Facilities Contamination Sites Within the Water Conservation Areas & EAA SWIM Planning Area Based on DER Assessment.
(For Explanation of codes see Table B-16)

CNTY	FACILITY NAME ADDRESS CITY	LAT/LONG	S-T-R	FACILITY ID	DISC DATE	DISCOVERED BY	GALS LOST	SOIL	GRND	SFC	MON	CONTENTS	TNK #	CLEAN DATE	CAUSE
50	FINA-BELLE GLADE 281 S MAIN ST BELLE GLADE	264102/804003		508514348	860119	DER	?	N	N	Y	N	A	2	851201	B
50	FINA-BELLE GLADE 281 S MAIN ST BELLE GLADE	264102/804003		508514348	860119	DER	?	N	N	Y	N	B	3R1	851201	B
50	PALM BCH CNTY SCHOOL BD-BELLE GLADE 7TH & CANAL STS NW BELLE GLADE		31 43 37	508630779	860703	MICHAEL SNYDER	300	Y	N	Y	N				C
50	PALM BCH CNTY-WEST CNTY COURTHOUSE 2920 SR 15 BELLE GLADE		29 43S 37E	508623180	871006	STEPHEN JAEKEL		N	N	Y	N	B	1		A
06	COOPER CITY,CITY-PUBLIC WORKS 11551 SW 49TH ST COOPER CITY	260331/801814	25 50S 40E	068732400	860521	COOPER CITY	1000	N	N	Y	Y			860521	B
06	EXXON #7114-OAKLAND WEST 3991 W OAKLAND PK BLVD LAUDERDALE LAKES		030 49S 42E	068502411	871030	THOMAS KOSEL		N	N	Y	Y	A	5		A
06	EXXON #7114-OAKLAND WEST 3991 W OAKLAND PK BLVD LAUDERDALE LAKES		030 49S 42E	068502411	871030	THOMAS KOSEL		N	N	Y	Y	B	2		A

Table B-13. Underground Storage Facilities Contamination Sites Within the Water Conservation Areas & EAA SWIM Planning Area Based on DER Assessment.
(For Explanation of codes see Table B-16)

CNTY	FACILITY NAME ADDRESS CITY	LAT/LONG	S-T-R	FACILITY ID	DISC DATE	DISCOVERED BY	GALS LOST	SOIL	GRND	SFC	MON	CONTENTS	TNK #	CLEAN DATE	CAUSE
06	FINA #7365 4090 N SR 7 LAUDERDALE LAKES		019 49S 42E	068502523	870305	KEN HILLIARD		Y	N	Y	Y	A	1		A
06	LAUDERDALE LAKES,CITY 4300 NW 36TH ST LAUDERDALE LAKES	261011/801230	024 49S 41E	068622723	871014	C. GOODIN		N	N	N	N	L	4		A
06	LAUDERDALE LAKES,CITY 4300 NW 36TH ST LAUDERDALE LAKES	261011/801230	024 49S 41E	068622723	871014	C. GOODIN		N	N	N	N	M	7		A
06	LAUDERDALE LAKES,CITY 4300 NW 36TH ST LAUDERDALE LAKES	261011/801230	024 49S 41E	068622723	871014	C. GOODIN		N	N	N	N		11		A
06	AMOCO #2216-JONAS'7000 W HOLLYWOOD BLVD PEMBROKE PINES	261535 801340		068502208	870901	W. HALL		N	N	N	Y	A	3		A
06	EXXON #6314-PASADENA 1650 N UNIV DR PEMBROKE PINES			068502442	850501	CITIZEN	1640	Y	N	Y	Y	B	10	850905	B
06	FINA #6504 901 N UNIVERSITY DR PEMBROKE PINES			068625861	851105	FINA		N	N	Y	Y	A	1R1	851211	B
06	FINA #6504 901 N UNIVERSITY DR PEMBROKE PINES			068625861	851105	FINA		N	N	Y	Y	B	3	851211	B
06	MOBIL #02-A44 2185 UNIV DR SUNRISE		028 49A 41E	068502708	861204	MEL ENTUS		Y	N	Y				870423	A

Table B-13. Underground Storage Facilities Contamination Sites Within the Water Conservation Areas & EAA SWIM Planning Area Based on DER Assessment.
(For Explanation of codes see Table B-16)

CNTY	FACILITY NAME ADDRESS CITY	LAT/LONG	S-T-R	FACILITY ID	DISC DATE	DISCOVERED BY	GALS LOST	SOIL	GRND	SFC	MON	CONTENTS	TNK #	CLEAN DATE	CAUSE
13	7-ELEVEN FOOD STORE #26075 13695 SW 288TH ST HOMESTEAD		002 057 039	138622167	870801	KEN HILLIARD		N	N	N	N	B	2		A
13	BISHOP BROS., INC.23 SW 11TH AVE HOMESTEAD			138504039	851108	R BAGWELL		N	N	Y	Y	A	104	851126	C
13	BISHOP BROS., INC.23 SW 11TH AVE HOMESTEAD			138504039	851108	R BAGWELL		N	N	Y	Y	B	101	851126	C
13	BISHOP BROS., INC.23 SW 11TH AVE HOMESTEAD			138504039	851108	R BAGWELL		N	N	Y	Y	B	3	851126	C
13	BISHOP BROS., INC.23 SW 11TH AVE HOMESTEAD			138504039	851108	R BAGWELL		N	N	Y	Y	D	6	851126	C
13	CIRCLE K #2373 27200 SW 177TH AVE HOMESTEAD	253047 802841		138506372	870418	FRED MANGE		Y	N	N	N				A
13	CIRCLE K #2384 13300 SW 288TH ST HOMESTEAD	252930 802450		138506373	850306	DERM		N	N	Y	Y				B
13	13690 SW 288 ST HOMESTEAD	252956 802444		138503698	870917	K KREFETZ	300	N	N	Y	Y	A	3		A
13	1500 KROME AVE TEXACO #021-229 HOMESTEAD	252715 802850		138506214	840618	OWNER		Y	N	Y	Y	A	3	840618	B

Table B-14. Dredge and Fill Permits for the WCAs and EAA Study Area (Martin, Palm Beach, Hendry, Broward, Dade and Collier Counties)
For explanation of codes see Table B-16.

Record #	Name	Facility Status	T-R-S	Water Body	Receiving Body Class	Dredged (cu. yd.)	Filled (cu. yd.)
5143P92020	ST. LUCIE RIVER CO. LTD	I as of 09/84	40S-39E-27	Unnamed	III	50,667	
5143P76811	ROBERT WHITE	A as of 11/83	40S-39E-27	Insulated Neal-Lox. Slough	III		
5143P51693	U.S. ARMY CORP OF ENGINEERS	A as of 03/82	40S-37E-22	St. Lucie Canal	III	8,100	8,100
5143P66144	CAMAYAN CATTLE COMPANY	A as of 08/83	40S-37E-14	St. Lucie Canal	III	8	
5143P58580	BROWN BROTHERS EQUIP	I as of 08/82	40S-37E-22	Lk Okee/ Okeechobee Waterway	III	800	400
5143S25354	PORT MAYACA REC AREA	A as of 09/82	40S-37E-22	Rim Canal-Okeechobee	III	195	
5050S90124	SFWMD S-10E STRUCTURE	A as of 04/84	46S-39E-03	WCA 2A	III	2,700	
5050M00453	LAKE WORTH DRAINAGE DISTRICT	A as of 05/87	47S-41E-31	E-1 Canal	III	4,200	1,375
5050P91082	FL EAST COAST RAILWAY CO	A as of 02/86	41S-37E-14	Unnamed Drain Canal	III	220	269
5050s90133	FLORIDA GAME & FRESHWATER FISH COMM	A as if 04/84		J.W. Corbett Wildlife Mngt Area	III		20,000
5050P90098	CITY OF BELLE GLADE	A as of 01/84	43S-37E-31	Hillsborough Canal	III		
5050P00417	UNITED TECHNOLOGIES CORP.	A as of 05/87	42S-403-17	Unnamed Borrow Pit	III	199	6,429
5050M01701	CITY OF PAHOKEE	A as of 12/88	42S-37E-18	Lake Okeechobee	III		
5050M01921	CITY OF PAHOKEE	A as of 04/89	42S-37E-18	Lake Okeechobee	I		
5050P90055	CITY OF WEST PALM BEACH	A as of 07/83	43S-40E-04	M-Canal			740
9050S75773	SR 80 DOT 93120-3524	A as of 03/84	43S-39E-31	C-51 Canal	III	8,589	69,092
5050C00638	PBC BOARD OF COUNTY COM.	A as of 07/87	44S-37E-03	HillsboroCanal	III		15
5050P90059	DUDA ROAD BRIDGE	A as of 07/83	45S-37E-03	HillsboroCanal	III	30	30
5050M01512	CITY OF SOUTH BAY	A as of 09/88	44S-36E-01	North New River	III	275,000	275,000
5050P90097	FL POWER & LIGHT CO	A as of 12/83			III		5,800
5050P00562	UNITED TECHNOLOGIES CORP.	A as of 06/87	41S-40E-17	Unnamed Canals/M-1	III	400,000	
5050P00915	U.S. FISH & WILDLIFE SERVICE	A as of 12/87	45S-39E-00	Hillsboro Canal	III	4,700	4,700
9050S80920	SFWMD	A as of 10/84	47S-35E-01	Everglades	III	750,000	750,000

Table B-14. Dredge and Fill Permits for the WCAs and EAA Study Area (Martin, Palm Beach, Hendry, Broward, Dade and Collier Counties)
For explanation of codes see Table B-16.

Record #	Name	Facility Status	T-R-S	Water Body	Receiving Body Class	Dredged (cu. yd.)	Filled (cu. yd.)
9050M87430	LAKE WORTH DRAINAGE DIST	A as of 10/85	46S-41E-26	Unnamed Lakes	III		
5050P92005	FL DEPT. OF TRANSPORTATION	A as of 01/87	36S-43E-35	L-8 & Callery Judge Canals	III	420	4,000
5050C00583	PBC BOARD OF COUNTY COM	A as of 06/87	44S-42E-18	LWDD E-1 Canal	III	1,380	2,897
5050S00741	FL DEPT. OF TRANSPORTATION	A as of 09/87	43S-41E-36	C-51 Canal	III	1,426	2,040
5050S01723	FL DEPT. OF TRANSPORTATION	A as of 12/88	45S-36E-14	N. New River Canal	III	5,011	5,969
5050P00221	UNIVERSAL HEALTH SERV., INC	A as of 05/85	44S-41E-12	LWDD E-3 & S-5 Canal	III	1,107	1,347
5050C00582	PBC BOARD OF COUNTY COM	A as of 06/87	44S-41E-12	L.W. Drainage Dist. S-5 Canal	III	4,087	4,688
5050S01862	SFWMD	A as of 03/89	44S-39E-13	L-7 Canal	III	150,000	
5050C92083	PBC BOARD OF COUNTY COM.	A as of 10/86	44S-42E-31	LWDD L-14 Canal	III	86	
9050P50103	MALRITE BROADCASTING CORPORATION	A as of 04/82	45S-41E-03	Fresh Water Wetlands	III	9,000	9,000
9050S00085	SFWMD	A as of 09/86	47S-37E-16	Holey Lands	III		
5050P90054	CITY OF BELLE GLADE	A as of 07/83	43S-36E-36	Lake Okeechobee & Rim Canal	III	200	
5050P00860	SLIM'S FISH CAMP, INC.	A as of 11/87	43S-36E-35	Rim Canal of Lake Okeechobee	III		700
5050P90006	CITY OF BELLE GLADE	A as of 02/02	43S-36E-26	Lake Okeechobee-Rim Canal	III	480	350
9050P00140	CRESTWOOD	A as of 01/87	43S-4E-27	Unnamed Canals, M-1Canals	III	400,000	
5226P01254	SHELL WESTERN E.&P., INC.	A as of 09/85	50S-35E-01	Graham Marsh/Devils Garden Sig	III	87	87
5226P09621	SEMINOLE EXPLORATION CO.	A as of 01/86	48S-33E-04	Lard Can Slough	III		3,000
5226P68728	FL POWER & LIGHT CO.	A as of 06/83	47S-33E-25	Unnamed Canal	III		355
5226P00716	ECKERD FAMILY YOUTH ALTERNATIVES	A as of 07/87	46S-34E-06	Unnamed Ag Ditches	III	2,111	1,950
5226P60314	CLAYTON W. WILLIAMS, JR.	A as of 03/83	46S-31E-27	N/A			8,700

Table B-14. Dredge and Fill Permits for the WCAs and EAA Study Area (Martin, Palm Beach, Hendry, Broward, Dade and Collier Counties)
For explanation of codes see Table B-16.

Record #	Name	Facility Status	T-R-S	Water Body	Receiving Body Class	Dredged (cu. yd.)	Filled (cu. yd.)
5226P00815	SHELL WESTERN E & P, INC	A as of 09/85	45S-31E-23	Graham Marsh/Devils Slough	III	87	87
9026S66492	SFWMD	A as of 08/85	45S-33E-00	Canals L1E, L2W, L3E	III	1,298,183	
5006P00806	FLORIDA POWER & LIGHT CO.	A as of 10/87	50S-39E-24	Unnamed Wetland	III	401	2,147
5006S00831	FL DEPT. OF TRANSPORTATION	A as of 11/87	50S-41E-16	N. New River Canal	III	680	
5006M00885	CITY OF TAMARAC	A as of 12/87	49S-41E-09	Tamarac Canal System	III	250	
5006P90119	FPA CORPORATION	A as of 02/84	49E-42E-06	Turnpike Canal/Brow Co.	III		850
5006M00024	CITY OF MARGATE	A as of 11/86		C-14 Canal	III		
9006C90372	BROWARD COUNTY EXPRESSWAY AUTH.	A as of 02/85	50S-40E-04	Canals	III	2,011,900	1,998,000
5006P01675	LENNAR HOMES, INC.	A as of 11/88	49S-41E-29	Plantation Water Cont.District	III	3,493	5,455
9006S00010	FLORIDA TURNPIKE	A as of 08/85	49S-41E-26	Unnamed Ditches			14,333
5006C90100	CITY OF SUNRISE	A as of 12/83	49S-41E-24	C-42 Canal	III		
9006S00002	FLORIDA TURNPIKE	A as of 06/85	49S-41E-24	Unnamed Ditches	III		60,415
5006P00226	CITY OF SUNRISE	A as of 05/85	49S-40E-13	C-42 Canal	III	3,000	5,000
5006P01674	LAUTIN VENTURES, INC	A as of 11/88	49S-41E-08	Tamarac Canal System	III	9,680	2,560
5006M00791	CITY OF TAMARAC	A as of 10/87	49S-41E-07	Unnamed Ditch	III	10	5,974
9006C90321	BROWARD COUNTY EXPRESSWAY AUTHORITY	A as of 03/85	50S-33E-04	Unnamed Ditches	III	5,057,000	
5006P90293	FL DEPT. OF TRANSPORTATION	A as of 01/85	50S-40E-34	N. New River Canal	III		26
5006P00959	AMERIFIRST DEVELOPMENT CORPORATION	A as of 01/88	50S-40E-12	N. New River Canal	III		90
9006P00149	BARNETT PLAZA LTD	A as of 03/87	50S-40E-02	Lago Mar Canal	III		28,550
5006C90099	CITY OF SUNRISE	A as of 12/83	50S-41E-02	N. New River Canal	III	240	
5006P00978	BROWARD CO EXPRESSWAY AUTHORITY	A as of 06/85	50S-40E-03	N. New River Canal	III		
9006P89644	RAINBOW PLANTATION	A as of 10/84	50S-40E-02				
5006P92098	SUNNILAND PIPELINE CO. INC.	A as of 04/87	50S-41E-19	South Fork New River	III	3,266	3,266

Table B-14. Dredge and Fill Permits for the WCAs and EAA Study Area (Martin, Palm Beach, Hendry, Broward, Dade and Collier Counties)
For explanation of codes see Table B-16.

Record #	Name	Facility Status	T-R-S	Water Body	Receiving Body Class	Dredged (cu. yd.)	Filled (cu. yd.)
9006S00070	I-595/DOT SR 84/441	A as of 06/86	50S-41E-19	New River Canal	III	128,000	1,615,000
5006P92053	THE INVERRARY ASSOC., INC.	Aas of 07/86	49S-41E-22	C-13	III		
5006P01439	JOSE DELGADO	A as of 07/88	49S-43E-19		III		
9006S85516	ALLIGATOR ALLEY/DOT	A as of 05/85	50S-36E-04	Miami Canal	III	4,736,857	2,546,196
5006C01742	BROWARD COUNTY ENGINEERING DIVISION	A as of 01/89	51S-41E-18	S. Broward Drainage District	III		
9006P73652	ANDYTOWN SUBSTATION	A as of 01/84	51S-39E-03	Everglades	III	9,000	32,000
9006C00185	BROWARD COUNTY UTILITIES DIVISION	A as of 07/87	51S-39E-02	SFWMD C-11 Canal	III	34,000	37,000
9006P65454	BROWARD FARMS, INC.	A as of 09/83	49S-39E-34	Manmade Ditches adj to C-11	III	18,000	
9006S81735	ALLIGATOR ALLEY/DOT	A as of 08/85	49S-38E-30	Everglades & L-68A Canal	III	4,805,372	1,597,992
5006M92094	CITY OF PEMBROKE PINES	A as of 07/86	51S-40E-13	Unnamed Drainage Canals	III	1,049	1,663
5013P92108	MICCOSUKEE TRIBE OF INDIANS	A as of 11/86	54S-35E-13	WCA 3A	III	222	222
9013P00159	FLORIDA CELLULAR TELEPHONE CO.	A as of 05/87	54S-38E-01	L-30 Canal/ East Everglades	III		29,335
5013S01606	FLORIDA DOT	A as of 10/88	54S-35E-17	L-29 Canal	III	300	500
5013P00644	BELL SOUTH MOBILITY	A as of 07/87	54S-39E-06	East Everglades	III	388	1,644
5211P83340	EXXON CORPORATION	A as of 08/84	51S-34E-25	Big Cypress Swamp/ Everglades	III	65,889	65,889
5211P01033	SABINE OIL, INC. WELL NO 18-2	A as of 01/88	50S-33E-18	Big Cypress Swamp	III		36,639
5211P61148	HUGHES AND HUGHES	A as of 10/82	50S-33E-06	Big Cypress Swamp	III		12,875

Table B-15. Well Permits for the WCAs and EAA Study Area (Broward and Dade Counties)
For explanation of codes see Table B-16

Record #	Name	Facility Class	Facility Status	T-R-S	Type of Treatment
5006M93000	CITY OF SUNRISE-WWTP NO. 3	1	A as of 07/87	50S-40E-03	Two Class I test/injection wells used for injection with monitoring well
5006P60240	MR. GEORGE MONSOUR	3	A as of 02/85		Closed circuit cooling water return flow well
5006P60142	CHARLES ALBERT	5A	A as of 03/84		
5006P60223	PLANTATION POLICE FACILITY		A as of 12/84		Drainage of a closed loop system cooling water return flow, containing no additives
5006P60116	ST. GEORGE SENIOR DAY CARE CENTER	1	A as of 07/84		Class V Group 1 drainage well for disposal of air conditioning cooling water
5013P71505	W.R.DAWES	5A	A as of 08/84		

1 - Class 1 well
3 - Class 3 well
5A - Air condition/cool water return well

Table B-16. Department of Environmental Regulation Groundwater Management System Code List
Non-Point Sources

FACILITY STATUS

A - ACTIVE
I - INACTIVE
K - CLOSED, BUT STILL PERMITTED
P - PHASED OUT
R - REMOVED
S - SPECIAL

DISPOSAL METHODS

AC - ACCIDENTAL SPILL, LEAK, ETC.
BU - BURIAL
DR - DRAINFIELD
EN - ENCAPSULATION
HZ - HAZARDOUS WASTE
IM - IMPOUNDMENT
IN - INJECTION
LA - LAND APPLICATION
LS - LAND SPREADING
SD - SURFACE WATER DISCHARGE
VR - VOLUME REDUCTION/RESOURCE RECOVERY
OT - OTHER (INCLUDING "DREDGE AND FILL" AND "H.W. NOTIFIER" FOR HAZARDOUS WASTE NON - INDUSTRIAL)

CLASS CODES FOR TYPE 3 FACILITIES (Landfills)

Solid Waste Facilities:

100 CLASS I LANDFILL
200 CLASS II LANDFILL
300 CLASS III LANDFILL
  310 TRASH/YARD TRASH
  320 TRASH COMPOSITING
400 SLUDGE DISPOSAL FACILITY
500 OTHER DISPOSAL FACILITY
  510 SPECIAL WASTE
  520 OLD DUMP
  530 LACK OF DATA

Volume Reduction/Resource Recovery Facilities:

600 THERMAL TREATMENT FACILITY
- 610 INCINERATION
  - 611 INCINERATION ONLY
  - 612 WATERFALL INCINERATOR

700 VOLUME REDUCTION/TRANSFER STATION
- 710 BALER/COMPACTOR
- 720 SHREDDER/PULVERIZER
- 730 SLUDGE CONCENTRATION
- 740 COMPOSTING PLANT
  - 741 SLUDGE COMPOSTING
  - 749 OTHER COMPOSTING
- 750 TRANSFER STATION

Other

999 - OTHER

TYPES OF WASTES HANDLED

Solid, Non-Hazardous (100's)

105 - Agricultural
110 - Residential
115 - Commercial
120 - Hospital/Clinical
125 - Mining
130 - Industrial

Sludges (200's)

205 - Water Treatment/Lime Softening
210 - Septic Tank
215 - Air Scrubber
220 - Industrial/Commercial
225 - Domestic
230 - Incinerator Residue
235 - Ion Exchange
295 - Hazardous Sludge

Wastewater (300's)

305 - Domestic
310 - Industrial
315 - Reject Water
320 - Cooling Water

Hazardous Solid/Liquid

905 - Caustic & Acid Solutions
910 - Explosives
915 - Heavy Metal Solutions
920 - Inorganic Chemicals
925 - Organic Chemicals
930 - Organic Solvents and Oils
935 - Paint and Ink Wastes
940 - Pesticides/ Fungicides
945 - Pathological/ Infectious
950 - Low-Level Radioactive
955 - Mining

Other

999 - Other

RECEIVING BODY OF WATER CLASS

I - A - Potable water supplies - surface waters
I - B - Potable and agricultural water supplies and storage - groundwaters
II - Shellfish propagation or harvesting - surface waters
III - Recreation, propagation and management of fish and wildlife - surface waters
IV - Agricultural water supplies - surface waters
V - A - Navigation, utility and industrial use - surface waters
V - B - Freshwater storage, utility and industrial use - groundwaters

COUNTY CODE FOR UNDERGROUND STORAGE TANK PERMITS

06 - Broward County
50 - Palm Beach County
13 - Dade County

TANK CONTENTS CODES AND DESCRIPTIONS

Code Key	Code Description
A	Leaded Gas
B	Unleaded Gads
C	Unlead/Gasohol
D	Veh Diesel
E	Aviation Fuel
F	Aviation Gas
G	Jet Fuel
H	Concrete
I	Sand
J	Empty
K	Kerosene
L	Used Oil
M	Boil/Gen Diesel
N	Leaded Gasohol
O	New Oil
W	Water
Y	Not Reported
Z	Other

Figure B-2. Sample Landuse Map of WCA & EAA Planning Area.

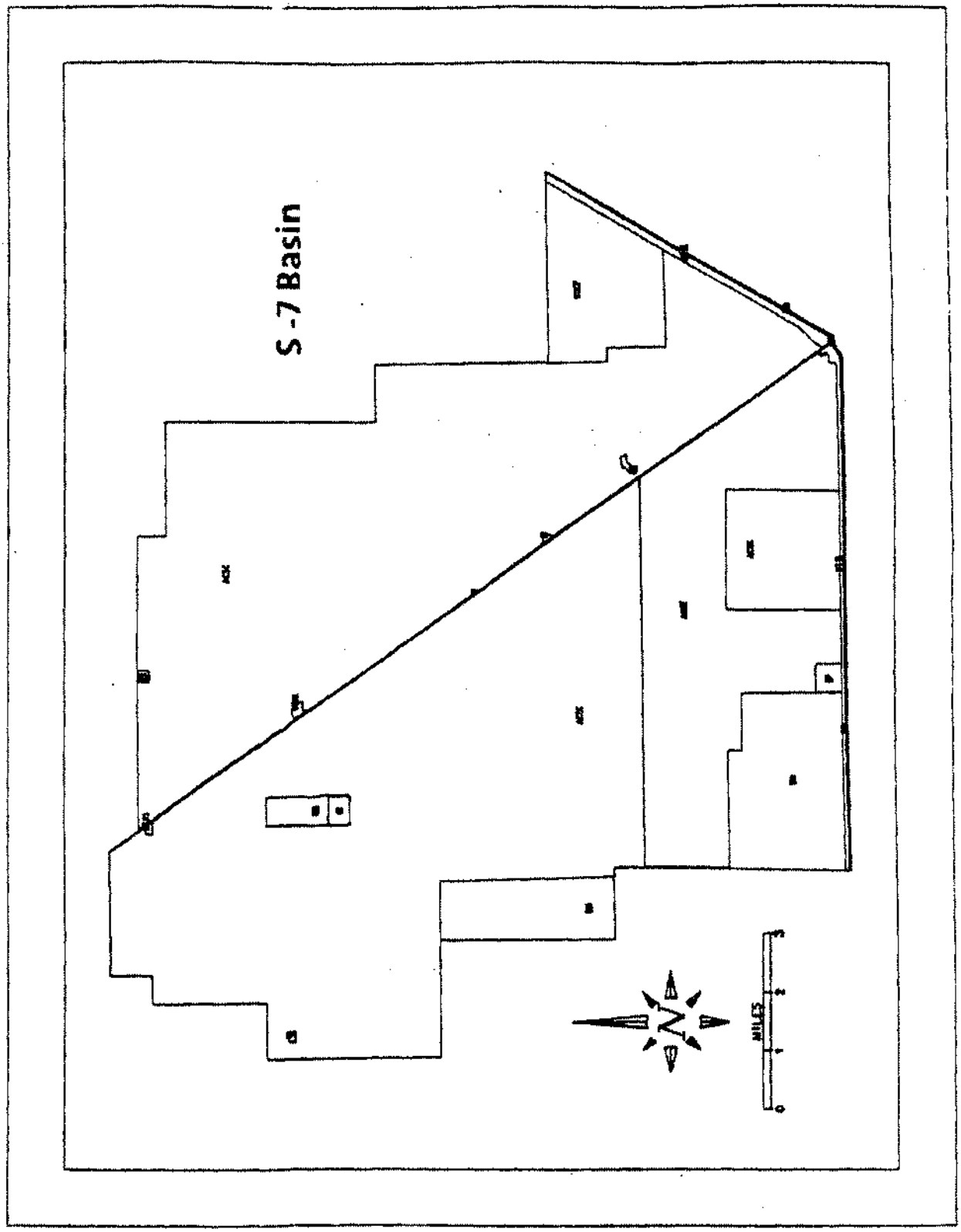

Table B-17. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

LEVEL I		LEVEL II		LEVEL III	
SFWMD	DOT [1]	SFWMD	DOT	SFWMD	
(U)	(100)				Urban and built up land
		(UR)	(120)		Residential
				(URSL)	Single - family, Low Density (under 2 D.U./gross acre)
				(URSM)	Single - family, Medium Density (2 to 5 D.U./gross acre)
				(URSH)	Single - family, High Density (over 5 D.U./gross acre)
				(URMF)	Multi-family building
				(URMH)	Mobil homes
		(UC)	(140)		Commercial and Services
				(UCPL)	Parking lot
				(UCSC)	Shopping center
				(UCSS)	Sales and services
				(UCCE)	Cultural and Entertainment
				(UCMC)	Marine commercial(Marinas)
				(UCHM)	Hotel-Motel
		(UI)	(150)		Industrial
				(UIJK)	Junkyard
		(US)	(170)		Institutional
				(USED)	Educational
				(USMD)	Medical
				(USRL)	Religious
				(USMF)	Military
				(USCF)	Correctional
				(USGF)	Governmatal(other than military or correctional)
				(USSS)	Social services
		(UT)	(810)		Tranportation
				(UTAP)	Airports
				(UTAG)	Small grass airports
				(UTRR)	Railroad yards and terminals
				(UTPF)	Port facilities
				(UTEP)	Electrical power facilities
				(UTTL)	Major trasmission lines
				(UTHW)	Major highways and right-of-ways
				(UTWS)	Water supply plants
				(UTSP)	Sewage treatment plants
				(UTSW)	solid waste disposal
				(UTRS)	Antenna arrays
				(UTOG)	Oil and gas storage
		(UO)	(190)		Open and others

1 Kuyper,W.H.,J.E. Becker, and A.Shopmyer. 1981. Land Use, Cover Forms Classification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981.66pp

Table B-17. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

LEVEL I		LEVEL II		LEVEL III		
SFWMD	DOT [1]	SFWMD	DOT	SFWMD		
				(UORC)		Recreational facilities
				(UOGC)		Golf courses
				(UOPK)		Parks
				(UOCM)		Cemetaries
				(UORV)		Recreational vehicle parks
				(UOUD)		Open under developement
				(UOUN)		Open and undeveloped within urban
(A)	(200)					Agriculture
		(AC)	(210)			Cropland
				(ACSC)	(216)	Sugar cane
				(ACTC)	(214)	Truck crops
				(ACRF)	(215)	Rice fields
		(AP)				Pasture
				(APIM)	(211)	Improved pasture
				(APUN)	(212)	Unimproved pasture
		(AM)	(220)			Groves, ornamentals, Nurseries, Tropical Fruits, Orchards, Vineyards
				(AMCT)	(221)	Citrus
				(AMTF)	(222)	Tropical Fruits
				(AMSF)	(242)	Sod farms
				(AMOR)	(243)	Ornamentals
		(AF)	(230)			Confined feeding operations
				(AFFL)	(231)	Cattle feed lots
				(AFDF)	(252)	Dairy farms
				(AFFF)	(254)	Fish farms
				(AFHT)	(254)	Horse training and stables
				(AFPY)	(232)	Poultry
(R)	(300)					Rangeland
		(RG)	(310)			Grassland
		(RS)	(320)			Scrub and brushland
				(RSPP)	(321)	Palmetto praries
				(RSSB)	(329)	Brushland
(F)	(400)					Forested
		(FE)	(410)			Coniferous
				(FEPF)	(411)	Pine flatwoods
				(FESP)	(413)	Sand pine scrub

1 Kuyper,W.H.,J.E. Becker, and A.Shopmyer. 1981. Land Use, Cover Forms Cllassification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981.66pp

Table B-17. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

LEVEL I SFWMD	DOT [1]	LEVEL II SFWMD	DOT	LEVEL III SFWMD		
				(FECF)	(441)	Commercial forest(pine)
		(FO)	(420)			Non-coniferous
				(FOAP)	(414)	Australian pine
				(FOBP)	(422)	Brazilian pepper
				(FOPA)	(428)	Palms
				(FOSO)	(432)	Scrub oak
				(FOOK)	(425)	Oak
				(FOCF)	(442)	Commercial forest
		(FM)				Mixed forested
				(FMTW)		Temperate hardwoods
				(FMCM)		Cabbage palms/Melalueca
				(FMCO)		Cabbage palms/Oak
				(FMPM)		Pine/Melalueca
				(FMPO)		Pine/Oak
				(FMTH)		Tropical hammocks
				(FMOF)		Old fields forested
				(FMCD)		Coastal dunes
				(FMPC)		Pine/Cabbage palms
(W)	(600)					Wetlands
		(WF)	(610)			Forested fresh
				(WFCM)		Cypress/Melalueca
				(WFCY)	(621)	Cypress
				(WFWL)	(610)	Willow
				(WFME)	(424)	Melalueca
				(WFSB)	(610)	Scrub and brushland
				(WFMX)	(630)	Mixed forested
		(WN)	(640)			Non-forested fresh
				(WNSG)	(641)	Sawgrass
				(WNCT)	(641)	Cattail
				(WNBR)	(641)	Bullrush
				(WNWC)	(641)	Wire cordgrass
				(WNAG)	(641)	Mixed aquatic plants
				(WNWL)	(641)	Sloughs
		(WS)	(640)			Forested salt
				(WSRM)	(612)	Red magrove
				(WSBW)	(612)	Black and white magrove
		(WM)	(642)			Non-forested salt
		(WX)	(643)			Mixed forested and non-forested fresh
				(WXPP)	(643)	Pine and wet prairies

1 Kuyper, W H., J.E. Becker, and A.Shapmyer 1981. Land Use, Cover Forms Classification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May, 1981. 66pp

Table B-17. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

LEVEL I		LEVEL II		LEVEL III		
SFWMD	DOT [1]	SFWMD	DOT	SFWMD		
				(WXCP)	(643)	Cypress domes and wet prairies
				(WXHM)	(643)	Hardwood marsh
(H)	(500)					Water
(B)	(700)					Barren land
		(BB)	(710)			Beaches
		(BP)	(742)			Extactive (strip mines, quarries, and gravel pits)
		(BS)	(743)			Spoil areas
		(BL)	(744)			Levees

1 Kuyper,W.H.,J.E. Becker, and A.Shopmyer. 1981. Land Use, Cover Forms Classification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981.66pp

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WATER QUALITY SECTION

WCA NUTRIENT BUDGET CALCULATIONS

Introduction

Water quality in the WCAs was evaluated using a 10 year period of record (October 1, 1978-September 30,1987) utilizing SFWMD water quality and quantity databases as well as U.S. Army COE, and USGS discharge, rainfall and evapotranspiration records. Three hydrologic characteristics (rainfall ,evapotranspiration and discharge volumes) and two water quality constituents (total nitrogen and total phosphorus concentrations) were collected from each of 20 major discharge structures, 8 minor water control structures and 13 rainfall collection stations sites (including 4 long-term rainfall collection sites) as shown in Figures 20 and 25 in the maim body of this report (Section III).

Rainfall Phosphorus Loading

Bulk precipitation (dry fall + wet rainfall) samples were collected routinely every two weeks through the SFWMD bulk atmospheric deposition network (Figure 20). Estimates of phosphorus loadings to the WCAs and phosphorus concentrations in bulk rainfall were based on analysis of data collected from the 13 rainfall collection sites (Figure 20). Four of the 13 sites (B-50, OKEEFS, S-2, S-131)represent long-term collection sites with a period of record ranging from 10 to 14 years. The remaining 9 sites were established within the last two to three years. All period of record data were used for the 13 sites up to April 24, 1989. Sample stations collected included B-50 (West Palm Beach field station), CLE (Clewiston field station), ENP (South Florida Research Center), OKEEFS (Okeechobee Field station), pump stations S-2, S-5A, S-7, S-131, S-140, 40 mile bend, Homestead field station, East Shore Drainage District, and the Experimental Meteorological Lab at Coral Gables, Fla. Rainfall volumes for each WCA were obtained from U.S. Army Corps of Engineers (Jacksonville District), USGS or SFWMD water budget logs.

All data were screened for contamination by birds, frogs, algal growth or other potential contaminants. Ranking of all raw data indicated that values exceeding a total phosphorus concentration of 0.320 mg/l represented a potentially contaminated sample and was eliminated from the sample set.

Point data from the above 13 sites were used to find the areal distribution of total phosphorus in bulk rainfall for each WCA using a statistical computer analysis (USGS computer program K603) generally referred to as the "kriging" method (Skrivan and Karlinger, 1980). By specifying a theoretical semi-variogram and functional terms of an assumed underlying trend or drift, kriging provides unbiased estimates of variables in neighborhoods of autocorrelation. Given single observations and their spatial distributions in two-dimensions, the technique yields point estimates and point estimate variances at arbitrary locations. This method of interpolation has been applied to mining, geophysical exploration, descriptions of ground water flow (Skrivan and Karlinger, 1980) as well as the analysis of rainfall data.

Rainfall nutrient concentrations obtained from the above analyses were averaged together for each WCA and multiplied times the average rainfall volume recorded for each WCA using COE, USGS and SFWMD daily water log budgets. This

concentration value was then divided by by the constant 810.758 to obtain metric tons of phosphorus contributed to each WCA by rainfall;

Where;

$$\text{Bulk Rainfall Total P Loading (metric tons)} = \frac{\text{Mean Total P (mg/l)} \times \text{Rainfall Volume (acre ft.)}}{810.758}$$

Inflow/Outflow Phosphorus Loading Calculations

Mass transport (load) means the amount of phosphorus carried past a monitoring point by the movement of water. It cannot be measured directly (except in very special circumstances), and so is calculated based on available measurements.

A standard formula (computer algorithm which integrates the product of flow and phosphorus measurements over time) was used to calculate monthly loading values when data for both flow and phosphorus concentration were available by direct measurement.

Specific formulas appropriate to a particular monitoring point were used when phosphorus concentration data were not available by direct measurement. These specific formulas are presented and discussed in detail below.

The actual calculation of loads and load estimates from flow and chemistry data stored in the SFWMD data bases is a multi-step process that is diagrammed in **Figure 1**. Data collected from this sampling regime are stored in the SFWMD data base or in the hydrologic data base (DBHYDRO) at District headquarters in West Palm Beach. Sources of measured flow data compiled by the SFWMD's Water Resources Division used for calculating loadings are as shown in **Table B**.

Grab-Sample Loading Calculations: For loading calculations based on grab-samples, when both phosphorus and daily flow measurements were available, the standard procedure described below was used. This is the preferred method of Scheider, et al. (1978) and takes into account the fact that flow is routinely measured more frequently (daily) than phosphorus (bi-weekly).

In the standard procedure used to calculate grab-sample loadings, daily flow measurements were multiplied by the concentration measurement nearest in time to the date of the measured flow. This is illustrated by the following graph:

<----------¦---------><--------¦---><----¦--><--¦

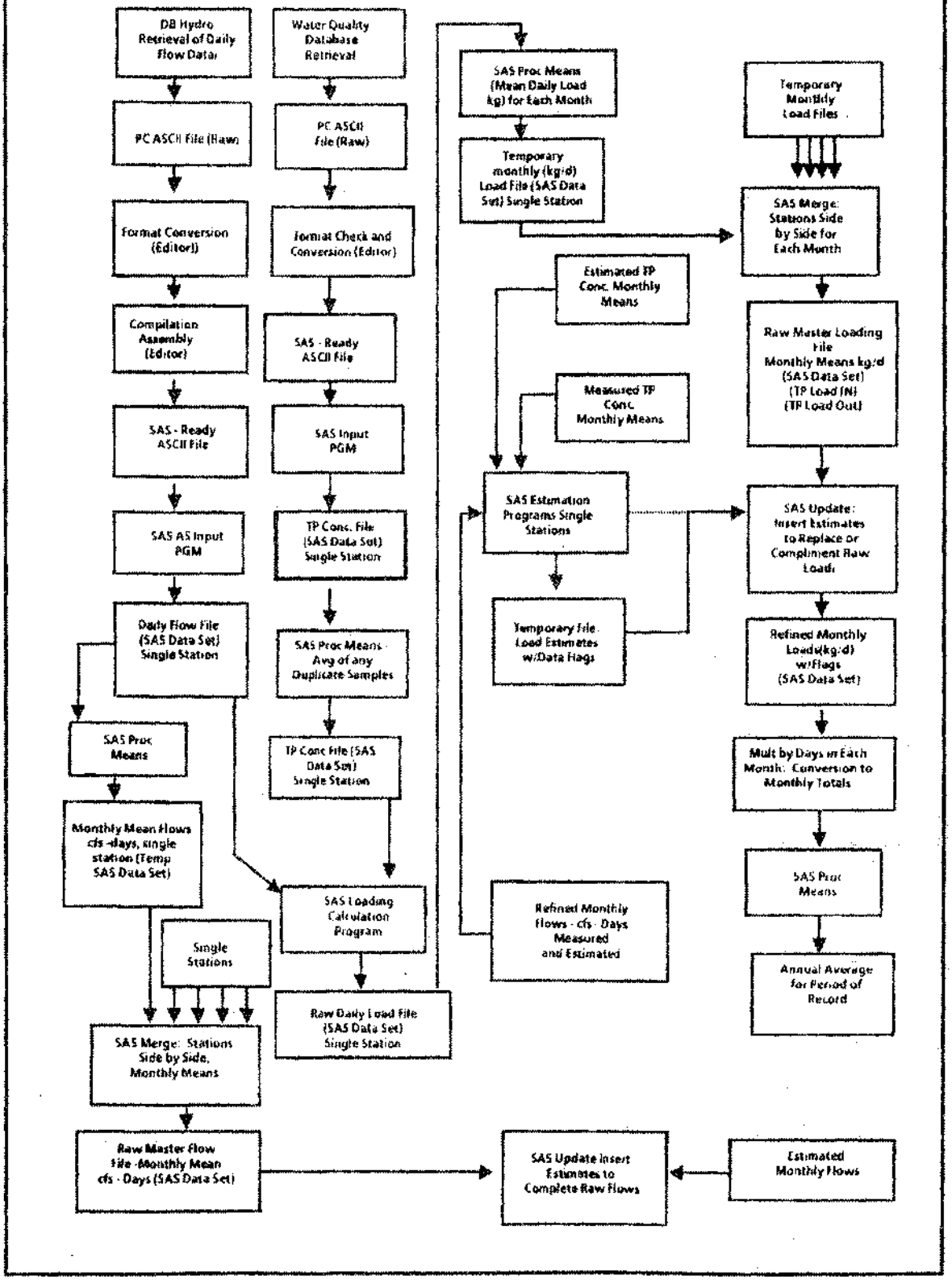
WHERE:

¦ = phosphorus measurement.

\- = Daily flow measurement.

<---¦---> = Period to which grab-sample concentration is applied.

Figure 1. Schematic of Loading Calculation Process



An actual phosphorus measurement was assumed to be the best available approximation of in-stream concentration for a period extending up to 30 days on either side of the measurement.

Auto-Sampler Loading Calculations: For loading calculations based on autosampler (composite) data, when both phosphorus and daily flow measurements were available, daily loadings were calculated by multiplying the concentration measured in the composite sample by the flow recorded on each day during the sample accumulation period. The sample accumulation period extends backward in time from the recorded sample date (the terminal date of the accumulation period) to the day following the previous sample date, or 30 days, whichever is less. This is illustrated by the following graph:

X<----------X<--------X<----------X

WHERE:

X	=	End of autosample accumulation period and recorded date of phosphorus measurement.
-	=	Daily flow measurement.
<-------X	=	Accumulation period to which composite sample concentration is applied.

Loading Estimates with Unavailable TP Data: When phosphorus measurements were unavailable, but flow records were complete, a regression method was used to estimate the loading from the flow data alone. In effect, this method estimates the unavailable concentration data. Using the complete period of record for a given site, monthly load was regressed on monthly flow volume to produce a predictive equation. At most sites considered here, variations in flow, rather than changes in concentration, dominate the variation in monthly mean loads. Therefore, with a reasonably complete record of load and flow, it is generally possible to estimate monthly load from flow data alone with good accuracy (Table A).

Lake Okeechobee Outflow Loadings: Loadings at the Lake Okeechobee outflow structures (S-2, S-3, and HGS5) were calculated using the grab-sample method described above. The data for the daily flow volumes were provided by the USGS. TP data were described in detail previously (Technical Document in Support of Chapter 40E-61, Works of the District Within the Lake Okeechobee Basin).The regression equations used to estimate loadings from flow data when TP data were unavailable are summarized in Table A.

Total Phosphorus Areal Loading Rates

Calculation of a total phosphorus areal loading rate (grams P/m^2/year) provides a standard measure of comparison for evaluating nutrient inflows into water bodies of different sizes. This calculation was used to provide a uniform measure of comparison of nutrient loading rates among the three WCA's. The total phosphorus areal loading rate was calculated by summing all inflows discharged into the water body for a given year and dividing by the total surface area using appropriate

Table A. Summary of regression equations used to estimate TP loads when phosphorus measurements were unavailable.*

SITE	COEFFICIENT (With Standard Error)					
	B_0	B_1	B_2	R^2	df	N
S-5A	-	0.55 (.032)	-	0.82	63	40
S-6	-	0.38 (.037)	-	0.67	50	49
S-7	1096 (568)	-0.07 (0.07)	.000011 (.0000019)	0.76	51	54
S-8	6590 (3571)	-0.69 (0.34)	0.000026 (.0000056)	0.76	46	64
S-2	-	0.19 (.016)	-	0.65	74	25
S-3	-	0.16 (.009)	-	0.79	83	19
HGS-5	-	0.26 (.021)	-	0.70	70	28

* Regression equations are the form: $(TP\ LOAD = B_0 + B_1 * flow + B_2 * flow^2)$.
Where: Flow is measured in CFS per month, and Load is in kg per month.
N = total number of months estimated.

conversion units. Areal loading rates for total phosphorus (grams $P/M^2/yr.$) for this study were calculated by multiplying the annual total phosphorus load (metric tonnes) times 1×10^6 and dividing by the total number of acres within each water body (WCA) times the constant 4047.

where;

$$\text{Total Phosphorus Areal Loading Rate (grams total } P/m^2/yr) = \frac{\text{Annual Total P loading (metric tons.)} * 1 X 10^6}{\text{Area (acres)} * 4047}$$

Given the following land areas;
WCA-1 = 145,280 acres; WCA-2A = 110,720 acres; WCA-3A = 503,040 acres

Areal Phosphorus Retention Rate

Calculation of a total phosphorus areal retention rate (grams $P/m^2/yr$) provided a standard method of comparison of the amount of phosphorus annually retained within each marsh system on a uniform per square meter basis.

Areal total phosphorus retention rates were calculated by subtracting the total loading input (inflows) into each WCA (in metric tons/yr) from the total loading

output (outflows). The remainder represents the amount of phosphorus retained within the marsh and was termed "other sinks" which includes phosphorus retained by marsh sediments, periphyton, macrovegetation, lost to the atmosphere as ash, or taken up by some other phosphorus sink. The "other sinks" term (in metric tons) is then multiplied times 1 $X10^6$ and divided by the total acreage of the WCA times the constant 4047.

where;

(1) Total P loading inflow - Total P loading outflow = "other sinks"

(Total P in metric tons) (Total P in metric tons) (Total P in metric tons)

(2) Total Phosphorus Retention Rate (grams total P/m2/yr) = $\frac{\text{"other sinks" Total P (metric tons)} * 1\ X10^6}{\text{Area (acres)} * 4047}$

Percent Phosphorus Retention

Calculation of percent phosphorus retention by each marsh was calculated as follows;

where;

Percent retention (% phosphorus retained) = $\frac{\text{"Other Sinks"(Total P in metric tons/yr)}}{\text{Total Inflow (Total P in metric tons/yr)}} \times 100$

Water Residence Times

Calculation of a water residence time provides a useful estimate the length of time (in years) that it takes to replace the mean annual storage volume of a water body. In this study, water residence times were utilized as a standard measure of comparison for evaluating the amount of time that water remained within a specific WCA before being discharged or lost from the system as evapotranspiration or seepage. This parameter also provides an estimate of the amount of contact time that nutrients within a body of water have to interact with marsh sediments or plant vegetation. In general, the longer water is detained within a marsh, the greater the amount of phosphorus that can taken up by sedimentary or biological processes.

Average storage volumes were calculated from monthly storage volume data (acre feet) provided by U.S. Army Corps of Engineers (Jacksonville District) water budget logs. The average storage volume was calculated by adding all the months up and dividing by the number of months.This value was then divided by the volume (acre feet) for total output minus evapotranspiration (E.T.).

where;

Water Residence Time (years) = $\frac{\text{average storage volume}}{\text{total output- E.T}}$

Table B. Sources Of Flow Data Compiled By the Water Resources Division for the WCA Water and Nutrient Budget.

The following is a listing of the flow data compiled by the Water Resources Division for the 20 inflow/ outflow water control structures located within the WCAs. Every effort was made to fill in any gaps in the data set with the next best available source. The District database was used as the primary source of retrieval where possible. It was necessary to include flow calculations from SFWMD Data Management's files, U.S. Geological Survey monthly reports, and Corps of Engineers monthly water budgets, these being indicated by an 'N/A' for an ID number. Where no flow calculations existed from any of these sources, daily flow was estimated using available hydrologic records as noted in margin.

STATION	AGENCY	ID NUMBER	PERIOD OF RECORD
L3	USGS	02289030	10/01/78 - 09/30/88
S-5A +S5AS	USGS	02278500	10/01/78 - 09/30/88
S-6	USGS	02281200	10/01/78 - 09/30/81
	WMD	50046395	10/01/81 - 12/01/84
			01/01/85 - 06/30/85
			12/01/85 - 12/31/85
	WMD	20046395	07/01/85 - 09/30/85
			10/01/85 - 11/30/85
			07/01/86 - 09/30/88
	WMD	40046391	01/01/86 - 06/30/86
	COE	N/A	12/02/84 - 12/31/84
			01/01/86 - 01/07/86
S-7 (comb.)	USGS	02284300	10/01/78 - 09/30/81
(pump)	WMD	N/A	10/01/81 - 02/28/86
	WMD	22747385	03/01/86 - 10/22/86
			10/24/86 - 12/03/86
			12/05/86 - 01/28/87
			02/01/87 - 03/19/87
			03/21/87 - 06/10/87
			06/14/87 - 10/24/87
			10/26/87 - 12/16/87
			01/01/88 - 09/30/88
	WMD	52747385	10/23/86
			12/04/86
			01/29/87 - 01/31/87
			03/10/87
			06/11/87 - 06/13/87
	COE	N/A	10/25/87
			12/17/87 - 12/31/87
(splwy.)	WMD	52747381	10/01/81 - 12/31/84
	WMD	52747383	01/01/85 - 05/26/86
			06/03/86 - 06/10/87
			06/14/87 - 10/24/87
			10/26/87 - 12/16/87
	WMD	22747383	05/27/86 - 06/02/86
			01/01/88 - 09/30/88
	COE	N/A	06/11/87 - 06/13/87
			10/25/87
			12/17/87 - 12/31/87
S-8 (comb.)	USGS	02286700	10/01/78 - 12/31/82

STATION	AGENCY	ID NUMBER	PERIOD OF RECORD	
(pump)	WMD	N/A	01/01/83 - 04/30/86	
	WMD	20048365	05/01/86 - 06/12/86	
			10/21/86 - 10/31/86	
			01/01/87 - 03/19/87	
			03/21/87 - 06/12/87	
			06/14/87 - 10/24/87	
			10/26/87 - 09/30/88	
	WMD	50048365	06/13/86 - 10/20/86	
			11/01/86 - 12/31/86	
	COE	N/A	03/20/87	
			06/13/87	
			10/25/87	
(splwy.)	WMD	50048361	01/01/83 - 12/31/84	
	WMD	50048362	01/01/85 - 06/30/86	
	WMD	20048362	07/01/86 - 07/02/86	
			07/05/86 - 07/06/86	
			07/10/86 - 08/16/86	
			08/18/86 - 03/19/87	
			03/21/87 - 06/12/87	
			06/14/87 - 10/24/87	
			10/26/87 - 11/11/87	
			11/13/87 - 11/22/87	
			11/26/87 - 09/30/88	
	COE	N/A	07/03/86 - 07/04/86	
			07/07/86 - 07/09/86	
			08/17/86	
			03/10/87	
			06/13/87	
			10/25/87	
			11/12/87	
			11/23/87 - 11/25/87	
S-9	WMD	52750395	10/01/78 - 12/31/83	
			01/04/84 - 12/31/84	
			01/02/85 - 06/29/85	
			07/01/85 - 05/30/86	
			06/02/86 - 07/14/86	
			07/17/86 - 09/30/88	
	WMD	N/A	06/30/85	Estimated using pump log and S-9 curve. (attached)
	COE	N/A	01/01/84 - 01/03/84	
			01/01/85	
			05/31/86 - 06/01/86	
			07/15/86 - 07/17/86	
S-10A	COE	N/A	10/01/78 - 09/30/88	
S-10C	COE	N/A	10/01/78 - 09/30/88	
S-10D	COE	N/A	10/01/78 - 09/30/88	
S-10E	WMD	50346391	02/19/85 - 05/24/86	
			06/03/86 - 06/21/86	
			07/02/86 - 09/30/88	
	WMD	N/A	05/25/86 - 06/02/86	Gate operation log shows gate closed.
			06/22/86 - 07/01/86	

STATION	AGENCY	ID NUMBER	PERIOD OF RECORD	
				Assumed no flow.
S-11A	COE	N/A	10/01/78 - 09/30/88	
S-11B	COE	N/A	10/01/78 - 09/30/88	
S-11C	COE	N/A	10/01/78 - 09/30/88	
S-12A	USGS	N/A	10/01/78 - 09/30/88	
S-12B	USGS	N/A	10/01/78 - 09/30/88	
S-12C	USGS	N/A	10/01/78 - 09/30/88	
S-12D	USGS	N/A	10/01/78 - 09/30/88	
S-18C	USGS	02290769	10/01/83 - 09/30/88	
S-38	WMD	53648401	10/01/78 - 05/11/85	
			05/14/85 - 05/31/85	
			06/13/85 - 11/30/85	
			01/01/86 - 04/07/86	
			04/10/86 - 08/01/86	
			03/20/87	
			06/13/87	
	WMD	23648401	12/01/85 - 12/31/85	
			04/08/86 - 04/09/86	
			08/02/86 - 03/19/87	
			03/21/87 - 06/12/87	
			06/14/87 - 09/10/87	
			09/12/87 - 10/24/87	
			10/26/87 - 09/30/88	
	COE	N/A	05/12/85 - 05/13/85	
			06/01/85 - 06/12/85	
			09/11/87	
			10/25/87	
S-39	WMD	50047401	10/01/78 - 04/30/86	
	WMD	20047401	05/01/86 - 08/16/86	
			08/18/86 - 03/14/87	
			03/16/87 - 03/19/87	
			03/21/87 - 10/24/87	
			10/26/87 - 10/28/87	
			10/30/87 - 11/22/87	
			11/26/87 - 12/01/87	
			12/22/87 - 12/30/87	
			01/01/88 - 01/19/88	
			01/21/88 - 04/05/88	
			04/08/88 - 04/13/88	
			04/18/88	
			04/22/88 - 04/28/88	
			04/30/88 - 05/04/88	
			05/06/88	
			05/09/88 - 08/05/88	
			08/09/88 - 08/17/88	
			08/19/88 - 09/30/88	
	WMD	N/A	04/06/88 - 04/07/88	Filled stages
			04/14/88 - 04/17/88	missing from
			04/19/88 - 04/21/88	breakpoint file
			04/29/88	with hourly tele-
			05/05/88	metry readings
			05/07/88 - 05/08/88	from Res. Op.
			08/06/88 - 08/08/88	Ran data file back

STATION	AGENCY	ID NUMBER	PERIOD OF RECORD
			08/18/88 through EO34 program to get Q
	COE	N/A	08/17/86
			03/15/87
			03/20/87
			10/25/87
			10/29/87
			11/23/87 - 11/25/87
			12/02/87 - 12/21/87
			12/31/87
S-140 (pump)	WMD	40350351	10/01/78 - 04/30/86
	WMD	20350355	05/01/86 - 09/30/88
(splwy.)	WMD	50350352	10/01/78 - 12/31/86
	WMD	20350352	01/01/87 - 09/30/88
S-144	COE	N/A	10/01/78 - 09/30/88
S-145	COE	N/A	10/01/78 - 09/30/88
S-146	COE	N/A	10/01/78 - 09/30/88
S-150	WMD	52847381	10/01/78 - 12/31/84
			01/04/84
			01/06/84 - 06/10/85
			06/13/85 - 03/13/87
	WMD	32847381	04/02/87 - 09/30/88
	COE	N/A	01/01/84 - 01/03/84
			01/05/84
			06/11/85 - 06/12/85
			03/14/87 - 04/01/87
S-151	WMD	51451381	10/01/78 - 05/08/80
			05/31/80 - 09/25/83
			10/03/83 - 10/21/83
			10/26/83 - 10/31/86
			11/03/86 - 04/30/87
			06/01/87 - 06/30/87
			10/01/87 - 06/01/88
			07/01/88 - 09/30/88
	WMD	21451381	11/01/86 - 11/02/86
	WMD	31451381	05/01/87 - 05/31/87
			07/01/87 - 07/11/87
			07/13/87 - 09/30/87
	COE	N/A	05/09/80 - 05/30/80
			09/26/83 - 10/02/83
			10/22/83 - 10/25/83
			07/12/87-
			06/02/88 - 06/30/88
S-190	WMD	53048341	10/01/78 - 05/01/84
	WMD	53048341	05/14/84 - 09/30/88
	COE	N/A	05/02/84 - 05/13/84
S-332	WMD	53557371	10/01/83 - 06/20/88
	WMD	63557371	06/21/88 - 09/30/88
S-333	USGS	02289050	10/01/78 - 09/30/88
TAMI.40M	USGS	02288900	10/01/83 - 09/30/88

Table B-18. Water Quality statistics from Pump Station S-5A December 1977 to May 1989, Statistical characteristics of selected physical and chemical constituents from discrete water (Samples collected during and in the absence of discharge).

Pump Station S-5A

Parameter	Arithmatic mean	Number of observations	Standard Deviation	Coefficient of variation (%)
Temp. (C^9)	24.4	161	3.4	14
Turbidity (NTU's)	4.1	141	9.0	220
pH (s.u.)	7.12	155	7.34?	60
Spec. Cond (umhos.cm).	1309	159	293	22
Chloride (mg/l)	185	164	43	23
D.O (mg/l)	3.2	160	1.6	50
Color (p.u.)	134	130	60	45
Total N (mg/l)	4.41	165	1.24	36
TKN (mg/l)	3.48	165	1.24	36
NO_3 (mg/l)	0.868	158	1.574	181
NO_2 (mg/l)	.101	161	0.198	196
NH_4 (mg/l)	0.55	160	0.39	70
Total P (mg/l)	0.106	163	0.119	112

Source South Florida Water Management District

Table B-19. Water Quality statistics from Pump Station S-6 December 1977 to May 1989, Statistical characteristics of selected physical and chemical constituents from discrete water (Samples collected during and in the absence of discharge).

Pump Station S- 6

Parameter	Arithmatic mean	Number of observations	Standard Deviation	Coefficient of variation (%)
Temp. (C^0)	23.4	150	3.5	14
Turbidity (NTU's)	4.2	153	5.2	124
pH (s.u.)	4.21	145	.24	3
Spec. Cond (umhos.cm).	1309	148	297	23
Chloride (mg/l)	192	153	40	21
D.O (mg/l)	3.3	149	1.6	48
Color (p.u.)	145	130	49	34
Total N (mg/l)	4.59	153	2.17	47
TKN (mg/l)	3.28	153	1.14	35
NO_3 (mg/l)	1.241	154	1.351	109
NO_2 (mg/l)	.067	154	.107	160
NH_4 (mg/l)	.09	153	.13	144
Total P (mg/l)	.091	149	.073	80

Source South Florida Water Management District

Table B-20. Water Quality statistics from Pump Station S-7 December 1977 to May 1989, Statistical characteristics of selected physical and chemical constituents from discrete water (Samples collected during and in the absence of discharge).

Pump Station S-7

Parameter	Arithmatic Mean	Number of observations	Standard Deviation	Coefficient of variation (%)
Temp. (C^0)	23.7	178	3.7	16
Turbidity (NTU's)	3.8	157	4.2	109
pH (s.u.)	6.61	170	5.62	978
Spec. Cond (umhos.cm).	1099	176	283	26
Chloride (mg/l)	142	176	283	26
D.O. (mg/l)	4.4	176	1.8	42
Color (p.u.)	100	145	49	50
Total N (mg/l)	3.29	177	0.85	34
TKN (mg/l)	2.46	177	0.85	34
NO_3 (mg/l)	0.798	176	1.044	131
NO_2 (mg/l)	.048	171	0.041	85
NH_4 (mg/l)	0.20	161	0.21	104
Total P (mg/l)	0.083	173	0.100	120

Source South Florida Water Management District, 1977-1989

Table B-22. A comparison of the variation in magnitude of water quality sampling station means at four major pump stations which drain the EAA .

Comparison of EAA Pump Station Water Quality

Parameter	S-5A	S-6	S-7	S-8
Temp. (C^0)	24.3	24.4	23.7	24.7
Turbidity (NTU's)	4.6	4.1	3.8	4.9
pH (s.u.)	7.21	7.12	**6.61***	7.25
Spec. Cond (umhos.cm).	1241	1309	1099	778
Chloride (mg/l)	195	185	142	84
D.O. (mg/l)	**4.0***	**3.2***	**4.4***	**4.9***
Color (p.u.)	153	134	100	103
Total N (mg/l)	4.97	4.41	3.29	2.96
TKN (mg/l)	3.80	3.48	2.46	2.23
NO_3 (mg/l)	1.081	0.868	0.798	0.731
NO_2 (mg/l)	0.130	0.101	0.048	.040
NH_4 (mg/l)	0.66	0.55	0.20	0.10
Total P (mg/l)	0.170	0.106	0.083	0.089

Source South Florida Water Management District, 1977-1989
An asterisk (*) indicates a Class III water quality standards violation.

Table B-21. Water Quality statistics from Pump Station S-8 December 1977 to May 1989, Statistical characteristics of selected physical and chemical constituents from discrete water samples collected during and in the absence of discharge).

Pump Station S-8

Parameter	Arithmatic Mean	Number of observations	Standard Deviation	Coefficient of variation (%)
Temp. (C°)	24.7	191	4.2	17
Turbidity (NTU's)	4.9	171	6.5	132
pH (s.u.)	7.25	181	7.35	79
Spec. Cond (umhos.cm).	778	189	195	25
Chloride (mg/l)	84	193	26	31
D.O. (mg/l)	4.9	189	2.2	44
Color (p.u.)	100	145	49	50
Total N (mg/l)	2.96	193	1.54	55
TKN (mg/l)	2.23	193	0.83	37
NO_3 (mg/l)	0.731	184	1.017	139
NO_2 (mg/l)	.040	175	0.048	122
NH_4 (mg/l)	0.10	158	0.07	73
Total P (mg/l)	0.089	193	0.101	113

Source South Florida Water Management District, 1977-1989

Table B- 24. Comparison of variations observed in sample means obtained in the presence of /or the absence of discharge.

Parameter	PUMP STATION			
	S-5A	S-6	S-7	S-8
Temperature (Co)	26.0 (23.6)*	25.5 (23.9)*	24.2 (23.4)	24.8 (24.7)
Turbidity (ntu)	6.7 (3.7)*	7.5 (2.5)*	4.7 (3.1)*	7.5 (3.1)*
pH (s.u.)	7.05 (7.30)*	7.10 (7.15)*	7.15 (7.30)*	7.10 (6.43)*
Spec. Cond. (umhos.cm)	1387 (1177)*	1412 (1259)*	1086 (1109)	735 (801)*
Chloride (mg/l)	195 (195)	191 (182)	134 150)*	76 89)*
Dis. Oxygen (mg/l)	2.5 (4.7)*	2.7 (3.4)*	3.5 (5.0)*	4.2 (5.4)*
Color (p.u.)	196 (135)*	191 (105)*	119 (82)*	124 (88)*
TN (mg/l)	6.56 (4.18)*	6.26 (3.40)*	3.90 (2.80)*	3.31 (2.74)
TKN (mg/l)	4.65 (3.38)*	4.31 (3.03)*	2.64 (2.31)*	2.28 (2.20)
NO3 mg/l)	1.853 (0.714)*	1.820 (0.330)*	1.209 (0.463)*	1.007 (0.545)
NO2 (mg/l)	0.139 (0.126)*	0.166 (0.064)*	0.060 (0.038)*	0.046 (0.035)*
NH4 (mg/l)	0.98 (0.49)*	0.72 (0.45)*	0.22 (0.18)*	0.13 (0.09)*
TP (mg/l)	0.226 (0.142)*	0.189 (0.063)*	0.116 (0.056)*	0.128 (0.065)*

An asterisk indicates a statistically significant difference.
Upper value indicates samples were collected during discharge.
Value in parentheses indicate indicates sample was collected during no discharge.
Source: South Florida Water Management District, 1977 - 1989

Table B- 23. Comparison of the variation in magnitude of the coefficient of variation for selected water quality parameters.

	Pump Station Coefficient Of Variation			
	S-5A	S-6	S-7	S-8
Parameter				
Temperature	17	14	16	17
Turbidity	97	**220***	109	132
pH	69	60	**978***	79
Spec. Cond.	36	22	26	25
Chloride	43	23	31	31
Dis. Oxy.	54	50	42	44
Color	41	45	50	61
TN	56	55	50	55
TKN	46	36	34	37
NO3	126	**181***	131	139
NO2	116	**196***	85	122
NH4	104	70	104	73
TP	**63***	112	120	113

Source: South Florida Water Management District, 1977-1989
An asterisk (*) indicates an unusual value.

Table B-25 . Statistical analysis of EAA pump station water quality sample means.

PARAMETER	SAMPLING STATION S5A	S6	S7	S8
Temperature	+	+		
Turbidity	+	+	+	+
pH	-	-	(+)	-
Spec. Cond.	+	+		(-)
Chloride			-	-
Dissolved . Oxygen.	-	-	-	-
Color	+	+	+	+
Total N	+	+	+	
TKN	+	+	+	
NO_3	+	+	+	
NO_2	+	+	+	+
NH4	+	+	+	+
Total P	+	+	+	+

A plus + sign indicates the sample mean increased when the pump station was discharging.

A minus - sign indicates that the sample mean decreased when the pump station was discharging.

Parentheses ( ) indicates that the sample mean did not follow the trend observed at the other sampling stations and consequently deserves special attention.

A blank space indicates no significant change occurred.

Source: SFWMD, unpublished data

Table B-26. Annual Average Material Budget for WCA1, WCA2A, & WCA3A Combined for Period 1979 through 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	76.70	18%	3,053	25%	314,198	7%
S8	67.20	16%	1,663	14%	311,996	7%
S7	27.70	6%	1,253	10%	218,717	5%
S6	27.90	6%	1,086	9%	157,471	4%
L3	22.91	5%	188	2%	73,935	2%
S140	18.03	4%	237	2%	104,373	2%
L281	8.34	2%	131	1%	71,497	2%
S150	5.20	1%	197	2%	56,640	1%
S9	4.49	1%	338	3%	135,823	3%
RAINFALL	171.57	40%	4,027	33%	2,823,401	66%
TOTAL	430.04		12,173		4,283,432	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	5.31	22%	428	18%	182,397	4%
S12A	0.83	3%	143	6%	79,733	2%
S12B	0.82	3%	132	6%	75,334	2%
S12C	2.35	10%	332	14%	160,512	4%
S12D	2.49	10%	395	17%	167,769	4%
S333	4.41	18%	333	14%	138733	3%
S38	0.86	4%	111	5%	42859	1%
S39	5.47	22%	230	10%	77778	2%
S144	0.74	3%	102	4%	36493	1%
S145	0.65	3%	102	4%	38576	1%
S146	0.46	2%	79	3%	30271	1%
E.T.					3,348,320	76%
TOTAL	24.39		2,387		4,361,784	
STORAGE CHANGE	0.01		1		490	
TOTAL INPUT	430.04		12,173		4,283,432	
TOTAL OUTPUT	24.39		2,387		4,378,775	
OTHER SINKS	405.64		9,784		-95,833	
AREAL LOADING (rate G/M^2/YR)	0.21		5.98			
AREAL RETENTION (rate G/M^2/YR)	0.20		4.80			
RETENTION	94%		80%			
RESIDENCE TIME (Years)					0.86	

Table B-27. Annual Average Material Budget for WCA1 for Period 1979 through 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	76.70	56%	3,053	62%	314,198	30%
S6	27.90	20%	1,086	22%	157,471	15%
RAINFALL	33.39	24%	780	15%	575,914	55%
TOTAL	137.99		4,919		1,047,583	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	5.47	8%	230	11%	77,778	7%
S10A	7.52	12%	284	14%	84,065	8%
S10C	15.77	24%	545	27%	103,121	10%
S10D	29.63	46%	800	39%	137,864	13%
S10E	6.20	10%	185	9%	46,542	4%
E.T.					619,205	58%
TOTAL	64.59		2,044		1,085,575	
STORAGE CHANGE	-0.46		-34		-9,230	
TOTAL INPUT	137.99		4,919		1,047,583	
TOTAL OUTPUT	64.59		2,044		1,085,575	
OTHER SINKS	72.94		2,841		-47,222	
AREAL LOADING (rate G/M^2/YR)	0.23		8.37			
AREAL RETENTION (rate G/M^2/YR)	0.12		4.83			
RETENTION	53%		58%			
RESIDENCE TIME (Years)					0.36	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-28. Annual Average Material Budget for WCA2A for Period 1979 through 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	27.70	25%	1,253	34%	218,717	22%
S10A	7.52	7%	284	8%	84,065	8%
S10C	15.77	14%	545	15%	103,121	10%
S10D	29.63	27%	800	22%	137,864	14%
S10E	6.20	6%	185	5%	46,542	5%
RAINFALL	24.91	22%	569	16%	412,100	41%
TOTAL	111.73		3,636		1,002,409	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	0.86	3%	111	5%	42,859	4%
S144	0.74	2%	102	5%	36,493	3%
S145	0.65	2%	102	5%	38,576	3%
S146	0.46	1%	79	4%	30,271	3%
S11A	4.50	14%	480	23%	173,701	15%
S11B	10.88	35%	577	28%	180,170	15%
S11C	13.25	42%	636	30%	179,223	15%
E.T.					484,905	42%
TOTAL	31.34		2,087		1,166,198	
STORAGE CHANGE	-0.76		-56		-14,000	
TOTAL INPUT	111.73		3,636		1,002,409	
TOTAL OUTPUT	31.34		2,087		1,166,198	
OTHER SINKS	79.63		1,493		-177,789	
AREAL LOADING (rate G/M^2/YR)	0.25		8.11			
AREAL RETENTION (rate G/M^2/YR)	0.18		3.33			
RETENTION	71%		41%			
RESIDENCE TIME (Years)					0.20	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-29. Annual Average Material Budget for WCA3A for Period 1979 through 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	67.20	25%	1,663	23%	311,996	10%
S9	4.49	2%	338	5%	135,823	4%
S140	18.03	7%	237	3%	104,373	3%
S150	5.20	2%	197	3%	56,640	2%
L281	8.34	3%	131	2%	71,497	2%
L3	22.91	9%	188	3%	73,935	2%
S11A	4.50	2%	480	7%	173,701	6%
S11B	10.88	4%	577	8%	180,170	6%
S11C	13.25	5%	636	9%	179,223	6%
RAINFALL	114.14	43%	2,634	37%	1,850,768	59%
TOTAL	268.94		7,081		3,138,126	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S151	5.31	33%	428	24%	182,397	6%
S12A	0.83	5%	143	8%	79,733	3%
S12B	0.82	5%	132	7%	75,334	2%
S12C	2.35	14%	332	19%	160,512	5%
S12D	2.49	15%	395	22%	167,769	6%
S333	4.41	27%	333	19%	138,733	5%
E.T.					2,227,210	73%
TOTAL	16.21		1,763		3,031,688	
STORAGE CHANGE	0.01		1		490	
TOTAL INPUT	268.94		7,081		3,138,126	
TOTAL OUTPUT	16.21		1,763		3,031,688	
OTHER SINKS	252.72		5,317		105,948	
AREAL LOADING (rate G/M^2/YR)	0.13		3.48			
AREAL RETENTION (rate G/M^2/YR)	0.12		2.61			
RETENTION	94%		75%			
RESIDENCE TIME (Years)					0.73	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-30. Annual Average Material Budget for WCA1 for WY 1979.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	55.80	52%	2,742	64%	294,418	30%
S6	18.72	17%	892	21%	148,866	15%
RAINFALL	33.28	31%	618	15%	550,732	55%
TOTAL	107.80		4,252		994,016	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	2.78	12%	230	17%	61,990	7%
S10A	0.67	3%	78	6%	26,650	3%
S10C	5.02	21%	338	25%	74,115	8%
S10D	15.40	65%	711	52%	136,735	15%
S10E	0.00	0%	0	0%	0	0%
E.T.					594,195	66%
TOTAL	23.87		1,357		893,685	
STORAGE CHANGE	3.08		228		62,500	
TOTAL INPUT	107.80		4,252		994,016	
TOTAL OUTPUT	23.87		1,357		893,685	
OTHER SINKS	80.85		2,667		37,831	
AREAL LOADING (rate G/M^2/YR)	0.18		7.23			
AREAL RETENTION (rate G/M^2/YR)	0.14		4.54			
RETENTION	75%		63%			
RESIDENCE TIME (Years)					0.55	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-31. Annual Average Material Budget for WCA2A for WY 1979.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	11.29	20%	715	31%	153,874	19%
S10A	0.67	1%	78	3%	26,650	3%
S10C	5.02	9%	338	15%	74,115	9%
S10D	15.40	27%	711	31%	136,735	17%
S10E	0.00	0%	0	0%	0	0%
RAINFALL	25.48	44%	465	20%	404,995	51%
TOTAL	57.86		2,307		796,369	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	0.30	6%	60	6%	20,652	3%
S144	0.32	6%	85	9%	38,472	5%
S145	0.31	6%	100	10%	38,561	5%
S146	0.30	6%	98	10%	36,308	4%
S11A	1.73	32%	327	34%	147,356	18%
S11B	1.69	32%	158	16%	48,080	6%
S11C	0.71	13%	133	14%	28,624	4%
E.T.					452,886	56%
TOTAL	5.36		961		810,939	
STORAGE CHANGE	5.97		441		110,000	
TOTAL INPUT	57.86		2,307		796,369	
TOTAL OUTPUT	5.36		961		810,939	
OTHER SINKS	46.53		905		-124,570	
AREAL LOADING (rate G/M^2/YR)	0.13		5.15			
AREAL RETENTION (rate G/M^2/YR)	0.10		2.02			
RETENTION	80%		39%			
RESIDENCE TIME (Years)					0.72	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-32. Annual Average Material Budget for WCA3A for WY 1979.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	23.15	12%	1,536	27%	343,853	12%
S9	3.40	2%	348	6%	139,755	5%
S140	14.04	8%	264	5%	103,904	4%
S150	10.90	6%	523	9%	119,697	4%
L281	1.16	1%	60	1%	36,752	1%
L3	11.57	6%	196	3%	78,857	3%
S11A	1.73	1%	327	6%	147,356	5%
S11B	1.69	1%	158	3%	48,080	2%
S11C	0.71	<1%	133	2%	28,624	1%
RAINFALL	115.85	63%	2,139	38%	1,806,333	63%
TOTAL	184.20		5,684		2,853,211	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S151	1.92	29%	187	17%	83,547	3%
S12A	0.08	1%	26	2%	12,548	0%
S12B	0.15	2%	48	4%	25,889	1%
S12C	1.50	23%	361	34%	151,771	6%
S12D	2.11	32%	366	34%	181,653	7%
S333	0.84	13%	81	8%	37,698	1%
E.T.					2,175,648	82%
TOTAL	6.60		1,069		2,668,754	
STORAGE CHANGE	-1.90		-253		-96,406	
TOTAL INPUT	184.20		5,684		2,853,211	
TOTAL OUTPUT	6.60		1,069		2,668,754	
OTHER SINKS	175.70		4,362		88,051	
AREAL LOADING (rate G/M^2/YR)	0.09		2.79			
AREAL RETENTION (rate G/M^2/YR)	0.09		2.14			
RETENTION	95%		77%			
RESIDENCE TIME (Years)					1.15	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-33. Annual Average Material Budget for WCA1 for WY 1980.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
SSA	67.48	55%	3,072	56%	321,546	30%
S6	32.10	26%	1,571	28%	198,746	19%
RAINFALL	22.41	19%	883	16%	542,258	51%
TOTAL	122.99		5,526		1,062,550	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	2.12	3%	182	6%	49,891	4%
S10A	7.55	12%	493	15%	126,512	11%
S10C	26.26	43%	1,279	39%	212,476	18%
S10D	25.15	41%	1,328	40%	153,894	13%
S10E	0.00	0%	0	0%	0	0%
E.T.					615,382	53%
TOTAL	61.08		3,282		1,158,155	
STORAGE CHANGE	-5.11		-378		-103,651	
TOTAL INPUT	122.99		5,526		1,062,550	
TOTAL OUTPUT	61.08		3,282		1,158,155	
OTHER SINKS	56.79		1,865		-199,256	
AREAL LOADING (rate G/M^2/YR)	0.21		9.40			
AREAL RETENTION (rate G/M^2/YR)	0.10		3.17			
RETENTION	46%		34%			
RESIDENCE TIME (Years)					0.35	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-34. Annual Average Material Budget for WCA2A for WY 1980.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	21.42	22%	1,406	27%	217,481	19%
S10A	7.55	8%	493	9%	126,512	11%
S10C	26.26	26%	1,279	25%	212,476	19%
S10D	25.15	25%	1,328	26%	153,894	14%
S10E	0.00	0%	0	0%	0	0%
RAINFALL	18.82	19%	700	13%	423,819	37%
TOTAL	99.20		5,206		1,134,182	

OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	0.22	1%	92	4%	28,090	2%
S144	0.52	3%	141	5%	41,897	4%
S145	0.41	2%	141	5%	42,594	4%
S146	0.43	2%	128	5%	38,543	3%
S11A	1.14	6%	324	13%	99,455	8%
S11B	2.04	11%	637	25%	186,121	16%
S11C	14.33	75%	1,102	43%	268,971	23%
E.T.					469,034	40%
TOTAL	19.09		2,565		1,174,705	
STORAGE CHANGE	-9.61		-710		-177,000	
TOTAL INPUT	99.20		5,206		1,134,182	
TOTAL OUTPUT	19.09		2,565		1,174,705	
OTHER SINKS	70.50		1,932		-217,523	
AREAL LOADING (rate G/M^2/YR)	0.22		11.62			
AREAL RETENTION (rate G/M^2/YR)	0.16		4.31			
RETENTION	71%		37%			
RESIDENCE TIME (Years)					0.43	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-35. Annual Average Material Budget for WCA3A for WY 1980.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	21.50	14%	1,375	18%	276,782	9%
S9	0.87	1%	238	3%	76,268	3%
S140	12.20	8%	233	3%	90,981	3%
S150	6.29	4%	379	5%	66,803	2%
L281	6.45	4%	111	1%	50,651	2%
L3	12.05	8%	251	3%	75,622	3%
S11A	1.14	1%	324	4%	99,455	3%
S11B	2.04	1%	637	8%	186,121	6%
S11C	14.33	9%	1,102	14%	268,971	9%
RAINFALL	81.99	53%	3,058	40%	1,796,691	60%
TOTAL	158.86		7,708		2,988,345	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S151	1.70	13%	508	21%	130,522	5%
S12A	0.26	2%	61	3%	30,432	1%
S12B	0.22	2%	48	2%	29,771	1%
S12C	4.57	36%	549	23%	221,799	8%
S12D	5.34	42%	1,088	46%	341,442	12%
S333	0.69	5%	115	5%	35,991	1%
E.T.					2,078,813	72%
TOTAL	12.78		2,369		2,868,770	
STORAGE CHANGE	0.47		62		23,677	
TOTAL INPUT	158.86		7,708		2,988,345	
TOTAL OUTPUT	12.78		2,369		2,868,770	
OTHER SINKS	145.62		5,277		95,898	
AREAL LOADING (rate G/M^2/YR)	0.08		3.79			
AREAL RETENTION (rate G/M^2/YR)	0.07		2.59			
RETENTION	92%		68%			
RESIDENCE TIME (Years)					0.90	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-36. Annual Average Material Budget for WCA1 for WY 1981.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	46.99	48%	2,074	57%	140,944	19%
S6	14.86	15%	781	21%	80,537	11%
RAINFALL	36.41	37%	829	22%	508,964	70%
TOTAL	98.26		3,684		730,445	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S39	4.30	10%	295	29%	66,778	8%
S10A	8.12	20%	177	17%	45,105	5%
S10C	13.82	33%	267	26%	52,596	6%
S10D	15.39	37%	289	28%	40,537	5%
S10E	0.00	0%	0	0%	0	0%
E.T.					671,557	77%
TOTAL	41.63		1,028		876,573	
STORAGE CHANGE	1.49		110		30,231	
TOTAL INPUT	98.26		3,684		730,445	
TOTAL OUTPUT	41.63		1,028		876,573	
OTHER SINKS	55.14		2,545		-176,359	
AREAL LOADING (rate G/M^2/YR)	0.17		6.27			
AREAL RETENTION (rate G/M^2/YR)	0.09		4.33			
RETENTION	56%		69%			
RESIDENCE TIME (Years)					0.45	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-37. Annual Average Material Budget for WCA2A for WY 1981.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	13.88	17%	558	28%	74,478	12%
S10A	8.12	10%	177	9%	45,105	7%
S10C	13.82	17%	267	13%	52,596	8%
S10D	15.39	19%	289	15%	40,537	6%
S10E	0.00	0%	0	0%	0	0%
RAINFALL	31.00	38%	697	35%	418,836	66%
TOTAL	82.21		1,988		631,552	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S38	0.87	4%	97	9%	20,331	2%
S144	0.15	1%	67	6%	18,595	2%
S145	0.19	1%	81	7%	22,370	3%
S146	0.12	1%	51	5%	15,610	2%
S11A	0.78	4%	210	19%	83,710	10%
S11B	14.38	72%	455	41%	122,795	15%
S11C	3.58	18%	160	14%	37,782	5%
E.T.					511,849	61%
TOTAL	20.07		1,121		833,042	
STORAGE CHANGE	-3.64		-269		-67,000	
TOTAL INPUT	82.21		1,988		631,552	
TOTAL OUTPUT	20.07		1,121		833,042	
OTHER SINKS	58.50		599		-268,490	
AREAL LOADING (rate G/M^2/YR)	0.18		4.44			
AREAL RETENTION (rate G/M^2/YR)	0.13		1.34			
RETENTION	71%		30%			
RESIDENCE TIME (Years)					0.22	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-38. Annual Average Material Budget for WCA3A for WY 1981.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	15.24	8%	474	9%	79,117	3%
S9	5.63	3%	291	6%	97,441	4%
S140	5.78	3%	153	3%	51,345	2%
S150	2.52	1%	138	3%	34,149	1%
L281	1.89	1%	37	1%	18,730	1%
L3	4.10	2%	50	1%	21,297	1%
S11A	0.78	<1%	210	4%	83,710	3%
S11B	14.38	7%	455	9%	122,795	5%
S11C	3.58	2%	160	3%	37,782	2%
RAINFALL	141.31	73%	3,274	63%	1,909,456	78%
TOTAL	195.21		5,242		2,455,822	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	2.15	31%	183	18%	55,649	2%
S12A	0.09	1%	21	2%	9,985	0%
S12B	0.002	0%	1	0%	266	0%
S12C	0.96	14%	133	13%	56,589	2%
S12D	3.00	43%	554	56%	199,584	8%
S333	0.80	11%	102	10%	29,681	1%
E.T.					2,262,422	87%
TOTAL	7.00		994		2,614,176	
STORAGE CHANGE	0.88		118		44,795	
TOTAL INPUT	195.21		5,242		2,455,822	
TOTAL OUTPUT	7.00		994		2,614,176	
OTHER SINKS	187.32		4,130		-202,949	
AREAL LOADING (rate G/M^2/YR)	0.10		2.57			
AREAL RETENTION (rate G/M^2/YR)	0.09		2.03			
RETENTION	96%		79%			
RESIDENCE TIME (Years)					1.09	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-39. Annual Average Material Budget for WCA1 for WY 1982.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	99.76	59%	3,533	64%	342,942	31%
S6	36.26	21%	1,261	23%	147,718	13%
RAINFALL	34.15	20%	733	13%	629,183	56%
TOTAL	170.17		5,547		1,119,843	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S39	9.29	10%	289	13%	91,176	8%
S10A	12.78	13%	404	18%	108,416	10%
S10C	15.83	16%	450	20%	108,359	10%
S10D	59.08	61%	1,127	50%	153,557	14%
S10E	0.00	0%	0	0%	0	0%
E.T.					614,292	57%
TOTAL	96.98		2,270		1,075,800	
STORAGE CHANGE	4.42		327		89,620	
TOTAL INPUT	170.17		5,547		1,119,843	
TOTAL OUTPUT	96.98		2,270		1,075,800	
OTHER SINKS	68.77		2,950		-45,577	
AREAL LOADING (rate G/M^2/YR)	0.29		9.43			
AREAL RETENTION (rate G/M^2/YR)	0.12		5.02			
RETENTION	40%		53%			
RESIDENCE TIME (Years)					0.31	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-40. Annual Average Material Budget for WCA2A for WY 1982.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	48.75	31%	1,409	36%	226,514	23%
S10A	12.78	8%	404	10%	108,416	11%
S10C	15.83	10%	450	12%	108,359	11%
S10D	59.08	37%	1,127	29%	153,557	15%
S10E	0.00	0%	0	0%	0	0%
RAINFALL	22.98	14%	495	13%	404,995	40%
TOTAL	159.42		3,885		1,001,841	

OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	0.45	2%	97	5%	40,999	4%
S144	0.55	2%	91	5%	33,432	3%
S145	0.41	2%	87	5%	31,708	3%
S146	0.40	2%	86	4%	34,471	3%
S11A	2.20	10%	409	21%	143,395	14%
S11B	5.47	24%	455	24%	140,320	13%
S11C	13.09	58%	702	36%	165,360	16%
E.T.					468,203	44%
TOTAL	22.57		1,927		1,057,888	

STORAGE CHANGE	2.17	160	40,000
TOTAL INPUT	159.42	3,885	1,001,841
TOTAL OUTPUT	22.57	1,927	1,057,888
OTHER SINKS	134.68	1,797	-96,047
AREAL LOADING (rate G/M^2/YR)	0.36	8.67	
AREAL RETENTION (rate G/M^2/YR)	0.30	4.01	
RETENTION	84%	46%	
RESIDENCE TIME (Years)			0.15

* ALL LOADS REPORTED IN METRIC TONNES

Table B-41. Annual Average Material Budget for WCA3A for WY 1982.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	152.88	30%	2,541	30%	389,256	11%
S9	2.62	1%	262	3%	94,918	3%
S140	65.30	13%	546	6%	199,268	5%
S150	2.57	1%	120	1%	29,803	1%
L281	28.62	6%	280	3%	122,497	3%
L3	104.74	21%	557	6%	190,718	5%
S11A	2.20	<1%	409	5%	143,395	4%
S11B	5.47	1%	455	5%	140,320	4%
S11C	13.09	3%	702	8%	165,360	4%
RAINFALL	125.44	25%	2,722	32%	2,163,910	59%
TOTAL	502.93		8,594		3,639,445	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S151	4.05	30%	429	20%	166,969	5%
S12A	1.12	8%	252	12%	138,756	4%
S12B	0.780	6%	201	9%	114,511	4%
S12C	2.24	17%	466	22%	248,602	8%
S12D	3.78	28%	606	28%	286,961	9%
S333	1.45	11%	173	8%	80,211	3%
E.T.					2,079,232	67%
TOTAL	13.42		2,127		3,115,242	
STORAGE CHANGE	0.42		56		21,202	
TOTAL INPUT	502.93		8,594		3,639,445	
TOTAL OUTPUT	13.42		2,127		3,115,242	
OTHER SINKS	489.09		6,412		503,001	
AREAL LOADING (rate G/M^2/YR)	0.25		4.22			
AREAL RETENTION (rate G/M^2/YR)	0.24		3.15			
RETENTION	97%		75%			
RESIDENCE TIME (Years)					0.50	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-42. Annual Average Material Budget for WCA1 for WY 1983.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	115.31	65%	3,190	62%	380,554	30%
S6	25.12	14%	1,374	27%	200,954	16%
RAINFALL	36.25	21%	598	12%	683,421	54%
TOTAL	176.68		5,162		1,264,929	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	8.83	9%	244	10%	118,276	9%
S10A	5.69	6%	206	9%	103,463	8%
S10C	23.31	24%	652	27%	159,813	13%
S10D	57.56	60%	1,279	54%	269,300	21%
S10E	0.00	0%	0	0%	0	0%
E.T.					622,888	49%
TOTAL	95.39		2,381		1,273,740	
STORAGE CHANGE	-1.62		-120		-32,900	
TOTAL INPUT	176.68		5,162		1,264,929	
TOTAL OUTPUT	95.39		2,381		1,273,740	
OTHER SINKS	79.66		2,661		-41,711	
AREAL LOADING (rate G/M^2/YR)	0.30		8.78			
AREAL RETENTION (rate G/M^2/YR)	0.14		4.53			
RETENTION	45%		51%			
RESIDENCE TIME (Years)					0.32	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-43. Annual Average Material Budget for WCA2A for WY 1983.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	25.60	18%	1,680	40%	296,208	23%
S10A	5.69	4%	206	5%	103,463	8%
S10C	23.31	17%	652	15%	159,813	12%
S10D	57.56	41%	1,279	30%	269,300	20%
S10E	0.00	0%	0	0%	0	0%
RAINFALL	26.92	19%	431	10%	484,997	37%
TOTAL	139.08		4,248		1,313,781	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S38	1.08	4%	178	6%	85,469	6%
S144	0.65	2%	140	5%	57,779	4%
S145	0.63	2%	142	5%	60,953	4%
S146	0.87	3%	126	4%	53,674	4%
S11A	4.35	16%	611	21%	218,679	15%
S11B	6.64	25%	674	24%	234,801	16%
S11C	12.63	47%	986	35%	295,012	20%
E.T.					474,755	32%
TOTAL	26.85		2,857		1,481,122	
STORAGE CHANGE	-1.41		-104		-25,900	
TOTAL INPUT	139.08		4,248		1,313,781	
TOTAL OUTPUT	26.85		2,857		1,481,122	
OTHER SINKS	110.82		1,287		-193,240	
AREAL LOADING (rate G/M^2/YR)	0.31		9.48			
AREAL RETENTION (rate G/M^2/YR)	0.25		2.87			
RETENTION	80%		30%			
RESIDENCE TIME (Years)					0.15	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-44. Annual Average Material Budget for WCA3A for WY 1983.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	70.98	25%	1,872	26%	368,048	9%
S9	8.58	3%	505	7%	238,143	6%
S140	19.58	7%	251	3%	136,112	3%
S150	0.28	< 1%	20	0%	6,063	0%
L281	11.15	4%	187	3%	121,688	3%
L3	28.32	10%	233	3%	113,235	3%
S11A	4.35	2%	611	8%	218,679	6%
S11B	6.64	2%	674	9%	234,801	6%
S11C	12.63	4%	986	13%	295,012	8%
RAINFALL	124.32	43%	2,000	27%	2,191,158	56%
TOTAL	286.83		7,339		3,922,939	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S151	4.66	33%	628	25%	345,593	10%
S12A	1.34	10%	290	12%	185,092	5%
S12B	1.29	9%	290	12%	179,419	5%
S12C	3.30	24%	566	23%	307,373	9%
S12D	2.23	16%	517	21%	277,008	8%
S333	1.13	8%	181	7%	112,197	3%
E.T.					2,168,941	61%
TOTAL	13.95		2,472		3,575,623	
STORAGE CHANGE	-1.83		-243		-92,668	
TOTAL INPUT	286.83		7,359		3,922,939	
TOTAL OUTPUT	13.95		2,472		3,575,623	
OTHER SINKS	271.05		4,643		254,649	
AREAL LOADING (rate G/M^2/YR)	0.14		3.61			
AREAL RETENTION (rate G/M^2/YR)	0.13		2.28			
RETENTION	94%		63%			
RESIDENCE TIME (Years)					0.52	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-45. Annual Average Material Budget for WCA1 for WY 1984.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	112.39	56%	3,939	70%	387,739	33%
S6	41.47	21%	971	17%	161,162	14%
RAINFALL	47.44	24%	731	13%	630,515	53%
TOTAL	201.30		5,641		1,179,406	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	7.23	10%	265	12%	130,455	11%
S10A	9.93	14%	335	15%	94,444	8%
S10C	13.60	19%	758	34%	107,978	9%
S10D	42.72	58%	877	39%	178,791	16%
S10E	0.00	0%	0	0%	0	0%
E.T.					636,326	55%
TOTAL	73.48		2,235		1,131,000	
STORAGE CHANGE	-3.49		-258		-70,800	
TOTAL INPUT	201.30		5,641		1,179,406	
TOTAL OUTPUT	73.48		2,235		1,147,994	
OTHER SINKS	124.33		3,148		-39,388	
AREAL LOADING (rate G/M^2/YR)	0.34		9.59			
AREAL RETENTION (rate G/M^2/YR)	0.21		5.35			
RETENTION	62%		56%			
RESIDENCE TIME (Years)					0.37	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-46. Annual Average Material Budget for WCA2A for WY 1984.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	38.51	28%	1,710	41%	326,726	29%
S10A	9.93	7%	335	8%	94,444	8%
S10C	13.60	10%	758	18%	107,978	9%
S10D	42.72	31%	877	21%	178,791	16%
S10E	0.00	0%	0	0%	0	0%
RAINFALL	34.26	25%	514	12%	433,969	38%
TOTAL	139.02		4,194		1,141,908	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	2.14	5%	252	10%	98,717	8%
S144	0.89	2%	113	4%	28,880	2%
S145	0.96	2%	93	4%	39,849	3%
S146	0.12	0%	155	6%	7,240	1%
S11A	6.82	16%	683	26%	243,010	18%
S11B	19.00	44%	832	32%	270,373	21%
S11C	13.34	31%	466	18%	141,618	11%
E.T.					484,997	37%
TOTAL	43.27		2,594		1,314,684	
STORAGE CHANGE	-2.55		-188		-46,900	
TOTAL INPUT	139.02		4,194		1,141,908	
TOTAL OUTPUT	43.27		2,594		1,314,684	
OTHER SINKS	93.20		1,412		-219,099	
AREAL LOADING (rate G/M^2/YR)	0.31		9.36			
AREAL RETENTION (rate G/M^2/YR)	0.21		3.15			
RETENTION	67%		34%			
RESIDENCE TIME (Years)					0.09	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-47. Annual Average Material Budget for WCA3A for WY 1984.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	76.92	27%	1,531	24%	309,013	10%
S9	7.73	3%	361	6%	149,816	5%
S140	11.68	4%	144	2%	82,984	3%
S150	5.70	2%	166	3%	57,827	2%
L281	7.20	3%	130	2%	90,864	3%
L3	9.69	3%	77	1%	32,753	1%
S11A	6.82	2%	683	11%	243,010	8%
S11B	19.00	7%	832	13%	270,373	9%
S11C	13.34	5%	466	7%	141,618	5%
RAINFALL	129.45	45%	2,002	31%	1,639,910	54%
TOTAL	287.53		6,392		3,018,066	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	7.64	36%	472	21%	195,811	6%
S12A	2.82	13%	332	15%	200,379	6%
S12B	1.78	8%	301	14%	160,913	5%
S12C	4.07	19%	646	29%	296,246	9%
S12D	1.47	7%	194	9%	84,267	3%
S333	3.24	15%	278	13%	101,583	3%
E.T.					2,206,669	68%
TOTAL	21.02		2,223		3,245,868	
STORAGE CHANGE	-2.81		-374		-142,200	
TOTAL INPUT	287.53		6,392		3,018,066	
TOTAL OUTPUT	21.02		2,223		3,245,868	
OTHER SINKS	263.71		3,796		-370,001	
AREAL LOADING (rate G/M^2/YR)	0.14		3.14			
AREAL RETENTION (rate G/M^2/YR)	0.13		1.86			
RETENTION	92%		59%			
RESIDENCE TIME (Years)					0.60	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-48. Annual Average Material Budget for WCA1 for WY 1985.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	77.47	63%	3,199	72%	347,353	35%
S6	15.13	12%	528	12%	89,645	9%
RAINFALL	31.12	25%	690	16%	548,553	56%
TOTAL	123.72		4,417		985,551	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	1.92	5%	84	6%	30,958	3%
S10A	5.39	13%	192	13%	63,654	6%
S10C	7.59	18%	273	19%	64,611	6%
S10D	9.82	24%	427	30%	77,434	8%
S10E	16.46	40%	454	32%	107,783	11%
E.T.					654,971	66%
TOTAL	41.18		1,430		999,411	
STORAGE CHANGE	1.48		109		29,900	
TOTAL INPUT	123.72		4,417		985,551	
TOTAL OUTPUT	41.18		1,430		999,411	
OTHER SINKS	81.07		2,878		-43,760	
AREAL LOADING (rate G/M^2/YR)	0.21		7.51			
AREAL RETENTION (rate G/M^2/YR)	0.14		4.89			
RETENTION	66%		65%			
RESIDENCE TIME (Years)					0.43	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-49. Annual Average Material Budget for WCA2A for WY 1985.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	20.59	24%	1,112	37%	185,712	20%
S10A	5.39	6%	192	6%	63,654	7%
S10C	7.59	9%	273	9%	64,611	7%
S10D	9.82	12%	427	14%	77,434	8%
S10E	16.46	19%	454	15%	107,783	12%
RAINFALL	24.94	29%	540	18%	421,328	46%
TOTAL	84.79		2,998		920,552	

OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	1.65	3%	69	3%	23,451	2%
S144	1.69	4%	100	5%	36,516	3%
S145	1.53	3%	110	5%	37,716	3%
S146	0.59	1%	58	3%	20,033	2%
S11A	8.88	19%	485	24%	173,864	16%
S11B	16.75	35%	621	31%	163,083	15%
S11C	16.62	35%	587	29%	165,019	15%
E.T.					499,208	45%
TOTAL	47.71		2,030		1,118,890	

STORAGE CHANGE	5.20	384	95,800
TOTAL INPUT	84.79	2,998	920,552
TOTAL OUTPUT	47.71	2,030	1,118,890
OTHER SINKS	31.89	584	-294,168
AREAL LOADING (rate G/M^2/YR)	0.19	6.69	
AREAL RETENTION (rate G/M^2/YR)	0.07	1.30	
RETENTION	38%	19%	
RESIDENCE TIME (Years)			0.08

* ALL LOADS REPORTED IN METRIC TONNES

Table B-50. Annual Average Material Budget for WCA3A for WY 1985.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	50.61	20%	1,167	18%	265,459	9%
S9	7.03	3%	403	6%	136,885	4%
S140	14.21	6%	237	4%	107,619	4%
S150	16.04	6%	493	8%	192,296	6%
L281	5.96	2%	103	2%	56,417	2%
L3	9.77	4%	112	2%	53,957	2%
S11A	8.88	4%	485	7%	173,864	6%
S11B	16.75	7%	621	10%	163,083	5%
S11C	16.62	7%	587	9%	165,019	5%
RAINFALL	105.45	42%	2,303	35%	1,744,710	57%
TOTAL	251.32		6,521		3,059,309	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	10.28	31%	384	20%	170,488	6%
S12A	0.56	2%	52	3%	31,597	1%
S12B	1.41	4%	123	6%	59,805	2%
S12C	2.21	7%	213	11%	90,152	3%
S12D	1.78	5%	161	8%	57,192	2%
S333	17.23	51%	1,001	52%	327,458	11%
E.T.					2,244,397	75%
TOTAL	33.47		1,934		2,981,089	
STORAGE CHANGE	2.41		321		122,300	
TOTAL INPUT	251.32		6,521		3,059,309	
TOTAL OUTPUT	33.47		1,934		2,981,089	
OTHER SINKS	215.43		4,265		-44,079	
AREAL LOADING (rate G/M^2/YR)	0.12		3.20			
AREAL RETENTION (rate G/M^2/YR)	0.11		2.10			
RETENTION	86%		65%			
RESIDENCE TIME (Years)					0.47	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-51. Annual Average Material Budget for WCA1 for WY 1986.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	68.64	49%	3,427	58%	385,583	29%
S6	36.47	26%	1,586	27%	253,056	19%
RAINFALL	33.90	24%	864	15%	687,053	52%
TOTAL	139.01		5,877		1,325,692	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	7.17	12%	264	12%	87,008	8%
S10A	12.22	20%	435	20%	141,428	12%
S10C	14.99	25%	557	26%	95,389	8%
S10D	22.14	37%	738	34%	119,091	10%
S10E	3.91	6%	156	7%	48,856	4%
E.T.					665,382	58%
TOTAL	60.43		2,150		1,139,384	
STORAGE CHANGE	-2.10		-156		-42,600	
TOTAL INPUT	139.01		5,877		1,325,692	
TOTAL OUTPUT	60.43		2,150		1,157,154	
OTHER SINKS	76.48		3,572		125,938	
AREAL LOADING (rate G/M^2/YR)	0.24		10.00			
AREAL RETENTION (rate G/M^2/YR)	0.13		6.08			
RETENTION	55%		61%			
RESIDENCE TIME (Years)					0.38	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-52. Annual Average Material Budget for WCA2A for WY 1986.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	44.61	37%	1,582	39%	285,039	25%
S10A	12.22	10%	435	11%	141,428	13%
S10C	14.99	13%	557	14%	95,389	8%
S10D	22.14	18%	738	18%	119,091	11%
S10E	3.91	3%	156	4%	48,856	4%
RAINFALL	21.87	18%	555	14%	432,493	39%
TOTAL	119.74		4,023		1,122,326	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S38	0.92	1%	130	4%	55,496	3%
S144	0.87	1%	109	3%	40,858	3%
S145	0.79	1%	95	3%	38,232	2%
S146	0.63	1%	86	2%	30,853	2%
S11A	15.15	21%	1,082	31%	346,057	21%
S11B	26.11	36%	967	28%	306,760	19%
S11C	27.97	39%	998	29%	298,507	18%
E.T.					507,143	31%
TOTAL	72.44		3,467		1,623,906	
STORAGE CHANGE	-0.68		-51		-12,600	
TOTAL INPUT	119.74		4,023		1,122,326	
TOTAL OUTPUT	72.44		3,467		1,623,906	
OTHER SINKS	46.62		505		-514,180	
AREAL LOADING (rate G/M^2/YR)	0.27		8.98			
AREAL RETENTION (rate G/M^2/YR)	0.10		1.13			
RETENTION	39%		13%			
RESIDENCE TIME (Years)					0.09	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-53. Annual Average Material Budget for WCA3A for WY 1986.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	164.99	42%	3,152	33%	478,974	13%
S9	3.90	1%	386	4%	166,783	4%
S140	23.85	6%	287	3%	130,836	4%
S150	0.92	<1%	40	0%	10,530	<1%
L281	10.27	3%	180	2%	95,333	3%
L3	22.20	6%	183	2%	81,425	2%
S11A	15.15	4%	1,082	11%	346,057	9%
S11B	26.11	7%	967	10%	306,760	8%
S11C	27.97	7%	998	10%	298,507	8%
RAINFALL	93.55	24%	2,406	25%	1,805,914	49%
TOTAL	388.91		9,681		3,721,119	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	7.28	30%	676	33%	302,765	9%
S12A	1.34	5%	182	9%	86,338	3%
S12B	1.15	5%	175	8%	85,907	3%
S12C	2.25	9%	189	9%	98,411	3%
S12D	2.66	11%	212	10%	104,570	3%
S333	9.97	40%	629	30%	278,511	8%
E.T.					2,329,075	71%
TOTAL	24.65		2,063		3,285,577	
STORAGE CHANGE	-0.09		-12		-4,400	
TOTAL INPUT	388.91		9,681		3,721,119	
TOTAL OUTPUT	24.65		2,063		3,285,577	
OTHER SINKS	364.18		7,606		431,141	
AREAL LOADING (rate G/M^2/YR)	0.19		4.76			
AREAL RETENTION (rate G/M^2/YR)	0.18		3.74			
RETENTION	94%		79%			
RESIDENCE TIME (Years)					0.72	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-54. Annual Average Material Budget for WCA1 for WY 1987.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	25.93	36%	1,406	52%	165,237	22%
S6	12.02	17%	664	24%	117,331	16%
RAINFALL	33.24	47%	659	24%	456,785	62%
TOTAL	71.19		2,729		739,353	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	4.00	29%	275	45%	67,209	8%
S10A	1.95	14%	71	12%	19,377	2%
S10C	2.84	21%	103	17%	19,599	2%
S10D	2.81	21%	96	16%	19,274	2%
S10E	1.99	15%	60	10%	11,477	1%
E.T.					693,833	84%
TOTAL	13.59		605		830,769	
STORAGE CHANGE	-2.93		-217		-59,400	
TOTAL INPUT	71.19		2,729		739,353	
TOTAL OUTPUT	13.59		605		830,769	
OTHER SINKS	54.67		1,907		-150,817	
AREAL LOADING (rate G/M^2/YR)	0.12		4.64			
AREAL RETENTION (rate G/M^2/YR)	0.09		3.24			
RETENTION	77%		70%			
RESIDENCE TIME (Years)					1.16	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-55. Annual Average Material Budget for WCA2A for WY 1987.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	13.07	25%	722	45%	134,618	23%
S10A	1.95	4%	71	4%	19,377	3%
S10C	2.84	5%	103	6%	19,599	3%
S10D	2.81	5%	96	6%	19,274	3%
S10E	1.99	4%	60	4%	11,477	2%
RAINFALL	29.27	56%	567	35%	382,757	65%
TOTAL	51.93		1,619		587,102	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	0.33	3%	52	5%	16,955	2%
S144	0.95	8%	65	7%	22,043	3%
S145	0.44	4%	67	7%	20,940	3%
S146	0.41	3%	58	6%	20,571	3%
S11A	1.07	9%	174	18%	56,107	7%
S11B	4.33	36%	284	30%	84,273	10%
S11C	4.50	37%	246	26%	72,451	9%
E.T.					528,828	64%
TOTAL	12.03		946		822,168	
STORAGE CHANGE	-3.41		-252		-62,900	
TOTAL INPUT	51.93		1,619		587,102	
TOTAL OUTPUT	12.03		946		822,168	
OTHER SINKS	36.49		420		-297,966	
AREAL LOADING (rate G/M^2/YR)	0.12		3.61			
AREAL RETENTION (rate G/M^2/YR)	0.08		0.94			
RETENTION	70%		26%			
RESIDENCE TIME (Years)					0.25	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-56. Annual Average Material Budget for WCA3A for WY 1987.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	23.21	13%	883	18%	227,112	9%
S9	2.43	1%	263	6%	104,820	4%
S140	5.47	3%	123	3%	57,567	2%
S150	0.00	0%	0	0%	0	0%
L281	2.33	1%	87	2%	50,538	2%
L3	1.14	1%	18	0%	8,322	0%
S11A	1.07	1%	174	4%	56,107	2%
S11B	4.33	2%	284	6%	84,273	3%
S11C	4.50	2%	246	5%	72,451	3%
RAINFALL	136.08	75%	2,700	57%	1,779,504	73%
TOTAL	180.56		4,778		2,440,694	

OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	4.78	47%	302	35%	137,177	5%
S12A	0.33	3%	44	5%	22,249	1%
S12B	0.360	4%	50	6%	23,891	1%
S12C	0.50	5%	54	6%	26,972	1%
S12D	0.55	5%	54	6%	27,823	1%
S333	3.68	36%	370	42%	175,702	6%
E.T.					2,448,547	86%
TOTAL	10.20		874		2,862,361	
STORAGE CHANGE	-4.53		-603		-229,700	
TOTAL INPUT	180.56		4,778		2,440,694	
TOTAL OUTPUT	10.20		874		2,862,361	
OTHER SINKS	165.83		3,300		-651,367	
AREAL LOADING (rate G/M^2/YR)	0.09		2.35			
AREAL RETENTION (rate G/M^2/YR)	0.08		1.62			
RETENTION	92%		69%			
RESIDENCE TIME (Years)					1.35	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-57. Annual Average Material Budget for WCA1 for WY 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S5A	97.46	55%	3,944	64%	375,671	32%
S6	46.56	26%	1,232	20%	176,711	15%
RAINFALL	32.96	19%	989	16%	607,270	52%
TOTAL	176.98		6,165		1,159,652	
OUTPUT	**TOTAL PHOSPHORUS***		**TOTAL NITROGEN ***		**VOL (A-F)**	
S39	7.02	10%	174	7%	74,042	6%
S10A	10.93	16%	445	17%	111,598	9%
S10C	3.44	5%	776	30%	136,272	11%
S10D	46.23	66%	1,132	44%	230,032	19%
S10E	2.44	3%	71	3%	18,054	2%
E.T.					639,716	53%
TOTAL	70.06		2,598		1,192,629	
STORAGE CHANGE	0.24		18		4,800	
TOTAL INPUT	176,98		6,165		1,159,652	
TOTAL OUTPUT	70.06		2,598		1,209,714	
OTHER SINKS	106.68		3,549		-54,862	
AREAL LOADING (rate G/M^2/YR)	0.30		10.49			
AREAL RETENTION (rate G/M^2/YR)	0.18		6.04			
RETENTION	60%		58%			
RESIDENCE TIME (Years)					0.31	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-58. Annual Average Material Budget for WCA2A for WY 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S7	39.64	31%	1,635	34%	286,898	24%
S10A	10.93	9%	445	9%	111,598	9%
S10C	3.44	3%	776	16%	136,272	11%
S10D	46.23	36%	1,132	24%	230,032	19%
S10E	2.44	2%	71	1%	18,054	1%
RAINFALL	24.81	19%	723	15%	437,199	36%
TOTAL	127.49		4,782		1,220,053	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S38	0.66	1%	83	3%	38,430	3%
S144	0.85	2%	110	4%	46,456	3%
S145	0.79	2%	108	4%	52,833	4%
S146	0.68	2%	89	3%	45,408	3%
S11A	2.91	7%	495	19%	225,379	15%
S11B	12.43	28%	686	27%	245,089	17%
S11C	25.76	58%	985	39%	318,881	22%
E.T.					487,581	33%
TOTAL	44.08		2,556		1,460,057	
STORAGE CHANGE	0.35		26		6,500	
TOTAL INPUT	127.49		4,782		1,220,053	
TOTAL OUTPUT	44.08		2,556		1,460,057	
OTHER SINKS	83.05		2,200		-246,504	
AREAL LOADING (rate G/M^2/YR)	0.28		10.67			
AREAL RETENTION (rate G/M^2/YR)	0.19		4.91			
RETENTION	65%		46%			
RESIDENCE TIME (Years)					0.11	

* ALL LOADS REPORTED IN METRIC TONNES

Table B-59. Annual Average Material Budget for WCA3A for WY 1988.

INPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S8	72.56	26%	2,094	25%	382,354	11%
S9	2.76	1%	321	4%	153,404	4%
S140	8.15	3%	136	2%	83,113	2%
S150	6.50	2%	96	1%	49,427	1%
L281	10.72	4%	134	2%	76,502	2%
L3	25.54	9%	173	2%	83,166	2%
S11A	2.91	1%	495	6%	225,379	6%
S11B	12.43	4%	686	8%	245,089	7%
S11C	25.76	9%	985	12%	318,881	9%
RAINFALL	114.73	41%	3,369	40%	1,979,043	55%
TOTAL	282.06		8,489		3,596,271	
OUTPUT	TOTAL PHOSPHORUS*		TOTAL NITROGEN *		VOL (A-F)	
S151	8.66	56%	515	34%	235,443	8%
S12A	0.89	6%	171	11%	79,957	3%
S12B	1.01	6%	86	6%	72,969	2%
S12C	1.91	12%	141	9%	107,200	3%
S12D	1.96	13%	202	13%	117,193	4%
S333	1.16	7%	398	26%	208,301	7%
E.T.					2,284,640	74%
TOTAL	15.59		1,513		3,105,703	
STORAGE CHANGE	7.07		941		358,300	
TOTAL INPUT	282.06		8,489		3,596,271	
TOTAL OUTPUT	15.59		1,513		3,105,703	
OTHER SINKS	259.40		6,034		132,268	
AREAL LOADING (rate G/M^2/YR)	0.14		4.17			
AREAL RETENTION (rate G/M^2/YR)	0.13		2.96			
RETENTION	92%		71%			
RESIDENCE TIME (Years)					0.82	

* ALL LOADS REPORTED IN METRIC TONNES

MEMORANDUM

CON 13-02

TO: Shawn P. Sculley, P. E., Assistant Director
Water Resources Division, Dept. of Research and Evaluation

FROM: Paul Trimble, Staff Engineer
Water Resources Division, Dept. of Research and Evaluation

DATE: June 5, 1990

SUBJECT: Surface Water Components of the
Everglades Agricultural Area Water Budget

A summary of the major flows from, to, and through the EAA has been completed for the purpose of comparison with that presented by CH2MHILL, engineering consultants for the Florida Sugarcane League.

The EAA was divided into three major basins so that this task could be completed. These basins are defined as the Miami, the North New River-Hillsboro and the West Palm Beach canal basins. Flows from, to, and through these basins are defined in terms of the flows at the major structures at the northern and southern ends of these basins. Computations must be completed on a daily basis since flows may reverse themselves within a single month. The following flows have been estimated and compared with the consultant's values for the periods of 1963 through 1987 (period of record), 1963 through 1979 (pre-IAP), and 1980 through 1987 (post-IAP):

A. Backpumping and backflows to Lake Okeechobee from the EAA

B. Flows from Lake Okeechobee through the EAA to the WCAs and the C-51/L-8 basins

C. Irrigation flows from Lake Okeechobee to the EAA

D. Flows from the EAA to the WCAs and the C-51/L-8 basins

E. Irrigation flows from the WCAs and the C-51/L-8 basins to the EAA

F. Net outflows from the EAA

G. Total net inflows to the EAA

The methodology for SFWMD computations are based on flow comparisons at the north and south ends of each basin. The Miami canal basin computations are based on the comparisons between the S8 flow at the south end and the S3-HGS3 flow at the north end. The North New River-Hillsboro combined basin computations are made by comparing the sum of the S6, S7 and S150 flows at the south end to the S2-HGS4 flow at the north end. The West Palm Beach canal basin computations are made by comparing the flows upstream of the S5A pump in the West Palm Beach canal estimated by the U.S.G.S. at the south end, and the HGS5 structure at the north end.

EVERGLADES SWIM PLAN

APPENDIX C

Everglades National Park & East Everglades

Data collected from DER, Tallahassee, SFWMD & Dade Co. DERM by CH2MHILL for the SFWMD

Listing of Climatologic and Hydrologic Monitoring Stations Codes

Table C-3 is a listing of hydrologic and climatologic monitoring stations within the ENP & East Everglades planning area. Explanation of column headings is shown in Table C-1.

TABLE C-1 EXPLANATION OF COLUMN HEADINGS ON THE CLIMATOLOGIC/ HYDROLOGIC DATA COMPUTER PRINTOUT.

STATION:	Unique name assigned by the SFWMD
ALTERNATE ID:	Numerical code based on USGS,SFWMD or other coding systems
CNTY:	County where station is located
TYPE:	Type of data collected (see Table)
STAT:	Statistical method of data collection/analysis (see Table)
FQ:	Frequency of sampling or data collection
START-END:	Period of record
FULL STAT NAME:	Official name of the station as designated by the primary monitoring agency
SE TN RG:	Location of the station within a Section,Township,and Range
LAT/LONG:	Location of the station in Latitude and Longitude coordinates

Table C-2 provides a summary of abbreviations for agencies,methods, type of data and frequency of sampling (observation) that are used in Table C-3.

TABLE C-2 ABBREVIATIONS USED IN THE CLIMATOLOGIC/HYDROLOGIC DATA COMPUTER PRINTOUT

Agency

BPI: FLORIDA BUREAU OF PLANT INDUSTRY (DISCONT)
COE: US CORPS OF ENGINEERS
DER: DEPARTMENT OF ENVIRONMENTAL REGULATION
EDD: EVERGLADES DRAINAGE DISTRICT
ENP: EVERGLADES NATIONAL PARK
FS: FLORIDA FORESTRY SERVICE
GL: GEE&JENSEN
UF: UNIVERSITY OF FLORIDA
USDA: US DEPARTMENT OF AGRICULTURE
USGS: US GEOLOGICAL SURVEY
USWB: US WEATHER BUREAU (NOAA)
WMD: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Methods (STAT)

AM: MORNING READING
FWM: FLOW WEIGHTED MEAN
INST: BREAKPOINT DATA
MAX: MAXIMUM DAILY VALUE
MIN: MINIMUM DAILY VALUE
PM: AFTERNOON READING
RAND: RANDOM READING
SUM: SUM TO MIDNIGHT
THH: HIGHEST HIGH TIDE
TLH: HIGHEST LOW TIDE
TLL: LOWEST LOW TIDE
X: UNKNOWN METHOD

Frequency

DA: DAILY
RI: RANDOM
MO: MONTHLY
BK: BREAKPOINT

Type of Data

AIRT:	AIR TEMPERATURE
COLO:	COLOR
COND:	CONDUCTIVITY
DO:	DISSOLVED OXYGEN
DSL:	DISSOL;ED SOLIDS LOA
DS:	DISSOLVED SOLIDS
DTW:	DEPTH TO WATER
EVAP:	PAN EVAPORATION
FLOW:	FLOW
GATE:	GATE OPENING
HUMI:	RELATIVE HUMIDITY
H20TEMP:	WATER TEMPERATURE
LOCK:	NUMBER OF LOCK CYCLE
METE:	METEORLOGIC
OPER:	OPERATION LOG
PH:	PH
PO4:	DISSOLVED PHOSPHATES
QMEA:	FLOW CALIBRATION
QUAL:	WATER QUALITY
RAIN:	RAINFALL
RPM:	PUMP SPEED
SLOT:	SLOT GATE OPENING
SSED:	SUSPENDED SEDIMENTS
STGD:	DOWNSTREAM STAGE
STGU:	UPSTREAM STAGE
STGW:	SURFACE-GROUNDWATER
STG:	WATER LEVEL
TURB:	TURBIDITY
WELL:	GROUND WATER WELL
WETB:	WET BULB TEMPERATURE
WNDD:	WINDS DIRECTION
WNDV:	WIND VELOCITY

Table C-3. Hydrologic and Meteorologic Monitoring Stations Within the Everglades National Park Planning Area.

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
ANGEL	12155381	DADE	WELL	INST	BK	000		0-	0	ANGEL'S WELL, 152ND ST & SW 215TH AVE, HOMESTEAD	215538	253905	803134
ANGEL	12155381	DADE	WELL	MEAN	DA	000		1984-	1989	ANGEL'S WELL, 152ND ST & SW 215TH AVE, HOMESTEAD	215538	253905	803134
ANGEL	2155381	DADE	WELL	MEAN	DA	-010	HAND	1985-	1989	ANGEL'S WELL, 152ND ST & SW 215TH AVE, HOMESTEAD	215538	253905	803134
BROAD	02290880	MONRO	STG	MAX	DA	000		1961-	1965	BROAD RIVER NR EVERGLADES	235732	252945	810525
BROAD	02290880	MONRO	STG	MIN	DA	000		1961-	1965	BROAD RIVER NR EVERGLADES	235732	252945	810525
CAPE SAB	MRF6127	MONRO	RAIN	SUM	DA	000	CAN	1961-	1962	CAPE SABLE RANGER STATION	276033	251100	805400
CHEKIKA	MRF387	DADE	RAIN	SUM	DA	000		1984-	1989	CHEKIKA STATE PARK	265537	253656	803503
EVERGLAD	MRF307	DADE	RAIN	SUM	DA	000		1981-	1987	EVERGLADES CANOE OUTFITTERS	75838	252357	803425
FLAMIN 2	MRF6125	MONRO	RAIN	SUM	DA	000	CAN	1962-	1989	FLAMINGO	96134	250829	805453
FLAMIN 3	MRFE626	MONRO	EVAP	SUM	DA	000	APAN	1962-	1975	FLAMINGO RANGER STATION	306135	250900	805500
FLORIDA	02290825	MONRO	STG	MAX	DA	000		1965-	1973	FLORIDA BAY AT FLAMINGO, FL	46134	250835	805520
FLORIDA	02290825	MONRO	STG	MIN	DA	000		1965-	1973	FLORIDA BAY AT FLAMINGO, FL	46134	250835	805520
FLORIDA	02290825	MONRO	STG	MEAN	DA	000		1969-	1975	FLORIDA BAY AT FLAMINGO, FL	46134	250836	805520
FLORIDA	02290825	MONRO	STG	FWM	DA	000		1962-	1965	FLORIDA BAY AT FLAMINGO, FL	46134	250836	805520
FLORIDA	02290825	MONRO	STG	THM	DA	000		1973-	1980	FLORIDA BAY AT FLAMINGO, FL	46134	250835	805520
FLORIDA	02290825	MONRO	STG	TLH	DA	000		1973-	1980	FLORIDA BAY AT FLAMINGO, FL	46134	250835	805520
FLORIDA	02290825	MONRO	STG	THL	DA	000		1973-	1980	FLORIDA BAY AT FLAMINGO, FL	46134	250835	805520
FLORIDA	02290825	MONRO	STG	TLL	DA	000		1973-	1980	FLORIDA BAY AT FLAMINGO, FL	46134	250835	805520
FROGP	13057371	DADE	WELL	INST	BK	000		0-	0	FROG POND WELL 1.5 MI NORTH OF S-175	305738	252820	803425
FROGP	13057371	DADE	WELL	MEAN	DA	000		1984-	1989	FROG POND WELL 1.5 MI NORTH OF S-175	305738	252820	803426
G-1251	251922080340701	DADE	STGW	MAX	DA	000		1973-	1989	G-1251	65938	251922	803407
G-1251	251922080340701	DADE	STGW	MEAN	DA	000		1965-	1973	G-1251	65938	251922	803407
G-1251	251922080340701	DADE	WELL	RAND	RI	-059		1963-	1988	G-1251	65938	251922	803407
G-1251	251922080340701	DADE	CLD	RAND	RI	-059		1980-	1988	G-1251	65938	251922	803407
G-1251	251922080340701	DADE	COND	RAND	RI	-059		1980-	1988	G-1251	65938	251922	803407
G-1251	251922080340701	DADE	H2OT	RAND	RI	-059		1980-	1981	G-1251	65938	251922	803407
G-1502	253656080350301	DADE	STGW	MAX	DA	000		1973-	1987	G-1502	265537	253656	803503
G-1502	253656080350301	DADE	STGW	MEAN	DA	000		1970-	1973	G-1502	265537	253656	803503
G-1502	252656080350301	DADE	STGW	MAX	DA	000		1982-	1989	G-1502	265537	253656	803503
G-3110	252547080383501	DADE	STGW	RAND	RI	000		1976-	1979	G-3110	05737	252547	803835
G-3111	252803080395001	DADE	STGW	RAND	RI	000		1976-	1979	G-3111	05737	252803	803950
G-3112	252945080395201	DADE	STGW	RAND	RI	000		1976-	1979	G-3112	05737	252945	803952
G-3114	252947080382501	DADE	STGW	RAND	RI	000		1976-	1979	G-3114	05737	252947	803825
G-3115	253014080374701	DADE	WELL	RAND	RI	000		1976-	1979	G-3115	25638	253014	803747
G-3116	252948080362501	DADE	STGW	RAND	RI	000		1976-	1979	G-3116	05737	252948	803625
G-3117	252948080341801	DADE	STGW	RAND	RI	000		1976-	1979	G-3117	315738	252948	803418
G-3118	253110080340101	DADE	STGW	RAND	RI	000		1976-	1979	G-3118	315638	253110	803401
G-3119	253150080381001	DADE	STGW	RAND	RI	000		1976-	1979	G-3119	05638	253150	803810
G-3121	253328080382701	DADE	STGW	RAND	RI	000		1976-	1979	G-3121	05637	253328	803827
G-3123	253503080382001	DADE	STGW	RAND	RI	000		1976-	1979	G-3123	05636	253503	803820
G-3124	253630080343201	DADE	STGW	RAND	RI	000		1976-	1979	G-3124	65635	253630	803432
G-3354	251855080283400	DADE	WELL	MAX	DA	000		1985-	1986	G-3354 (WELL) PAIRED WITH SWEVER2B (SURFACE) NEAR	63859	251855	804024
G-3354	251855080283401	DADE	STGW	MAX	DA	-008		1985-	1989	G-3354 (WELL) PAIRED WITH SWEVER2B (SURFACE) NEAR	63859	251855	804024
G-3125	253813080361601	DADE	STGW	RAND	RI	000		1976-	1979	G-3125	05537	253813	803616
G-3205	253656080350304	DADE	STGW	RAND	RI	000		1977-	1979	G-3205	05537	253656	803503

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
G-3272	253952080321501	DADE	WELL	MAX	DA	-010		1983	1985	G-3272 USGS OBS WELL NR HOMESTEAD, FL	0 0 0	253952	803215
G-3272	10955381	DADE	WELL	MEAN	DA	-010		1986	1987	G-3272 USGS OBS WELL NR HOMESTEAD, FL	0 0 0	253952	803215
G-3273	12455371	DADE	STGW	MAX	DA	000		1986	1989	G-3273 USGS OBSERVATION WELL NEAR HOMESTEAD,FLA	0 0 0	253748	803434
G-3273	12455371	DADE	STGW	MEAN	DA	000		1986	1989	G-3273 USGS OBSERVATION WELL NEAR HOMESTEAD,FLA	0 0 0	253748	803434
G-3273	253748080343401	DADE	STGW	MAX	DA	000		1984	1989	G-3273 USGS OBSERVATION WELL NEAR HOMESTEAD,FLA	0 0 0	253748	803434
G-3353	251724080341401	DADE	WELL	MAX	DA	000		1985	1989	G-3353 (WELL) PAIRED WITH SWEVER5B (SURFACE) NEAR	183859	251724	803414
G-596	253937080304001	DADE	STGW	MAX	DA	-013		1950	1989	G-596	115538	253937	803040
G-618	254500080360001	DADE	STGW	MAX	DA	000		1973	1989	TAMIAMI TRAIL, 6.1 MI. W. OF KROME AVE.	125437	254535	803435
G-618	254500080360001	DADE	STGW	RAND	RI	000		1977	1978	TAMIAMI TRAIL, 6.1 MI. W. OF KROME AVE.	125437	254535	803435
G-618	254600080350001	DADE	STGW	MAX	DA	000		1956	1974	TAMIAMI TRAIL, 6.1 MI. W. OF KROME AVE.	125437	254535	803435
G-618	254600080350001	DADE	STGW	RAND	RI	000		1975	1978	TAMIAMI TRAIL, 6.1 MI. W. OF KROME AVE.	125437	254535	803435
G-619	254540080455201	DADE	STGW	MAX	DA	000		1956	1966	G-619 US41 18 MI W OF KROME A	195436	254540	804552
G-620	254000080460001	DADE	STGW	MAX	DA	000		1956	1989	G-620	195536	254000	804600
G-820	253920080461001	DADE	STGW	MEAN	DA	000		1956	1973	G-820	195536	253920	804610
G-861	253900080343001	DADE	STGW	MEAN	DA	000		1961	1969	G-861	125537	253900	803430
G-863	253345080342301	DADE	STGW	MEAN	DA	000		1959	1969	G-863	75638	253345	803423
HARNEY	02290860	MONRO	STG	MAX	DA	000		1965	1969	HARNEY RIVER NR HOMESTEAD	95833	252520	810130
HARNEY	02290860	MONRO	STG	MIN	DA	000		1965	1969	HARNEY RIVER NR HOMESTEAD	95833	252520	810130
HARNEY	02290860	MONRO	STG	FWM	DA	000		1960	1965	HARNEY RIVER NR HOMESTEAD	95833	252520	810130
KENDALE	MRF9025	DADE	RAIN	SUM	DA	000		1976	1979	KENDALE LAKES WEST	335439	254200	803200
KENDALE	MRF9025	DADE	RAIN	SUM	MO	000		1975	1975	KENDALE LAKES WEST	335439	254200	803200
LOSTMANS	02290920	MONRO	STG	MAX	DA	000		1961	1965	LOSTMANS RIVER NR EVERGLADES	265631	253330	811025
LOSTMANS	02290920	MONRO	STG	MIN	DA	000		1961	1965	LOSTMANS RIVER NR EVERGLADES	265631	253330	811025
L29	02289060	DADE	STG	MEAN	DA	000		1968	1989	TAMIAMI CANAL OUTLETS L-30 TO L-67A NR MIAMI, FL	65438	254540	803742
L29	02289060	DADE	STG	FWM	DA	000		1962	1985	TAMIAMI CANAL OUTLETS L-30 TO L-67A NR MIAMI, FL	65438	254540	803742
L29	02289060	DADE	FLOW	MEAN	DA	XX		1963	1989	TAMIAMI CANAL OUTLETS L-30 TO L-67A NR MIAMI, FL	65438	254540	803742
L29	02289060	DADE	FLOW	INST	DA	XX		1982	1985	TAMIAMI CANAL OUTLETS L-30 TO L-67A NR MIAMI, FL	65438	254540	803742
L67EX.E	254100080402200	DADE	STGW	MEAN	DA	000		1983	1989	N.E. SHARK SLOUGH E. OF L67EXT NR. RICH. HTS, FL	0 0 0	254100	804022
L67EX.W	254100080402400	DADE	STG	MEAN	DA	000		1983	1989	L67 EXTENDED CANAL WEST NEAR FLORIDA CITY, FL	0 0 0	254100	804024
L67EX.W	254100080402400	DADE	STG	MAX	DA	000		0-	0	L67 EXTENDED CANAL WEST NEAR FLORIDA CITY, FL	0 0 0	254100	804024
L67E	02290827	DADE	PO4	MAX	DA	000		1978	1978	LEVEE 67 EXTENDED CANAL NR RICHMOND, FLA.	195537	253954	804024
L67E	02290827	DADE	STG	MEAN	DA	000		1971	1987	LEVEE 67 EXTENDED CANAL NR RICHMOND, FLA.	195537	253954	804024
L67E	11955371	DADE	STG	MEAN	DA	000		1986	1988	LEVEE 67 EXTENDED CANAL NR RICHMOND, FLA.	195537	253954	804024
L67E.S	253735080402100	DADE	STG	MEAN	DA	000		1976	1980	LEVEE 67 EXTENDED AT SOUTH END NR COOPERTOWN, FL	05537	253735	804021
L67E.S	10055371	DADE	STG	MEAN	DA	000		1985	1988	LEVEE 67 EXTENDED AT SOUTH END NR COOPERTOWN, FL	05537	253736	804021
MAGNOLIA	MRF5036	ORANG	RAIN	SUM	DA	000		1969	1985	MAGNOLIA TOWER	42432	252535	810719
MUD CRK	251213080350700	DADE	STGW	MEAN	DA	000		1987	1989	MUD CREEK IN EVERGLADES NATIONAL PARK	0 0 0	251213	803507
MUD CRK	251213080350702	DADE	RAIN	SUM	DA	000		1987	1989	MUD CREEK IN EVERGLADES NATIONAL PARK	0 0 0	251213	803507
NESRS1	254130080380500	DADE	STG	MEAN	DA	000		1976	1989	NORTHEAST SHARK RVR SLOUGH NO1 NR COOPERTOWN, FL	45431	254150	803805
NESRS1	10454311	DADE	STG	INST	BK	000		0-	0	NORTHEAST SHARK RVR SLOUGH NO1 NR COOPERTOWN, FL	45431	254150	803805
NESRS1	10454311	DADE	STG	MEAN	DA	000		0-	0	NORTHEAST SHARK RVR SLOUGH NO1 NR COOPERTOWN, FL	45431	254150	803805
NESRS1	MRF409	DADE	RAIN	SUM	DA	000		1985	1988	NORTHEAST SHARK RVR SLOUGH NO1 NR COOPERTOWN, FL	45431	254150	803805
NESRS2	254315080331500	DADE	STG	MEAN	DA	000		1976	1989	NORTHEAST SHARK RVR SLOUGH NO2 NR COOPERTOWN, FL	205436	254325	803325
NESRS2	12054381	DADE	STG	INST	BK	000		0-	0	NORTHEAST SHARK RVR SLOUGH NO2 NR COOPERTOWN, FL	205438	254325	803325
NESRS2	12054381	DADE	STG	MEAN	DA	000		0-	0	NORTHEAST SHARK RVR SLOUGH NO2 NR COOPERTOWN, FL	205438	254325	803325
NESRS3	11154382	DADE	STGW	INST	BK	000	SDIG	0-	0	SHARK RIVER SLOUGH #3, 1 MI. WEST OF L-31N	115438	254424	803018
NESRS3	11154382	DADE	STGW	MEAN	DA	000	SDIG	1984	1989	SHARK RIVER SLOUGH #3, 1 MI. WEST OF L-31N	115438	254424	803018
NESRS4	253828080391100	DADE	STGW	MEAN	DA	000		1985	1989	N.E. SHARK SLOUGH NO. 4, N. OF GROSSMAN HAMMOCK	0 0 0	253828	803911
NESRS5	253753080393600	DADE	STGW	MEAN	DA	000		1985	1989	N.E. SHARK SLOUGH NO. 5, S. OF GROSSMAN HAMMOCK	0 0 0	253753	803936
NP-100	252255080361101	DADE	STGW	RAND	RI	000		1965	1980	NP-100 ROYAL PALM RANGER	145837	252255	803611
NP-201	02290861	DADE	RAIN	SUM	DA	000		1974	1979	EVERGLADES 201-NP NEAR MIAMI, FL	345436	254305	804333

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
NP-201	02290861	DADE	STG	MIN	DA	000		1977	1980	EVERGLADES 201-NP NEAR MIAMI, FL	345436	254305	804333
NP-201	02290861	DADE	STG	MEAN	DA	000		1974	1980	EVERGLADES 201-NP NEAR MIAMI, FL	345436	254305	804333
NP-201	MRF400	DADE	RAIN	SUM	DA	000		1983	1988	EVERGLADES 201-NP NEAR MIAMI, FL	345436	254305	804333
NP-201	13454361	DADE	STG	MEAN	DA	000		1985	1988	EVERGLADES 201-NP NEAR MIAMI, FL	345436	254305	804333
NP-202	02290862	DADE	RAIN	SUM	DA	000		1975	1979	EVERGLADES 202-NP NEAR MIAMI, FL	45636	253940	804245
NP-202	02290862	DADE	STG	MIN	DA	000		1977	1980	EVERGLADES 202-NP NEAR MIAMI, FL	45636	253940	804245
NP-202	02290862	DADE	STG	MEAN	DA	000		1975	1987	EVERGLADES 202-NP NEAR MIAMI, FL	45636	253940	804245
NP-202	10456361	DADE	STG	MEAN	DA	000		1985	1988	EVERGLADES 202-NP NEAR MIAMI, FL	45636	253940	804245
NP-203	02290832	DADE	COND	MIN	DA	000		1978	1980	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	PO4	MAX	DA	000		1978	1979	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	RAIN	SUM	DA	000		1974	1980	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	STG	MIN	DA	000		1977	1980	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	STG	MEAN	DA	000		1973	1980	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	STG	RAND	RI	000		1973	1974	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	AIRT	MIN	DA	000		1977	1980	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	02290832	DADE	H2OT	MIN	DA	000		1977	1980	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-203	MRF398	DADE	RAIN	SUM	DA	000		1983	1988	EVERGLADES 203-NP NEAR HOMESTEAD, FL	255536	253725	804422
NP-204	02290829	DADE	RAIN	SUM	DA	000		1974	1979	EVERGLADES 204-NP NEAR HOMESTEAD, FL	15735	253212	804706
NP-204	02290829	DADE	STG	MIN	DA	000		1977	1980	EVERGLADES 204-NP NEAR HOMESTEAD, FL	15735	253212	804706
NP-204	02290829	DADE	STG	MEAN	DA	000		1974	1980	EVERGLADES 204-NP NEAR HOMESTEAD, FL	15735	253212	804706
NP-204	02290829	DADE	STG	RAND	RI	000		1973	1980	EVERGLADES 204-NP NEAR HOMESTEAD, FL	15735	253212	804706
NP-206	02290811	DADE	PO4	MAX	DA	000		1979	1979	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	02290811	DADE	RAIN	SUM	DA	000		1974	1979	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	02290811	DADE	STG	MEAN	DA	000		1974	1987	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	02290811	DADE	STG	MAX	DA	000		1979	1979	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	02290811	DADE	STG	MIN	DA	000		1977	1980	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	MRF399	DADE	RAIN	SUM	DA	000		1984	1988	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	02290811	DADE	WETB	MIN	DA	000		1977	1977	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-206	10857371	DADE	STG	MEAN	DA	000		1985	1988	EVERGLADES 206 NP NEAR MIAMI, FL	85737	253242	804022
NP-207	02290810	DADE	PO4	MAX	DA	000		1979	1979	EVERGLADES 207 NEAR HOMESTEAD, FL	365036	251708	804119
NP-207	02290810	DADE	PO4	MEAN	DA	000		1979	1979	EVERGLADES 207 NEAR HOMESTEAD, FL	365036	251708	804119
NP-207	02290810	DADE	RAIN	SUM	DA	000		1977	1979	EVERGLADES 207 NEAR HOMESTEAD, FL	365036	251708	804119
NP-207	02290810	DADE	STG	MEAN	DA	000		1953	1987	EVERGLADES 207 NEAR HOMESTEAD, FL	365036	251706	804119
NP-207	02290810	DADE	STG	MIN	DA	000		1977	1980	EVERGLADES 207 NEAR HOMESTEAD, FL	365036	251708	804119
NP-33	02290815	DADE	STG	MEAN	DA	000		1952	1987	EVERGLADES P-33 NEAR HOMESTEAD, FL	115636	253630	804130
NP-33	02290815	DADE	H2OT	MAX	DA	000		0	0	EVERGLADES P-33 NEAR HOMESTEAD, FL	115636	253630	804130
NP-33	02290815	DADE	H2OT	MIN	DA	000		0	0	EVERGLADES P-33 NEAR HOMESTEAD, FL	115636	253630	804130
NP-33	11156361	DADE	STG	MEAN	DA	000		1985	1988	EVERGLADES P-33 NEAR HOMESTEAD, FL	115636	253630	804130
NP-34	02290870	MONRO	PO4	MAX	DA	000		0	0	EVERGLADES P-34 NEAR HOMESTEAD, FLA.	95634	253630	805530
NP-34	02290870	MONRO	STG	MEAN	DA	000		1953	1987	EVERGLADES P-34 NEAR HOMESTEAD, FLA.	95634	253630	805530
NP-34	MRF394	MONRO	RAIN	SUM	DA	000		1983	1988	EVERGLADES P-34 NEAR HOMESTEAD, FLA.	95634	253630	805530
NP-35	02290830	DADE	PO4	MAX	DA	000		1979	1979	EVERGLADES P-35 NEAR HOMESTEAD, FLA	365734	252739	805156
NP-35	02290830	DADE	STG	MEAN	DA	000		1953	1987	EVERGLADES P-35 NEAR HOMESTEAD, FLA	365734	252739	805156
NP-35	02290830	DADE	H2OT	MAX	DA	000		0	0	EVERGLADES P-35 NEAR HOMESTEAD, FLA	365734	252739	805156
NP-35	02290830	DADE	H2OT	MIN	DA	000		0	0	EVERGLADES P-35 NEAR HOMESTEAD, FLA	365734	252739	805156
NP-35	MRF395	DADE	RAIN	SUM	DA	000		1983	1988	EVERGLADES P-35 NEAR HOMESTEAD, FLA	365734	252739	805156
NP-36	02290828	DADE	STG	MEAN	DA	000		1968	1987	EVERGLADES P-36 NEAR HOMESTEAD, FL	15735	253139	804745
NP-36	02290828	DADE	STG	FWM	DA	000		1968	1971	EVERGLADES P-36 NEAR HOMESTEAD, FL	15735	253139	804745
NP-36	MRF396	DADE	RAIN	SUM	DA	000		1983	1988	EVERGLADES P-36 NEAR HOMESTEAD, FL	15735	253139	804745
NP-36	10157351	DADE	STG	MEAN	DA	000		1985	1988	EVERGLADES P-36 NEAR HOMESTEAD, FL	15735	253139	804745
NP-38	02290820	DADE	STG	MEAN	DA	000		1952	1987	EVERGLADES P-38 NEAR HOMESTEAD, FLA.	335835	252212	805000

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCOR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
NP-38	02290820	DADE	H2OT	MAX	DA	000		0- 0	EVERGLADES P-38 NEAR HOMESTEAD, FLA.	335835	252212	805000
NP-38	02290820	DADE	H2OT	MIN	DA	000		0- 0	EVERGLADES P-38 NEAR HOMESTEAD, FLA.	335835	252212	805000
NP-38	MRF397	DADE	RAIN	SUM	DA	000		1983-1988	EVERGLADES P-38 NEAR HOMESTEAD, FLA.	335835	252212	805000
NP-44	254317080260201	DADE	STGW	MEAN	DA	000		1966-1970	NP-44 EVERGLADES NATL PARK NR HOMESTEAD	0 0 0	252553	804318
NP-44	252553080431800	DADE	STG	MAX	DA	000		1977-1980	NP-44 EVERGLADES NATL PARK NR HOMESTEAD	0 0 0	252553	804318
NP-46	251910080474601	DADE	STGW	MAX	DA	000		1977-1980	NP-46	235935	251910	804746
NP-46	251910080474601	DADE	STGW	MEAN	DA	000		1966-1971	NP-46	235935	251910	804746
NP-62	252622080470201	DADE	STGW	MAX	DA	000		1977-1980	NP-62	75836	252622	804659
NP-62	252622080470201	DADE	STGW	MEAN	DA	000		1966-1968	NP-62	75836	252622	804659
NP-67	251950080390201	DADE	STGW	MAX	DA	000		1976-1980	59S37E05 NP- 67 EVERGLADES NATIONAL PARK	55937	251950	803902
NP-67	251950080390201	DADE	STGW	MEAN	DA	000		1966-1968	59S37E05 NP- 67 EVERGLADES NATIONAL PARK	55937	251950	803902
NP-67		DADE	STGW	MIN	DA	000		1976-1976	59S37E05 NP- 67 EVERGLADES NATIONAL PARK	55937	251950	803902
NP-72	252345080421201	DADE	STGW	MAX	DA	000		1977-1980	NP-72	255836	252345	804212
NP-72	252345080421201	DADE	STGW	MEAN	DA	000		1966-1968	NP-72	255836	252345	804212
NTS-1	15737261	DADE	STG	MEAN	DA	000		1985-1987	NORTH TAYLOR SLOUGH TRANSECT - STATION #1	265737	252616	803535
NTS-3	15737271	DADE	STG	MEAN	DA	000		1985-1988	NORTH TAYLOR SLOUGH TRANSECT STATION #3	275737	252616	803600
NTS-5	15737281	DADE	STG	MEAN	DA	000		1985-1987	NORTH TAYLOR SLOUGH TRANSECT STATION #5	285737	252616	803643
RODGERS	02290900	MONRO	STG	MAX	DA	000		1962-1965	RODGERS RIVER NR EVERGLADES	205732	252935	810840
RODGERS	02290900	MONRO	STG	MIN	DA	000		1962-1965	RODGERS RIVER NR EVERGLADES	205732	252935	810840
ROYAL PA	MRF6107	DADE	RAIN	SUM	DA	000	CAN	1949-1989	ROYAL PALM RANGER	145837	252310	803539
ROYAL PA	252300080360001	DADE	RAIN	SUM	DA	000		1986-1986	ROYAL PALM RANGER	145837	252310	803539
SHARK	02290850	MONRO	STGU	MAX	DA	001		1964-1969	SHARK RIVER NR HOMESTEAD	275833	252310	810100
SHARK	02290850	MONRO	STGU	MIN	DA	001		1965-1969	SHARK RIVER NR HOMESTEAD	275833	252310	810100
SHARK	02290850	MONRO	STGU	FWM	DA	001		1960-1967	SHARK RIVER NR HOMESTEAD	275833	252310	810100
SWEVER3	252043080302400	DADE	STG	MEAN	DA	000		1985-1989	SW EVERGLADES 3 - NEAR C-111 (BLASTED HOLE)	263858	252043	803924
SWEVER3	12668381	DADE	STG	MEAN	DA	000	SDIG	1985-1986	SW EVERGLADES 3 - NEAR C-111 (BLASTED HOLE)	263858	252043	803924
SWEVER5A	251716080342100	DADE	STG	MEAN	DA	000		1985-1989	SW EVERGLADES 5A - NEAR C-111 (BLASTED HOLE)	183859	251716	803421
SWEVER5A	11859381	DADE	STGU	MEAN	DA	001	SDIG	1985-1986	SW EVERGLADES 5A - NEAR C-111 (BLASTED HOLE)	183859	251716	803421
SWEVER5B	251724080341400	DADE	STG	MEAN	DA	000		1985-1989	SW EVERGLADES 5B (SURFACE) PAIRED WITH G-3353 NEA	183859	251724	803414
SWEVER5B	11859381	DADE	STGD	MEAN	DA	002	SDIG	1985-1986	SW EVERGLADES 5B (SURFACE) PAIRED WITH G-3353 NEA	183859	251724	803414
S174	50757381	DADE	STGU	INST	BK	001		0- 0	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	50757381	DADE	STGU	MEAN	DA	001		1970-1988	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	50757381	DADE	STGD	INST	BK	002		0- 0	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	50757381	DADE	STGD	MEAN	DA	002		1970-1988	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	50757381	DADE	FLOW	INST	BK	SPIL		0- 0	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	50757381	DADE	FLOW	MEAN	DA	SPIL		1971-1988	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174		DADE	STGU	DWR	RI	001		1988-1989	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174		DADE	STGD	DWR	RI	002		1988-1989	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	20757381	DADE	FLOW	MEAN	DA	SPIL	TELE	1988-1989	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	20757381	DADE	STGU	MEAN	DA	001	TELE	1988-1989	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803349
S174	20757381	DADE	STGD	MEAN	DA	002	TELE	1988-1989	S-174 SPILLWAY ON LEVEE L-31N AT LEVEE L-31W	75738	252900	803348
S175	50158371	DADE	STGU	INST	BK	001		0- 0	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175	50158371	DADE	STGU	MEAN	DA	001		1970-1989	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175	50158371	DADE	STGD	INST	BK	002		0- 0	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175	50158371	DADE	STGD	MEAN	DA	002		1970-1989	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175	50158371	DADE	FLOW	INST	BK	CULV		0- 0	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175	50158371	DADE	FLOW	MEAN	DA	CULV		1970-1989	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175		DADE	STGU	DWR	RI	001		1988-1989	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S175		DADE	STGD	DWR	RI	002		1988-1989	S-175 CULVERT ON LEVEE L-31W NEAR U.S. HIGHWAY 27	65838	252501	803425
S24A	52354381	DADE	STGU	INST	BK	001		0- 0	S-24A CULVERT ON LEVEE L-31N S. OF TAMIAMI CANAL	235438	254308	802950
S24A	52354381	DADE	STGU	MEAN	DA	001		0- 0	S-24A CULVERT ON LEVEE L-31N S. OF TAMIAMI CANAL	235438	254308	802950

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT END	FULL STATION NAME	SETNRG	LAT	LONG
S24A	52354381	DADE	STGD	INST	BK	002		0- 0	S-24A CULVERT ON LEVEE L-31N S. OF TAMIAMI CANAL	235438	254308	802950
S24A	52354381	DADE	STGD	MEAN	DA	002		0- 0	S-24A CULVERT ON LEVEE L-31N S. OF TAMIAMI CANAL	235438	254308	802950
S24A	52354381	DADE	FLOW	INST	BK	CULV		0- 0	S-24A CULVERT ON LEVEE L-31N S. OF TAMIAMI CANAL	235438	254308	802950
S24A	52354381	DADE	FLOW	MEAN	DA	CULV		0- 0	S-24A CULVERT ON LEVEE L-31N S. OF TAMIAMI CANAL	235438	254308	802950
S332	53557371	DADE	STGU	INST	BK	001		0- 0	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	53557371	DADE	STGU	MEAN	DA	001		1980-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	53557371	DADE	STGD	INST	BK	002		0- 0	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	53557371	DADE	STGD	MEAN	DA	002		1980-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	53557371	DADE	FLOW	INST	BK	PUMP		0- 0	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	53557371	DADE	FLOW	MEAN	DA	PUMP		1980-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	252523080352500	DADE	FLOW	MEAN	DA	XX		1983-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	252523080352500	DADE	STG	MEAN	DA	000		1983-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	MRF309	DADE	RAIN	SUM	DA	000	BELF	1981-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	63557371	DADE	STGU	MEAN	DA	001	SP01	1987-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	63557371	DADE	STGD	MEAN	DA	002	SP01	1987-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	63557371	DADE	FLOW	MEAN	DA	PUMP	SP01	1987-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332		DADE	STGU	DWR	RI	001		1988-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332		DADE	STGD	DWR	RI	002		1988-1989	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
S332	252523080352501	DADE	STGD	MEAN	DA	002	RECO	1986-1988	S-332 PUMP STATION ON L-31W BORROW CANAL	355737	252518	803524
TAMITR40	MRF6054	DADE	RAIN	SUM	DA	000	CAN	1941-1989	TAMIAMI TRAIL AT 40 MILE BEND	165435	254536	804930
TAMITR40	MRF7054	DADE	RAIN	SUM	DA	000	RECO	1942-1981	TAMIAMI TRAIL AT 40 MILE BEND	165435	254536	804930
TAMITR40	MRFE654	DADE	EVAP	SUM	DA	000	APAN	1941-1989	TAMIAMI TRAIL AT 40 MILE BEND	165435	254536	804930
TAMITR40	MRF7054	DADE	RAIN	SUM	MO	000		1940-1941	TAMIAMI TRAIL AT 40 MILE BEND	165435	254536	804930
TAMITR40	254500080500001	DADE	RAIN	SUM	DA	000		1986-1986	TAMIAMI TRAIL AT 40 MILE BEND	165435	254536	804930
TAM.S333		DADE	FLOW	MEAN	DA	XX		0- 0	TAMIAMI CANAL ABOVE S-333 NR MIAMI,FL	0 0 0	254539	804027
TAYLORS1	252948080352700	DADE	STG	MEAN	DA	000		1976-1980	TAYLOR SLOUGH AT CONTEXT RD	245637	252948	803527
TAYLORS1	252948080352700	DADE	STG	FWM	DA	000		1979-1980	TAYLOR SLOUGH AT CONTEXT RD	245637	252948	803527
TAYLORS1	252948080352700	DADE	FLOW	MEAN	DA	XX		1976-1980	TAYLOR SLOUGH AT CONTEXT RD	245637	252948	803527
TAYLORS2	02290800	DADE	STG	MEAN	DA	000		1980-1987	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	02290800	DADE	STG	FWM	DA	000		1968-1985	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	02290800	DADE	FLOW	MEAN	DA	XX		1960-1985	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	02290800	DADE	H2OT	MAX	DA	000		0- 0	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	02290800	DADE	H2OT	MIN	DA	000		0- 0	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	02290800	DADE	FLOW	INST	DA	XX		1982-1985	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	11058371	DADE	FLOW	MEAN	DA	XX		1984-1987	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS2	11058371	DADE	STG	MEAN	DA	000		1984-1987	TAYLOR SLOUGH NEAR HOMESTEAD, FL	105837	252405	803625
TAYLORS3	251148080410300	DADE	STG	MEAN	DA	000		1978-1980	TAYLOR SLOUGH AT CRAIGHEAD LAKE NR HOMESTEAD, FL	136036	251344	804215
TAYLORS4	02290803	DADE	STG	MEAN	DA	000		1969-1980	TAYLOR SLOUGH AT ROYAL PALM NEAR HOMESTEAD, FL	75837	252407	804015
TAYLORS4	02290803	DADE	STG	FWM	DA	000		1968-1969	TAYLOR SLOUGH AT ROYAL PALM NEAR HOMESTEAD, FL	75837	252407	804015
TROUT CR	251254080320200	DADE	STGW	MEAN	DA	000		1987-1989	TROUT CREEK IN EVERGLADES NATIONAL PARK	0 0 0	251254	803202
C-997	261530081412001	COLLI	WELL	MAX	DA	000		1985-1989	C-997 USGS CORKSCREW SW	274826	252750	802834
DADE COU	MRF9104	DADE	RAIN	SUM	DA	000		1972-1983	DADE COUNTY FIRE STATION 16	135738	252800	802900
F-334	252907080274201	DADE	WELL	MEAN	DA	000		1940-1950	F-334	95739	252907	802742
F-358	252829080285101	DADE	WELL	MAX	DA	-054		1945-1989	F- 358 USGS OBS WELL AT HOMESTEAD, FL	85839	252829	802851
F-358	252829080285101	DADE	WELL	MEAN	DA	-054		1940-1965	F- 358 USGS OBS WELL AT HOMESTEAD, FL	85839	252829	802851
F-364	252855080292801	DADE	WELL	MEAN	DA	000		1940-1949	F-364	125838	252855	802928
F-379	253112080254301	DADE	WELL	MEAN	DA	-021		1940-1949	F-379	275639	253112	802543
F-384	253252080254601	DADE	WELL	MEAN	DA	000		1940-1949	F-384	155639	253252	802546
G-1363	253233080301001	DADE	WELL	MAX	DA	-033		1973-1989	G-1363 USGS OBS WELL NR HOMESTEAD, FL	265638	253233	803010
G-1363	253233080301001	DADE	WELL	MEAN	DA	-033		1968-1973	G-1363 USGS OBS WELL NR HOMESTEAD, FL	265638	253233	803010
G-1486	253012080261401	DADE	WELL	MAX	DA	-020		1973-1989	G-1486 USGS OBS WELL NR HOMESTEAD, FL	325639	253012	802614

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
G-1486	253012080261401	DADE	WELL	MEAN	DA	-020		1970	1973	G-1486 USGS OBS WELL NR HOMESTEAD, FL	325639	253012	802614
G-1541	253214080212201	DADE	WELL	MAX	DA	000		1955	1985	G-1541	0 0 0	252750	802834
G-1650	252910080292002	DADE	WELL	RAND	RI	000		1973	1973	G-1650	125738	252910	802920
G-18	252853080222201	DADE	WELL	MEAN	DA	000		1940	1945	G-18 EAST OF HOMESTEAD	85840	252853	802222
G-3389	253302080280004	DADE	WELL	MAX	DA	000		1985	1988	G-3389 ROCKDALE GROVE RECORDER	0 0 0	252750	802834
G-3390	252750080222704	DADE	WELL	MAX	DA	000		1985	1988	G-3390 MARL BACKGROUND RECORDER	0 0 0	252750	802834
G-3410	253247080284901	DADE	WELL	MAX	DA	000		1985	1985	G-3410 SOUTH DADE LANDFILL NO. 1	0 0 0	252750	802834
G-3411	253227080205201	DADE	WELL	MAX	DA	000		1985	1986	G-3411 SW 97 AVE NO. 3	0 0 0	252750	802834
G-3412	253214080212202	DADE	WELL	MAX	DA	000		1985	1986	G-3412 SW 102 AVE AND 248 ST NO. 4	0 0 0	252750	802834
G-3413	253227080196301	DADE	WELL	MAX	DA	000		1985	1986	G-3413 BOAT RAMP NO. 5	0 0 0	252750	802834
G-3437	253400080340401	DADE	WELL	MAX	DA	000		1985	1985	G-3437 USGS OBSERVATION WELL NEAR HOMESTEAD, FL	0 0 0	252750	802834
G-614	253258080264301	DADE	WELL	MAX	DA	-020		1956	1989	G- 614 USGS OBS WELL AT GOULDS, FL	165639	253258	802643
HOMES.FS	MRF121	DADE	RAIN	SUM	DA	000		1958	1989	HOMESTEAD FIELD STATION	85739	252838	802655
HOMES.FS		DADE	RAIN	DWR	RI	000		1986	1989	HOMESTEAD FIELD STATION	85739	252838	802655
HOMES.WC	MRF9108	DADE	RAIN	SUM	DA	000		1982	1985	HOMESTEAD WORK CENTER	057 0	252800	802900
HUMBLE	11656381	DADE	WELL	INST	BK	000		0	0	HUMBLE PROPERTY WELL 1 MILE EAST OF L-31N	165638	253400	803200
HUMBLE	11656381	DADE	WELL	MEAN	DA	000		1984	1989	HUMBLE PROPERTY WELL 1 MILE EAST OF L-31N	165638	253400	803200
IRA EBER	MRF9095	DADE	RAIN	SUM	DA	000		1959	1984	IRA EBERSOLE	265638	253137	802959
MILITARY	02290720	DADE	STG	MEAN	DA	000		1967	1969	MILITARY CANAL NR HOMESTEAD	85740	252920	802055
MILITARY	02290720	DADE	STG	FWM	DA	000		1962	1967	MILITARY CANAL NR HOMESTEAD	85740	252920	802055
M-1141	270952080135201	MARTI	WELL	MAX	DA	000		1986	1989	M-1141 USGS OBS WELL AT STUART, FL	0 0 0	252750	802834
PB-1494	262424080074701	PALM	WELL	MAX	DA	000		1985	1989	PB-1494 USGS OBS WELL AT BOCA RATON, FL	0 0 0	252750	802834
PB-1515	253540080112101	BREVA	WELL	MAX	DA	000		1985	1987	PB-1515 USGS OBS WELL AT LANTANA, FL	0 0 0	252750	802834
PETERS 2	MRF8111	DADE	RAIN	SUM	MO	000		1942	1952	PETERS	55640	253600	803100
SHRIMP F	MRFE223	DADE	EVAP	SUM	MO	000	APAN	1977	1977	SHRIMP FARM	165739	252823	802328
SHRIMP F	MRF223	DADE	RAIN	SUM	DA	000		0	0	SHRIMP FARM	165739	252823	802328
S166	53356391	DADE	STGU	INST	BK	001		0	0	S-166 SPILLWAY ON CANAL C-103N NEAR F.E.C. RAILRO	335639	253105	802557
S166	53356391	DADE	STGU	MEAN	DA	001		1977	1989	S-166 SPILLWAY ON CANAL C-103N NEAR F.E.C. RAILRO	335639	253105	802557
S166	53356391	DADE	STGD	INST	BK	002		0	0	S-166 SPILLWAY ON CANAL C-103N NEAR F.E.C. RAILRO	335639	253105	802557
S166	53356391	DADE	STGD	MEAN	DA	002		1967	1988	S-166 SPILLWAY ON CANAL C-103N NEAR F.E.C. RAILRO	335639	253105	802557
S166	53356391	DADE	FLOW	INST	BK	SPIL		0	0	S-166 SPILLWAY ON CANAL C-103N NEAR F.E.C. RAILRO	335639	253105	802557
S166	53356391	DADE	FLOW	MEAN	DA	SPIL		1980	1989	S-166 SPILLWAY ON CANAL C-103N NEAR F.E.C. RAILRO	335639	253105	802557
S167	50657391	DADE	STGU	INST	BK	001		0	0	S-167 SPILLWAY ON CANAL C-103 NEAR FLA. HIGHWAY 2	65739	253008	802749
S167	50657391	DADE	STGU	MEAN	DA	001		1970	1989	S-167 SPILLWAY ON CANAL C-103 NEAR FLA. HIGHWAY 2	65739	253008	802749
S167	50657391	DADE	STGD	INST	BK	002		0	0	S-167 SPILLWAY ON CANAL C-103 NEAR FLA. HIGHWAY 2	65739	253008	802749
S167	50657391	DADE	STGD	MEAN	DA	002		1967	1986	S-167 SPILLWAY ON CANAL C-103 NEAR FLA. HIGHWAY 2	65739	253008	802749
S167	50657391	DADE	FLOW	INST	BK	SPIL		0	0	S-167 SPILLWAY ON CANAL C-103 NEAR FLA. HIGHWAY 2	65739	253008	802749
S167	50657391	DADE	FLOW	MEAN	DA	SPIL		1982	1989	S-167 SPILLWAY ON CANAL C-103 NEAR FLA. HIGHWAY 2	65739	253008	802749
S179	51357391	DADE	STGU	INST	BK	001		0	0	S-179 SPILLWAY ON CANAL C-103N AT CANAL C-103	155739	252824	802453
S179	51357391	DADE	STGU	MEAN	DA	001		1967	1989	S-179 SPILLWAY ON CANAL C-103N AT CANAL C-103	155739	252824	802453
S179	51357391	DADE	STGD	INST	BK	002		0	0	S-179 SPILLWAY ON CANAL C-103N AT CANAL C-103	155739	252824	802453
S179	51357391	DADE	STGD	MEAN	DA	002		1967	1989	S-179 SPILLWAY ON CANAL C-103N AT CANAL C-103	155739	252824	802453
S179	51357391	DADE	FLOW	INST	BK	SPIL		0	0	S-179 SPILLWAY ON CANAL C-103N AT CANAL C-103	155739	252824	802453
S179	51357391	DADE	FLOW	MEAN	DA	SPIL		1967	1989	S-179 SPILLWAY ON CANAL C-103N AT CANAL C-103	155739	252824	802453
S196	53456381	DADE	STGU	INST	BK	001		0	0	S-196 CULVERT ON CANAL C-103 NEAR RICHARDS ROAD	345638	253100	803042
S196	53456381	DADE	STGU	MEAN	DA	001		1981	1989	S-196 CULVERT ON CANAL C-103 NEAR RICHARDS ROAD	345638	253100	803042
S196	53456381	DADE	STGD	INST	BK	002		0	0	S-196 CULVERT ON CANAL C-103 NEAR RICHARDS ROAD	345638	253100	803042
S196	53456381	DADE	STGD	MEAN	DA	002		1981	1989	S-196 CULVERT ON CANAL C-103 NEAR RICHARDS ROAD	345638	253100	803042
S196	53456381	DADE	FLOW	INST	BK	CULV		0	0	S-196 CULVERT ON CANAL C-103 NEAR RICHARDS ROAD	345638	253100	803042
S196	53456381	DADE	FLOW	MEAN	DA	CULV		1981	1989	S-196 CULVERT ON CANAL C-103 NEAR RICHARDS ROAD	345638	253100	803042
S-187	253026080303901	DADE	WELL	MEAN	DA	000		1940	1949	S-187 GROUND WATER WELL	05638	253026	803039

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S-189	253067080280201	DADE	WELL	MEAN	DA	000		1940	1947	S-189 GROUND WATER W	05638	253057	802802
S-191	253210080282501	DADE	WELL	MEAN	DA	000		1940	1949	S-191 GROUND WATER W	305639	253210	802825
S-196A	253029080295601	DADE	WELL	MAX	DA	-020		1956	1989	S- 196A USGS OBS WELL NR HOMESTEAD, FL	05638	253029	802956
S-196A	253029080295601	DADE	WELL	MEAN	DA	-020		1940	1965	S- 196A USGS OBS WELL NR HOMESTEAD, FL	05638	253029	802956
W1031A	13456381	DADE	WELL	INST	BK	000		0	0	WELL 1A-20' 16' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1031A	13456381	DADE	WELL	MEAN	DA	000		1980	1980	WELL 1A-20' 16' N OF C-103 1320' E OF SW 197	345638	253100	803000
W10310A	13456387	DADE	WELL	INST	BK	000		0	0	WELL 10A-20' 617' S OF C-103 1320' E OF SW 197	345638	253100	803000
W10310A	13456387	DADE	WELL	MEAN	DA	000		0	0	WELL 10A-20' 617' S OF C-103 1320' E OF SW 197	345638	253100	803000
W10310	13456386	DADE	WELL	INST	BK	000		0	0	WELL 10 -60' 611' S OF C-103 1320' E OF SW 197	345638	253100	803000
W10310	13456386	DADE	WELL	MEAN	DA	000		0	0	WELL 10 -60' 611' S OF C-103 1320' E OF SW 197	345638	253100	803000
W10311A	13656380	DADE	WELL	INST	BK	000		0	0	WELL 11A-20' 550' N OF C-103 16' E OF REDLAND	365638	253100	802900
W10311A	13656380	DADE	WELL	MEAN	DA	000		0	0	WELL 11A-20' 550' N OF C-103 16' E OF REDLAND	365638	253100	802900
W10312A	13656381	DADE	WELL	INST	BK	000		0	0	WELL 12A-20' 50' N OF C-103 16' E OF REDLAND	365638	253100	802900
W10312A	13656381	DADE	WELL	MEAN	DA	000		1979	1981	WELL 12A-20' 50' N OF C-103 16' E OF REDLAND	365638	253100	802900
W10313A	13656382	DADE	WELL	INST	BK	000		0	0	WELL 13A-20' 50' S OF C-103 16' E OF REDLAND	365638	253100	802900
W10313A	13656382	DADE	WELL	MEAN	DA	000		1979	1980	WELL 13A-20' 50' S OF C-103 16' E OF REDLAND	365638	253100	802900
W10314A	13656383	DADE	WELL	INST	BK	000		0	0	WELL 14A-20' 550' S OF C-103 16' E OF REDLAND	365638	253100	802900
W10314A	13656383	DADE	WELL	MEAN	DA	000		0	0	WELL 14A-20' 550' S OF C-103 16' E OF REDLAND	365638	253100	802900
W1031	13456380	DADE	WELL	INST	BK	000		0	0	WELL 1 -60' 10' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1031	13456380	DADE	WELL	MEAN	DA	000		0	0	WELL 1 -60' 10' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1032A	13456383	DADE	WELL	INST	BK	000		0	0	WELL 2A-20' 54' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1032A	13456383	DADE	WELL	MEAN	DA	000		1979	1980	WELL 2A-20' 54' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1032	13456382	DADE	WELL	INST	BK	000		0	0	WELL 2 -60' 49' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1032	13456382	DADE	WELL	MEAN	DA	000		0	0	WELL 2 -60' 49' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1033A	13456385	DADE	WELL	INST	BK	000		0	0	WELL 3A-20' 152' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1033A	13456385	DADE	WELL	MEAN	DA	000		1980	1982	WELL 3A-20' 152' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1033	13456384	DADE	WELL	INST	BK	000		0	0	WELL 3 -60' 146' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1033	13456384	DADE	WELL	MEAN	DA	000		0	0	WELL 3 -60' 146' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1034A	13456387	DADE	WELL	INST	BK	000		0	0	WELL 4A-20' 299' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1034A	13456387	DADE	WELL	MEAN	DA	000		1980	1980	WELL 4A-20' 299' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1034	13456386	DADE	WELL	INST	BK	000		0	0	WELL 4 -60' 294' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1034	13456386	DADE	WELL	MEAN	DA	000		0	0	WELL 4 -60' 294' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1035A	13456389	DADE	WELL	INST	BK	000		0	0	WELL 5A-20' 496' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1035A	13456389	DADE	WELL	MEAN	DA	000		0	0	WELL 5A-20' 496' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1035	13456388	DADE	WELL	INST	BK	000		0	0	WELL 5 -60' 490' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1035	13456388	DADE	WELL	MEAN	DA	000		0	0	WELL 5 -60' 490' N OF C-103 1320' E OF SW 197	345638	253100	803000
W1036A	13456382	DADE	WELL	INST	BK	000		0	0	WELL 6A-20' 41' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1036A	13456382	DADE	WELL	MEAN	DA	000		0	0	WELL 6A-20' 41' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1036	13456381	DADE	WELL	INST	BK	000		0	0	WELL 6 -60' 36' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1036	13456381	DADE	WELL	MEAN	DA	000		0	0	WELL 6 -60' 36' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1037A	13456383	DADE	WELL	INST	BK	000		0	0	WELL 7A-20' 76' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1037A	13456383	DADE	WELL	MEAN	DA	000		0	0	WELL 7A-20' 76' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1038A	13456384	DADE	WELL	INST	BK	000		0	0	WELL 8A-20' 182' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1038A	13456384	DADE	WELL	MEAN	DA	000		0	0	WELL 8A-20' 182' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1039A	13456385	DADE	WELL	INST	BK	000		0	0	WELL 9A-20' 224' S OF C-103 1320' E OF SW 197	345638	253100	803000
W1039A	13456385	DADE	WELL	MEAN	DA	000		0	0	WELL 9A-20' 224' S OF C-103 1320' E OF SW 197	345638	253100	803000

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCOR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
C1W	02290707	DADE	STG	MEAN	DA	000		1969	1980	BLACK CREEK CANAL NEAR RICHMOND HEIGHTS, FLA.	75539	253939	802846
C2.CORAL	02290600	DADE	STG	MEAN	DA	000		1968	1980	SNAPPER CREEK CANAL NEAR CORAL GABLES, FLA.	15439	254540	802305
C2.CORAL	02290600	DADE	STG	FWM	DA	000		1959	1968	SNAPPER CREEK CANAL NEAR CORAL GABLES, FLA.	15439	254540	802305
C2.CORAL	02290600	DADE	FLOW	MEAN	DA	XX		1960	1967	SNAPPER CREEK CANAL NEAR CORAL GABLES, FLA.	15439	254540	802305
C2.MILLE	02290610	DADE	STG	MEAN	DA	000		1968	1981	SNAPPER CREEK CANAL AT MILLER DR. NR S. MIAMI, FL	195440	254256	802259
C2.MILLE	02290610	DADE	STG	FWM	DA	000		1962	1968	SNAPPER CREEK CANAL AT MILLER DR. NR S. MIAMI, FL	195440	254256	802259
C2.MILLE	02290610	DADE	FLOW	MEAN	DA	XX		1958	1981	SNAPPER CREEK CANAL AT MILLER DR. NR S. MIAMI, FL	195440	254256	802259
C2.74	255026080231300	DADE	STG	MEAN	DA	000		1984	1989	SNAPPER CREEK CNL EXT AT NW74 ST NR HIALEAH, FL	0 0 0	255026	802313
C4.L30	02289250	DADE	STG	RAND	RI	000		1954	1974	TAMIAMI CANAL EAST OF L-30	15438	254540	802840
C6.PALM	02288200	DADE	STG	MEAN	DA	000		1959	1981	MIAMI CANAL AT PALMETTO BYPASS NR HIALEAH	115340	255111	801922
C6.PALM	02288200	DADE	FLOW	MEAN	DA	XX		1959	1981	MIAMI CANAL AT PALMETTO BYPASS NR HIALEAH	115340	255111	801922
C6.PENSU	02287500	DADE	STG	MEAN	DA	000		1968	1980	MIAMI CANAL AT PENSUCO	305240	255340	802245
C6.PENSU	02287500	DADE	STG	FWM	DA	000		1963	1968	MIAMI CANAL AT PENSUCO	305240	255340	802245
C6.PENSU	02287500	DADE	FLOW	MEAN	DA	XX		1939	1943	MIAMI CANAL AT PENSUCO	305240	255340	802245
F-468	254327080214701	DADE	WELL	RAND	RI	-048		1975	1987	F-468	205440	254327	802147
F-469A	254357080212002	DADE	WELL	RAND	RI	-046		1975	1987	F-469A	205440	254357	802120
F-469	254400080211301	DADE	WELL	RAND	RI	000		1975	1976	F-469	205440	254400	802113
GENERAL	MRF9001	DADE	RAIN	SUM	DA	000		1978	1985	GENERAL PORTLAND CEMENT	255438	254300	802900
GENERAL	MRF9001	DADE	RAIN	SUM	MO	000		1971	1977	GENERAL PORTLAND CEMENT	255438	254300	802900
GRAHAM 2	MRF8200	DADE	RAIN	SUM	MO	000		1926	1952	GRAHAM DAIRY@PENNSUC.	65340	255400	802200
G-1019A	254234080221002	DADE	WELL	RAND	RI	-032		1976	1978	G-1019A	305440	254234	802210
G-1020A	254222080224002	DADE	WELL	RAND	RI	-032		1975	1980	G-1020A	305439	254222	802240
G-1021A	254253080230902	DADE	WELL	RAND	RI	-032		1975	1987	G-1021A	265439	254253	802309
G-1022A	254255080232802	DADE	WELL	RAND	RI	-032		1975	1987	G-1022A	255439	254255	802328
G-10	254605080205901	DADE	WELL	MAX	DA	000		1944	1972	G-10	45440	254605	802059
G-10	254605080205901	DADE	WELL	MEAN	DA	000		1940	1972	G-10	45440	254605	802059
G-1165	254903080205801	DADE	WELL	MAX	DA	-018		1973	1980	G-1165 USGS OBS WELL NR MIAMI SPR, FL	05340	254903	802058
G-1165	254903080205801	DADE	WELL	MEAN	DA	-018		1961	1973	G-1165 USGS OBS WELL NR MIAMI SPR, FL	05340	254903	802058
G-11	254607080220801	DADE	WELL	MEAN	DA	000		1940	1949	G-11	55440	254607	802208
G-1359	254720080253001	DADE	WELL	MEAN	DA	000		1968	1972	G-1359	345339	254720	802530
G-1487	254054080295401	DADE	WELL	MAX	DA	-020		1973	1989	G-1487 USGS OBS WELL NEAR MIAMI, FL	15538	254054	802954
G-1487	254054080295401	DADE	WELL	MEAN	DA	-020		1970	1973	G-1487 USGS OBS WELL NEAR MIAMI, FL	15538	254054	802954
G-1488	254830080284201	DADE	WELL	MAX	DA	-020		1973	1989	G-1488 USGS OBS WELL NEAR MIAMI, FL	195339	254830	802842
G-1488	254830080284201	DADE	WELL	MEAN	DA	-020		1970	1973	G-1488 USGS OBS WELL NEAR MIAMI, FL	195339	254830	802842
G-1520	254409080245701	DADE	WELL	MEAN	DA	000		1971	1972	G-1520	115439	254409	802457
G-1524	254252080245401	DADE	WELL	RAND	RI	-029		1975	1978	G-1524	275439	254252	802454
G-1555	254253080211701	DADE	WELL	RAND	RI	-032		1976	1987	G-1555	205440	254253	802117
G-218	255020080230501	DADE	WELL	MAX	DA	-071		1945	1949	G-218	185340	255020	802305
G-25	254030080290001	DADE	WELL	MEAN	DA	-009		1940	1949	G-25	15538	254030	802900
G-273	254846080211301	DADE	WELL	MEAN	DA	-006		1941	1945	53S40E28 G-273	285340	254846	802113
G-275	254747080230401	DADE	WELL	MEAN	DA	-005		1941	1949	G-275	315340	254747	802304
G-276	254757080265601	DADE	WELL	MEAN	DA	-007		1941	1945	G-276 53S39E33	335339	254757	802656
G-3026	254948080221302	DADE	WELL	RAND	RI	-060		1976	1980	58TH ST LANDFILL SITE 1	175340	254948	802213
G-3030	254948080212301	DADE	WELL	RAND	RI	-010		1978	1980	58TH ST LANDFILL SITE 2	175340	254948	802123
G-3034	254948080212305	DADE	WELL	RAND	RI	-060		1976	1977	58TH ST LANDFILL SITE 2	175340	254948	802123

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
G-3044	254950080202505	DADE	WELL	RAND	RI	-060		1977	1977	58TH ST LANDFILL SITE 4	165340	254950	802025
G-3049	254950080201205	DADE	WELL	RAND	RI	-060		1976	1978	58TH ST LANDFILL SITE 5	155340	254950	802012
G-3060	255000080204706	DADE	WELL	MAX	DA	-025		1974	1980	53S40E16 G-3060 USGS OBS WELL NEAR MEDLEY, FL	165340	255000	802047
G-3232	255024080185801	DADE	WELL	MAX	DA	-035		1979	1983	53S40E14 G-3232 USGS OBS WELL AT MEDLEY, FL	145340	255024	801858
G-3253	255027080245501	DADE	WELL	MAX	DA	-020		1981	1989	53S39E11 G-3253 USGS OBS WELL NEAR HIALEAH, FL	0 0 0	255027	802455
G-3259A	255026080240302	DADE	WELL	MAX	DA	-060		1983	1989	53S39E12 G-3259A USGS OBS WELL NEAR HIALEAH, FL	0 0 0	255026	802403
G-3264A	255027080221602	DADE	WELL	MAX	DA	-050		1984	1989	53S40E07 G-3264A USGS OBS WELL NEAR HIALEAH, FL	0 0 0	255027	802216
G-39	254330080213801	DADE	WELL	MEAN	DA	000		1940	1950	GALLOWAY, 0.4 MI. SOUTH OF BIRD RD.	225440	254332	802008
G-39	254332080200801	DADE	WELL	MAX	DA	000		1956	1976	GALLOWAY, 0.4 MI. SOUTH OF BIRD RD.	225440	254332	802008
G-39	254332080200802	DADE	WELL	MEAN	DA	000		1940	1947	GALLOWAY, 0.4 MI. SOUTH OF BIRD RD.	225440	254332	802008
G-39	254332080200803	DADE	WELL	RAND	RI	-030		1976	1976	GALLOWAY, 0.4 MI. SOUTH OF BIRD RD.	225440	254332	802008
G-607	254557080265401	DADE	WELL	RAND	RI	000		1951	1951	G-607	05439	254557	802654
G-69	255510080244301	DADE	WELL	MEAN	DA	000		1940	1945	G-69	05239	255510	802443
G-799	254202080232601	DADE	WELL	MAX	DA	000		1973	1987	G- 799 USGS OBS WELL NR STH MIAMI, FL	295440	254202	802326
G-799	254202080232601	DADE	WELL	MEAN	DA	000		1956	1973	G- 799 USGS OBS WELL NR STH MIAMI, FL	295440	254202	802326
G-799	254202080232601	DADE	WELL	RAND	RI	000		1976	1978	G- 799 USGS OBS WELL NR STH MIAMI, FL	295440	254202	802326
G-846A	254227080232801	DADE	WELL	RAND	RI	-032		1976	1980	G-846A	255439	254227	802328
G-846	254212080233501	DADE	WELL	RAND	RI	000		1975	1976	G-846	365439	254212	802335
G-847A	254227080234702	DADE	WELL	RAND	RI	-032		1975	1980	G-847A	255439	254227	802347
G-855	254038080280201	DADE	WELL	MAX	DA	-020		1973	1989	G- 855 USGS OBS WELL NEAR KENDALL, FL	65539	254038	802802
G-855	254038080280201	DADE	WELL	MEAN	DA	-020		1958	1973	G- 855 USGS OBS WELL NEAR KENDALL, FL	65539	254038	802802
G-877A	254230080210302	DADE	WELL	RAND	RI	-032		1976	1987	G-877A	285440	254230	802103
G-878	254209080204101	DADE	WELL	RAND	RI	-032		1976	1980	G-878	335440	254209	802041
G-956A	254306080235002	DADE	WELL	RAND	RI	-032		1975	1980	G-956A	245439	254306	802350
G-971	255444080222201	DADE	WELL	MEAN	DA	000		1958	1958	G-971	05240	255444	802222
G-972	255522080261401	DADE	WELL	MAX	DA	-015		1981	1989	G- 972 USGS OBS WELL NEAR HIALEAH, FL	165239	255522	802614
G-972	255522080261401	DADE	WELL	MEAN	DA	-015		1958	1973	G- 972 USGS OBS WELL NEAR HIALEAH, FL	165239	255522	802614
G-973	255209080212801	DADE	WELL	MAX	DA	-015		1973	1989	G- 973 USGS OBS WELL NEAR MEDLEY, FL	05239	255209	802128
G-973	255209080212801	DADE	WELL	MEAN	DA	-015		1958	1972	G- 973 USGS OBS WELL NEAR MEDLEY, FL	05239	255209	802128
G-974	255207080241301	DADE	WELL	MAX	DA	-015		1973	1989	G- 974 USGS OBS WELL NR PENNSUCO, FL	05239	255207	802413
G-974	255207080241301	DADE	WELL	MEAN	DA	-015		1958	1973	G- 974 USGS OBS WELL NR PENNSUCO, FL	05239	255207	802413
G-975	255208080274001	DADE	WELL	MAX	DA	-015		1973	1989	G- 975 USGS OBS WELL NR PENNSUCO, FL	05239	255208	802740
G-975	255208080274001	DADE	WELL	MEAN	DA	-015		1958	1972	G- 975 USGS OBS WELL NR PENNSUCO, FL	05239	255206	802740
G-976	255023080202301	DADE	WELL	MAX	DA	-015		1973	1989	G- 976 USGS OBS WELL NR MIAMI SPR, FL	05339	254925	802546
G-976	255023080202301	DADE	WELL	MEAN	DA	-015		1958	1973	G- 976 USGS OBS WELL NR MIAMI SPR, FL	05339	254925	802546
G-978	254348080290301	DADE	WELL	MEAN	DA	000		1958	1968	G-978	185439	254348	802903
G-9	254610080201201	DADE	WELL	MEAN	DA	000		1940	1949	G-9	45440	254610	802012
L29.GS	02289090	DADE	STG	RAND	RI	000		1954	1974	TAMIAMI CANAL WEST OF L-30	25438	254540	802950
L30.1	255600080260000	DADE	WELL	MEAN	DA	000		0-	0	L-30 WEST OF MIAMI	35239	255600	802600
L.T. COP	MRF9083	DADE	RAIN	SUM	DA	000		1971	1984	L.T. COPE	054 0	254400	802400
MIAMI 58	MRF9073	DADE	RAIN	SUM	DA	000		1965	1982	MIAMI 58 ST. YARD	215340	254904	802047
MIAMI.FS	MRF117	DADE	RAIN	SUM	DA	000		1965	1989	MIAMI FIELD STATION	165340	254936	802040
MIAMI.FS		DADE	RAIN	DWR	RI	000		1988	1989	MIAMI FIELD STATION	165340	254936	802040
PENNSUCO	MRF7067	DADE	RAIN	SUM	DA	000	RECO	1941	1988	PENNSUCO 6NW	105239	255529	802707
S24B	50155381	DADE	STGU	INST	BK	001		0-	0	S-24B CULVERT ON LEVEE L-30 AT CONSERVATION AREA	15538	254634	802859
S24B	50155381	DADE	STGU	MEAN	DA	001		0-	0	S-24B CULVERT ON LEVEE L-30 AT CONSERVATION AREA	15538	254634	802859
S24B	50155381	DADE	STGD	INST	BK	002		0-	0	S-24B CULVERT ON LEVEE L-30 AT CONSERVATION AREA	15538	254634	802859
S24B	50155381	DADE	STGD	MEAN	DA	002		0-	0	S-24B CULVERT ON LEVEE L-30 AT CONSERVATION AREA	15538	254634	802859
S24B	50155381	DADE	FLOW	INST	BK	CULV		0-	0	S-24B CULVERT ON LEVEE L-30 AT CONSERVATION AREA	15538	254634	802859
S24B	50155381	DADE	FLOW	MEAN	DA	CULV		0-	0	S-24B CULVERT ON LEVEE L-30 AT CONSERVATION AREA	15538	254634	802859

(Table C-3. Cont.)

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCOR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
S24	50255381	DADE	STGU	INST	BK	001		0-	0	S-24 CULVERT ON LEVEE L-31N AT TAMIAMI CANAL	25538	254538	802948
S24	50255381	DADE	STGU	MEAN	DA	001		0-	0	S-24 CULVERT ON LEVEE L-31N AT TAMIAMI CANAL	25538	254538	802948
S24	50255381	DADE	STGD	INST	BK	002		0-	0	S-24 CULVERT ON LEVEE L-31N AT TAMIAMI CANAL	25538	254538	802948
S24	50255381	DADE	STGD	MEAN	DA	002		0-	0	S-24 CULVERT ON LEVEE L-31N AT TAMIAMI CANAL	25538	254538	802948
S24	50255381	DADE	FLOW	INST	BK	CULV		0-	0	S-24 CULVERT ON LEVEE L-31N AT TAMIAMI CANAL	25538	254538	802948
S24	50255381	DADE	FLOW	MEAN	DA	CULV		0-	0	S-24 CULVERT ON LEVEE L-31N AT TAMIAMI CANAL	25538	254538	802948
S32A	51752391	DADE	STGU	INST	BK	001		0-	0	S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A	51752391	DADE	STGU	MEAN	DA	001		0-	0	S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A	51752391	DADE	STGD	INST	BK	002		0-	0	S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A	51752391	DADE	STGD	MEAN	DA	002		0-	0	S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A	51752391	DADE	FLOW	INST	BK	CULV		0-	0	S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A	51752391	DADE	FLOW	MEAN	DA	CULV		0-	0	S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A		DADE	STGU	DWR	RI	001		1988-1989		S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S32A		DADE	STGD	DWR	RI	002		1988-1989		S-32A CULVERT ON LEVEE L-30 AT MIAMI CANAL	175239	255535	802715
S335	53653381	DADE	STGU	INST	BK	001		0-	0	S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335	53653381	DADE	STGU	MEAN	DA	001		1983-1989		S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335	53653381	DADE	STGD	INST	BK	002		0-	0	S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335	53653381	DADE	STGD	MEAN	DA	002		1983-1989		S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335	53653381	DADE	FLOW	INST	BK	SPIL		0-	0	S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335	53653381	DADE	FLOW	MEAN	DA	SPIL		1983-1989		S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335		DADE	STGU	DWR	RI	001		1988-1989		S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S335		DADE	STGD	DWR	RI	002		1988-1989		S-335 SPILLWAY ON LEVEE L-30 AT TAMIAMI CANAL	65439	254653	802858
S336		DADE	STGU	DWR	RI	001		1988-1989		S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336		DADE	STGD	DWR	RI	002		1988-1989		S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	51254381	DADE	STGU	INST	BK	001		0-	0	S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	51254381	DADE	STGU	MEAN	DA	001		1978-1988		S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	51254381	DADE	STGD	INST	BK	002		0-	0	S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	51254381	DADE	STGD	MEAN	DA	002		1978-1989		S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	51254381	DADE	FLOW	INST	BK	CULV		0-	0	S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	51254381	DADE	FLOW	MEAN	DA	CULV		1979-1989		S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S336	MRF249	DADE	RAIN	SUM	DA	000	BELF	1979-1989		S-336 CULVERT ON TAMIAMI CANAL EAST OF LEVEE L-31	15438	254539	802925
S337		DADE	STGU	DWR	RI	001		1988-1989		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337		DADE	STGD	DWR	RI	002		1988-1989		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	50952393	DADE	STGU	INST	BK	001		0-	0	S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	50952393	DADE	STGU	MEAN	DA	001		1983-1987		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	50952393	DADE	STGD	INST	BK	002		0-	0	S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	50952393	DADE	STGD	MEAN	DA	002		1983-1987		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	50952393	DADE	FLOW	INST	BK	CULV		0-	0	S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	50952393	DADE	FLOW	MEAN	DA	CULV		1984-1987		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	20952393	DADE	STGD	MEAN	DA	002	TELE	1985-1989		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	20952393	DADE	STGD	INST	BK	002	TELE	0-	0	S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	20952393	DADE	STGU	MEAN	DA	001	TELE	1985-1989		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S337	20952393	DADE	FLOW	MEAN	DA	SPIL	TELE	1985-1989		S-337 CULVERT ON MIAMI CANAL AT LEVEE L-30	45239	255630	802629
S338	51255381	DADE	STGU	INST	BK	001		0-	0	S-338 CULVERT ON CANAL C-1 AT LEVEE L-31N	75538	253937	802850
S338	51255381	DADE	STGU	MEAN	DA	001		1979-1989		S-338 CULVERT ON CANAL C-1 AT LEVEE L-31N	75538	253937	802850
S338	51255381	DADE	STGD	INST	BK	002		0-	0	S-338 CULVERT ON CANAL C-1 AT LEVEE L-31N	75538	253937	802850
S338	51255381	DADE	STGD	MEAN	DA	002		1979-1989		S-338 CULVERT ON CANAL C-1 AT LEVEE L-31N	75538	253937	802850
S338	51255381	DADE	FLOW	INST	BK	CULV		0-	0	S-338 CULVERT ON CANAL C-1 AT LEVEE L-31N	75538	253937	802850
S338	51255381	DADE	FLOW	MEAN	DA	CULV		1979-1989		S-338 CULVERT ON CANAL C-1 AT LEVEE L-31N	75538	253937	802850
S-63	255254080233701	DADE	WELL	MEAN	DA	000		1940-1949		S-63 GROUND WATER WELL	05240	255254	802337
TAMI DBL	MRF7088	DADE	RAIN	SUM	DA	000	RECO	1941-1966		TAMIAMI CANAL AT DADE-BROWARD LEVEE	45439	254600	802900

(Table C-3. Cont.)

STATION	ALT	ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
TRAIL RG		MRF712D	DADE	RAIN	SUM	DA	000	RECO	1986	1988	TRAIL GLADES RANGE (TAMIAMI TRAIL)	45439	254600	802900
TRAIL TO		MRF502D	DADE	RAIN	SUM	DA	000		1977	1980	TRAIL GLADES TOWER	65439	254600	802837
TRAIL TO		MRF502D	DADE	RAIN	SUM	MO	000		1951	1966	TRAIL GLADES TOWER	65439	254600	802837

PERMIT INFORMATION FOR ENP AND EAST EVERGLADES

The SWIM Act (Section 373.453(2) (c), F.S.), requires that all SWIM Plans include

> a list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are:
>
> (1) operating without a permit;
>
> (2) operating with a temporary operating permit; and
>
> (3) presently violating effluent limits or water quality standards.

A. LIST OF POINT AND NONPOINT SOURCES OF WATER POLLUTION

Tables C-4 through **C-11** contain all known point source permitted entities discharging within tributary basins of the ENP and East Everglades (information from DER). It should be noted that a permitted discharge is not necessarily a source of pollution. The point sources are presented in the following categories:

- Active Domestic Wastewater
- Metro Dade County DERM IW-5
- Hazardous Waste
- Metro Dade County DERM IW-4

Tables C-12 through **C-15** contain all known nonpoint source permitted entities discharging within tributary basins of the WCAs and EAA (information from DER and SFWMD). The point sources are presented in the following categories:

- Active Dredge and Fill
- SFWMD Water Use Permits
- Sanitary Tank Inventory
- Wetlands Class IV

B. OPERATING WITHOUT A PERMIT

A recent survey of permitting agencies (DER, SFWMD, USCOE, USEPA) was made to identify facilities which were operating without a permit. All agencies reported that no known sites presently existed. In the event that such a site is discovered (past examples), the facility owner/operator is immediately ordered to either cease operations or is granted a temporary operating permit provided immediate application is made.

C. OPERATING WITH A TEMPORARY OPERATING PERMIT

A recent survey was made of FDER to identify facilities which are currently under a Temporary Operating Permit. Two facilities were identified within the ENP and East Everglades study area.

DERM IW4 #0137 - Homestead Power Plant Tank Farm
DERM IW4 #0138 - Homestead Power Plant Tank Farm

The facility (Table C-9) is operating under a temporary operating permit. The permitted use is a once-through cooling water discharges to C-103.

D. PRESENTLY VIOLATING EFFLUENT LIMITS OR WATER QUALITY STANDARDS

1. Point Source Violations

A recent survey was made of FDER to identify facilities which are currently violating effluent limits or water quality standards. No facilities were identified within the ENP and East Everglades study area.

2. Nonpoint Source Violations

A large body of data and information exists on the Everglades ecosystem. The Florida Department of Environmental Regulation has determined that nutrient-induced impacts have been demonstrated in the Everglades Protection Area and have resulted in violations of the following water quality criteria (FDER, Water Quality Technical Series, Volume 3, Number 4, draft February, 1992):

17-302.510 (3) (q), F.A.C.	Nuisance Species
17-302.560 (7), F.A.C.	Biological Integrity
17-302.560 (13), F.A.C.	Dissolved Oxygen
17-302.560 (20), F.A.C.	Nutrients

There are numerous inflow water control strucutes (SFWMD, USCOE, private) from which water is discharged to the Everglades. The extent of these violations, identification of other water quality violations, and identification and potential enforcement of upstream dischargers is one of the primary topics described within the Everglades SWIM Plan (Planning Document).

Table C-4. Summary of Permit Data Concerning Point and Non-Point Sources in the Everglades National Park & East Everglades Planning Area .

Permit Type	Permit Agency	Permitted Activity	Information Given on the Listings	Total Number
Point Source				
Domestic	DER	Municipal Waste Water Facilities Private Waste Water Facilities	Name and Location Design Capacity Treatment Type Disposal Method	4
Hazardous Waste	DER & DERM	Generation of Hazardous Wastes	Permittee Wastes Handled Generator Type	192
Non-Point Source				
Dredge and Fill	DER	Dredging Construction	Permittee Receiving Body Location Wetlands Receiving Body	4
Consumptive Use	SFWMD	Agricultural Public Water Supply Industrial Recreational	Permittee Project Use Source Failities	21
Stationary Tank	DER	Above-ground Tanks Sub-surface Tanks Diesel, Gas, Oil	Facility Name Location Tank Information	19
Wetlands Class IV	DERM	Agricultural Residential Road Construction Radio Towers	Permittee Location Proposed Use Comments	116

Table C-5. Active Domestic Wastewater Facility Permits Issued by Florida Department of EnvironmentalRegulation within the Everglades National Park SWIM Planning Area

Facility Name	Permit			Location		Design Capacity	Treatment Type	Disposal Method	Comments
	Number	Issued	Expires	Quad Name	Lat/ Long				
Gateway STP	DO13-070655	07/18/84	7/17/89	Homestead	25.26.15/ 80.29.15	0.5 MGD	Contact stabilization to soakage pit	Impoundment	Plant taken off line on 7/14/88 Regional pumping station underconstruction as plant site as of 9/19/88
Sea Glades Mote	DO13-098670	01/31/85	12/23/87	Homestead	25.26.35/ 80.29.00	0.7 MGD	Extended aeration discharges to soakage pit	Drainfield	Deactivated 12/23/87, sewage flow connected to Florida City WWTP
Florida City	DO13-113247	06/25/87	1/01/90	Homestead	25.27.30/ 80.29.00	0.7 MGD	Contact stabilization discharges to soakage pit	Impoundment	
Flamingo	DO44-146378	2/03/94	2/03/94	Flamingo	25.08.30/ 80.55.30	0.09 MGD	Contact stabilization Impoundment to evaporation pond	Impoundment	

Source: Florida Department of Environmental Regulation, 1989

Table C-6. Hazardous Waste Permits Issued by the Florida Department of Environmental Regulation Within the Everglades National Park SWIM Planning Area.
For Explanation of Codes See Table C-7

Permittee	Permit No.	Fac. Status*	Lat/Long	Quad Name	Haz. Waste Code	Generator
Hydraulic Repair & Sales Inc.	3048P02521	A as of 5/88	25.19.56/ 80.53.66	White Water Bay East	D001	Generator
Florida Keys Aquaduct Authority	501358060	A as of 7/86	25.26.08/ 80.28.00	Homestead	U051, D000	Small Quan. Gen.
ARPCO Shops	5013P0048	A as of 5/87	25.26.08/ 80.28.07	Homestead	D001	Small Quan. Gen.
Pride Furniture Refurb Factory	5013P0053	A as of 5/87	25.26.08/ 80.28.08	Homestead	D001	Small Quan. Gen.
Homestead Uniforms Inc.	5013P0147	A as of 8/88	25.26.08/ 80.28.09	Homestead	F002	Small Quan. Gen.
US Diversified Inc.	5013P8048	A as of 4/81	25.27.00/ 80.28.00	Homestead	D001	Small Quan. Gen.
Homestead Junior High School	5013C8062	A as of 3/86	25.27.00/ 80.28.08	Homestead	Not specified	Small Quan. Gen.
Redland Junior High School	5013C8063	A as of 3/86	25.27.00/ 80.28.09	Homestead	Not specified	Small Quan. Gen.
Arvida Junior High School	5013C8063	A as of 3/86	25.27.00/ 80.29.09	Homestead	Not specified	Small Quan. Gen.
Aerojet General Corp.Dade Division	5013P8132	I as of 11/86	25.27.06/ 80.28.00	Homestead	Not specified	Non-Handler as of 11/88
Naval Security Group Activity	5013P8060	A as of 2/86	25.27.07/ 80.28.00	Homestead	P044	Small Quan. Gen.
Chevron USA Inc. Homestead Bulk Plt	5013P8023	I as of 12/81	25.27.07/ 80.28.08	Homestead	D000, D001	Small Quan. Gen.
Univ of Florida Trop Res & Ed	5013P8062	A as of 1/86	25.27.07/ 80.28.09	Homestead	D002	Small Quan. Gen.
Americlean Dixie Center	5013P8073	A as of 8/86	25.27.07/ 80.28.45	Homestead	F002	Small Quan. Gen.
Blake Buick Inc.	5013P8086	A as of 9/86	25.27.07/ 80.28.59	Homestead	F001, F003	Small Quan. Gen.
W.R. Grace & Co. Pesticide Warehouse	5013P8162	A as of 9/83	25.27.15/ 80.28.56	Homestead	D000,P050,P071,U038 D001,P044,P066,P123	Small Quan. Gen
Alert Cleaners	5013P8151	A as of 8/85	25.27.15/ 80.29.18	Homestead	F002	Small Quan. Gen.
H & H Cleaners	5013P8168	A as of 7/85	25.27.26/ 80.28.40	Homestead	F001	Small Quan. Gen.
Krome Cleaners & Laundry Inc.	5013P8014	A as of 6/85	25.27.28/ 80.28.46	Homestead	F002	Small Quan. Gen.
A1 Cleaners & Laundry Inc.	5013P8011	A as of 6/85	25.27.28/ 80.28.59	Homestead	F002	Small Quan. Gen.
Rohm & Haas Company	5013P8095	A as of 8/80	25.27.41/ 80.28.47	Homestead	D000,F003,P020,P051P066, P070,P089,P123,U002,U045, U117,U192,U011,U114,U154	Small Quan. Gen.
Morning Star Cleaners, Inc.	5013P8127	A as of 7/85	25.27.42/ 80.28.24	Homestead	F002	Small Quan. Gen.
Everglades National Park	5013F8056	A as of 9/82	25.27.42/ 80.28.48	Homestead	Not specified	Small Quan. Gen.
Toyota of Homestead	5013P8040	A as of 10/86	25.27.43/ 80.28.50	Homestead	F001,D001	Generator
Laroche Industries Inc.	5013P8131	A as of 8/80	25.27.44/ 80.28.46	Homestead	P044,U036	Non-Handler as of 1/84
Standard Transpipe Corp.	5013P8109	A as of 8/80	25.27.44/ 80.28.48	Homestead	D000,D001,D002,D003	Non-Handler as of 1986
Supreme Olds GMC Trucks	5013P0010	A as of 10/86	25.27.52/ 80.28.48	Homestead	D001,F001	SQG

Table C-6. Hazardous Waste Permits (Cont.) -- For Explanation of Codes See Table C-7

Permittee	Permit No.	Fac. Status*	Lat/Long	Quad Name	Haz. Waste Code	Generator
James Archer Smith Hospital	5013M0010	A as of 1/87	25.27.52/ 80.29.48	Homestead	D000,D001,F003,F005	SQG
Cooper Automotive Parts Co.	5013P0022	A as of 3/87	25.28.02/ 80.28.48	Homestead	D001,F001	SQG
W.P. Coke Agency Inc.	5013P8027	A as of 11/81	25.28.10/ 80.29.20	Homestead	D000,D001	Non-Handler as of 1985
Pioneer Pontiac Mazda Inc.	5013P0005	A as of 12/86	25.28.42/ 80.28.48	Homestead	D001,F003,F005	SQG
Sherwin Williams Company	5013P8104	A as of 8/80	25.28.00/ 80.33.20	Royal Palm Ranger Stn	F002,F003,F003,FOO5,F017, F027,U002,U031,U112,U150, U154,U159,U161,U220,U239	Non-Handler as of 1985
Homestead Senior High School	5013C8063	A as of 3/86	25.27.00/ 80.30.10	Royal Palm Ranger Stn	Not specified	Small Quan. Gen.
Campbell Drive Junior	5013C8069	A as of 5/86	25.27.07/ 80.31.11	Royal Palm Ranger Stn	Not specified	Small Quan. Gen.
Hayden-Rpyan Inc.	5013P8073	A as of 8/86	25.27.07/ 80.32.12	Royal Palm Ranger Stn	F003	Small Quan. Gen.
Norton Tire Company Inc.	5013P8078	A as of 9/86	25.27.07/ 80.32.13	Royal Palm Ranger Stn	D001,F001	Generator
Leiphart Chevrolet	5013P8082	A as of 9/86	25.27.07/ 80.32.14	Royal Palm Ranger Stn	D001,F001	Small Quan. Gen.
Jesse Young Automotive Service I	5013P8091	A as of 10/86	25.27.07/ 80.32.15	Royal Palm Ranger Stn	D001,F001	Small Quan. Gen.
Flamingo Ford	5013P0024	A as of 3/87	25.27.07/ 80.32.20	Royal Palm Ranger Stn	D000	Generator
South Florida Turf Equipment	5013P0028	A as of 3/87	25.27.07/ 80.32.21	Royal Palm Ranger Stn	D000,D001,F002	Small Quan. Gen.
Homestead Cleaners Inc.	5013P0069	A as of 8/87	25.27.07/ 80.32.22	Royal Palm Ranger Stn	F002	Small Quan. Gen.
South Florida Turf Equipment	5013P0073	A as of 9/87	25.27.07/ 80.32.23	Royal Palm Ranger Stn	D000,F001	Small Quan. Gen.
Genuine Parts Company	5013P0113	A as of 3/88	25.27.07/ 80.32.24	Royal Palm Ranger Stn	D001	Small Quan. Gen.
Chrysler Plymouth of Homestead	5013P0130	A as of 5/88	25.27.07/ 80.32.25	Royal Palm Ranger Stn	D001,F00	Small Quan. Gen.
Toyota of Homestead	5013P0130	A as of 5/88	25.27.07/ 80.32.26	Royal Palm Ranger Stn	D001,F00	Small Quan. Gen.
Royal Palm Ice	5013P0132	A as of 5/88	25.27.07/ 80.32.27	Royal Palm Ranger Stn	D000	Small Quan. Gen.
P & P Paint & Body Inc.	5013P0133	A as of 5/88	25.27.07/ 80.32.28	Royal Palm Ranger Stn	F003,F00	Generator
Miller Jeep Eagle Inc.	5013P0135	A as of 6/88	25.27.07/ 80.32.29	Royal Palm Ranger Stn	D001,F00	Small Quan. Gen.
Homestead Rex Tire Service	5013P0140	A as of 7/88	25.27.07/ 80.32.30	Royal Palm Ranger Stn	D001,F00	Small Quan. Gen.
Doc Tyres Sunshine Auto	5013P0148	A as of 8/88	25.27.07/ 80.32.31	Royal Palm Ranger Stn	D001,D00	Small Quan. Gen.
Dade Co. School Board Transportation	5013C0014	A as of 2/87	25.36.54/ 80.34.45	Grossman Hammock	D000,D001,D002,d008 F001,F002,F003,f005	Small Quan. Gen.
Calusa Cleaners	5013P8090	A as of 9/86	25.37.00/ 80.34.00	Grossman Hammock	F002	Small Quan. Gen
Bowman Transportation	5013P8007	A as of 9/86	25.37.00/ 80.34.02	Grossman Hammock	D000,D001	Small Quan. Gen
Miami Tire Automotive	5013P1000	A as of 12/86	25.37.00/ 80.34.05	Grossman Hammock	D001,F001	Small Quan. Gen
Ronnies Welding & Machine inc.	5013P0010	A as of 10/86	25.37.00/ 80.34.09	Grossman Hammock	D000,D001	Small Quan. Gen
Rollins Leasing Corp.	5013P0011	A as of 10/86	25.37.00/ 80.34.11	Grossman Hammock	D001	Small Quan. Gen

Table C-6. Hazardous Waste Permits (Cont.) -- For Explanation of Codes See Table C-7

Permittee	Permit No.	Fac. Status*	Lat/Long	Quad Name	Haz. Waste Code	Generator
Air Treads Inc.	5013P0019	A as of 2/87	25.37.00/ 80.34.12	Grossman Hammock	D000	Small Quan. Gen
Specialty Paper Box Co.	5013P0005	A as of 12/86	25.37.00/ 80.34.18	Grossman Hammock	D000,D001,U112,U220, U221	Small Quan. Gen
Aeroserv International Inc.	5013P0023	A as of 3/87	25.37.00/ 80.34.19	Grossman Hammock	D001	Small Quan. Gen
JPG Inc.	5013P0024	A as of 3/87	25.37.00/ 80.34.46	Grossman Hammock	D001	Small Quan. Gen
Goodyear Auto Service Center	5013P8098	A as of 11/86	25.37.00/ 80.34.50	Grossman Hammock	D001,F030	Small Quan. Gen
Goodyear Auto Service Center	5013P8098	A as of 11/86	25.37.00/ 80.34.51	Grossman Hammock	D001,F030	Small Quan. Gen
Goodyear Auto Service Center	5013P8098	A as of 11/86	25.37.00/ 80.34.52	Grossman Hammock	D001,F030	Small Quan. Gen
Miami Carbar, Inc. Tropic Cleaners	5013P8096	A as of 11/86	25.37.00/ 80.34.58	Grossman Hammock	F002	Small Quan. Gen
Hallett Pontiac GMC Truck Inc.	5013P8096	A as of 11/86	25.37.00/ 80.34.59	Grossman Hammock	D000,D001,D002, F002,F003,F005	Small Quan. Gen
Fountainbleau Cleaners	5013P8090	A as of 9/86	25.37.01/ 80.34.00	Grossman Hammock	F002	Small Quan. Gen
Sixto Packaging	5013P8090	A as of 9/86	25.37.01/ 80.34.01	Grossman Hammock	D001	Small Quan. Gen
S & M Auto Body Repairs Inc.	5013P0019	A as of 3/87	25.37.01/ 80.34.07	Grossman Hammock	D000,D001,F003,F005	Small Quan. Gen
Schreiber Coach Works Inc.	5013P0019	A as of 3/87	25.37.01/ 80.34.08	Grossman Hammock	D000,D001,F003,F005	Small Quan. Gen
Deep South Auto Body Inc.	5013P0019	A as of 3/87	25.37.01/ 80.34.09	Grossman Hammock	D000,D001,F003,F005	Small Quan. Gen
Metro Auto Painting of Central Miami	5013P0020	A as of 3/87	25.37.01/ 80.34.10	Grossman Hammock	D000,D001,F003,F005	Small Quan. Gen
B & M Body Shop	5013P0020	A as of 3/87	25.37.01/ 80.34.11	Grossman Hammock	D000,D001,F003,F005	Small Quan. Gen
Diesel Power & Injuction Inc.	5013P8040	A as of 10/86	25.37.01/ 80.34.22	Grossman Hammock	D000,D001,D002	Small Quan. Gen
Peugeot Collection Inc.	5013P8040	A as of 10/86	25.37.01/ 80.34.55	Grossman Hammock	D000,D001,F001	Generator
Jeep Renault Collection Inc.	5013P8040	A as of 10/86	25.37.01/ 80.34.58	Grossman Hammock	D000,D001,F001	Small Quan. Gen
The Porche Audi Ferrari Collection	5013P8040	A as of 10/86	25.37.02/ 80.34.55	Grossman Hammock	D000,D001,F001	Generator
Bobs Brake Service Inc.	5013P8090	A as of 9/86	25.37.03/ 80.34.00	Grossman Hammock	D000,D001,F001	Small Quan. Gen
Robinson and Son	5013P0019	A as of 2/87	25.37.03/ 80.34.05	Grossman Hammock	D001,U159,U220	Small Quan. Gen
Collection Chevrolet Inc.	5013P8041	A as of 10/86	25.37.03/ 80.34.50	Grossman Hammock	D000,D001,F001	Small Quan. Gen
Volkswagen Collection Inc.	5013P8040	A as of 10/86	25.37.03/ 80.34.55	Grossman Hammock	D000,D001,F001	Generator
Raymar Dry Cleaners	5013P0004	A as of 12/86	25.37.04/ 80.34.15	Grossman Hammock	F002	Small Quan. Gen
Coordinated Caribbean Transport Inc.	5013P0008	A as of 1/87	25.37.04/ 80.34.45	Grossman Hammock	F002	Generator
Central Hyundai	5013P0021	A as of 3/87	25.37.05/ 80.34.15	Grossman Hammock	D001,F001	Small Quan. Gen
Subaru Collection Inc.	5013P8040	A as of 10/86	25.37.05/ 80.34.22	Grossman Hammock	D000,D001,F001	Generator
Home Depot #211	5013P0009	A as of 1/87	25.37.07/ 80.34.56	Grossman Hammock	D001,D002	Small Quan. Gen
Ryder Truck Rental Inc.	5013P8011	A as of 12/86	25.37.08/ 80.34.26	Grossman Hammock	D000,D001,F002,F004	Small Quan. Gen

Table C-6. Hazardous Waste Permits (Cont.) -- For Explanation of Codes See Table C-7

Permittee	Permit No.	Fac. Status*	Lat/Long	Quad Name	Haz. Waste Code	Generator
Meireles Truck Sales Inc.	5013P0022	A as of 3/87	25.37.08/ 80.34.56	Grossman Hammock	D001,F001	Small Quan. Gen
Southeast Beverage Corp.	5013P0014	A as of 2/87	25.37.09/ 80.34.17	Grossman Hammock	D001	Generator
Daphhnes Cleaners	5013P0012	A as of 10/86	25.37.09/ 80.34.18	Grossman Hammock	F002	Small Quan. Gen
Jaugar Collection	5013P8040	A as of 10/86	25.37.12/ 80.34.22	Grossman Hammock	D000,D001,F001	Small Quan. Gen
Hotel Inter-Continental Miami	5013P1001	A as of 12/86	25.37.12/ 80.34.25	Grossman Hammock	F001,F002	Small Quan. Gen
Exclusive Handprints Inc.	5013P0009	A as of 1/87	25.37.18/ 80.34.08	Grossman Hammock	D001,F005	Small Quan. Gen
Ryder Truck Rental Inc.	5013P8011	A as of 12/86	25.37.18/ 80.34.12	Grossman Hammock	D000,D001,F002,F004	Small Quan. Gen
Carmichael Truck Leasing	5013P0023	A as of 3/87	25.37.18/ 80.34.56	Grossman Hammock	D001,F001	Small Quan. Gen
All South Florida Collision Inc.	5013P0004	A as of 12/86	25.37.22/ 80.34.00	Grossman Hammock	F001,F005	Small Quan. Gen
Village One Hour Cleaners Inc.	5013P0011	A as of 10/86	25.37.22/ 80.34.15	Grossman Hammock	F002	Small Quan. Gen
A & M Machinery Company Inc.	5013P0023	A as of 3/87	25.37.22/ 80.34.22	Grossman Hammock	D001	Small Quan. Gen
Metropolitan Correctional Center	5013P0005	A as of 12/86	25.37.23/ 80.34.15	Grossman Hammock	D001	Small Quan. Gen
Graphic Sales Innovators Inc.	5013P0003	A as of 12/86	25.37.25/ 80.34.40	Grossman Hammock	D000,D001	Small Quan. Gen
Campana Art Products Inc.	5013P0006	A as of 12/86	25.37.28/ 80.34.56	Grossman Hammock	D000,D001,F002,F003,F005	Generator
Ryder Truck Rental Inc.	5013P8011	A as of 12/86	25.37.32/ 80.34.45	S. of Coopertown	Not specified	Generator
Home Depot #212	5013P0009	A as of 1/87	25.37.40/ 80.34.18	S. of Coopertown	D001,D002	Small Quan. Gen
Ryder Truck Rental Inc.	5013P8015	A as of 12/86	25.37.41/ 80.34.02	S. of Coopertown	D000,D001,F002,,F004	Small Quan. Gen
Plaza West Cleaners Inc.	5013P0000	A as of 12/86	25.37.41/ 80.34.21	S. of Coopertown	F002	Small Quan. Gen
Dave Zinn Motors Inc.	5013P0004	A as of 12/86	25.37.42/ 80.34.12	S. of Coopertown	D001,D002,F001	Small Quan. Gen
Palmetto General Hospital	5013P0014	A as of 2/87	25.37.43/ 80.34.16	S. of Coopertown	D001	Small Quan. Gen
Home Depot #210	5013P0009	A as of 1/87	25.37.45/ 80.34.41	S. of Coopertown	D001,D002	Small Quan. Gen
Best Litho Inc.	5013P0023	A as of 2/87	25.37.48/ 80.34.31	S. of Coopertown	D001	Small Quan. Gen
Air Support International Inc.	5013P8015	A as of 12/86	25.37.51/ 80.34.12	S. of Coopertown	D001,F001,F004	Small Quan. Gen
Home Depot #219	5013P0008	A as of 1/87	25.37.55/ 80.34.14	S. of Coopertown	D001,D002	Small Quan. Gen
RMC Cement Mill	5013P0009	A as of 1/87	25.37.56/ 80.34.15	S. of Coopertown	Not specified	Non-Handler
Riviera Junior High School	5013C8062	A as of 3/86	25.45.00/ 80.30.20	S. of Coopertown	Not specified	Small Quan. Gen
Shenandoah Junior High School	5013C8062	A as of 3/86	25.45.00/ 80.31.21	S. of Coopertown	Not specified	Small Quan. Gen
John H. Harland Company	5013P8064	A as of 3/86	25.45.00/ 80.33.23	S. of Coopertown	D001,D002,F001,U080	Small Quan. Gen
Miami Lincoln Mercury	5013P8064	A as of 3/86	25.45.00/ 80.34.24	S. of Coopertown	D000,D001,D002,F001 F002,F003,F004,F005	Small Quan. Gen
Miami Lincoln Mercury	5013P8064	A as of 3/86	25.45.00/ 80.35.25	S. of Coopertown	D000,D001,D002,F001, F002,F003,F004	Small Quan. Gen

Table C-6. Hazardous Waste Permits (Cont.) -- For Explanation of Codes See Table C-7

Permittee	Permit No.	Fac. Status*	Lat/Long	Quad Name	Haz. Waste Code	Generator
NOAA SE Marine Support Facility	5013P8067	A as of 3/86	25.45.00/ 80.38.28	Chekika Island	D000,D001,D002,U122,U122, U133,U134,U134,U140	Small Quan. Gen
Miami Springs Senior	5013C8063	A as of 3/86	25.45.00/ 80.39.29	Chekika Island	Not specified	Small Quan. Gen
Rockway Junior	5013C8064	A as of 3/86	25.45.00/ 80.40.30	Chekika Island	Not specified	Small Quan. Gen
Southwest Miami Senior	5013C8064	A as of 3/86	25.45.00/ 80.41.31	Chekika Island	Not specified	Small Quan. Gen
Quality Cleaners Inc.	5013P8067	A as of 3/86	25.45.00/ 80.42.32	Chekika Island	F002	Small Quan. Gen
Ford Midway Mall Inc.	5013P8068	A as of 3/86	25.45.00/ 80.43.33	Chekika Island	Not specified	Small Quan. Gen
Miami VA Medical Center	5050P8060	A as of 3/86	25.45.00/ 80.44.34	Chekika Island	D001	Small Quan. Gen
Classic Motor Carriages Inc.	5013P8070	A as of 4/86	25.45.01/ 80.45.35	Fortymile Bend	D001,F003	Small Quan. Gen
Miami Sunset Senior	5013C8064	A as of 4/86	25.45.01/ 80.46.36	Fortymile Bend	Not specified	Small Quan. Gen
Rinker Materials Corp	5013P8065	A as of 4/86	25.45.01/ 80.47.37	Fortymile Bend	D003,D008	Generator
Miami Edison Senior	5013C8064	A as of 4/86	25.45.01/ 80.48.38	Fortymile Bend	Not specified	Small Quan. Gen
Miami Palmetto Senior	5013C8064	A as of 4/86	25.45.01/ 80.49.39	Fortymile Bend	Not specified	Small Quan. Gen
Miami Skill Center	5013C8064	A as of 4/86	25.45.01/ 80.50.40	Fortymile Bend	Not specified	Small Quan. Gen
Miami Southridge Senior	5013C8064	A as of 4/86	25.45.01/ 80.51.41	Fortymile Bend	Not specified	Small Quan. Gen
Mexi Floors Inc.	5013P8068	A as of 5/86	25.45.02/ 80.31.31	Coopertown	D001,F005	Small Quan. Gen.
Tropical Chevrolet	5013P8068	A as of 5/86	25.45.02/ 80.32.32	Coopertown	F003,F005	Small Quan. Gen.
Associated Coated Fabrics	5013P8068	A as of 5/86	25.45.02/ 80.33.33	Coopertown	D001	Small Quan. Gen.
The Flyer	5013P8068	A as of 5/86	25.45.02/ 80.34.34	Coopertown	D001	Small Quan. Gen.
International Paper Company	5013P8069	A as of 5/86	25.45.02/ 80.35.35	Coopertown	D001	Small Quan. Gen.
Freeman Companys	5013P0048	A as of 5/87	25.50.04/ 80.32.07	Coopertown	D001	Small Quan. Gen.
M & M Press	5013P8069	A as of 5/86	25.45.02/ 80.37.37	Long Island	D002,F001	Small Quan. Gen.
Profit Freight Systems Inc.	5013P8069	A as of 5/86	25.45.02/ 80.38.38	Long Island	D000,D001,D002,P0998	Small Quan. Gen.
Aero Cast Inc.	5013P8069	A as of 5/86	25.45.02/ 80.39.39	Long Island	Non-notifier	Small Quan. Gen.
Rosenstiel School of Marine Science	5013P8069	A as of 5/86	25.45.02/ 80.40.40	Long Island	Not specified	Small Quan. Gen.
Miami Heart Institute	5013P8065	A as of 3/86	25.47.00/ 80.43.33	Long Island	D001	Small Quan. Gen.

Table C-7. Code List

EPA HAZARDOUS WASTE CODES

Code	Hazardous Waste
D000	Toxic Waste
D001	Ignitable Waste
D002	Corrosive Waste
D003	Reactive Waste
F001	Spent halogenated solvents used in degreasing, including tetrachloroethylene, methylene chloride, carbon tetrachloride, 1,1,1-trichloroethane, and chlorinated fluorocarbons
F002	Spent halogenated solvents, including tetrachloroethylene, methylene chloride, trichlorethylene 1,1,1-trichloroethane, chlorobenzene,1,1,2-trichloro-1,2,2trifluoroethane, o-trichlorobenzene,trichlorofluorobenzene, and 1,1,2-trichloroethane
F003	Spent non-halogenated solvents, including xylene acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol
F027	Discarded unused formulations containing tri-, tetra-, or petachlorophenol, or compounds derived from these chlorophenols
P020	2-sec-butyl-4,6-dinitrophenol
P044	Dimethoate
P050	Endosulfan
P051	Endrin
P066	Methomyl
P070	Aldicarb
P071	Methyl parathion
P089	Parthion
P123	Toxaphene
U002	Acetone
U011	Amitrole
U031	n-Butyl alcohol
U036	Chlordane
U038	Chlorobenzilate
U045	Chloromethane
U112	Ethyl acetate
U114	Ethylene bisdithiocarbamate
U117	Ethyl ether
U150	Melphalin
U154	Methanol
U161	Methyl isobutyl ketone
U192	Pronamide
U211	Carbon tetrachloride
U220	Toluene
U239	Xylene

Source: Code of Federal Reglations 40 CFR 261, 1987

FACILITY TYPE FOR HAZARDOUS WASTE FACILITIES

GEN - GENERATOR
SQG - SMALL QUANTITY GENERATOR
NNF - NON-NOTIFIER
NHD - NON-HANDLER
TSD - TRANSPORTED OFF SITE FOR DISPOSAL
OOB - CLOSED/MOVED

Table C-8. Metro Dade County DERM IW-5 Permits Within the Everglades National Park SWIM Planning Area.

For Explanation of Codes See Table C-10

Permit #	Permittee	Address	City	Date	IW Code
2229	Yugo Auto Parts	1204 SW 1 St	Homestead	04/22/88	PCTO
1071	James The Junkman	1280 SW 2nd Street	Homestead	04/22/88	PCTO
1376	Auto Tech	29 NW 12 St	Florida City	11/02/87	AATO
1639	Richard's Tractors & Implement Inc.	550 N. Flagler Ave	Homestead	11/09/87	AASO
2247	Grove Services Inc.	25100 SW 177 Ave	Homestead	11/02/87	AATO
1676	Redland Construction Co. Inc.	23799 SW 167 Ave	Homestead	06/16/87	CETO
2059	Bill Hughes Auto Service	1116 N Federal Hwy	Homestead	06/16/87	AATO
1664	West Side Garage	1303 NW 2 St	Homestead	11/02/87	AASO
2006	Lance Lowe Enterprises	1311 NW 2 St	Homestead	11/02/87	BATO
2063	Gonzalez Auto Center	143 N. Flagler Ave	Homestead	04/22/88	AATO
1913	SFWMD Homestead Field Station	15815 SW 312 St	Homestead	08/17/87	CETO
1670	Joiners & Son Farm	20001 SW 344 St	Florida City	11/24/87	AATO
2058	South Florida Equipment Maintenance Inc.	28655 SW 132 Ave	Homestead	06/16/87	AATO
1335	Barnes & Cash Aviation	28720 SW 217 Ave	Homestead	06/16/87	JBTO
1507	Cooper Automotive Parts	29020 S Federal Hwy	Homestead	11/09/87	CBTO
2225	Seago Marine	29790 Old Dixie Hwy	Homestead	06/16/87	KDTO
1978	Aamco Transmission	30000 S. Dixie Hwy	Homestead	11/02/87	BATO
1735	The Homestead Florida	303 N. Flagler Ave	Homestead	06/16/87	TCSO
1425	Parkway Auto Sales Inc.	30410 S. Federal Hwy	Homestead	04/22/88	AATO
1655	South Florida Turf Equipment	305 S. Flagler Ave	Homestead	06/16/87	HASO
0314	Pioneer Pontiac Inc.	30501 S. Federal Hwy.	Homestead	05/29/87	CETO
1250	Flamingo Ford	30725 S. Federal Hwy.	Homestead	04/22/88	CETO
1652	R. E. Odom Trucking Inc.	30801 SW 162 Ave	Homestead	04/22/88	AATO
1603	Richards Auto Repair	405 NW 9 Ave	Homestead	06/16/87	AATO
1292	Homestead Auto Service Center Inc.	406 Washington Ave	Homestead	06/16/87	AATO
1672	Service Auto Supply of Homestead Inc.	599 W Mowry St	Homestead	11/02/87	CBTO
1669	Asgrow Florida Company	790 NW 10 Ave	Homestead	06/16/87	LCTI
1327	Alger Farms, Inc.	950 NW 8 St	Homestead	06/16/87	AATO
1656	Black Auto Repair Corp.	106 N. Krome Ave	Homestead	06/16/87	AATO
1305	Spitzer Dodge Inc.	30101 S Federal Hwy	Homestead	06/16/87	CETO
1718	Lykes Agri Sales, Inc.	700 N Flagler Ave	Homestead	11/02/87	LCSO
0832	Orkin Exterminating Co.	10711 SW 216th Street	Homestead	05/29/87	LDTO
0330	Truly Nolen Inc	1 Washington Avenue	Homestead	05/29/87	LDSO

For explanation of codes see Table C-9.

Table C-8. Metro Dade County DERM IW-5 Permits Within the Everglades National Park SWIM Planning Area.

For Explanation of Codes See Table C-10

Permit #	Permittee	Address	City	Date	IW Code
1364	Economy Transmissions of Homestead, Inc.	101 NE 3rd Road	Homestead	10/09/87	BASO
0142	Carl's Auto Repair Inc.	110 Washington Avenue	Homestead	05/29/87	AASO
0192	M & S Automotive Inc.	1150 West Mowry Street	Homestead	05/29/87	PCTO
0047	Litho-Craft Printers Inc.	194 NW 7th Street	Homestead	05/29/87	DASO
0268	Smitty's Garage	203 W. Mowry Street	Homestead	05/29/87	AASO
0466	Roberts Air South Homestead Gen. Air.	28701 SW 219th Avenue	Homestead	06/01/87	JBTO
0693	Helena Chemical Co.	300 North Krome Avenue	Florida City	05/29/87	LCSO
0038	Ziebart Auto/Truck Rustproofing	30432 S. Federal Hwy.	Homestead	05/29/87	CDTO
0526	Shield Pest Control	70 NW 5th Street	Homestead	05/29/87	LDSO
0138	Joe's Radiator Service	72 SW 4th Street	Homestead	05/29/87	CASO
0225	Sunshine Automotive Service	765 Parkway	Homestead	05/29/87	AASO
0194	Sir Speedy	80 North Homestead Blvd	Homestead	05/29/87	DASO
0531	Flamingo Auto Recycling Corp.	1158 W. Mowry Street	Homestead	04/22/88	PCTO
0638	Joe's Auto Repair Junkyard	250 SW 12th Avenue	Homestead	04/22/88	PCTO
0365	Benn's Auto Parts	29120 Old Dixie Highway	Homestead	10/09/87	PCTO
0162	Jesse Young Automotive Inc.	30075 S. Federal Highway	Homestead	05/29/87	AATO
0046	Sea Color Labs	145 East Lucy Street	Florida City	05/29/87	EASO
0654	Snappy Transmission	1000 N. Flagler Ave.	Homestead	04/22/88	BASO

For explanation of codes see Table C-9.

Table C-9. Metro Dade County DERM IW4 Permits Within the ENP SWIM Planning Area.

Permit #	Permittee	Facilities	Special Conditions	Address	City	Date
0137	Homestead Power Plant Tank Farm	1332 GPD	12, 28, 13, 3	675 North Flagler Avenue	Homestead	06/26/87
0138	Homestead Power Plant	4.0 MGD	64, 37, 13, 3	675 North Flagler Avenue	Homestead	06/26/87
0149	Florida City Canning Co.	4000 GPD	1, 89, 27, 3	27 SW 2nd Avenue	Florida City	06/26/87
0185	U.S. Asphalt,Inc	90,000 GPD	1, 2, 3	15900 SW 408 Street	Florida City	10/16/86
0228	Sunshine Tree Corp.	950 GPD		35701 SW202 Ave	Florida City	

For explanation of codes see Table C-9.

Table C-10. Dade County DERM IW Code list.

IW 4 Permit Code Index

IW4 Treatment with Discharges onto the Ground

Special Conditions

1. Sludge and other industrial waste shall be disposed of by Dade County approved haulers only. Analytical data must be submitted annually for all sludge and/or liquid wastes generated for the operations and disposed of locally. Failure to submit this data may cause rejection of the waste for local disposal.
2. A Monthly report of operations shall be submitted to the Department on or before the 15th of the following month including:
    1. Average daily wastewater flow (gals.)
    2. Amount of sludge disposed of, name of hauler and final destination
    3. Analytical data from a certified laboratory.
3. If at any time these facilities are found to be performing inadequately, the owner must provide immediate improvements to the operating techniques and/or additional equipment to operate in compliance with the applicable regulations.
12. Operations must be conducted in accordance with the Spill Prevention Control Countermeasure (SPCC) Plan as submitted and approved by the Department.
13. Permittee shall be responsible for immediate notification of oil or hazardous materials discharges. Agencies to be contacted include USEPA, National Response Center the Department.
27. These facilities shall operate in compliance with the standards of Section 24-11(9) of the Metropolitan Dade County Code. In addition, the effluent shall not exceed the following levels: BOD 300ppm; Suspended Solids 300ppm.
28. A quarterly report of operations shall be submitted to the Department prior to the 15th of the following month including: records of the required weekly inspection of monitoring wells for hydrocarbon contents. Records should include date and time of inspection. Discovery of hydrocarbon product in monitoring well is to be reported to DERM immediately by phone and followed by a letter of notification.
64. Facilities shall be operated in compliance with the regulations and requirements of the conditions of NPDES Permit no. FL 0002721 and the Environmental Quality Control Board order 80-5.
89. Federal pretreatment standards as promulgated under Section 307 of the Clean Water Act are incorporated into this permit. The facility must comply with these regulations in addition to the County regulations.

IW5 Permit Code Index

IW5 Hazardous Materials/Waste Users and Generators

IW5 Permit Four Letter Code:

1st and 2nd Character designate specific type and in some cases size of business. (see Table C-2)

3rd Character designates waste treatment by
S = Sewer
T = Septic Tank

4th Character designates whether permitted facility is
I = In Wellfield Protection Area
O = Out of Wellfield Protection Area

Example:
KATI
KA Boat Manufacturer
T Served by Septic Tank
I In the Wellfield Protection Area

Table C-11. IW 5 Permit Code Index Dade County DERM.

AA, AB, BA, CA, CB, CC, CD, CE	Auto repair, general
AC	Auto painting
BA	Auto transmissions
BR, BP	Auto body shop
CA	Radiator repair shops
CB	Auto parts - new
CC	Auto battery & electric repair
CD	Auto specialty repair
CE	Fleet operators
DA, DB	Printing - presses
EA	Printing - silk screen
FA, FB	Photo developing - general
FC	Photo developing - tray operators
FD, FE	Photo developing - slides + CN
FF	Photo developing - one hour dev
HA, TC	Industrial facilities
IA	Machine shops
IB	Air conditioning repair
JA, JB	Aircraft service
KA, KB	Boat manufacturers
KC, KD	Boat repair
KP	Funeral homes
LA, LB	Chemical manufacturers
LC	Chemical distributors
LD	Chemical applicators - pesticides
MA	Hospitals and clinics,medical labs
NA	Paint manufacturers
NB	Paint distributors
NC	Paint testing
ND	Painting, non-auto, metal painting - spray
OA	Plastics - injection molding
OB, OC	Plastics - foamed & misc
PA, PB	Junkyards , scrap metal
PC	Junkyards - auto
QA	Road construction
QA, RA	Construction industries
RB	Cement plants
SA	Precious metals
TA	Misc. business - not classified
TB	Animal hospitals, veterinarians

Table C-12. Active Dredge and Fill Permits Issued by Florida Department of Environmental Reglation within the Everglades National Park SWIM Planning Area.

Permittee	Permit			Location		Receiving Body		Dredged (cu yd)	Filled (cu yd)	Wetlands (acres)				Comments
	Number	Issued	Expires	Quad Name	Lat/Long	Water Body	Class			Total	Temp. Disturb	Perm. Destroy	Improved	
Context Rd. East Everglades	DF13-109634	01/31/86	01/31/91	Royal Palm Ranger Sta.	25 30 00/80.35.00	East Everglades	III	40,000		23.25	0.25		23.00	Remove 5.5 mi of Context Rd
Jefferson Pilot Communication Co	DF13 130639	07/23/87	07/15/90	Long Island	25.45.30/80.38.30	East Everglades	III	404	793			0.03		Construct fill pad and widen access road
Miccosukee Tribe of Indians	DF13-108499	11/17/86	11/10/89	Fortymile Bend	25.45.30/80 46.30	WCA 3A	III	222	222	0.33	0.33		0.22	For boardwalk and dredge 220 cu yd of muck
D.O.T. SPN 87110 3507	DF13-150180	11/04/88	11/07/93	Fortymile Bend	25.45 46/80.52.30	L-29 Canal	III	90	9,300	3.05		3.05		Add shoulders and widen bridge along 3.9 mi Tamiami Trail

Source: Florida Department of Environmental Regulation, 1989

Table C-13. South Florida Water Management District Consumptive Use Permits Within the Everglades National Park SWIM Planning Area.

Permittee	Project	Use	T-R-S	Permit				Source	Facilities	Max. Allow. Withdrawal (MG)
				Number	Issued	Expires	Reissue			
Fla Dept. of Gen. Serv.	Chekika State Recreation Area	Fill & maintain swimming lake	55S-37E-25	1300117W	10/13/83	10/13/93		Groundwater from Biscayne Aquifer	1 Well	578/year
Sunshine Botanicals, Inc.	Nursery Crops	Agriculture	55-38E-36	1300081W	02/11/82	04/15/89		Groundwater from Biscayne Aquifer	5 Wells	3.0/month
Glassworks, Inc.	Irrigation	Agriculture	56S-38E-11, 56S-38E-12	1300082W	03/11/82	04/15/88		Groundwater	14 Wells	7.9/month
Floraculture Assoc. Joint Venture	Floraculture	Agriculture	56S-38E-12	1300085W	03/11/82	04/15/91	05/12/88	Groundwater from Biscayne Aquifer	19 Wells	158.32/year
University of Florida	Tropical Res. & Educ. Center	Agriculture	56S-38E-35	1300104W	05/13/82	04/15/91	04/14/88	Groundwater from Biscayne Aquifer	84 Wells	19.2/year 6.04/month
Rutzke Brothers, Inc.	Citrus Farm	Agriculture	56S-38E-31	1300106W	07/08/82	04/15/91	09/08/88	Groundwater from Biscayne Aquifer	16 Wells	145.96/year 53.72/month
Sigma Land Corp.	Small Vegetables	Agriculture	56S-38E-30	1300116W	02/09/84	04/15/89		Groundwater from Biscayne Aquifer	220 Open Holes	12.7/month
Jack G. Admire, Trustree	Rutzke Farms	Agriculture	56S-38E-19	1300151W	06/13/85	04/15/91	07/14/88	Groundwater from Biscayne Aquifer	3 Wells	40.14/year 14.77/month
Edward H. Saunders	Farm; Row Crops	Agriculture	56S-38E-30	1300169W	03/10/88	04/15/91		Groundwater from Biscayne Aquifer	9 Wells	2.79/year
Florida Keys Aqueduct		Public Water Supply	57S-38E-NS*	1300005W	10/14/74	07/10/95	07/10/86	Groundwater from Biscayne Aquifer	11 Wells	5110/year 2.4/day navy alloc.
City of Florida City	Water Trtmt Plant	Public Water Supply	57S-38E-NS	1300029W	07/11/75	01/09/96	01/09/86	Groundwater from Biscayne Aquifer	4 Wells	757.4/year 3.55/day
City of Homestead	Homestead Utilities	Public Water Supply	57S-38E-NS	1300046W	08/12/76	04/11/91	04/11/85	Groundwater from Biscayne Aquifer	6 Wells	2780/year 9.9/day
George Pena, Jr.	Green Leaf Nursery	Agriculture	57S-38E-11	1300092W	04/15/82	04/15/91	02/11/88	Groundwater from Biscayne Aquifer	16 Wells	61.98/year 11.92/day

Table C-13. South Florida Water Management District Consumptive Use Permits Within the Everglades National Park SWIM Planning Area.

Permittee	Project	Use	T-R-S	Permit				Source	Facilities	Max. Allow. Withdrawal (MG)
				Number	Issued	Expires	Reissue			
Montego Land Corp.	Irrigation	Agriculture	57S-38E-06	1300114W	02/09/84	04/15/89		Groundwater from Biscayne Aquifer	80 Open Holes	3.72/month
Sigma Land Corp.	Malanga Crops	Agriculture	57S-38E-07	1300115W	02/09/84	04/15/89		Groundwater from Biscayne Aquifer	76 Open Holes	5.2/month
Lafarge Corporation	General Portland	Industrial	54S-38E 24,25,26,35, 36	1300030W	07/11/75	08/08/95	08/08/85	Groundwater from Biscayne Aquifer	2 Wells	912.5/year 3.5/day
Krome Aggregates, Inc.	Krome Aggregates Plant	Rock washing	54S-38E-36	1300120W	04/12/84	04/14/98	04/14/88	On-site lake	2 Water Pumps	2000/year 6.6/day
Jones & Scully, Inc.	Aloha Foliage Growers	Agriculture	55S-38E-26	1300080W	01/07/82	04/15/91	04/14/88	Groundwater from Biscayne Aquifer	6 Wells	42.85/month
Everglades Sod & Landscaping	Grove & Nursery	Agriculture	55S-38E-26	1300099W	05/13/82	04/15/89		Groundwater from Biscayne Aquifer	7 Wells	15.7/month
Everglades Sod & Landscaping	Nursery	Agriculture	55S-38E-01	1300100W	05/13/82	04/15/89		Groundwater from Biscayne Aquifer	5 Wells	7.8/month
Botanical Gardens	Citrus & Nursery	Agriculture	55S-38E-36	1300101W	05/13/82	04/15/89		Groundwater from Biscayne Aquifer	4 Wells	15.9/month

*NS = Not Specified in Permit
**In Proccess of Reissuance
Source: South Florida Water management District, 1989

Table C-14. Florida Department of Environmental Regulation Stationary Tank Inventory within the Everglades SWIM Planning Area.

Facility Name	Location		Tank Information							
	Address	Lat/ Long	Total Tanks	Above	Below	Diesel	Gas	Oil	Other	Tank Contents
FL Keys Aqueduct Auth	SW 192 Ave & 354 St	80.30.30/ 25.26.18	5	X		4				3754, 3754, 4174, 1000
				X			1			1000 (unlead)
Ilori Farms, Inc.	20410 SW 360 St	80.31.21/ 25.25.58	3		X	1				10000
					X		2			2000 (unlead), 10000 (lead)
Texaco #021-297	10 SE 1 St	80.28.32/ 25.26.49	4		X	1				10000
					X		3			12000, 8000 (unlead); 10000 (lead)
					X			1		550 (used oil)
Texaco #021-229	1500 Krome Ave	80.28.50/ 25.27.15	5	X			4			12000, 8000 (unlead); 1
				X				1		550 (used oil)
Bishop Bros., Inc.	23 SW 11 Ave	80.29.20/ 25.27.00	13	X		3				3 x 14600
				X			3			20000, 14900, 14600 (unlead)
				X			2			2 x 20000 (lead)
				X					1	15000
										2000
										2000 (unlead); 2000 (lead)
										2000 (kerosene)
Gulf #00369389	1490 NE 1 Ave	80.28.44/ 25.27.33	4							2 x 10000 (unlead); 10000 (lead)
					X			1		550 (used oil)
Shell Station	30400 S Federal Hwy	80.29.04/ 25.27.47	3		X		3			2 x 10000 (unlead); 10000 (lead)
Chevron Station	226 S Krome Ave	80.28.40/ 25.28.02	4		X	1				1000
					X		3			1000, 2000 (unlead); 2000 (lead)
Coca-Cola Bottling Co	186 SW 1 Ave	80.28.55/ 25.28.06	2		X	1				4000
					X		1			2000 (unlead
Southern Bell	75 NE Civic Court	80.28.31/ 25.28.15	2		X	2				10000, 5000

Table C-14. Florida Department of Environmental Regulation Stationary Tank Inventory within the Everglades SWIM Planning Area.

Facility Name	Location		Tank Information							
	Address	Lat/ Long	Total Tanks	Above	Below	Diesel	Gas	Oil	Other	Tank Contents
Amoco	725 N Flagler Ave	80.28.05/ 25.28.35	3		X		3			3 x 10000 (unlead)
Exon #6876	801 Homestead Blvd	80.28.06/ 25.28.37	4		X	1				8000
					X		3			2 x 10000, 12000 (unlead)
Wareco #555	30791 S Federal Hwy	80.28.22/ 25.25.51	4		X	1				10000
					X		3			2 x 10000 (unlead); 10000 (lead)
Circle K #2373	27200 SW 177 Ave	80.28.41/ 25.30.47	2		X		2			10000 (unlead); 10000 (lead)
Farm Store #156	24791 SW 177 Ave	80.28.27/ 25.32.09	4		X	1				10000
					X		3			3 x 10000 (unlead)
Mack Industries	8800 SW 177 Ave	80.29.45/ 25.37.15	1	X		1				4000
So Fl Water Mgmt	SW 197 Ave & 168 St	80.39.15/ 25.36.38	2	X		2				2 x 10000
Tatelman Groves	18900 SW 232 St	80.30.00/ 25.33.00	2		X		1			1000 (unlead)
					X				1	1000 (aviation fuel)
Susquehanna Broadcast	500 SW 177 Ave	80.29.10/ 25.46.00	1		X	1				1000

Source: Florida Department of Environmental Regulation, 1989

Table C-15. Wetlands Class IV Activities in the Everglades National Park SWIM Planning Area,as listed by Dade County Department of Environmental Resources Management.

Permittee	T-R-S	Address	Permit		Proposed Use	Enforcement Status *	Comments
			Issued	Expires			
Ernesto & Clara Acosta	56S-38E-6SW	232 Ave & 194 St			Agriculture	I	Clearing, Plowing Violation: NOV issued 7/9/86
Ernesto Acosta	56S-38E-6SW	232 Ave & 194 St			Agriculture	A	Clearing, Filling Violation: NOV issued 10/13/88
Teddy & Karen Epling	55S-37E-25W	247 Ave & 158 St	4/1/82	4/1/84	Residential		
Loren Flickinger	55S-37E-22	4005 SW 146 St			Residential	I as of 7/87	Filling Violation: NOV issued 11/23/82
N.P. Brooks, Inc.	56S-38E-11	8400 SW 256 St	10/10/8	10/10/88	Agriculture	I as of 4/87	Filling Violation; NOV issued 4/29/86; After-the-fact permit
Jose & Clara Rotger	55S-37E-2SW	249 Ave & 152 St	10/30/8	10/30/84	Residential	I as of 3/85	Filled w/o permit
South Free Invest., Inc.	56S-38E-6SW	232 Ave & 194 St				A	Clearing, Plowing Violation: NOV issued 10/14/88
Roy Young	55S-37E-2SW	242 Ave & 152 St	12/1/80	12/1/82	Road	I	Filling Violation: NOV issued 3/9/79; After-the-fact permit
Rene Cambert Trust	56S-38E-35W	197 Ave & 104 St	2/15/85	2/15/88	Rock-plowing		Mitigation: management plan & exotics control
Estaban Chavez/Jose Suarez	55S-38E-9SW	207 Ave & 106 St				I as of 5/88	Clearing Violation: NOV issued 4/15/88
Paul Creighton	55S-38E-91	2255 SW 261 Terr				I	Filling Violation: NOV issued 4/30/81
William Allen	55S-38E-91	1955 SW 212 Ave	7/1/80	12/31/84			
Frederick Rutzke	56S-38E-1SW	232 Ave & 232 St	9/16/86	9/16/88	Rock-plowing		Mitigation: exotics control
Senior Corporation	56S-38E-1SW	232 Ave & 248 St	5/2/88	5/2/90	Rock-plowing		Exotics control
Mayra Abreu	55S-38E-1SW	214 Ave & 132 St			Rock-plowing	I as of 8/88	Rock-plowing violation: NOV issued 8/2/88
Aerojet General Corp.	57S-38E-7	Frogpond Area	2/1/84	12/17/89	Rock-plowing		Mitigation: management plan & exotics control
Cruz & Cruz	55S-38E-1SW	225 Ave & 133 St			Agriculture	A	Solid Waste Filling Violation: NOV issued 4/6/88
Michael Joseph Decca	55S-38E-1SW	219 Ave & 133 St				A	Filling Violation: NOV issued 4/20/88
Andres Diaz	55S-38E-1SW	225 Ave & 126 St				A	Filling Violation: NOV issued 7/10/87
Manuel Espinoza	56S-38E-3SW	232 Ave & 264 St	6/13/86	6/13/90	Agriculture		
Edward Fernandez	55S-38E-1SW	214 Ave & 130 St				I as of 8/88	Rock-plowing Violation: NOV issued 8/2/88
Donald Heck	55S-38E-21	6595 SW 232 Ave	10/31/8	1/9/89	Residential		
Arturo Hernandez	55S-37E-31	6800 SW 237 Ave	6/26/87	6/28/89	Residential		
Mary Beth King	55S-38E-21	3855 SW 217 Ave	11/1/82	11/1/83	Residential		
Haydee Martinez	55S-38E-9Z	0825 SW 120 St	7/28/88	7/28/90	Agriculture	A	Filling Violation: NOV issued 4/28/88; After-the-fact permit

*A = Active
I = Inactive
Source: Dade County Department of Environmental Resources Management, 1989

Table C-15. Wetlands Class IV Activities in the Everglades National Park SWIM Planning Area (Cont.)

Permittee	T-R-S	Address	Permit		Proposed Use	Enforcement Status *	Comments
			Issued	Expires			
Juan Pinero	55S-38E-12	1655 SW 136 St	1/26/88	1/26/90	Agriculture		
Alfredo Rehbein	56S-38E-35W	229 Ave & 256 St	5/27/86	5/27/89	Agriculture		
Miguel Ribero	56S-38E-35W	229 Ave & 264 St	5/30/86	5/30/87	Agriculture		
F.H. Rutzke & Sons	56S-38E-35W	232 Ave & 280 St	8/9/82	8/31/83	Agriculture		
Senior Corporation	57S-38E-35W	237 Ave & 340 St	7/1/83	7/1/86	Rock-plowing		Mitigation: management plan & exotics control
Robert Sweeting	55S-38E-21	4020 SW 217 Ave				A	Solid Waste Filling Violation: NOV issued 7/2/87
Joe Torcise Farms	57S-38E-35W	360 St between	11/1/84	11/1/85		I	Dredging Violation. NOV issued 5/14/82; After-the-fact permit
Esteban Velazquez	55S-38E-1SW	214 Ave & 136 St			Agriculture	I as of 9/88	Rock-plowing Violation: NOV issued 8/2/88
Sotto Victorino	56S-38E-32	3155 SW 256 St	11/1/82	11/23/88	Agriculture		
Robert Trenary	54S-37E-1	Tamiami Trail				I	Solid Waste Filling Violation: NOV issued 8/11/85
Jefferson Pilot Comm.	54S-37E-92	72 Ave & Tamiami T	11/17/8	11/17/89	Antenna		Mitigation: exotics control
Sudbrink Radio Towers	54S-37E-9S	277 Ave & SW 8 St	12/1/83	12/1/86	Antenna	I as of 12/86	
Owen Bullock	55S-38E-9SW	209 Ave & 120 St	8/27/87	8/27/89	Agriculture	I as of 8/87	Rock-plowing Violation: NOV issued 7/2/87; After-the-fact permit
Wenceslao Aguilera	55S-38E-9SW	212 Ave & 147 St				I as of 11/88	Filling Violation: NOV issued 2/9/87
Adelina Alegret	55S-38E-1SW	212 Ave & 136 St			Agriculture	A	Rock-plowing Violation: NOV issued 7/10/87; After-the-fact permit
Adelina Alegret	55S-38E-1SW	212 Ave & 136 St				A	Solid Waste Filling Violation: NOV issued 7/9/87
Jose & Ana Almeida	55S-38E-9SW	209 Ave & 115 St			Agriculture	A	Filling Violation: NOV issued 4/19/88
Olinda Brouwer	55S-38E-1SW	207 Ave & 125 St			Agriculture	I as of 4/88	Rock-plowing Violation: NOV issued 7/10/87
Domingo Alvarez	55S-38E-1SW	207 Ave & 126 St			Agriculture	I as of 8/88	Filling Violation: NOV issued 7/1/87
Christodoulos & Frosso	55S-38E-2SW	217 Ave & 157 St				I as of 11/86	Solid Waste Filling Violation: NOV issued 5/17/86
Juan Diaz	55S-38E-1SW	212 Ave & 131 St				A	Rock-plowing Filling Violation: NOV issued 7/10/87
Thomas Arencibia	55S-38E-2SW	214 Ave & 147 St	7/14/88	7/14/90	Agriculture	I as of 8/88	Filling Violation: NOV issued 3/29/88; After-the-fact permit
Rigoberto Battle	55S-38E-21	4100 SW 214 Ave			Agriculture	A	Solid Waste, Plowing, Clearing Violation: NOV issued 7/9/87
Pascual Barrera	55S-38E-1SW	209 Ave & 130 St			Rock-plowing	I as of 3/88	Violation: NOV issued 7/2/87
Benigno Devesa	55S-38E-9SW	207 Ave & 120 St			Agriculture	A	Rock-plowing Violation: NOV issued 4/12/88

*A = Active
I = Inactive
Source: Dade County Department of Environmental Resources Management, 1989

Table C-15. Wetlands Class IV Activities in the Everglades National Park SWIM Planning Area (Cont.)

Permittee	T-R-S	Address	Permit		Proposed Use	Enforcement Status *	Comments
			Issued	Expires			
Luz Mary Bermudez	55S-38E-2SW	209 Ave & 139 St	11/10/8	11/10/88	Agriculture		
Jose & Maria Besu	55S-38E-2SW	212 Ave & 143 St	5/16/88	5/16/90	Agriculture		
Clara Borrego	55S-38E-1SW	209 Ave & 123 St			Agriculture	I as of 8/87	NOV issued 7/10/87; After-the-fact permit
Owen, Bullock	55S-38E-9SW	209 Ave & 120 St	8/27/87	8/27/89	Agriculture	I as of 8/87	Violation: NOV issued 7/2/87; After-the-fact permit
Burma Investments Corp	55S-38E-21	4700 SW 208 Ave				A	Filling Violation: NOV issued 2/11/87
Maria L. Busto	55S-38E-2SW	207 Ave & 152 St	10/27/8	10/27/90	Agriculture	I as of 10/88	Filling Violation: NOV issued 2/9/87
Reinaldo Caballero	55S-38E-2SW	208 Ave & 141 St	1/13/89	1/13/91	Agriculture	I as of 1/89	Clearing Violation: NOV issued 6/24/88; After-the-fact permit
Carlota Cabrera	55S-38E-21	4800 SW 208 Ave				I as of 7/87	Cleared w/o permit
Cantero & Bermudez	55S-38E-2SW	214 Ave & 144 St	9/22/88	12/21/88	Agriculture	I as of 9/88	Clearing Violation: NOV issued 1/29/88, After-the-fact permit
Carlos Capilla	55S-38E-2	Section 21				I as of 3/87	Rock-plowing Violation: NOV issued 2/9/87
Gilberto Contreras	55S-38E-2SW	207 Ave & 136 St	12/9/87	12/9/89	Agriculture	A	Solid Waste Filling Violation: NOV issued 6/3/87; After-the-fact permit
Henry Cortes	55S-38E-12	1001 SW 136 St				A	Solid Waste Filling Violation: NOV issued 6/3/87
Demis Wholesales Corp.	55S-38E-1SW	209 Ave & 132 St				A	Clearing, Rock-plowing, Filling Violation: NOV issued 10/18/88
Benigno Devesa	55S-38E-92	07 Ave & 116 St			Rock-plowing	A	Rock-plowing Violation: NOV issued 4/12/88; After-the-fact permit
F.A.T. Fernando	55S-38E-2SW	208 Ave & 138 St			Agriculture	I as of 9/88	Clearing w/o permit
Flaveras & Santiesteban	55S-38E-2SW	212 Ave & 140 St			Agriculture	A	Filling Violation: NOV issued 3/9/87
Armando Font & R. Villa	55S-38E-1SW	209 Ave & 125 St				I as of 1/89	Filling Violation: NOV issued 7/10/87
Anna Fraga	55S-38E-21	4800 SW 208 Ave	12/3/87	12/3/90	Agriculture	I as of 4/88	Filling Violation: NOV issued 3/9/87; After-the-fact permit
Antonio Francis	55S-38E-1SW	207 Ave & 124 St			Rock-plowing	I as of 8/88	Rock-plowing Violation: NOV issued 7/10/87
Manuel Gallego	55S-38E-22	1820 SW 164 St				A	Filling Violation: NOV issued 4/28/88
Dagoberto Garcia	55S-38E-11	429 SW 14 Terrace	5/10/88	8/8/88	Agriculture	I as of 5/88	Rock-plowing Violation: NOV issued 7/10/87; After-the-fact permit
Jose & Maria Garcia	55S-38E-2SW	221 Ave & 156 St	12/1/82	12/31/84	Agriculture		
Raquel Garcia	55S-38E-1SW	209 Ave & 120 St	2/24/82	2/24/90			

*A = Active
I = Inactive
Source: Dade County Department of Environmental Resources Management, 1989

Table C-15. Wetlands Class IV Activities in the Everglades National Park SWIM Planning Area (Cont.)

Permittee	T-R-S	Address	Permit		Proposed Use	Enforcement Status *	Comments
			Issued	Expires			
Humberto Jaen	55S-38E-2SW	214 Ave & 140 St	8/21/87	8/21/89	Agriculture		
Martinez & Sylvia Imber	55S-38E-2SW	212 Ave & 141 St				I as of 9/87	Solid Waste, Filling, Clearing Violation: NOV issued 6/1/87
Mr. & Mrs. Khan	55S-38E-1SW	209 Ave & 133 St				I as of 3/88	Rock-plowing Violation: NOV issued 7/10/87
Julia De La Campa	55S-38E-22	1400 SW 136 St				A	Solid Waste Filling Violation: NOV issued 2/26/87
Rodrigo LeCato & F. Gonzales	55S-38E-1SW	212 Ave & 129 St				I as of 12/88	Filling Violation: NOV issued 7/10/87
Jorge Lopez	55S-38E-2SW	214 Ave & 144 St			Agriculture	I as of 1/89	Rock-plowing Violation: NOV issued 3/10/88
Mr. & Mrs. Pasquale Marmo	55S-38E-2SW	208 Ave & 136 St			Agriculture	I as of 3/88	Rock-plowing Violation: NOV issued 8/20/87
Mr. & Mrs. Inocente Marrero	55S-38E-1SW	209 Ave & 136 St			Agriculture	A	Solid Waste Filling Violation: NOV issued 7/1/87
Jerry Milbert	55S-38E-2SW	208 Ave between	x		Road		Filled w/o permit
Faustino Miqueo	55S-38E-21	4820 SW 212 Ave			Agriculture	A	Filling Violation: NOV issued 2/9/87
Guillermo & Ariela Molina	55S-38E-2SW	212 Ave & 136 St				A	Solid Waste, Rock-plowing Filling Violation: NOV issued 3/29/88
Jesus Morales	55S-38E-11	3195 SW 209 Ave				A	Filled Wetlands for House & Tree Nursery: NOV issued 7/1/87
Isabel Morales	55S-38E-1SW	209 Ave & 132 St			Agriculture	A	Filling Violation: NOV issued 7/1/87
Rodolfo Noguera	55S-39E-2SW	206 Ave & 144 St	8/17/87	8/17/89	Agriculture	I as of 8/87	Violation: NOV issued 7/27/87; After-the-fact permit
Jorge & Emilio Noste	55S-38E-1SW	208 Ave & 136 St	1/16/89	1/16/91		I as of 1/89	Filling Violation: NOV issued 7/2/78; After-the-fact permit
Jose O'Reilly	55S-38E-21	4475 SW 208 Ave	11/9/88	11/9/90	Agriculture		
Francisco Ortiz	55S-38E-2SW	208 Ave & 139 St	9/1/88	9/1/90	Rock-plowing	I as of 9/88	Rock-plowing Violation: NOV issued 8/20/87; After-the-fact permit
Walter Perez	55S-38E-2SW	214 Ave & 138 St			Agriculture	A	Solid Waste, Filling Violation: NOV issued 8/9/87
Cresencio Prieto	55S-38E-2SW	208 Ave & 144 St				A	Clearing Violation: NOV issued 8/22/88
Narciso & Kathryn Ramires	55S-38E-21	4200 SW 209 Ave				A	Clearing & Filling Violation: NOV issued 2/24/87
Benito Rodriguez	55S-38E-21	5845 SW 221 Ave	3/1/82	3/1/85	Agriculture		
Rodriguez & Peguero	55S-38E-2SW	212 Ave & 144 St	10/14/8	10/14/90	Agriculture	I as of 1/89	Filling Violation: NOV issued 6/18/87; After-the-fact permit
J.R. Rodriguez	55S-38E-22	1321 SW 152 St				A	Filling Violation: NOV issued 8/13/87

*A= Active
I=Inactive
Source: Dade County Department of Environmental Resources Management, 1989

Table C-15. Wetlands Class IV Activities in the Everglades National Park SWIM Planning Area (Cont.)

Permittee	T-R-S	Address	Permit		Proposed Use	Enforcement Status *	Comments
			Issued	Expires			
Leonor Romero	55S-38E-1SW	209 Ave & 132 St			Agriculture	A	Filling Violation: NOV issued 7/1/87
Emil & Judith Rosario	55S-38E-22	1471 SW 152 St			Agriculture	A	Clearing & Filling Violation: NOV issued 3/29/88
Emerito Saborit	55S-38E-11	2650 SW 209 Ave	2/25/81	2/25/83	Residential		
Anthony Safon	55S-38E-11	3805 SW 212 Ave	5/5/87	11/1/87	Agriculture	I as of 5/87	Filling Violation: NOV issued 3/9/87; After-the-fact permit
Jose Manuel Sanchez	55S-39E-1SW	209 Ave & 129 St	6/6/88	6/6/90	Agriculture	I as of 6/88	Clearing Violation: NOV issued 4/28/88; After-the-fact permit
Santibanez & Hernandez	55S-38E-2SW	212 Ave & 148 St	5/23/88	5/23/90	Agriculture	I as of 6/88	Filling Violation: NOV issued 3/10/88; After-the-fact permit
Teofillo Rivera	55S-38E-11	3105 SW 209 Ave			Agriculture	A	Rock-plowing Violation: NOV issued 7/1/87
Christian Vasquez	55S-38E-1SW	209 Ave & 122 St	5/10/88	5/10/90		I as of 5/88	Rock-plowing Violation: NOV issued 7/21/87; " After-the-fact permit
Andres & Carmen Velasco	55S-38E-3SW	237 Ave & 168 St				A	Clearing Violation: NOV issued 3/25/87
Maria Velasco	55S-38E-2SW	212 Ave & 136 St	7/10/87	7/10/89	Agriculture	I as of 8/87	Rock-plowing Violation: NOV issued 3/9/87; After-the-fact permit
Joel Velazquez	55S-38E-1	20950 SW 120 St	9/3/87	9/3/89	Agriculture	I as of 2/88	Rock-plowing, Filling Violation:NOV issued 7/10/87; After-the-fact permi
Vemer Corporation	55S-38E-2SW	214 Ave & 146 St				A	Plowing, Filling Violation: NOV issued 4/8/88; After-the-fact permit
Vidal Investments Company	55S-38E-1SW	214 Ave & 136 St			Rock-plowing	I as of 11/88	Rock-plowing Violation: NOV issued 8/31/87
Carlos Villarreal	55S-38E-21	5650 SW 221 Ave	3/1/82	12/31/87	Agriculture		
Alberto Yapell	55S-38E-2SW	208 Ave & 136 St				A	Filling Violation: NOV issued 12/2/87
Pedro Ynigo	55S-38E-21	4420 SW 208 Ave				I as of 3/87	Filling Violation: NOV issued 2/9/87
Canarias Dev. of Fl., Inc.	16-58-38	SW 408 St & C-111				I as of 9/88	Clearing violation: NOV issued 9/25/86
PTF Limited	58S-38E-1	Btwn SW 212 & 217	x			A	Clearing violation: NOV issued 5/5/88
John Hudson	58S-38E-11	19299 SW 402 St	10/5/88	10/5/90	Residential	I as of 10/88	Clearing, Fill & Dredge Violation:NOV issued 5/2/88; After-the-fact permi

*A = Active
I = Inactive
Source: Dade County Department of Environmental Resources Management, 1989

Surface Water Quality Data

TABLE C-16. Nitrogen, Phosphorus, TIC and TOC Water Quality Data for ENP SWIM Planning Area.

AREA	SITE	DATE		PO_4 (mg/l)	TP (mg/l)	NH_3 (mg/l)	NO_3 (mg/l)	NO_2 (mg/l)	org-N (mg/l)	TN (mg/l)	TIC (mg/l)	TOC (mg/l)	REFERENCE
Water Quality Standards	under COE/SFWMD/NPS MOA		x	.02	.24	.24	.7	.04	2.1	--	--	--	Rosendahl & Rose, 979
SHARK RIVER SLOUGH													
Entry	Inflow stations	(S-12A,B,C, L-67A, and Bridge S3)	1959-77	x	.01	.03	.23	0.10	.01	1.5	--	24	-- Waller, 1982a
				n	146	136	153	149	149	154	--	138	--
	Tamiami Canal:	S-12A	5/70-9/71	range	.00-.15	.04-.28	.12-1.2	.0-1.0	.01-.04	1.2-2.5	--	25	-- Joyner, 1973
				n	4	4	4	4	4	4	--	1	--
	Inflow stations	(S-12C and L-67A)	1970-77	x	.008	.033	.089	.16	.0128	1.52	1.8	33	40 Rosendahl &
				SD	.007	.118	.085	.31	.017	.31	.58	11	11 Rose, 1979
				n	78	72	80	76	76	80	37	72	62
	Tamiami Canal:	S-12A	1978-83	x	.004	.01	.03	.011	.004	1.51	1.55	(a) 15.2	-- Federico,
		S-12B		x	.003	.009	.03	.018	.004	1.53	1.58	16.8	-- Millar,&
		S-12C		x	.004	.011	.04	.065	.006	1.73	1.84	19.8	-- Davis, 1984
		S-12D		x	.003	.019	.04	.091	.006	1.96	2.10	22.2	--
		S-333		x	.004	.014	.03	.121	.008	2.14	2.29	23.8	--
	South end of L-67A (ext)		4/78-4/80	x	.003	.018	.04	.048	.004	1.43	1.52	25	43 Waller, 1981
				SD	.005	.013	.025	.063	.006	.32	.37	9	7
				n	22	21	22	22	22	22	22	20	7
In Park	Cottonmouth Camp: pond		11/69		.02	.03	.21	0.00	0.00	1.9	1.9	15	-- McPherson,
	" marsh		11/69		.02	.03	.21	0.00	0.00	1.2	1.4	17	-- 1981
	Freshwater Stations (P-33, P-34, P-36, P-37, Taylor Slough near 1)Homestead and 2) Royal Palm)		1959-77	x	.03	.08	.43	.07	.01	2.2	--	24	-- Waller, 1982a
				SD	.14	.32	1.1	0.20	.018	3.5	--	31	--
				n	88	79	105	104	104	125	--	81	--
	P-33		1959-77	x	.02	.03	.38	.01	.01	2.7	--	28	45 Waller, 1982a
				SD	.03	.06	.59	.01	.01	2.8	--	23	15
				n	13	12	15	15	15	18	--	12	11
	P-33		5/70-9/71	range	.01-.02	.03-.07	.13-.15	.0-.4	.01-.02	.74-3.7	--	--	-- Joyner, 1973
				n	4	4	3	4	4	3	--	--	--
	P-35		5/70-9/71	range	.01-.25	.04-.10	.10-0.18	.0-5.9	.00-.04	.78-3.4	--	--	-- Joyner, 1973
				n	4	2	2	4	4	2	--	--	--
NORTHEAST SHARK RIVER SLOUGH													
Entry	Tamiami Canal, Bridge 45		1950-65,69	x	--	--	--	.3	--	--	--	--	-- McPherson,
				SD	--	--	--	.05	--	--	--	--	-- 1973
				n	--	--	--	111	--	--	--	--	--
	Tamiami Canal, Bridge 53		7/72-6/74	x	--	.01	--	--	--	--	1.7	--	-- Waller & Earle, 1975
	Tamiami Canal, Bridge 53		4/78-4/80	x	.005	.022	.464	.03	.007	1.58	2.08	23	87 Waller, 1981
				SD	.005	.025	.322	.036	.006	.97	1.03	8	7
	Tamiami Canal, Bridge 53			n	23	23	23	23	23	23	23	23	7

<. Not detected, numerical detection limit shown
-- Not analyzed
(b) x:y values denote dry:wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-16. Nitrogen, Phosphorus, TIC and TOC Water Quality Data for ENP SWIM Planning Area (Cont.).

AREA	SITE	DATE		PO_4 (mg/l)	TP (mg/l)	NH_3 (mg/l)	NO_3 (mg/l)	NO_2 (mg/l)	org-N (mg/l)	TN (mg/l)	TIC (mg/l)	TOC (mg/l)	REFERENCE
Water Quality Standards under COE/SFWMD/NPS MOA			x	0.02	.24	.24	.7	.04	2.1	--	--	--	Rosendahl & Rose, 1979
In NESRS	NE Shark River Slough (2 stations)	6/78-10/78	x	0.00	.01	.07	0.00	0.00	1.95	2	37	37	Waller, 1982b
			SD	.003	.003	.11	.003	.005	.52	.6	9	8	
			n	10	10	10	10	10	10	10	10	10	
	Coopertown (developed area)	6/78-10/78	x	0.00	.02	.49	.02	.01	1.1	1.6	17	56	Waller, 1982b
			SD	.005	.005	.36	.03	.01	.3	.1	7	11	
			n	6	6	6	6	6	6	6	5	5	
	Chekika Hammock State Park (recreational area)	6/78-10/78	x	0.00	.02	.03	.01	0.00	.86	0.90	16	45	Waller, 1982b
			SD	.005	.01	.03	.02	.004	.14	.14	7	7	
			n	9	9	9	9	9	9	9	9	9	
	Rocky Glades Residential Area	6/78-10/78	x	0.00	.01	.03	.01	0.00	.58	.62	10	50	Waller, 1982b
			SD	0.00	.01	.05	.01	.003	.13	.11	6	6	
			n	9	9	9	9	9	9	9	8	8	
TAYLOR SLOUGH In East Everglades	Context Road (2 undeveloped area stations)	6/78-10/78	x	0.00	.01	.02	0.00	0.00	.78	0.80	15	39	Waller, 1981
			SD	0.00	.005	.01	.003	0.00	.12	.11	10	8	
			n	10	10	10	10	10	10	10	10	10	
	Rock-plowed Tomato Field	6/78-10/78	x	1.5	1.6	.13	0.00	.01	2.2	2.3	25	62	Waller, 1982b
			SD	.6	.5	.15	.004	.01	.7	.8	12	20	
			n	7	7	7	7	7	7	7	7	7	
	Crackerjack Slough Agric. area (abuts L-31W levee)	6/78-10/78	x	0.00	.01	.08	.02	0.00	.41	.52	11	43	Waller, 1982b
			SD	.003	.01	.06	.02	0.00	.16	.11	9	9	
			n	9	9	9	9	9	9	9	8	8	
	Grossman Rd Borrow Canal	4/78-4/80	x	.001	.008	.136	.026	.004	.82	.99	10.3	55	Waller, 1981
			SD	.003	.004	.067	.015	.005	.33	.35	6.4	4	
Entry to Park	L-31W above S-175	7/72-6/74	(b) x	--	.01	--	--	--	--	.06	--	--	Waller & Earle, 1975
In Park	Hwy 27 Bridge near Royal Palm	10/60-9/70	median	--	--	--	.5	--	--	--	--	--	Earle & Hartwell, 1973
			n	--	--	--	47	--	--	--	--	--	
	Taylor Slough near Homestead	1960-77	x	.01	.02	.15	.02	.13	0.90	--	7.6	37	Waller, 1982a
			SD	.02	.03	.19	.03	.19	.96	--	4.9	9.7	
			n	9	7	11	11	11	11	--	8	8	

< Not detected, numerical detection limit shown
-- Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-17. Alkalinity, Specific Conductance, and Ions Water Quality Data for ENP SWIM Planning Area.

AREA	SITE	DATE		pH	COND. (umhos)	Alk. (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Fl (mg/l)	REFERENCE
Water Quality Standards under COE/SFWMD/NPS MOA			x	7.6-8.0	647	269	86	25	93	--	143	--	--	Rosendahl & Rose, 1979
SHARK RIVER SLOUGH														
Entry	Inflow stations (S-12A,B,C, L-67A, and Bridge 53)	1959-77	x	--	465	--	61	5.1	21	1.2	35	8.6	--	Waller, 1982a
			n	--	221	--	126	122	126	126	134	134	--	
	Tamiami Canal: S-12A	5/70-9/71	range	--	--	--	--	--	--	--	--	--	--	Joyner, 1973
			n	--	--	--	--	--	--	--	--	--	--	
	Inflow stations (S-12C and L-67A)	1970-77	x	7.8	574	177	58	11	47	2.9	78	20	.35	Rosendahl &
			SD	.36	205	52	14	6	23	1.3	35	18	.15	Rose, 1979
			n	57	98	53	20	15	24	24	28	28	15	
	Tamiami Canal: S-12A	1978-83	x	7.34	310	111.2	38.70	4.03	19.36	1.23	23.8	13.6	--	Federico,
	S-12B		x	7.17	393	130.5	45.90	5.74	26.63	1.72	36.8	14.2	--	Millar,&
	S-12C		x	7.12	526	162.7	54.84	9.37	42.19	2.51	57.4	20.6	--	Davis, 1984
	S-12D		x	7.34	665	198	65.16	14.58	53.09	3.08	78.6	24.6	--	
	S-333		x	7.29	711	221	67.03	16.38	59.94	3.39	87.4	27.3	--	
	South end of L-67A (ext)	4/78-4/80	x	7.6	620	191	(c) 62	(c) 10	(c) 43	2.4	(c) 67	(c) 7.9	(c) 0.2	Waller, 1981
			SD	.3	115	44	16	3	9	1.2	15	7.1	.04	
			n	21	21	20	5	5	5	8	5	5	5	
In Park	Cottonmouth Camp: pond	11/69		NR	NR	--	46	8.8	29	1.2	44	7.6	.3	McPherson,
	marsh	11/69		7.0-7.3	430	--	46	8.8	29	1.2	44	7.2	.2	1981
	Freshwater stations (P-33, P-34, P-36, P-37, P-38, Taylor Slough near 1)Homestead and 2)Royal Palm)	1959-77	x	--	457	--	62	4.7	26	1.3	48	4.9	--	Waller, 1982a
			SD	--	2	--	24	3.3	24	1.7	48	14.5	--	
			n	--	264	--	249	249	250	250	254	248	--	
	P-33	1959-77	x	median 7.7	458	--	58	6.7	27	1.6	43	3.9	--	Waller, 1982a
			SD	.4	184	--	20	4	20	1.5	30	11	--	
			n	54	55	--	52	52	52	52	52	50	--	
	P-33	5/70-9/71	range	--	--	--	--	--	--	--	--	--	--	Joyner, 1973
			n	--	--	--	--	--	--	--	--	--	--	
	P-35	5/70-9/71	range	--	--	--	--	--	--	--	--	--	--	Joyner, 1973
			n	--	--	--	--	--	--	--	--	--	--	
NORTHEAST SHARK RIVER SLOUGH														
Entry	Tamiami Canal, Bridge 45	1950-65,69	x	--	--	--	--	--	--	--	--	--	--	McPherson,
			SD	--	--	--	--	--	--	--	--	--	--	1973
			n	--	--	--	--	--	--	--	--	--	--	
	Tamiami Canal, Bridge 53	7/72-6/74	x	--	560	--	--	--	--	--	--	--	--	Waller & Earle, 1975
	Tamiami Canal, Bridge 53	4/78-4/80	x	7.5	655	229	(c) 76	(c) 11	(c) 46	1.9	(c) 75	(c) 12	(c) 0.3	Waller, 1981
			SD	.3	64	25	14	4	12	.9	16	10	.1	
	Tamiami Canal, Bridge 53		n	22	22	20	7	7	7	10	7	7	7	
In NESRS	NE Shark River Slough	6/78-10/78	x	7.7	411	144	(d) 58	(d) 6.0	(d) 32	1.2	(d) 56	(d) 1.7	(d) 0.1	Waller, 1982b
	(2 stations)		SD	.2	73	28	11	2.1	11	.5	21	1.5	.1	
			n	4	8	9	12	12	12	12	12	12	12	

<: Not detected, numerical detection limit shown
--Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-17. Alkalinity, Specific Conductance, and Ions Water Quality Data for ENP SWIM Planning Area.

AREA	SITE	DATE		pH	COND. (umhos)	Alk. (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Fl (mg/l)	REFERENCE
	Coopertown (developed area)	6/78-10/78	x	7.3	597	229	--	--	--	--	--	--	--	Waller, 1982b
			SD	.2	31	37	--	--	--	--	--	--	--	
			n	6	6	6	--	--	--	--	--	--	--	
	Chekika Hammock State Park (recreational area)	6/78-10/78	x	7.4	368	199	--	--	--	--	--	--	--	Waller, 1982b
			SD	.2	76	43	--	--	--	--	--	--	--	
			n	8	9	6	--	--	--	--	--	--	--	
	Rocky Glades Residential Area	6/78-10/78	x	7.4	402	215	--	--	--	--	--	--	--	Waller, 1982b
			SD	.3	64	36	--	--	--	--	--	--	--	
			n	8	9	5	--	--	--	--	--	--	--	
TAYLOR SLOUGH In East Everglades	Context Road (2 undeveloped area stations)	6/78-10/78	x	7.6	448	148	(d) 59	(d) 2.5	(d) 9.3	.5	(d) 12.6	(d) 2.6	(d) 0.1	Waller, 1981
			SD	.5	93	34	17	1	4.8	.7	7.5	2.1	.03	
			n	4	8	7	9	9	9	10	9	9	9	
	Rock-plowed Tomato Field	6/78-10/78	x	7.4	463	256	--	--	--	--	--	--	--	Waller, 1982b
			SD	.3	113	81	--	--	--	--	--	--	--	
			n	6	7	6	--	--	--	--	--	--	--	
	Crackerjack Slough Agric. area (abuts L-31W levee)	6/78-10/78	x	7.6	353	182	--	--	--	--	--	--	--	Waller, 1982b
			SD	.2	81	31	--	--	--	--	--	--	--	
			n	8	9	6	--	--	--	--	--	--	--	
	Grossman Rd Borrow Canal	4/78-4/80	x	7.4	1371	235	(c) 78	(c) 23	(c) 155	8.7	(c) 240	(c) 88	(c) 0.3	Waller, 1981
			SD	.3	311	41	7	5	39	2	57	26	.05	
Entry to Park	L-31W above S-175	7/72-6/74	(b) x	--	370	--	68/70	3.2/3.8	16/9.6	0.8/0.4	24/14	10/2.0	--	Waller & Earle, 1975
In Park	Hwy 27 Bridge near Royal Palm	10/60-9/70	median	--	--	--	60	--	--	--	--	.4	--	Earle & Hartwell, 1973
			n	--	--	--	46	--	--	--	--	47	--	
	Taylor Slough near Homestead	1960-77	x	median 7.7	352	--	59	3	10	1.6	16	4.4	--	Waller, 1982a
			SD	.3	99	--	17	2.1	4.5	3	8.7	10	--	
			n	58	59	--	56	55	56	56	58	56	--	

< Not detected, numerical detection limit shown
--Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-18. Metals Water Quality Data in ENP SWIM Planning Area.

AREA	SITE	DATE		As (ug/l)	Cd (ug/l)	Cr (ug/l)	Co (ug/l)	Cu (ug/l)	Fe (ug/l)	Pb (ug/l)	Mn (ug/l)	Zn (ug/l)	Hg (ug/l)	REFERENCE
Water Quality Standards	under COE/SFWMD/NPS MOA		x	20	10	--	--	8	270	13	--	72	.5	Rosendahl & Rose, 1979
SHARK RIVER SLOUGH														
Entry	Inflow stations (S-12A,B,C, L-67A, and Bridge 53)	1959-77	x	8.7	1.1	3	.6	4.1	53	5.4	12	24	.08	Waller, 1982a
			n	41	42	34	40	35	121	44	46	40	36	
	Tamiami Canal: S-12A	5/70-9/71	range	0-40	0	0	0-1		70-180	0-40	--	--	0.0	Joyner, 1973
			n	4	2	4	2		3	4	--	--	1	
	Inflow stations (S-12C and L-67A)	1970-77	x	7.8	2.2	3.5	1.2	2.4	122	4.2	10.5	19.6	.1	Rosendahl & Rose,
			SD	5.6	3.6	8.1	1.8	2.8	73	4.2	6.5	24.8	.2	1979
			n	17	18	17	19	16	20	19	19	16	19	
	Tamiami Canal: S-12A	1978-83	x	--	1	1	--	2.046	20	1.999	--	27	--	Federico, Millar,
	S-12B		x	--	1.2	1	--	3	20	3.398	--	25.4	--	& Davis, 1984
	S-12C		x	--	1.117	1.023	--	3.23	70	2.142	--	25.333	--	
	S-12D		x	--	.825	.808	--	2.943	60	2.014	--	21.857	--	
	S-333		x	--	1	1	--	2.712	20	1.6	--	25	--	
	South end of L-67A (ext)	4/78-4/80	x	(c) 3	(c) 0	(c) 13	--	(c) 2	(c) 177	(c) 1	(c) 7	(c) 3	(c) 0.6	Waller, 1981
			SD	2	0	6	--	3	65	2	6	7	.4	
			n	3	3	3	--	3	3	3	3	3	3	
In Park	Cottonmouth Camp: pond	11/69		0.00		0.00	--	0.00	.94	0.00	.01	0.00		McPherson, 1981
	marsh	11/69							NR					
	Freshwater stations (P-33, P-34,	1959-77	x	4.2	1.5	2	.9	4.3	88	5.7	17	31	.4	Waller, 1982a
	P-36, P-37, P-38, Taylor Slough		SD	4.3	4.8	5.2	2	8	178	8.6	28	65	.9	
	near 1)Homestead and 2)Royal Palm)		n	70	71	96	51	160	286	166	128	163	80	
	P-33	1959-77	x	--	--	--	--	--	--	--	--	--	--	Waller, 1982a
			SD	--	--	--	--	--	--	--	--	--	--	
			n	--	--	--	--	--	--	--	--	--	--	
	P-33	5/70-9/71	range	0-10	--	0-20	--	--	80-700	0-10	--	--	--	Joyner, 1973
			n	3	--	3	--	--	3	3	--	--	--	
	P-35	5/70-9/71	range	0-10	--	0-20	--	--	90-310	5-6	--	--	.6	Joyner, 1973
			n	2	--	2	--	--	2	2	--	--	1	
NORTHEAST SHARK RIVER SLOUGH														
Entry	Tamiami Canal, Bridge 45	1950-65,69	x	--	--	--	--	--	--	--	--	--	--	McPherson, 1973
			SD	--	--	--	--	--	--	--	--	--	--	
			n	--	--	--	--	--	--	--	--	--	--	
	Tamiami Canal, Bridge 53	7/72-6/74	x	--	--	--	--	--	--	--	--	--	--	Waller & Earle, 1975

< Not detected, numerical detection limit shown
-- Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-18. Metals Water Quality Data in ENP SWIM Planning Area.

AREA	SITE	DATE		As (ug/l)	Cd (ug/l)	Cr (ug/l)	Co (ug/l)	Cu (ug/l)	Fe (ug/l)	Pb (ug/l)	Mn (ug/l)	Zn (ug/l)	Hg (ug/l)	REFERENCE
	Tamiami Canal, Bridge 53	4/78-4/80	x	(c) 3	(c) 0	(c) 15	--	(c) 3	(c) 903	(c) 2	(c) 25	(c) 15	(c) 0.5	Waller, 1981
			SD	2	0	10	--	1	332	2	6	6	.2	
	Tamiami Canal, Bridge 53		n	4	4	4	--	4	4	3	4	4	4	
In NESRS	NE Shark River Slough	6/78-10/78	x	(d) 2	(d) 1	(d) 16	--	(d) 1	(d) 568	(d) 3	(d) 6	(d) 18	(d) .5	Waller, 1982b
	(2 stations)		SD	2	3	7	--	1	318	4	5	26	.4	
			n	10	10	10	--	10	10	8	10	10	10	
	Coopertown (developed area)	6/78-10/78	x	1	0	10	--	0	800	3	40	10	.5	Waller, 1982b
			SD				--							
			n	1	1	1	--	1	1	1	1	1	1	
	Chekika Hammock State Park	6/78-10/78	x	1	2	10	--	1	200	14	0	10	.6	Waller, 1982b
	(recreational area)		SD	0	.7	0	--			7		0	.1	
			n	2	2	2	--	1	1	2	1	2	2	
	Rocky Glades Residential Area	6/78-10/78	x	0	2	10	--	2	110	11	0	5	.7	Waller, 1982b
			SD	0	.7	0	--			6		7	.2	
			n	2	2	2	--	1	1	2	1	2	2	
TAYLOR SLOUGH														
in East	Context Road (2 undeveloped	6/78-10/78	x	(d) 2	(d) 1	(d) 13	--	(d) 1	(d) 211	(d) 4	(d) 21	(d) 26	(d) 0.4	Waller, 1981
Everglades	area stations)		SD	1	1	5	--	1	213	4	37	36	.2	
			n	9	9	9	--	9	9	7	9	9	9	
	Rock-plowed Tomato Field	6/78-10/78	x	1	3	10	--	36	750	22	680	20	.5	Waller, 1982b
			SD	0	.7	0	--			18		14	0	
			n	2	2	2	--	1	1	2	1	2	2	
	Crackerjack Slough Agric. area	6/78-10/78	x	0	1	15	--	1	220	12	0	10	.5	Waller, 1982b
	(abuts L-31W levee)		SD	0	0	7	--			2		0	0	
			n	2	2	2	--	1	1	2	1	2	2	
	Grossman Rd Borrow Canal	4/78-4/80	x	(c) 2	(c) 1	(c) 13		(c) 2	(c) 410	(c) 14	(c) 20	(c) 10	(c) 0.5	Waller, 1981
			SD	3	1	6		2	165	17	0	10	.2	
Entry to Park	L-31W above S-175	7/72-6/74	(b) x	1	1	1	1	4	40	3	9	18	.1	Waller & Earle, 1975
in Park	Hwy 27 Bridge near Royal Palm	10/60-9/70	median	--	--	--	--	--	--	--	--	--	--	Earle & Hartwell,
			n	--	--	--	--	--	--	--	--	--	--	1973
	Taylor Slough near Homestead	1960-77	x	--	--	--	--	--	--	--	--	--	--	Waller, 1982a
			SD	--	--	--	--	--	--	--	--	--	--	
			n	--	--	--	--	--	--	--	--	--	--	

< Not detected, numerical detection limit shown
-- Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-19. MISCELLANEOUS PARAMETERS WATER QUALITY DATA FOR ENP SWIM PLANNING AREA.

AREA	SITE	DATE		Turb (JTU)	Color (PCU)	DO (mg/l)	TDS (mg/l)	TSS (mg/l)	BOD (mg/l)	REFERENCE
Water Quality Standards under COE/SFWMD/NPS MOA			x	11	124	4.5	--	--	3	Rosendahl & Rose, 1979
SHARK RIVER SLOUGH										
Entry	Inflow stations (S-12A,B,C, L-67A, and Bridge 53)	1959-77	x	6.1	47	5.2	253	--	1.6	Waller, 1982a
			n	138	137	149	111	--	51	
	Tamiami Canal: S-12A	5/70-9/71	range	4-15	--	--	129-376	--	1.7-2.0	Joyner, 1973
			n	4	--	--	4	--	3	
	Inflow stations (S-12C and L-67A)	1970-77	x	4	66	5.2	344	--	1.4	Rosendahl & Rose,
			SD	4	31	1.8	112	--	.6	1979
			n	66	27	104	24	--	22	
	Tamiami Canal: S-12A	1978-83	x	1.1	36	5.1	--	--	--	Federico, Millar,
	S-12B		x	.9	41	3.9	--	--	--	& Davis, 1984
	S-12C		x	1.2	56	3.6	--	--	--	
	S-12D		x	1.3	65	4.3	--	--	--	
	S-333		x	1.2	72	3.9	--	--	--	
	South end of L-67A (ext)	4/78-4/80	x	2	45	3.4	411	5.3	--	Waller, 1981
			SD	2	14	1.7	70	4.5	--	
			n	22	19	23	14	19	--	
In Park	Cottonmouth Camp: pond	11/69		--	--	3.7-5.9	254	--	--	McPherson, 1981
	marsh	11/69		--	--	3.6-5.6	255	--	--	
	Freshwater stations (P-33, P-34, P-36, P-37, P-38, Taylor Slough near 1)Homestead and 2)Royal Palm)	1959-77	x	11	31	6	--	--	2.3	Waller, 1982a
			SD	22	26	2.4	--	--	2.2	
			n	121	374	123	--	--	20	
	P-33	1959-77	x	12	44	6	298	--	--	Waller, 1982a
			SD	10	25	2.4	116	--	--	
			n	16	52	16	45	--	--	
	P-33	5/70-9/71	range	--	--	--	243-307	--	--	Joyner, 1973
			n	--	--	--	3	--	--	
	P-35	5/70-9/71	range	5-10	--	--	262-12600	--	--	Joyner, 1973
			n	2	--	--	4	--	--	
NORTHEAST SHARK RIVER SLOUGH										
Entry	Tamiami Canal, Bridge 45	1950-65,69	x	--	--	--	205	--	--	McPherson, 1973
			SD	--	--	--	7.6	--	--	
			n	--	--	--	115	--	--	

< Not detected, numerical detection limit shown
-- Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-19. MISCELLANEOUS PARAMETERS WATER QUALITY DATA FOR ENP SWIM PLANNING AREA.

AREA	SITE	DATE		Turb (JTU)	Color (PCU)	DO (mg/l)	TDS (mg/l)	TSS (mg/l)	BOD (mg/l)	REFERENCE
	Tamiami Canal, Bridge 53	7/72-6/74	x	--	--	--	--	--	--	Waller & Earle, 1975
	Tamiami Canal, Bridge 53	4/78-4/80	x	4.7	46	3	407	6	--	Waller, 1981
			SD	2.1	10	1.2	56	4	--	
			n	23	20	22	15	20	--	
In NESRS	NE Shark River Slough (2 stations)	6/78-10/78	x	5.3	64	5.6	--	--	--	Waller, 1982b
			SD	2.6	24	2.3	--	--	--	
			n	10	8	10	--	--	--	
	Coopertown (developed area)	6/78-10/78	x	3.2	46	2.9	--	5	--	Waller, 1982b
			SD	.8	9	1.7	--	1	--	
			n	6	6	6	--	6	--	
	Chekika Hammock State Park (recreational area)	6/78-10/78	x	2.6	44	3.4	--	5	--	Waller, 1982b
			SD	1.5	22	1.6	--	3	--	
			n	9	7	7	--	9	--	
	Rocky Glades Residential Area	6/78-10/78	x	2.2	24	3.3	--	3	--	Waller, 1982b
			SD	.8	19	1.5	--	2	--	
			n	9	7	7	--	9	--	
TAYLOR SLOUGH										
In East Everglades	Context Road (2 undeveloped area stations)	6/78-10/78	x	2	29	5.2	--	--	--	Waller, 1981
			SD	.8	10	1.4	--	--	--	
			n	10	8	8	--	--	--	
	Rock-plowed Tomato Field	6/78-10/78	x	12.6	76	3.3	--	19	--	Waller, 1982b
			SD	17.5	48	1	--	21	--	
			n	7	5	5	--	7	--	
	Crackerjack Slough Agric. area (abuts L-31W levee)	6/78-10/78	x	2	9	5.8	--	3	--	Waller, 1982b
			SD	1	3	2.5	--	2	--	
			n	9	7	8	--	9	--	
	Grossman Rd Borrow Canal	4/78-4/80	x	3.4	14	3.7	780	4	--	Waller, 1981
			SD	1.5	8	2	172	3	--	
Entry to Park	L-31W above S-175	7/72-6/74	(b) x	--	3/10	--	230/205	--	--	Waller & Earle, 1975
In Park	Hwy 27 Bridge near Royal Palm	10/60-9/70	median	--	--	--	162	--	--	Earle & Hartwell,
			n	--	--	--	47	--	--	1973.
	Taylor Slough near Homestead	1960-77	x	10	18	5.2	209	--	--	Waller, 1982a
			SD	14	14	2.3	67	--	--	
			n	10	56	13	51	--	--	

< Not detected, numerical detection limit shown
-- Not analyzed
(b) x/y values denote dry/wet season averages
(c) Averages from 4/78-10/79
(d) Averages from 6/78-12/79

ALL DATA AS REPORTED BY AUTHORS

TABLE C-20. PESTICIDES: CHLORINATED HYDROCARBONS WATER QUALITY DATA FOR ENP SWIM PLANNING AREA.

AREA	SITE	DATE		Aldrin	a-BHC	b-BHC	Lindane (g-BHC)	d-BHC	Chlordane	DDE	DDD	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Heptachlor Epoxide	2,4-D	REFERENCE
SHARK RIVER SLOUGH																			
Entry	S-12C	1/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	Pfeuffer,
		4/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	1989
		7/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		10/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		2/88		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		4/88		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		7/88		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
	S-333	1/22/80		<0.007	--	--	<0.005	--	<0.07	<0.01	<0.02	<0.04	<0.02	--	<0.02	**0.017	<0.01	--	Pfeuffer,
		3/5/80		.04	--	--	<0.005	--	<0.07	<0.01	<0.02	<0.04	<0.02	--	<0.02	.026	<0.01	--	1985
		7/15/80		<0.007	--	--	<0.005	--	<0.07	<0.01	<0.02	<0.04	<0.02	--	<0.02	<0.005	<0.01	--	
In Park	ENP (average values	1965-77	x	<0.001	--	--	--	--	0	.017	.006	.003	.001	--	<0.001	<0.001	--	--	Waller,
	from sites in and		n	96					64	97	96	98	96	--	97	96	--	--	1982a
	adjacent to Park)	# dect. in ENP		0					0	2	6	9	1	--	0	0	--	--	
	Cottonmouth Pond	11/69		ND	--	--	ND	--	--	0	0	0	ND	--	ND	ND	ND	--	McPherson,
	Camp Marsh	11/69		ND	--	--	ND	--	--	0	0	0	ND	--	ND	ND	.01	--	1971
NORTHEAST SHARK RIVER SLOUGH																			
In NESRS	Coopertown	7/6/78		(a)															Waller,
	(residential area)	9/15/78																	1982b
	Chekika Hammock	7/6/78		(a)															Waller,
	(recreational area)	9/15/78																	1982b
	Rocky Glades	7/6/78		(a)															Waller,
	(residential area)	9/15/78																	1982b
TAYLOR SLOUGH																			
In East	Rock-Plowed	7/6/78		(a)															Waller,
Everglades	Tomato Field	9/15/78																	1982b
	Cracker Jack Slough	7/6/78		(a)															Waller,
	(agricultural area)	9/15/78																	1982b
TAYLOR SLOUGH																			
Entry to	S-332	1/22/80		ND	--	--	<0.005	--	ND	ND	ND	ND	ND	--	ND	**0.023	ND	--	Pfeuffer,
Park		3/5/80		ND	--	--	<0.005	--	ND	ND	ND	ND	ND	--	ND	ND	ND	--	1985
		8/5/80		ND	--	--	<0.005	--	ND	ND	ND	ND	ND	--	ND	ND	ND	--	
	S-332	1/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	Pfeuffer,
		4/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	1989
		7/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		10/87		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		2/88		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		4/88		<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	

< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
--Not analyzed
*Detection limit = 0.40, lab artifact suspected. No detection in duplicate.
**Bottle contamination suspected

ALL DATA AS REPORTED BY AUTHOR

TABLE C-20. PESTICIDES: CHLORINATED HYDROCARBONS WATER QUALITY DATA FOR ENP SWIM PLANNING AREA.

AREA	SITE	DATE	Aldrin	a-BHC	b-BHC	Lindane (g-BHC)	d-BHC	Chlordane	DDE	DDD	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Heptachlor Epoxide	2,4-D	REFERENCE
		7/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
C-111 BASIN																		
	S-176	1/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	Pfeuffer,
		4/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	1989
		7/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		10/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		2/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		4/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		7/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
	S-177	1/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	Pfeuffer,
		4/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	1989
		7/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		10/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		2/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		4/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		7/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
	S-178	1/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	Pfeuffer,
		4/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	1989
		7/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		10/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		2/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		4/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		7/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
	S-18C	1/22/80	<0.007	--	--	<0.005	--	<0.07	<0.01	<0.02	<0.04	<0.02	--	<0.02	**0.017	<0.01	--	Pfeuffer,
		3/5/80	.04	--	--	<0.005	--	<0.07	<0.01	<0.02	<0.04	<0.02	--	<0.02	.026	<0.01	--	1985
		7/25/80	<0.007	--	--	<0.005	--	<0.07	<0.01	<0.02	<0.04	<0.02	--	<0.02	<0.005	<0.01	--	
	S-18C	1/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	Pfeuffer,
		4/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	1989
		7/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		10/87	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		2/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		4/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	
		7/88	<0.002	<0.002	<0.004	<0.001	<0.003	<0.01	<0.004	<0.008	<0.01	<0.003	<0.017	<0.007	<0.002	<0.003	<0.8	

< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
--Not analyzed
*Detection limit = 0.40, lab artifact suspected. No detection in duplicate
**Bottle contamination suspected

ALL DATA AS REPORTED BY AUTHOR

TABLE C-21. PESTICIDES: ORGANOPHOSPHATES AND OTHER COMPOUNDS WATER QUALITY DATA FOR ENP SWIM PLANNING AREA.

AREA	SITE	DATE	Diazinon	Ethion	Malathion	Methyl Parathion	Methyl Trithion	Parathion	Trithion	Arazine	Toxaphene	PCB	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	REFERENCE
SHARK RIVER SLOUGH																
Entry	S-12C	1/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	Pfeuffer, 1989
		4/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		10/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		2/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		4/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
	S-333	1/22/80	<0.05	<0.07	<0.15	<0.05	<0.05	<0.05	<0.05	--	<0.6	<0.1	<0.1	<0.1	--	Pfeuffer, 1985
		3/5/80	<0.05	<0.07	<0.15	<0.05	<0.05	<0.05	<0.05	--	<0.6	<0.1	<0.1	<0.1	--	
		7/15/80	<0.05	<0.07	<0.15	<0.05	<0.05	<0.05	<0.05	--	<0.6	<0.1	<0.1	<0.1	--	
In Park	ENP (average values	1965-77 x	0	0	--	0	0	0	0	--	0	--	0	.003	.003	Waller, 1982a
	from sites in and	n	66	60	--	67	58	67	58	--	67	--	89	89	89	
	adjacent to Park)	# Dect in ENP	1	0	--	0	0	0	0	--	0	--	0	0	5	
	Cottonmouth | pond	11/69	--	--	--	--	--	--	--	--	ND	--	ND	ND	ND	McPherson,
	Camp | marsh	11/69	--	--	--	--	--	--	--	--	ND	--	ND	ND	ND	1971
NORTHEAST SHARK	RIVER SLOUGH															
In NESRS	Coopertown	7/6/78	(a)		ND							ND				Waller, 1982b
	(residential area)	9/15/78			ND							ND				
	Chekika Hammock	7/6/78	(a)		.59							ND				Waller, 1982b
	(recreational area)	9/15/78			.07							ND				
	Rocky Glades	7/6/78	(a)		ND							ND				Waller, 1982b
	(residential area)	9/15/78			ND							ND				
TAYLOR SLOUGH																
In East	Rock-Plowed	7/6/78	(a)		ND							ND				Waller, 1982b
Everglades	Tomato Field	9/15/78			ND							ND				
	Cracker Jack Slough	7/6/78	(a)		ND							ND				Waller, 1982b
	(agricultural area)	9/15/78			ND							ND				
TAYLOR SLOUGH																
Entry to	S-332	1/22/80	ND	ND	ND	ND	ND	ND	ND	--	ND	<0.1	<0.1	<0.1	--	Pfeuffer, 1985
Park		3/5/80	ND	ND	ND	ND	ND	ND	ND	--	8.6	ND	<0.1	<0.1	--	
		8/5/80	ND	ND	ND	ND	ND	ND	ND	--	ND	<0.1	<0.1	<0.1	--	
	S-332	1/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	Pfeuffer, 1989
		4/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		10/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		2/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		4/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	1	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	

< None detected, numerical detection limit shown
ND = None detected, detection limits not reported

ALL DATA AS REPORTED BY AUTHOR

--Not analyzed
*Detection limit = 0.40, lab artifact suspected. No detection in duplicate.
**Bottle contamination suspected

TABLE C-21. PESTICIDES: ORGANOPHOSPHATES AND OTHER COMPOUNDS WATER QUALITY DATA FOR ENP SWIM PLANNING AREA.

AREA	SITE	DATE	Diazinon	Ethion	Mala-thion	Methyl Parathion	Methyl Trithion	Parathion	Trithion	Arazine	Toxa-phene	PCB	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	REFERENCE
C-111 BASIN																
	S-176	1/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	Pfeuffer, 1989
		4/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		10/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		2/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		4/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	5	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
	S-177	1/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	*0.41	<2.0	Pfeuffer, 1989
		4/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		10/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		2/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		4/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	7	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
	S-178	1/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	Pfeuffer, 1989
		4/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		10/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		2/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		4/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	.7	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
	S-18C	1/22/80	<0.05	<0.07	<0.15	<0.05	<0.05	<0.05	<0.05	--	<0.6	<0.1	<0.1	<0.1	--	Pfeuffer, 1985
		3/5/80	<0.05	<0.07	<0.15	<0.05	<0.05	<0.05	<0.05	--	<0.6	<0.1	<0.1	<0.1	--	
		7/25/80	<0.05	<0.07	<0.15	<0.05	<0.05	<0.05	<0.05	--	<0.6	<0.1	<0.1	<0.1	--	
	S-18C	1/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	Pfeuffer, 1989
		4/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		10/87	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		2/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	
		4/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	.8	<0.05	<0.65	<0.6	<0.4	<2.0	
		7/88	<0.06	<0.10	<0.06	<0.06	ND	<0.06	<0.10	<0.10	<0.05	<0.65	<0.6	<0.4	<2.0	

< None detected, numerical detection limit shown
ND = None detected, detection limits not reported

ALL DATA AS REPORTED BY AUTHOR

--Not analyzed
*Detection limit = 0.40, lab artifact suspected. No detection in duplicate.
**Bottle contamination suspected

Table C-22. WATER QUALITY DATA FOR ENP SWIM PLANNING AREA, COLIFORM DATA FOR AREAS IN THE NORTHEAST SHARK RIVER SLOUGH (number/ 100 ml).

	Date	Total Coliform	Fecal Coliform	Fecal Streptococci
Coopertown (residential)	6/28/78	1,900	230	126
	7/28/78	4,200	2,000	230
	8/16/78	170	24	24
Chekika Hammock State Park (recreational)	6/28/78	3,700	20	180
	7/28/78	1,300	600	200
Rocky Glades (residential)	8/18/78	600	14	44
	6/28/78	1,100	200	200
	7/28/78	5,400	2,400	270

Source: Waller, 1982b

SFWMD Water Quality Data for ENP Inlow Stations (1984-1987)

TABLE C-23. ENP 1984 ANNUAL AVERAGES
DATE: JANUARY 1, 1984 - DECEMBER 31, 1984
INFLOW STATIONS
SOURCE: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PARAMETERS	S-12D	S-12B	S-333	S-18C	S-332	US41-25	E.N.P. STANDARDS
TEMPERATURE	25.4	24.7	25.8	24.4	24.7	25.2	-
DISSOLVED OXYGEN	3.2 **	3.3 **	2.8 **	5.3	3.4 **	2.6 **	4.5
SP. CONDUCTIVITY	765 *	553	759 *	516	467	377	647
PH	7.12 **	7.08 **	7.08 **	7.33 **	7.16 **	6.94 **	7.6-8.0
TURBIDITY	1.1	1.2	2.1	1.7	2.7	.6	11
COLOR	83	56	81	26	24	28	124
TOTAL SUS.SD.	1.6	3.0	3.6	2.0	1.8	1.0	-
NITRITE	.007	.007	.008	.004	.004	.004	.04
NITRATE	.097	.115	.076	.028	.021	.052	.70
AMMONIA	.03	.05	.03	.09	.20	.05	.24
INORG.NITROGEN	.14	.17	.11	.13	.23	.11	1.0
ORG. NITROGEN	1.81	1.45	1.77	.78	.56	.96	2.1
TOTAL NITROGEN	1.96	1.61	1.88	.88	.79	1.07	2.9
ORTHO PHOSPHORUS	.006	.006	.007	.004	.004	.005	.02
TOTAL PHOSPHORUS	.019	.013	.022	.006	.006	.014	.24
SODIUM	64.15	46.13	66.02	23.28	18.08	17.01	93
POTASSIUM	4.37	3.19	4.28	2.54	.78	1.04	5
CALCIUM	63.27	52.85	63.08	73.66	69.72	59.32	86
MAGNESIUM	19.11	14.42	20.01	4.99	4.37	3.83	25
CHLORIDE	96.9	61.0	97.2	42.1	32.9	25.9	143
ALKALINITY	215.6	173.3	215.1	189.1	194.6	170.2	269
TOTAL IRON	.10	.22	.12	.16	.36 *	.16	.27
TOTAL MERCURY	.147	.199	.150	.145	.151	.152	.5
TOTAL CADMIUM	.805	.176	.795	.814	.409	.175	10
TOTAL COPPER	2.061	.519	2.124	4.396	1.392	1.751	8
TOTAL ZINC	41.29	34.50	24.33	29.45	27.88	21.00	72
TOTAL ARSENIC	1.718	1.223	1.695	.875	.906	.885	20
TOTAL LEAD	1.253	.743	.984	.869	.540	.585	13

* VALUES ABOVE E.N.P. STANDARDS
** VALUES BELOW E.N.P. STANDARDS
- NO E.N.P. STANDARDS

TABLE C-24. ENP 1985 ANNUAL AVERAGES
DATE: JANUARY 1, 1985 - DECEMBER 31, 1985
INFLOW STATIONS
SOURCE: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PARAMETERS	S-12D	S-12B	S-333	S-18C	S-332	US41-25	E.N.P. STANDARDS
TEMPERATURE	24.9	24.5	24.4	24.5	25.1	24.4	-
DISSOLVED OXYGEN	4.2 **	4.0 **	3.9 **	4.6	4.1 **	3.8 **	4.5
SP. CONDUCTIVITY	604	516	686 *	585	483	431	647
PH	7.19 **	7.11 **	7.19 **	7.36 **	7.22 **	7.09 **	7.6-8.0
TURBIDITY	2.5	3.5	4.6	1.9	2.6	3.0	11
COLOR	57	47	64	31	22	36	124
TOTAL SUS.SD.	2.8	3.1	6.4	2.8	3.9	7.3	-
NITRITE	.010	.010	.008	.005	.004	.006	.04
NITRATE	.152	.061	.200	.052	.020	.032	.70
AMMONIA	.12	.25*	.07	.21	.20	.16	.24
INORG.NITROGEN	.28	.32	.27	.26	.22	.19	1.0
ORG. NITROGEN	1.72	1.94	1.85	1.41	1.04	1.48	2.1
TOTAL NITROGEN	1.99	2.25	2.12	1.67	1.26	1.68	2.9
ORTHO PHOSPHORUS	.011	.015	.017	.004	.004	.012	.02
TOTAL PHOSPHORUS	.040	.094	.049	.011	.007	.059	.24
SODIUM	45.26	21.10	55.85	41.49	24.25	17.31	93
POTASSIUM	3.35	1.45	4.10	2.80	1.22	1.54	5
CALCIUM	59.82	50.70	60.09	72.30	71.94	70.03	86
MAGNESIUM	12.05	4.39	15.59	9.70	5.70	4.54	25
CHLORIDE	68.9	56.6	83.1	61.7	38.8	26.0	143
ALKALINITY	179.9	174.1	185.0	200.5	193.4	185.1	269
TOTAL IRON	.12	.23	.13	.16	.23	.21	.27
TOTAL MERCURY	.193	.190	.166	.271	.192	.219	.5
TOTAL CADMIUM	.318	.205	.380	.869	.461	.317	10
TOTAL COPPER	1.424	1.915	1.426	2.437	1.535	1.416	8
TOTAL ZINC	27.65	40.45	26.04	24.33	25.73	24.73	72
TOTAL ARSENIC	2.267	1.790	2.472	1.806	1.708	1.662	20
TOTAL LEAD	.708	.667	.703	.696	.840	.985	13

* VALUES ABOVE E.N.P. STANDARDS
** VALUES BELOW E.N.P. STANDARDS
- NO E.N.P. STANDARDS

TABLE C-25. ENP 1986 ANNUAL AVERAGES
DATE: JANUARY 1, 1986 - DECEMBER 31, 1986
INFLOW STATIONS
SOURCE: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PARAMETERS	S-12D	S-12B	S-333	S-18C	S-332	US41-25	TAMBR105	E.N.P. STANDARDS
TEMPERATURE	25.1	25.5	25.0	25.2	25.1	25.2	25.2	-
DISSOLVED OXYGEN	3.6 **	4.1 **	3.0 **	4.1 **	3.3 **	2.7 **	2.8 **	4.5
SP. CONDUCTIVITY	567	419	629	568	487	401	371	647
PH	7.07 **	7.06 **	7.11 **	7.20 **	7.03 **	6.96 **	6.93 **	7.6-8.0
TURBIDITY	1.1	.9	1.2	2.7	3.7	1.1	1.4	11
COLOR	62	44	68	30	27	32	36	124
TOTAL SUS.SD.	1.4	1.4	3.1	1.7	1.8	1.7	1.9	-
NITRITE	.006	.005	.009	.004	.005	.005	.004	.04
NITRATE	.122	.037	.103	.027	.018	.030	.009	.70
AMMONIA	.02	.03	.03	.20	.21	.09	.04	.24
INORG.NITROGEN	.15	.08	.14	.23	.23	.12	.05	1.0
ORG. NITROGEN	1.76	1.84	1.84	.99	.81	1.32	1.23	2.1
TOTAL NITROGEN	1.91	1.91	1.98	1.23	1.04	1.44	1.28	2.9
ORTHO PHOSPHORUS	.004	.004	.005	.004	.004	.005	.009	.02
TOTAL PHOSPHORUS	.018	.012	.019	.009	.008	.020	.034	.24
SODIUM	43.00	28.18	51.22	36.08	22.04	17.21	12.91	93
POTASSIUM	3.05	1.97	3.99	2.74	.96	1.01	.65	5
CALCIUM	59.21	51.20	64.04	73.25	73.94	59.92	64.07	86
MAGNESIUM	11.04	6.28	12.98	6.95	4.78	3.59	2.44	25
CHLORIDE	65.8	42.5	82.8	48.6	34.1	27.2	20.4	143
ALKALINITY	184.4	148.7	198.7	206.0	205.0	171.1	166.6	269
TOTAL IRON	.16	.25	.14	.35 *	.51 *	.22	.12	.27
TOTAL MERCURY	.220	.220	.226	.211	.229	.212	.216	.5
TOTAL CADMIUM	.309	.309	.309	.554	.275	.285	.300	10
TOTAL COPPER	2.018	1.059	1.178	2.996	1.284	1.160	.689	8
TOTAL ZINC	39.80	35.76	57.51	20.51	20.73	23.96	25.11	72
TOTAL ARSENIC	1.337	1.274	1.377	1.327	1.193	1.388	1.170	20
TOTAL LEAD	.631	.595	1.427	.966	.700	.674	.535	13

* VALUES ABOVE E.N.P. STANDARDS
** VALUES BELOW E.N.P. STANDARDS
- NO E.N.P. STANDARDS

TABLE C-26. ENP 1987 ANNUAL AVERAGES
DATE: JANUARY 1, 1987 - DECEMBER 31, 1987
INFLOW STATIONS
SOURCE: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PARAMETERS	S-12D	S-12B	S-333	S-18C	S-332	US41-25	TAMBR105	E.N.P. STANDARDS
TEMPERATURE	24.4	24.1	23.6	25.3	25.4	24.2	23.9	-
DISSOLVED OXYGEN	4.4 **	4.7	3.3 **	5.2	4.3 **	3.8 **	3.7 **	4.5
SP. CONDUCTIVITY	466	353	581	580	504	366	347	647
PH	7.17 **	7.18 **	7.23 **	7.45 **	7.25 **	7.17 **	7.15 **	7.6-8.0
TURBIDITY	1.5	1.4	1.7	3.7	3.8	1.4	2.2	11
COLOR	48	35	56	28	23	32	35	124
TOTAL SUS.SD	1.1	1.3	1.3	1.8	1.6	1.0	1.5	-
NITRITE	.006	.006	.006	.006	.005	.004	.005	.04
NITRATE	.050	.020	.066	.039	.024	.033	.012	.70
AMMONIA	.02	.03	.02	.17	.17	.04	.02	.24
INORG.NITROGEN	.07	.05	.09	.22	.20	.08	.04	1.0
ORG. NITROGEN	1.34	1.42	1.48	.96	.84	1.06	.95	2.1
TOTAL NITROGEN	1.41	1.48	1.57	1.17	1.03	1.14	.99	2.9
ORTHO PHOSPHORUS	.008	.008	.007	.005	.005	.006	.007	.02
TOTAL PHOSPHORUS	.015	.014	.015	.009	.012	.017	.021	.24
SODIUM	34.59	22.85	48.15	34.59	21.52	13.46	14.59	93
POTASSIUM	2.09	1.42	2.79	2.74	1.05	.61	.53	5
CALCIUM	52.24	46.49	59.90	77.55	74.42	59.03	58.25	86
MAGNESIUM	8.09	5.15	11.55	6.88	4.78	2.75	2.54	25
CHLORIDE	49	30	65	51	33	21	22	143
ALKALINITY	158	129	179	210	202	155	154	269
TOTAL IRON	.21	.28 *	.16	.24	.40 *	.18	.09	.27
TOTAL MERCURY	.220	.210	.241	.200	.205	.320	.214	.5
TOTAL CADMIUM	52.24	.294	.287	.683	.263	.246	.239	10
TOTAL COPPER	.933	1.025	1.754	1.325	.972	1.029	.833	8
TOTAL ZINC	17.65	23.41	21.52	19.57	19.97	17.08	23.25	72
TOTAL ARSENIC	1.355	1.506	1.495	1.287	1.234	1.415	1.145	20
TOTAL LEAD	.504	.563	.523	.525	.572	.576	.643	13

* VALUES ABOVE E.N.P. STANDARDS
** VALUES BELOW E.N.P. STANDARDS
- NO E.N.P. STANDARDS

TABLE C-27. ENP PERIOD OF RECORD AVERAGES
INFLOW STATIONS
SOURCE: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

PARAMETERS	S12D	S12B	S333	S332	S18C	US41-25	TAMBR105	E.N.P. STANDARDS
POR ***	(78-88)	(78-88)	(78-88)	(83-88)	(83-88)	(84-88)	(85-88)	
TEMPERATURE	24.8	25.0	24.9	25.1	24.9	24.9	24.9	-
DISSOLVED OXYGEN	4.1 **	4.0 **	3.7 **	3.7 **	4.7	3.2 **	3.1 **	4.5
SP. CONDUCTIVITY	609	414	657 *	486	558	385	365	647
PH	7.25 **	7.15 **	7.23 **	7.19 **	7.36 **	7.07 **	7.04 **	7.6-8.0
TURBIDITY	1.4	1.2	1.8	2.9	2.5	1.4	1.7	11
COLOR	62	42	67	25	29	31	34	124
TOTAL SUS.SD.	1.7	2.1	3.4	2.2	2.0	2.2	1.9	-
NITRITE	.007	.006	.007	.004	.005	.005	.004	.04
NITRATE	.092	.036	.111	.029	.038	.033	.012	.70
AMMONIA	.04	.05	.03	.20	.17	.08	.05	.24
INORG.NITROGEN	.14	.09	.15	.23	.21	.12	.07	1.0
ORG. NITROGEN	1.79	1.54	1.89	.78	.94	1.15	1.01	2.1
TOTAL NITROGEN	1.93	1.63	1.96	1.00	1.13	1.27	1.07	2.9
ORTHO PHOSPHORUS	.005	.005	.006	.004	.004	.006	.008	.02
TOTAL PHOSPHORUS	.017	.019	.020	.012	.008	.024	.027	.24
SODIUM	45.81	24.83	53.54	21.75	32.65	15.39	13.13	93
POTASSIUM	2.93	1.63	3.44	1.08	2.79	.90	.55	5
CALCIUM	61.13	46.56	63.64	72.47	74.46	61.52	62.63	86
MAGNESIUM	12.91	5.64	14.77	5.07	6.98	3.61	2.49	25
CHLORIDE	70.3	40.7	80.5	35.3	50	24.5	21.2	143
ALKALINITY	186.9	140	197.3	198.6	200	168.4	164.9	269
TOTAL IRON	.17	.25	.15	.39 *	.25	.23	.11	.27
TOTAL MERCURY	.198	.205	.199	.195	.206	.228	.212	.5
TOTAL CADMIUM	.364	.261	.401	.412	.678	.246	.241	10
TOTAL COPPER	1.413	1.082	1.507	1.225	2.441	1.145	.754	8
TOTAL ZINC	29.779	30.279	32.192	24.704	24.276	23.519	27.374	72
TOTAL ARSENIC	1.679	1.466	1.733	1.353	1.498	1.484	1.272	20
TOTAL LEAD	.710	.552	.844	.604	.695	.640	.700	13

* VALUES ABOVE E.N.P. STANDARDS
** VALUES BELOW E.N.P. STANDARDS
*** POR IS FROM OCTOBER - SEPTEMBER
- NO E.N.P. STANDARDS

Groundwater Quality Data

TABLE C-28 NITROGEN, PHOSPHORUS, TIC, AND TOC
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE		Turb (JTU)	Color (PCU)	PO4 (mg/l)	TP (mg/l)	NH3 (mg/l)	NO3 (mg/l)	NO2 (mg/l)	org-N (mg/l)	TN (mg/l)	TOC (mg/l)	TIC (mg/l)	REFERENCE
EAST.EVERGLADES															
	NE Shark River Slough	8/78-10/79	x	10	131	.005	.012	2.15	.005	.001	1.15	3.31	31.4	96	Waller, 1981
			SD	5	51	.005	.004	.11	.005	.003	.24	.24	21	6	
			n	10	8	10	10	10	10	10	10	10	10	4	
	Baseline wells	9/78-6/79	x	7		.01	.01	.25	.01	0.00	.33	.59	10	48	Waller, 1983
			SD			0.01	0.02	.13	0.02	0.00	.15	.24	11	7.7	
			n	53		53	53	53	53	53	53	53	52	6	
	Context Road, at Bridge 27	4/78-12/79	x	18.6	30	.005	.013	.31	.01	0.00	.34	.66	15.4	63	Waller, 1981
			SD	8.6	27	.005	.005	.04	.01	0.00	.11	.23	23.9	13	
			n	8	6	8	8	8	8	8	8	8	8	3	
	Howard Dr. ag. area	9/78-5/79	n=70	0-8	20-60	.01	--	.41	0.00	0.00	.44	.85	15	--	Waller, 1983
	Citrus grove	9/78-5/79	n=68	1-30	0-30	0.00	--	.18	.04	.01	.54	.76	12	--	Waller, 1983
	Rock-plowed tomato field	9/78-5/79	n=68	1-150	5-40	0.00	--	.28	0.00	0.00	0.30	.59	9.6	--	Waller, 1983
	Cracker Jack Slough ag. area	9/78-5/79	n=65	1-35	0-35	0.00	--	.12	.22	.01	.26	.61	8.6	--	Waller, 1983
	Coopertown	9/78-5/79	n=20	2-25	60-90	.02	--	1.4	0.00	0.00	1.2	2.5	18	--	Waller, 1983
	Richmond Dr. resid. area	11/78-5/79	n=20	2-7	20-50	.01	--	0.30	.01	0.00	.43	.73	13	--	Waller, 1983
	Chekika Hammock State Park	11/78-5/79	n=20	2-23	30-50	.03	--	.55	0.00	0.00	.63	1.2	15	--	Waller, 1983
	South Dade Pilot Study (LEC-04-12,LEC-22-32)	9/84	Range	--	--	<0.004 to 0.061	<0.004 to 0.14	--	<0.004 to 4.10	<0.004 to 0.017	0.00 to 4.28	--	4.2 to 12.3	--	Anderson, 1986

< Not detected, numerical detection limit shown
-- Not anlyzed

ALL DATA AS REPORTED BY AUTHORS

TABLE C-29 ALKALINITY, SPECIFIC CONDUCTANCE, AND IONS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE		pH	Cond (umhos)	Alk. (mg/l)	Ca (mg/l)	Mg (mg/l)	Na (mg/l)	K (mg/l)	Cl (mg/l)	SO4 (mg/l)	Fl (mg/l)	REFERENCE
EAST EVERGLADES														
	NE Shark River Slough	8/78-10/79	x	7	694	332	125	7.2	27.5	.7	49.8	3.7	.2	Waller, 1981
			SD	.1	109	41	10	.3	1	.1	1.3	2.4	0	
			n	8	10	9	4	4	4	6	4	4	4	
	Baseline wells	9/78-6/79	x		435	221	77	3.4	10	.8	17	7.6	.1	Waller, 1983
			SD		28	34	3.5	.04	1.3	1.7	1.4	4	0	
			n		46	51	11	11	11	48	11	11	11	
	Context Road, at Bridge 27	4/78-12/79	x	7.4	479	250	92	3.2	7.3	.3	12.7	4	.2	Waller, 1981
			SD	.5	73	26	9	.2	.6	.1	1.5	3.1	.1	
			n	8	8	8	3	3	3	5	3	3	3	
	Howard Dr. ag. area	9/78-5/79	n=70	6.6-8.1	484	245	--	--	--	.6	--	--	--	Waller, 1983
	Citrus grove	9/78-5/79	n=68	6.8-8.0	1040	241	--	--	--	3	--	--	--	Waller, 1983
	Rock-plowed tomato field	9/78-5/79	n=68	6.7-8.1	443	25	--	--	--	1.3	--	--	--	Waller, 1983
	Cracker Jack Slough ag. area	9/78-5/79	n=65	6.8-8.0	505	222	--	--	--	6.2	--	--	--	Waller, 1983
	Coopertown	9/78-5/79	n=20	6.8-7.8	671	294	--	--	--	.71	--	--	--	Waller, 1983
	Richmond Dr. resid. area	11/78-5/79	n=20	7.0-8.1	476	247	--	--	--	24	--	--	--	Waller, 1983
	Chekika Hammock State Park	11/78-5/79	n=20	7.0-7.8	1330	249	--	--	--	6.9	--	--	--	Waller, 1983
	South Dade Pilot Study (LEC-04-12,LEC-22-32)	9/84	Range	7.45-7.74	375-645	120-222	67.9-105.9	0.9-9.9	9-33.3	0.2-8.8	14-63.7	<2-61.9	--	Anderson, 1986

< Not detected, numerical detection limit shown
-- Not analyzed

ALL DATA AS REPORTED BY AUTHORS

TABLE C-30. METALS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA SITE	DATE		Total As (ug/l)	Total Cd (ug/l)	Total Cr (ug/l)	Total Cu (ug/l)	Total Fe (ug/l)	Total Pb (ug/l)	Total Mn (ug/l)	Total Ni (ug/l)	Total Zn (ug/l)	Total Hg (ug/l)	REFERENCE
EAST EVERGLADES													
NE Shark River Slough	8/78-10/79	x	3	0	13	2	3633	15	63	7	13	.5	Waller, 1981
		SD	2	0	6	1	473	17	32	5	6	.3	
		n	3	3	3	3	3	3	3	3	3	3	
Baseline wells	9/78-6/79	x	2	1	11	.2	920	2	15	9	10	.5	Waller, 1983
		SD	2	3	3	.6	430	3	7	7	14	0	
		n	16	13	16	16	16	11	16	16	16	16	
Context Road, at Bridge 27	4/78-12/79	x	3	1	13	0	2250	0	30	5	5	.4	Waller, 1981
		SD	3	1	10	0	495	0	0	4	7	.3	
		n	2	2	2	2	2	2	2	2	2	2	
Howard Dr. ag. area	9/78-5/79	n=70	--	--	--	--	1400	--	--	--	--	--	Waller, 1983
Citrus grove	9/78-5/79	n=68	--	--	--	--	950	--	--	--	--	--	Waller, 1983
Rock-plowed tomato field	9/78-5/79	n=68	--	--	--	--	750	--	--	--	--	--	Waller, 1983
Cracker Jack Slough ag. area	9/78-5/79	n=65	--	--	--	--	680	--	--	--	--	--	Waller, 1983
Coopertown	9/78-5/79	n=20	--	--	--	--	3300	--	--	--	--	--	Waller, 1983
Richmond Dr. resid. area	11/78-5/79	n=20	--	--	--	--	930	--	--	--	--	--	Waller, 1983
Chekika Hammock State Park	11/78-5/79	n=20	--	--	--	--	1500	--	--	--	--	--	Waller, 1983
South Dade Pilot Study	9/84	Range	<0.7 to	<0.16 to	0.40 to	<0.4 to	<0.02 to	<0.5 to	8.4 to	<0.7 to	6-122	<.15 to	Anderson, 1986
(LEC-04-12,LEC-22-32)			6.3	<0.18	12.6	14.5	7.20	603.5	66.6	7.8		<.16	

< Not detected, numerical detection limit shown
-- Not anlyzed

ALL DATA AS REPORTED BY AUTHORS

TABLE C-31. PESTICIDES: CHLORINATED HYDROCARBONS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE	Aldrin	alpha BHC	beta BHC	gamma BHC	delta BHC	Chlordane	DDE	DDD	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Heptachlor Epoxide	Methoxychlor	2,4 DP	REFERENCE
EAST EVERGLADES																			
South Dade Agricultural Pilot Study	L-EC-04	9/84	0.0024	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	Anderson, 1986
	L-EC-05	9/84	.0027	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	--	Anderson, 1986
	L-EC-06	9/84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-07	9/84	0.0058	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-08	9/84	0.00445	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01150	ND	Anderson, 1986
	L-EC-09	9/84	0.0047	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-10	9/84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-11	9/84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-12	9/84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-13	9/84	0.0072	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	Anderson, 1986
	L-EC-14	9/84	ND	0013	ND	ND	ND	ND	ND	ND	0.0120	0.0085	ND	ND	ND	ND	ND	ND	Anderson, 1986
DERM Chlorinated Pesticide Study	1 (G-3188)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.018	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.00429	<0.083	<0.060	--	
	2 (G-3189)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.006	<0.014	<0.006	.026	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	3 (16-1C)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	.016	.007	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.044	.023	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	4 (G-3373)	12/85	<0.004	--	--	.036	--	<0.014	<0.004	<0.011	<0.012	.012	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.02562	--	--	.0574	--	<0.014	.02205	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	5 (W-1A)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	.013	<0.002	.024	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	.00935	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.0039	.2696	<0.060	--	
	6 (W-1B)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.046	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.08739	<0.060	--	
	7 (W-1C)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	.038	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.00441	<0.083	<0.060	--	
	8 (G-1362)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.068	--	<0.014	.038	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	9 (E-1A)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	10 (E-1B)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.0113	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.0892	<0.060	--	
	11 (G-757A)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.012	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988

< Not detected, numerical detection limit shown
ND = Not detected, detection limit not reported
-- Not analyzed

ALL DATA AS REPORTED BY AUTHOR

TABLE C-31. PESTICIDES: CHLORINATED HYDROCARBONS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE	Aldrin	alpha BHC	beta BHC	gamma BHC	delta BHC	Chlordane	DDE	DDD	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Epoxide	Methoxychlor	2,4 DP	REFERENCE
		11/86	.014	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	12 (G-3371)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.009	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
DERM Chlorinated Pesticide		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
Study	13 (G-3108)	12/85	<0.004	--	--	<0.004	--	<0.014	.041	<0.011	.045	.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	14 (G-1363)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.036	--	.043	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	.06045	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	15 (G-614)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.009	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.009	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	16 (G-3364)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	.045	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.072	--	.039	<0.004	<0.011	<0.012	<0.002	<0.014	.007	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	17 (G-3370)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.016	.009	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.01292	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	18 (G-3412)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.009	<0.014	.025	<0.003	<0.083	<0.060	--	
		6/87	.10499	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.00354	<0.083	<0.060	--	
	19 (S-68)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.018	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	.045	.017	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	20 (E-2A)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.003	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.02	<0.011	<0.012	<0.002	<0.014	<0.006	.065	<0.083	<0.060	--	
		6/87	<0.004	--	--	.0187	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.1463	.6807	<0.060	--	
	21 (E-2B)	12/85	<0.004	--	--	<0.004	--	<0.014	.017	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	.019	.008	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.10696	<0.060	--	
	22 (E-2C)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.06	<0.083	<0.060	--	
		6/87	10499	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.1055	<0.060	--	
	23 (G-3365)	12/85	<0.004	--	--	<0.004	--	<0.014	.009	<0.011	.012	.012	.009	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.018	--	--	.036	--	.042	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	24 (G-3369)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.0786	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.2113	<0.060	--	
	25 (G-3174)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.014	<0.011	<0.012	<0.002	<0.014	<0.006	.124	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.12683	.6491	<0.060	--	

< Not detected, numerical detection limit shown
ND = Not detected, detection limit not reported
-- Not analyzed

ALL DATA AS REPORTED BY AUTHOR

TABLE C-31. PESTICIDES: CHLORINATED HYDROCARBONS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE	Aldrin	alpha BHC	beta BHC	gamma BHC	delta BHC	Chlor-dane	DDE	DDD	DDT	Dieldrin	Endo-sulfan	Endrin	Hepta-chlor	Epoxide	Methoxy-chlor	2,4 DP	REFERENCE
	26 (G-3177)	12/85	<0.004	--	--	<0.004	--	<0.014	.026	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.014	--	--	<0.004	--	.06	<0.004	<0.011	<0.012	<0.002	<0.014	.011	<0.003	<0.083	<0.060	--	
DERM Chlorinated Pesticide		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.11843	<0.060	--	
Study	27 (21-3C)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.0192	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	.0121	.0309	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	28 (E-3A)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	.0086	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.1822	<0.060	--	
	29 (E-3B)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	.027	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.0196	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	30 (E-3C)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.007	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.1542	<0.060	--	
	31 (G-3368)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.063	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	32 (G-3360)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.0099	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	.0088	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	.1136	--	.2372	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.3144	.1276	<0.060	--	
	33 (G-3359)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	.049	.036	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	.0114	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
	34 (G-864)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.004	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	.00719	--	<0.014	.19975	<0.011	<0.012	<0.002	<0.014	<0.006	.16154	<0.083	<0.060	--	
	35 (W-4A)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.074	--	<0.014	.063	<0.011	<0.012	<0.002	<0.014	<0.006	.05	<0.083	<0.060	--	
		6/87	.1316	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.0051	.2309	<0.060	--	
	36 (W-4B)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	.0099	--	--	.028	--	<0.014	.01	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	.12954	--	--	.02022	--	.1076	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	.02126	1.2367	<0.060	--	
	37 (W-4C)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	.035	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.021	<0.011	.013	<0.002	.004	.009	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.14615	<0.060	--	
	38 (G-3181)	12/85	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	<0.004	--	<0.014	.049	<0.011	<0.012	<0.002	<0.014	<0.006	.035	<0.083	<0.060	--	
		6/87	<0.004	--	--	.0104	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	.033539	<0.060	--	
	39 (G-3184)	12/85	<0.004	--	--	<0.004	--	<0.014	.004	<0.011	<0.012	.003	<0.014	<0.006	.014	<0.083	<0.060	--	Baker, 1988
		11/86	<0.004	--	--	.007	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	
		6/87	<0.004	--	--	<0.004	--	<0.014	<0.004	<0.011	<0.012	<0.002	<0.014	<0.006	<0.003	<0.083	<0.060	--	

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ND = Not detected, detection limit not reported
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ALL DATA AS REPORTED BY AUTHOR

TABLE C-32. PESTICIDES: ORGANOPHOSPHATES AND OTHER COMPOUNDS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE	Malathion	Parathion	Toxaphene	PCB	(Silvex)	2,4-D	REFERENCE
EAST EVERGLADES									
South Dade Agricultural Pilot Study	LEC-04	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-05	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-06	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-07	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-08	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-09	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-10	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-11	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-12	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-13	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
	LEC-14	9/84	ND	ND	ND	ND	ND	ND	Anderson, 1986
DERM Chlorinated Pesticide Study	1 (G-3188)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	2 (G-3189)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	3 (16-1C)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	4 (G-3373)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	5 (W-1A)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	6 (W-1B)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	7 (W-1C)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	8 (G-1362)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	9 (E-1A)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	10 (E-1B)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
DERM Chlorinated Pesticide Study	11 (G-757A)	12/85	--	--	<0.240	--	--	--	Baker, 1988

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ALL DATA AS REPORTED BY AUTHOR

TABLE C-32. PESTICIDES: ORGANOPHOSPHATES AND OTHER COMPOUNDS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE	Malathion	Parathion	Toxaphene	PCB	(Silvex)	2,4-D	REFERENCE
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	12 (G-3371)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	13 (G-3108)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	14 (G-1363)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	15 (G-614)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	16 (G-3364)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	17 (G-3370)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	18 (G-3412)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	19 (S-6B)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	20 (E-2A)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	21 (E-2B)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	22 (E-2C)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	23 (G-3365)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	24 (G-3369)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
DERM Chlorinated Pesticide Study	25 (G-3174)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	

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ALL DATA AS REPORTED BY AUTHOR

TABLE C-32. PESTICIDES: ORGANOPHOSPHATES AND OTHER COMPOUNDS
GROUNDWATER QUALITY DATA FOR ENP SWIM PLANNING AREA

AREA	SITE	DATE	Malathion	Parathion	Toxaphene	PCB	(Silvex)	2,4-D	REFERENCE
	26 (G-3177)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	27 (21-3C)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	28 (E-3A)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	29 (E-3B)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	30 (E-3C)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	31 (G-3368)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	32 (G-3360)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	33 (G-3359)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	34 (G-864)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	35 (W-4A)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	36 (W-4B)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	37 (W-4C)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	38 (G-3181)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	
	39 (G-3184)	12/85	--	--	<0.240	--	--	--	Baker, 1988
		11/86	--	--	<0.240	--	--	--	
		6/87	--	--	<0.240	--	--	--	

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ALL DATA AS REPORTED BY AUTHOR

TABLE C-33 PESTICIDES: CHLORINATED HYDROCARBONS
SOIL DATA FOR ENP SWIM PLANNING AREA
(in micrograms per kilogram dry sediment)

AREA	SITE	DATE	Aldrin	Alpha BHC	Beta BHC	Lindane (g-BHC)	Delta BHC	Chlordane	DDE	DDD	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Heptachlor Epoxide	Hexachloro-Benzene	1-Hydroxy-Chlordene	2,4-DP	REFERENCE
SHARK RIVER SLOUGH																				
Entry	L-67A, 0.5 mi N of Tamiami Canal	10/72	0	--	--	0	--	0	0	0	0	0	--	0	0	0	--	--	--	Waller & Earle,
		4/73	0	--	--	0	--	4	1.1	2.9	0	1	--	0	0	0	--	--	--	1975
		12/73	0	--	--	0	--	0	.6	4.2	0	0	--	0	0	0	--	--	--	
		4/74	0	--	--	0	--	0	1.5	3.1	0	0	--	0	0	0	--	--	--	
	L-67A, 0.5 mi N of Tamiami Canal	4/76	<0.1	--	--	--	--	<1.0	1	<0.1	<0.1	<0.1	--	<0.1	<0.1	<0.1			<0.1	Pfeuffer, 1985
	S-333, upstream (a)	5/82	35.7	5.7	19.5	2.3	24.4	52.5	<0.15	<0.19	11.6	<0.15	29.4	<0.2	12.9	<1.2	5.3	<1.4		Pfeuffer, 1985
		11/82	5.59	6.08	7.40	4.74	6.17	23.8	.63	.52	1.30	<0.15	<0.5	.87	.25	.25	1.53	<1.4		
		4/83	<0.16	<0.10	<0.20	<0.10	--	<0.12	.78	<0.19	<0.20	<0.15	<0.5	<0.2	1.3	1.3	.28	<1.4		
		10/83	.2	1.1	1.4	1.7	--	.2	<0.15	<0.19	<0.20	<0.15	<0.5	<0.2	<0.1	<1.2	<0.14	<1.4		
	S-12C, Tamiami Canal outlet	10/72	0	--	--	0	--	0	.4	.2	0	.1	--	0	0	0	--	--	--	Waller & Earle,
		4/73	0	--	--	0	--	3	6.7	2.9	.3	.1	--	0	0	0	--	--	--	1975
		12/73	0	--	--	0	--	1	8.6	2.5	.9	0	--	0	0	0	--	--	--	
		4/74	0	--	--	0	--	0	12	1.4	1.8	0	--	0	0	0	--	--	--	
	S-12C, Tamiami Canal outlet	4/76	<0.1			--		<1.0	7	<0.1	<0.1	<0.1	--	<0.1	<0.1	<0.1			<0.1	Pfeuffer, 1985
	S-12C, Tamiami Canal outlet	11/84	<7.4	<1.5	<1.5	<1.5	<1.5	<15	<5.9	<2.9	<2.9	<2.9	<2.9	<2.9	<7.4	<1.5	--	--	--	Pfeuffer, 1989
		7/85	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<1.0	<2.0	--	--	--	
		2/86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	
		6/86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		--	
		1/87	<84.4	<253	<84.4	<253	<169	<501	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	--	--	<1130	
		7/87	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	--	--	<361	
		10/87	<57.5	<108	<64.6	<64.6	<71.8	<71.8	<57.5	<57.5	<93.4	<57.5	<57.5	<57.5	<57.5	<57.5	--	--	<356	
		2/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	1.2	--	--	<80	
		4/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
		7/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
	S-12A, above Tamiami Canal	10/72	0	--	--	0	--	0	6.6	7	0	0	--	0	0	0	--	--	--	Waller & Earle,
		4/73	0	--	--	0	--	0	4.6	.7	.4	1	--	0	0	0	--	--	--	1975
		12/73	0	--	--	0	--	0	24	25	0	0	--	0	0	0	--	--	--	
		4/74	0	--	--	0	--	0	9.7	0	0	0	--	0	0	0	--	--	--	
	S-12A on Tamiami Trail (a)	5/82	<0.16	<0.10	21.3	14.6	62.2	<0.15	<0.19	<0.20	<0.20	<0.15	229.8	<0.2	8.8	35	<0.14	<1.4		Pfeuffer, 1985
		11/82	5.03	<0.10	40.6	34.2	35.2	155	4.86	1.29	2.88	<0.15	<0.5	.22	.53	<1.2	<0.14	<1.4		
		5/83	<0.16	<0.10	<0.20	.19	--	1.25	.46	<0.19	<0.20	<0.15	<0.5	<0.2	.31	<1.2	<0.14	<1.4		
	L-67A Extended, at south end	5/79	ND	--	--	--	--	0	2.5	0	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
In ENP	Cottonmouth Camp: marsh	11/69				ND			.4	.7	0	ND			ND	ND				McPherson,
	pond	11/69				ND			.5	0	1.2	ND			ND	ND				1971
	ENP (means from sites in ENP)	1971-77						1.8	4.2	3.5	9	.2								Waller, 1982a
								105	119	120	117	113								

(a) Compounds analyzed but not detected include: captan (<2), chlorodecone (<20), dichlone (<20), dilan (<2), dimethoate (<1), guthion (<10), methoxychlor (<2), Aroclor 1260 (<1), phosdrin (<1), Phorate (<2), ronnel (<2), simazine (<200), and tetradifon (<2).
< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
-- Not analyzed
DDE - residues could represent previous DDT use (DDT banned since 1974)

ALL DATA AS REPORTED BY AUTHORS

TABLE C-38 PESTICIDES: CHLORINATED HYDROCARBONS
SOIL DATA FOR ENP SWIM PLANNING AREA
(in micrograms per kilogram dry sediment)

AREA	SITE	DATE	Aldrin	Alpha BHC	Beta BHC	Lindane (g-BHC)	Delta BHC	Chlordane	DDE	DDD	DDT	Dieldrin	Endosulfan	Endrin	Heptachlor	Heptachlor Epoxide	Hexachloro-Benzene	1-Hydroxy-Chlordene	2,4-DP	REFERENCE
EAST EVERGLADES																				
	Bridge 53, Tamiami Canal	5/79	ND	--	--	--	--	0	.1	.5	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
	NESRS Station 1	5/79	ND	--	--	--	--	0	6.9	0	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
	NESRS Station 2	5/79	ND	--	--	--	--	0	4.5	0	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
		6/79	ND	--	--	--	--	5	1.2	0	0	ND	ND	ND	ND	ND	--	--	--	
	Howard Dr. agric. area	9/78	0	--	--	--	--	0	0	0	0	1.2	0	0	0	0	--	--	--	Waller, 1982b
	Citrus Grove	9/78	0	--	--	--	--	68	110	0	0	1600	0	0	0	0	--	--	--	Waller, 1982b
	Rock-plowed tomato field	9/78	0	--	--	--	--	240	2.4	0	0	3.5	0	0	0	0	--	--	--	Waller, 1982b
	Cracker Jack Slough ag. area	9/78	0	--	--	--	--	220	80	19	100	29	0	0	0	4.4	--	--	--	Waller, 1982b
	Coopertown	9/78	0	--	--	--	--	57	0	0	15	1.6	0	0	0	0	--	--	--	Waller, 1982b
	Richmond Dr. residential area	9/78	0	--	--	--	--	40	1.6	4.2	43	0	0	0	0	0	--	--	--	Waller, 1982b
	Chekika Hammock State Park	9/78	0	--	--	--	--	0	0	0	0	0	0	0	0	0	--	--	--	Waller, 1982b
	Grossman Rd Borrow Canal	5/79	ND	--	--	--	--	0	.6	0	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
		6/79	ND	--	--	--	--	0	0	.2	0	ND	ND	ND	ND	ND	--	--	--	
	Context Road, north	5/79	ND	--	--	--	--	2	1.8	0	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
	Context Road, at Bridge 27	5/79	ND	--	--	--	--	0	.7	0	0	ND	ND	ND	ND	ND	--	--	--	Waller, 1981
TAYLOR SLOUGH																				
Entry to S-332		10/72	0	--	--	0	--	0	.2	0	0	0	--	0	0	0	--	--	--	Waller & Earle,
ENP		4/73	0	--	--	0	--	0	0	0	0	.2	--	0	0	0	--	--	--	1975
		12/73	0	--	--	0	--	0	.5	.1	0	0	--	0	0	0	--	--	--	
		4/74	0	--	--	0	--	0	.3	0	0	0	--	0	0	0	--	--	--	
	S-332, upstream (a)	5/82	1.3	5	<0.20	1.3	<0.12	19.6	<0.15	<0.20	<0.20	<0.15	<0.5	<0.2	<0.1	<1.2	<0.14	<1.4		Pfeuffer, 1985
		11/82	7.49	6.62	14.8	8.45	18.9	76	<0.15	6.69	1.47	<0.15	1.85	2.12	.78	8.59	<0.14	<1.4		
		4/83	<0.16	<0.10	<0.20	<0.10	--	<0.12	.62	.47	<0.20	<0.15	<0.5	<0.2	4.1	<1.2	<0.14	<1.4		
		10/83	.7	1.1	<0.20	<0.10	--	1.2	1.7	2.3	.7	<0.15	<0.5	<0.2	<0.1	<1.2	<0.14	.4		
	S-332	11/84	<7.4	<1.5	<1.5	<1.5	<1.5	<15	<5.9	<2.9	<2.9	<2.9	<2.9	<2.9	<7.4	<1.5	--	--		Pfeuffer, 1989
		7/85	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<1.0	<2.0	--	--		--
		2/86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--		--
		6/86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--			--
		1/87	<84.4	<253	<84.4	<253	<169	<501	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	--	--	<1130	
		7/87	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	--	--	<361	
		10/87	<57.5	<108	<64.6	<64.6	<71.8	<71.8	<57.5	<57.5	<93.4	<57.5	<57.5	<57.5	<57.5	<57.5	--	--	<356	
		2/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	1.2	--	--	<80	
		4/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
		7/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
C-111 BASIN																				
	S-176	11/84	<7.4	<1.5	<1.5	<1.5	<1.5	<15	<5.9	<2.9	<2.9	<2.9	<2.9	<2.9	<7.4	<1.5	--	--		Pfeuffer, 1989
		7/85	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<1.0	<2.0	--	--		--

(a) Compounds analyzed but not detected include: captan (<2), chlorodecone (<20), dichlone (<20), dilan (<2), dimethoate (<1), guthion (<10), methoxychlor (<2), Aroclor 1260 (<1), phosdrin (<1), Phorate (<2), ronnel (<2), simazine (<200), and tetradifon (<2).
< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
-- Not analyzed
DDE - residues could represent previous DDT use (DDT banned since 1974)

ALL DATA AS REPORTED BY AUTHORS

TABLE C-33 PESTICIDES: CHLORINATED HYDROCARBONS
SOIL DATA FOR ENP SWIM PLANNING AREA
(in micrograms per kilogram dry sediment)

AREA	SITE	DATE	Aldrin	Alpha BHC	Beta BHC	Lindane (g-BHC)	Delta BHC	Chlor-dane	DDE	DDD	DDT	Dieldrin	Endo -sulfan	Endrin	Hepta-chlor	Hepta-chlor Epoxide	Hexa-chloro-Benzene	1-Hydroxy-Chlordene	2,4-DP	REFERENCE
C-111 BASIN		2/86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	
	S-176	6/86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		--	
		1/87	<84.4	<253	<84.4	<253	<169	<501	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	--	--	<1130	
		7/87	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	--	--	<361	
		10/87	<57.5	<108	<64.6	<64.6	<71.8	<71.8	<57.5	<57.5	<93.4	<57.5	<57.5	<57.5	<57.5	<57.5	--	--	<356	
		2/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<100	--	--	<80	
		4/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
		7/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
	S-177	11/84	<7.4	<1.5	<1.5	<1.5	<1.5	<15	7.3	<2.9	<2.9	<2.9	<2.9	<2.9	<7.4	<1.5	--	--	--	Pfeuffer, 1989
		7/85	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<1.0	<2.0	--	--	--	
		2/86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	
		6/86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		--	
		1/87	<84.4	<253	<84.4	<253	<169	<501	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	--	--	<1130	
		7/87	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	--	--	<361	
		10/87	<57.5	<108	<64.6	<64.6	<71.8	<71.8	<57.5	<57.5	<93.4	<57.5	<57.5	<57.5	<57.5	<57.5	--	--	<356	
		2/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	5	1.8	<0.3	<1.7	<0.7	<0.2	<100	--	--	<80	
		4/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	29	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
		7/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	15	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
	S-178	11/84	<7.4	<1.5	<1.5	<1.5	<1.5	<15	10	<2.9	<2.9	<2.9	<2.9	<2.9	<7.4	<1.5	--	--	--	Pfeuffer, 1989
		7/85	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<1.0	<2.0	--	--	--	
		2/86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	
		6/86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		--	
		1/87	<84.4	<253	<84.4	<253	<169	<501	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	--	--	<1130	
		7/87	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	--	--	<361	
		10/87	<57.5	<108	<64.6	<64.6	<71.8	<71.8	<57.5	<57.5	<93.4	<57.5	<57.5	<57.5	<57.5	<57.5	--	--	<356	
		2/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<100	--	--	<80	
		4/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
		7/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
	S-180	11/84	<7.4	<1.5	<1.5	<1.5	<1.5	<15	<5.9	<2.9	<2.9	<2.9	<2.9	<2.9	<7.4	<1.5	--	--	--	Pfeuffer, 1989
		7/85	<1.0	<1.0	<2.0	<1.0	<1.0	<2.0	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<1.0	<2.0	--	--	--	
		2/86	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	--	--	--	
		6/86	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	--		--	
		1/87	<84.4	<253	<84.4	<253	<169	<501	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	<84.4	--	--	<1130	
		7/87	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	<66	--	--	<361	
		10/87	<57.5	<108	<64.6	<64.6	<71.8	<71.8	<57.5	<57.5	<93.4	<57.5	<57.5	<57.5	<57.5	<57.5	--	--	<356	
		2/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	1.2	--	--	<80	
		4/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	
		7/88	<0.2	<0.2	<0.4	<0.1	<0.3	<1.0	<0.4	<0.8	<1.0	<0.3	<1.7	<0.7	<0.2	<0.3	--	--	<800	

(a) Compounds analyzed but not detected include: captan (<2), chlorodecone (<20), dichlone (<20), dilan (<2), dimethoate (<1), guthion (<10), methoxychlor (<2), Aroclor 1260 (<1), phosdrin (<1), Phorate (<2), ronnel (<2), simazine (<200), and tetradifon (<2).
< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
-- Not analyzed
DDE - residues could represent previous DDT use (DDT banned since 1974)

ALL DATA AS REPORTED BY AUTHORS

TABLE C-34. PESTICIDES: ORGANOPHOSHATES AND OTHER COMPOUNDS
SOIL DATA FOR ENP SWIM PLANNING AREA
(in micrograms per kilogram dry sediment)

AREA	SITE	DATE	Diaz-inon	Eth-ion	Mala-thion	Methyl Para-thion	Methyl Tri-thion	Mirex	Para-thion	Per-thane	Tri-thion	Atra-zine	Toxa-phene	Total PCB	Aro-clor 1016	Aro-clor 1254	PCN	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	REFERENCE
SHARK RIVER SLOUGH																					
Entry	L-67A, 0.5 mi N of Tamiami Canal	10/72	--	--	--	--	--	--	--	--	--	--	0	5	--	--	--	--	--	--	--Waller & Earle,
		4/73	--	--	--	--	--	--	--	--	--	--	0	20	--	--	--	--	--	--	-- 1975
		12/73	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--
		4/74	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--
	L-67A, 0.5 mi N of Tamiami Canal	4/76	<0.1	<0.1	<0.1	<0.1	--	--	<0.1	--	<0.1	--	<0.1	<1.0			<0.1	<0.1	<0.1	<0.1	Pfeuffer, 1985
	S-333, upstream (a)	5/82	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2	--	235.4	<1.0	--	<1.3	4.1	333.6	Pfeuffer, 1985
		11/82	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2	--	--	<1.0	--	<1.3	<1.0	<4.0	
		4/83	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2	--	--	<1.0	--	<1.3	48.4	12.8	
		10/83	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2	--	--	<1.0	--	<1.3	1.9	<4.0	
	S-12C, Tamiami Canal outlet	10/72	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--Waller & Earle,
		4/73	--	--	--	--	--	--	--	--	--	--	0	5	--	--	--	--	--	--	-- 1975
		12/73	--	--	--	--	--	--	--	--	--	--	0	10	--	--	--	--	--	--	--
		4/74	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--
	S-12C, Tamiami Canal outlet	4/76	<0.1	<0.1	<0.1	<0.1	--	--	<0.1	--	<0.1	--	<0.1	34			<0.1	<0.1	<0.1	<0.1	Pfeuffer, 1985
	S-12C, Tamiami Canal outlet	11/84	<9.41	--	<24	<15	--	--	<24	--	<15	--	<16	<5.9	--	--	--	<5.4	<4.8	<31	Pfeuffer, 1989
		7/85	<50	<10	<50	--	--	--	<20	--	<10	--	<50	<10	--	--	--	<300	<300	<500	
		2/86	1100	<100	<100	--	--	--	<100	<100	<100	<500	<100	<100	--	--	--	--	--	--	
		6/86	<10	<10	<10	<10	--	--	<10	<10	<10	<100	<50	<10	--	--	--	--	<200	<2000	
		1/87	<422	<430	<429	<430	--	--	<429	<56	<27	<858	<9910	<4600	--	--	--	<1150	<225	<1140	
		7/87	<132	<130	<132	<130	--	--	<132	<660	<660	<132	<6730	<1700	--	--	--	<354	<351	<384	
		10/87	<359	<140	<359	<140	--	--	<359	<1400	<290	<144	<7330	<1500	--	--	--	<350	<356	<2070	
		2/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<60	<40	<200	
		4/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
		7/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
	S-12A, above Tamiami Canal	10/72	--	--	--	--	--	--	--	--	--	--	0	5	--	--	--	--	--	--	--Waller and Earle,
		4/73	--	--	--	--	--	--	--	--	--	--	0	5	--	--	--	--	--	--	-- 1975
		12/73	--	--	--	--	--	--	--	--	--	--	0	10	--	--	--	--	--	--	--
		4/74	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--
	S-12A on Tamiami Trail (a)	5/82	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2		<1.4	<1.0		<1.3	<1.0	<4.0	Pfeuffer, 1985
		11/82	<1	<1.4	<3	<1		15.7	<1	<200	<1	<200	<2		--	<1.0		<1.3	<1.0	<4.0	
		5/83	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2		--	<1.0		25	<1.0	<4.0	
	L-67A Extended, at south end	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
In ENP	Cottonmouth Camp: marsh	11/69																			McPherson, 1971
	pond	11/69																			
	ENP (means from sites in ENP)	1971-77												108							Waller, 1982a
														95							

(a) Compounds analyzed but not detected include: captan (<), chlorodecone (<20), dichlone (<20), dilan (<2), dimethoate (<1), guthion (<10), methoxychlor (<2) Aroclor 1260 (<1), phosdrin (>1), Phorate (>2), ronnel (<2), simaine (<200), and tetradifon (<2)
< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
-- Not analyzed

ALL DATA AS REPORTED BY AUTHORS

TABLE C-34. PESTICIDES: ORGANOPHOSHATES AND OTHER COMPOUNDS
SOIL DATA FOR ENP SWIM PLANNING AREA
(in micrograms per kilogram dry sediment).

AREA	SITE	DATE	Diaz-inon	Eth-ion	Mala-thion	Methyl Para-thion	Methyl Tri-thion	Mirex	Para-thion	Per-thane	Tri-thion	Atra-zine	Toxa-phene	Total PCB	Aro-clor 1016	Aro-clor 1254	PCN	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	REFERENCE
EAST EVERGLADES																					
	Bridge 53, Tamiami Canal	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
	NESRS Station 1	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
	NESRS Station 2	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
		6/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--
	Howard Dr. agric. area	9/78	--	--	--	--	--	0	--	0	--	--	0	0	--	--	0	--	--	--	--Waller, 1982b
	Citrus Grove	9/78	--	--	--	--	--	0	--	0	--	--	0	43	--	--	0	--	--	--	--Waller, 1982b
	Rock-plowed tomato field	9/78	--	--	--	--	--	0	--	0	--	--	0	0	--	--	0	--	--	--	--Waller, 1982b
	Cracker Jack Slough ag. area	9/78	--	--	--	--	--	0	--	0	--	--	0	0	--	--	0	--	--	--	--Waller, 1982b
	Coopertown	9/78	--	--	--	--	--	0	--	0	--	--	0	53	--	--	0	--	--	--	--Waller, 1982b
	Richmond Dr. residential area	9/78	--	--	--	--	--	0	--	0	--	--	0	0	--	--	0	--	--	--	--Waller, 1982b
	Chekika Hammock State Park	9/78	--	--	--	--	--	0	--	0	--	--	0	0	--	--	0	--	--	--	--Waller, 1982b
	Grossman Rd Borrow Canal	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
		6/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--
	Context Road, north	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
	Context Road, at Bridge 27	5/79	--	--	--	--	--	ND	--	ND	--	--	ND	ND	--	--	ND	--	--	--	--Waller, 1981
TAYLOR SLOUGH																					
Entry to ENP	S-332	10/72	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--Waller & Earle,
		4/73	--	--	--	--	--	--	--	--	--	--	0	5	--	--	--	--	--	--	-- 1975
		12/73	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--
		4/74	--	--	--	--	--	--	--	--	--	--	0	0	--	--	--	--	--	--	--
	S-332, upstream (a)	5/82	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2		<1.4	<1.0		<1.3	<1.0	<4.0	Pfeuffer, 1985
		11/82	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2		--	<1.0		<1.3	<1.0	<4.0	
		4/83	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2		--	2.3		<1.3	23.1	<4.0	
		10/83	<1	<1.4	<3	<1		<0.2	<1	<200	<1	<200	<2		--	1.3		1.4	<1.0	<4.0	
	S-332	11/84	<9.41	--	<24	<15	--	--	<24	--	<15	--	<16	<5.9	--	--	--	<5.4	<4.8	<31	Pfeuffer, 1989
		7/85	<50	<10	<50	--	--	--	<20	--	<10	--	<50	<10	--	--	--	<300	<300	<500	
		2/86	<100	<100	<100	--	--	--	<100	<100	<100	<500	<100	<100	--	--	--	--	--	--	
		6/86	<10	<10	<10	<10	--	--	<10	<10	<10	<100	<50	<10	--	--	--	--	<200	<2000	
		1/87	<422	<430	<429	<430	--	--	<429	<56	<27	<858	<9910	<4600	--	--	--	<1150	<225	<1140	
		7/87	<132	<130	<132	<130	--	--	<132	<660	<660	<132	<6730	<1700	--	--	--	<354	<361	<384	
		10/87	<359	<140	<359	<140	--	--	<359	<1400	<290	<144	<7330	<1500	--	--	--	<350	<356	<2070	
		2/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<60	<40	<200	
		4/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
		7/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
C-111 BASIN																					
	S-176	11/84	<9.41	--	<24	<15	--	--	<24	--	<15	--	<16	<5.9	--	--	--	<5.4	<4.8	<31	Pfeuffer, 1989
		7/85	<50	<10	<50	--	--	--	<20	--	<10	--	<50	<10	--	--	--	<300	<300	<500	

(a) Compounds analyzed but not detected include: captan (<), chlorodecone (<20), dichlone (<20), dilan (<2), dimethoate (<1), guthion (<10), methoxychlor (<2) Aroclor 1260 (<1), phosdrin (>1), Phorate (>2), ronnel (<2), simaine (<200), and tetradifon (<2)
< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
-- Not analyzed

ALL DATA AS REPORTED BY AUTHORS

TABLE C-34. PESTICIDES: ORGANOPHOSHATES AND OTHER COMPOUNDS
SOIL DATA FOR ENP SWIM PLANNING AREA
(in micrograms per kilogram dry sediment)

AREA	SITE	DATE	Diaz-inon	Eth-ion	Mala-thion	Methyl Para-thion	Methyl Tri-thion	Mirex	Para-thion	Per-thane	Tri-thion	Atra-zine	Toxa-phene	Total PCB	Aro-clor 1016	Aro-clor 1254	PCN	2,4,5-T	2,4,5-TP (Silvex)	2,4-D	REFERENCE
C-111 BASIN		2/86	<100	<100	<100	--	--	--	<100	<100	<100	<500	<100	<100	--	--	--	--	--	--	
	S-176	6/86	<10	<10	<10	<10	--	--	<10	<10	<10	<100	<50	<10	--	--	--	--	<200	<2000	
		1/87	<422	<430	<429	<430	--	--	<429	<56	<27	<858	<9910	<4600	--	--	--	<1150	<225	<1140	
		7/87	<132	<130	<132	<130	--	--	<132	<660	<660	<132	<6730	<1700	--	--	--	<354	<361	<384	
		10/87	<359	<140	<359	<140	--	--	<359	<1400	<290	<144	<7330	<1500	--	--	--	<350	<356	<2070	
		2/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<60	<40	<200	
		4/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
		7/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
	S-177	11/84	<9.41	--	<24	<15	--	--	<24	--	<15	--	<16	<5.9	--	--	--	<5.4	<4.8	<31	Pfeuffer, 1989
		7/85	<50	<10	<50	--	--	--	<20	--	<10	--	<50	<10	--	--	--	<300	<300	<500	
		2/86	<100	<100	<100	--	--	--	<100	<100	<100	<500	<100	<100	--	--	--	--	--	--	
		6/86	<10	<10	<10	<10	--	--	<10	<10	<10	<100	<50	<10	--	--	--	--	<200	<2000	
		1/87	<422	<430	<429	<430	--	--	<429	<56	<27	<858	<9910	<4600	--	--	--	<1150	<225	<1140	
		7/87	<132	<130	<132	<130	--	--	<132	<660	<660	<132	<6730	<1700	--	--	--	<354	<361	<384	
		10/87	<359	<140	<359	<140	--	--	<359	<1400	<290	<144	<7330	<1500	--	--	--	<350	<356	<2070	
		2/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<60	<40	<200	
		4/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
		7/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
	S-178	11/84	<9.41	--	<24	<15	--	--	<24	--	<15	--	<16	<5.9	--	--	--	<5.4	<4.8	<31	Pfeuffer, 1989
		7/85	<50	<10	<50	--	--	--	<20	--	<10	--	<50	<10	--	--	--	<300	<300	<500	
		2/86	<100	<100	<100	--	--	--	<100	<100	<100	<500	<100	<100	--	--	--	--	--	--	
		6/86	<10	<10	<10	<10	--	--	<10	<10	<10	<100	<50	<10	--	--	--	--	<200	<2000	
		1/87	<422	<430	<429	<430	--	--	<429	<56	<27	<858	<9910	<4600	--	--	--	<1150	<225	<1140	
		7/87	<132	<130	<132	<130	--	--	<132	<660	<660	<132	<6730	<1700	--	--	--	<354	<361	<384	
		10/87	<359	<140	<359	<140	--	--	<359	<1400	<290	<144	<7330	<1500	--	--	--	<350	<356	<2070	
		2/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<60	<40	<200	
		4/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
		7/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
	S-18C	11/84	<9.41	--	<24	<15	--	--	<24	--	<15	--	<16	<5.9	--	--	--	<5.4	<4.8	<31	Pfeuffer, 1989
		7/85	<50	<10	<50	--	--	--	<20	--	<10	--	<50	<10	--	--	--	<300	<300	<500	
		2/86	<100	<100	<100	--	--	--	<100	<100	<100	<500	<100	<100	--	--	--	--	--	--	
		6/86	<10	<10	<10	<10	--	--	<10	<10	<10	<100	<50	<10	--	--	--	--	<200	<2000	
		1/87	<422	<430	<429	<430	--	--	<429	<56	<27	<858	<9910	<4600	--	--	--	<1150	<225	<1140	
		7/87	<132	<130	<132	<130	--	--	<132	<660	<660	<132	<6730	<1700	--	--	--	<354	<361	<384	
		10/87	<359	<140	<359	<140	--	--	<359	<1400	<290	<144	<7330	<1500	--	--	--	<350	<356	<2070	
		2/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<60	<40	<200	
		4/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	
		7/88	<6.0	<10	<6.0	<6.0	--	--	<6.0	<2.0	<10	<10	<5.0	<6.5	--	--	--	<600	<400	<2000	

(a) Compounds analyzed but not detected include: captan (<), chlorodecone (<20), dichlone (<20), dilan (<2), dimethoate (<1), guthion (<10), methoxychlor (<2) Aroclor 1260 (<1), phosdrin (>1), Phorate (>2), ronnel (<2), simaine (<200), and tetradifon (<2)

< None detected, numerical detection limit shown
ND = None detected, detection limits not reported
-- Not analyzed

ALL DATA AS REPORTED BY AUTHORS

TABLE C-35 COLIFORM DATA (colonies per 100 millimeters) GROUNDWATER QUALITY FOR ENP SWIM PLANNING AREA

SITE	WELL NO.	DATE OF COLLECTION	TOTAL COLIFORM	FECAL COLIFORM
Chekika Hammock State Park (recreational)	G-3204 (shallow)	9/12/78	60	2
		10/25/78	280	1
		11/15/78	0	0
		12/13/78	1	1
		1/19/79	15	3
		2/23/79	5	1
		3/29/79	27	2
		4/19/79	1	1
		5/8/79	71	2
		6/6/79	1	1
	G-3205 (deep)	9/12/78	1	1
		10/25/78	230	1
		11/15/78	0	0
		12/13/78	1	1
		1/19/79	1	0
		2/23/79	4	1
		3/29/79	7	1
		4/19/79	8	1
		5/8/79	22	1
		6/6/79	1	1
Coopertown (residential)	G-3202 (shallow)	9/12/78	42	1
		10/25/78	410	1
		11/15/78	217	41
		12/13/78	5	1
		1/19/79	16	1
		2/23/79	6	1
		3/29/79	14	1
		4/19/79	162	23
		5/8/79	220	1
		6/6/79	9	1
	G-3203 (deep)	9/12/78	46	1
		10/25/78	700	1
		11/15/78	0	0
		12/13/78	4	1
		1/19/79	330	21
		2/23/79	1	1
		3/29/79	5	1
		4/19/79	23	1
		5/8/79	38	1
		6/6/79	1	1
Richmond Drive (residential)	G-3200 (shallow)	9/12/78	164	18
		10/25/78	350	2
		11/15/78	12	4
		12/13/78	1	1
		1/19/79	2	0
		2/23/79	5	1
		3/29/79	14	1
		4/19/79	(a)	1
		5/8/79	138	42
		6/6/79	(a)	1
	G-3201 (deep)	9/12/78	24	1
		10/25/78	310	1
		11/15/78	4	0
		12/13/78	1	1
		1/19/79	1	0
		2/23/79	2	1
		3/29/79	1	1
		4/19/79	1	1
		5/8/79	118	2
		6/6/79	11	1

(a) Too numerous to count

Source: Waller, 1983

EVERGLADES SWIM PLAN

APPENDIX D

Florida Bay

Data collected from DER, Tallahassee &
South Florida Regional Planning Council
By Continental Shelf Associates for the SFWMD

Listing of Climatologic and Hydrologic Monitoring Stations Codes

Table D-3 is a listing of hydrologic and climatologic monitoring stations within the Florida Bay planning area. Explanation of column headings is shown in Table D-1.

TABLE D-1 EXPLANATION OF COLUMN HEADINGS ON THE CLIMATOLOGIC/ HYDROLOGIC DATA COMPUTER PRINTOUT.

STATION:	Unique name assigned by the SFWMD
ALTERNATE ID:	Numerical code based on USGS,SFWMD or other coding systems
CNTY:	County where station is located
TYPE:	Type of data collected (see Table)
STAT:	Statistical method of data collection/analysis (see Table)
FQ:	Frequency of sampling or data collection
START-END:	Period of record
FULL STAT NAME:	Official name of the station as designated by the primary monitoring agency
SE TN RG:	Location of the station within a Section,Township,and Range
LAT/LONG:	Location of the station in Latitude and Longitude coordinates

Table D-2 provides a summary of abbreviations for agencies,methods, type of data and frequency of sampling (observation) that are used in Table D-3.

TABLE D-2 ABBREVIATIONS USED IN THE CLIMATOLOGIC/HYDROLOGIC DATA COMPUTER PRINTOUT

Agency

BPI: FLORIDA BUREAU OF PLANT INDUSTRY (DISCONT)
COE: US CORPS OF ENGINEERS
DER: DEPARTMENT OF ENVIRONMENTAL REGULATION
EDD: EVERGLADES DRAINAGE DISTRICT
ENP: EVERGLADES NATIONAL PARK
FS: FLORIDA FORESTRY SERVICE
GL: GEE&JENSEN
UF: UNIVERSITY OF FLORIDA
USDA: US DEPARTMENT OF AGRICULTURE
USGS: US GEOLOGICAL SURVEY
USWB: US WEATHER BUREAU (NOAA)
WMD: SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Methods (STAT)

AM: MORNING READING
FWM: FLOW WEIGHTED MEAN
INST: BREAKPOINT DATA
MAX: MAXIMUM DAILY VALUE
MIN: MINIMUM DAILY VALUE
PM: AFTERNOON READING
RAND: RANDOM READING
SUM: SUM TO MIDNIGHT
THH: HIGHEST HIGH TIDE
TLH: HIGHEST LOW TIDE
TLL: LOWEST LOW TIDE
X: UNKNOWN METHOD

Frequency

DA: DAILY
RI: RANDOM
MO: MONTHLY
BK: BREAKPOINT

Type of Data

AIRT:	AIR TEMPERATURE
COLO:	COLOR
COND:	CONDUCTIVITY
DO:	DISSOLVED OXYGEN
DSL:	DISSOL;ED SOLIDS LOA
DS:	DISSOLVED SOLIDS
DTW:	DEPTH TO WATER
EVAP:	PAN EVAPORATION
FLOW:	FLOW
GATE:	GATE OPENING
HUMI:	RELATIVE HUMIDITY
H20TEMP:	WATER TEMPERATURE
LOCK:	NUMBER OF LOCK CYCLE
METE:	METEORLOGIC
OPER:	OPERATION LOG
PH:	PH
PO4:	DISSOLVED PHOSPHATES
QMEA:	FLOW CALIBRATION
QUAL:	WATER QUALITY
RAIN:	RAINFALL
RPM:	PUMP SPEED
SLOT:	SLOT GATE OPENING
SSED:	SUSPENDED SEDIMENTS
STGD:	DOWNSTREAM STAGE
STGU:	UPSTREAM STAGE
STGW:	SURFACE-GROUNDWATER
STG:	WATER LEVEL
TURB:	TURBIDITY
WELL:	GROUND WATER WELL
WETB:	WET BULB TEMPERATURE
WNDD:	WINDS DIRECTION
WNDV:	WIND VELOCITY

Table D-3. Hydrologic and Meteorlogic Monitoring Stations Within the Florida Bay Study Area

STATION	ALT ID	CNTY	TYPE	METH	FQ	STRA	RCDR	STRT	END	FULL STATION NAME	SETNRG	LAT	LONG
BARNES	251137080242900	MONRO	STG	THH	DA	000		1979	1980	BARNES SOUND AT US NO 1 D.O.T.B.	06039	251137	802429
BARNES	251137080242900	MONRO	STG	TLH	DA	000		1979	1980	BARNES SOUND AT US NO 1 D.O.T.B.	06039	251137	802429
BARNES	251137080242900	MONRO	STG	THL	DA	000		1979	1980	BARNES SOUND AT US NO 1 D.O.T.B.	06039	251137	802429
BARNES	251137080242900	MONRO	STG	TLL	DA	000		1979	1980	BARNES SOUND AT US NO 1 D.O.T.B.	06039	251137	802429
BLACKWAT	251109080232900	MONRO	STG	THH	DA	000		1979	1980	BLACKWATER SOUND AT U.S.NO.1 D.O.T.A.	06039	251109	802329
BLACKWAT	251109080232900	MONRO	STG	TLH	DA	000		1979	1980	BLACKWATER SOUND AT U.S.NO.1 D.O.T.A.	06039	251109	802329
BLACKWAT	251109080232900	MONRO	STG	THL	DA	000		1979	1980	BLACKWATER SOUND AT U.S.NO.1 D.O.T.A.	06039	251109	802329
BLACKWAT	251109080232900	MONRO	STG	TLL	DA	000		1979	1980	BLACKWATER SOUND AT U.S.NO.1 D.O.T.A.	06039	251109	802329

PERMIT INFORMATION FOR FLORIDA BAY

The SWIM Act (Section 373.453(2) (c), F.S.), requires that all SWIM Plans include

> a list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are:
>
> (1) operating without a permit;
>
> (2) operating with a temporary operating permit; and
>
> (3) presently violating effluent limits or water quality standards.

A. LIST OF POINT AND NONPOINT SOURCES OF WATER POLLUTION

Tables D-5 through **D-6** contain all known point source permitted entities discharging within tributary basins of Florida Bay (information from DER). It should be noted that a permitted discharge is not necessarily a source of pollution. The point sources are presented in the following categories:

- Domestic Wastewater
- Industrial Waste

Tables D-7 through **D-8** contain all known nonpoint source permitted entities discharging within tributary basins of the WCAs and EAA (information from DER and SFWMD). The point sources are presented in the following categories:

- Waste Disposal Sites
- Marinas

B. OPERATING WITHOUT A PERMIT

A recent survey of permitting agencies (DER, SFWMD, USCOE, USEPA) was made to identify facilities which were operating without a permit. All agencies reported that no known sites presently existed. In the event that such a site is discovered (past examples), the facility owner/operator is immediately ordered to either cease operations or is granted a temporary operating permit provided immediate application is made.

C. OPERATING WITH A TEMPORARY OPERATING PERMIT

A recent survey was made of FDER to identify facilities which are currently under a Temporary Operating Permit. No facilities were identified within the Florida Bay study area.

D. PRESENTLY VIOLATING EFFLUENT LIMITS OR WATER QUALITY STANDARDS

1. Point Source Violations

A recent survey was made of FDER to identify facilities which are currently violating effluent limits or water quality standards. No facilities were identified within the Florida Bay study area.

2. Nonpoint Source Violations

A large body of data and information exists on the Everglades ecosystem. The Florida Department of Environmental Regulation has determined that nutrient-induced impacts have been demonstrated in the Everglades Protection Area and have resulted in violations of the following water quality criteria (FDER, Water Quality Technical Series, Volume 3, Number 4, **draft** February, 1992):

17-302.510 (3) (q), F.A.C.	Nuisance Species
17-302.560 (7), F.A.C.	Biological Integrity
17-302.560 (13), F.A.C.	Dissolved Oxygen
17-302.560 (20), F.A.C.	Nutrients

There are numerous inflow water control strucutes (SFWMD, USCOE, private) from which water is discharged to the Everglades. The extent of these violations, identification of other water quality violations, and identification and potential enforcement of upstream dischargers is one of the primary topics described within the Everglades SWIM Plan (Planning Document).

Table D-4. Summary of Permit Data Concerning Point and Non-Point Sources in the Florida Bay Planning Area

Permit Type	Permit Agency	Permitted Activity	Information Given on the Listings	Total Number
Point Source Industrial Waste	DER	Industrial Discharge	Facility Name Facility Type Design Capacity Location	1
Domestic Waste	DER	Sewage Treatment Plants	Facility Name Facility Type Location Facility Type	19
Non-Point Source Landfill	DER	Dumping Transfer Station Incineration	Name Location Class Number Design Capacity	1

Point Sources

Table D-5. Domestic Wastewater Permits Within the Florida Bay Study Area
For Locations See Figure D-1

Map #	Record #*	Facility Name	Facility Type**	Design Capacity ***	Lat/Long
70	5244P01286	Leeside Prof. Bldg	EA - bore hole	3.3	2507.35/8024.40
71	5244P01031	Hwd. Johnson Motor	EA - bore hole;	35	2507.48/8024.58
72	5244P00209	The Center of Key Largo	EA - injection	20	2508.13/8024.12
73	5244P00277	Florida Bay Club	RBC - injection	3.6	2508.15/8024.12
74	5244P00055	Sr. Frijoles Rest.	EA - injection	4.6	2508.21/8023.42
75	5244P00036	Italian Fisherman Restaurant	EA - injection	15	2508.30/8024.00
76	5244P01203	Moonbay Condo	EA - bore hole	26	2508.54/8023.37
77	5244P00202	Tamarind Bay Club	EA - bore hole	15	2509.05/8023.32
78	5244P00140	Tamarind Cove Apts	EA - bore hole	15	2509.08/8023.30
79	5244P00939	Tamarind Cove Apts	EA - injection	?	2509.08/8023.30
80	5244P00216	Winn Dixie of Key Largo	EA - injection	5	2510.00/8022.55
81	5244P00147	Key Largo L.T.D (not built)	STP - injection	2.5	2510.00/8023.00
82	5244C00274	Key Largo Elementary Sch.	EA - bore hole	15	2510.04/8022.32
83	5244P00016	Happy Vagabond Campground	EA - bore hole	15	2510.04/8022.32
83	5244P00290	Gaetano Rest	EA - injection	5	2510.13/8022.05
84	5244P03112	L'Oasis (point source - surface discharge)	EA - Jewfish Creek	2.6	2510.58/8023.12
85	5244P05489	Gilberts Motel and Marina (point source - surface discharge)	EA - Gulf of Mex.	10	2510.58/8023.23
86	5244P05797	Anchorage Resort and Yacht Club	EA - bore hole	10	2511.10/8023.20
88	5244P00474	Cross Key Rest	EA - drainage	3	2513.00/8026.00

Source: Florida Department of Environmental Regulation, Domestic Sewage Treatment Plant Permits - Monroe County, Tallahassee, Florida, 1989.

*Department of Environmental Regulation Permit Number.

**EA = extended aeration; CS = contact stabilization; RBC = rotating biological contactor.

***Units in thousand gallons per day.

Table D-6. Industrial Waste Permits within the Florida Bay Planning Area
For Location See Figure D-1

Map #	Permit #	Facility Name	Facility Type	Design Capacity*	Lat/Long
13	5244P02040	Upper Keys Coin Laundry	Trickling Filter	5.6 TGD	2509.18/8023.16

Source: Florida Department of Environmental Regulation, Industrial Discharge Permits, Monroe County. Tallahassee, Florida, 1989.

*Units in thousand gallons per day.

Non Point Sources

Table D-7. Waste Disposal Sites Within the Florida Bay Study Area
For Location See Figure D-1

Map #	Class*	Status	Name	Design ** Capacity	Lat/Long	DER #
10	750	Inactive	Key Largo Transfer Station	Unknown	2513.55/8025.00	5244C04644

* 750 - TRANSFER STATION
** T/D = tons per day; Y/D = cubic yards per day.
Source: FDER, Landfill Permits, Monroe County

Table D-8. Marinas in Florida Bay Study Area.
For Locations See Figure D-2

Map No.	Name	Slips Wet/Dry	Live Aboards	Pump Out Facilities
26	Deep Six Marina	92/14	01	No
27	Ocean Safari	---	---	No
28	Blackwater Sound	---	---	No
29	Gilberts Motel	25/120	---	No
30	Anchorage Resort	30/0	---	No
31	Cross Key Marina	20/0	01	No
32	Point Laura Marina and Camp	---	11	No

Figure D-1

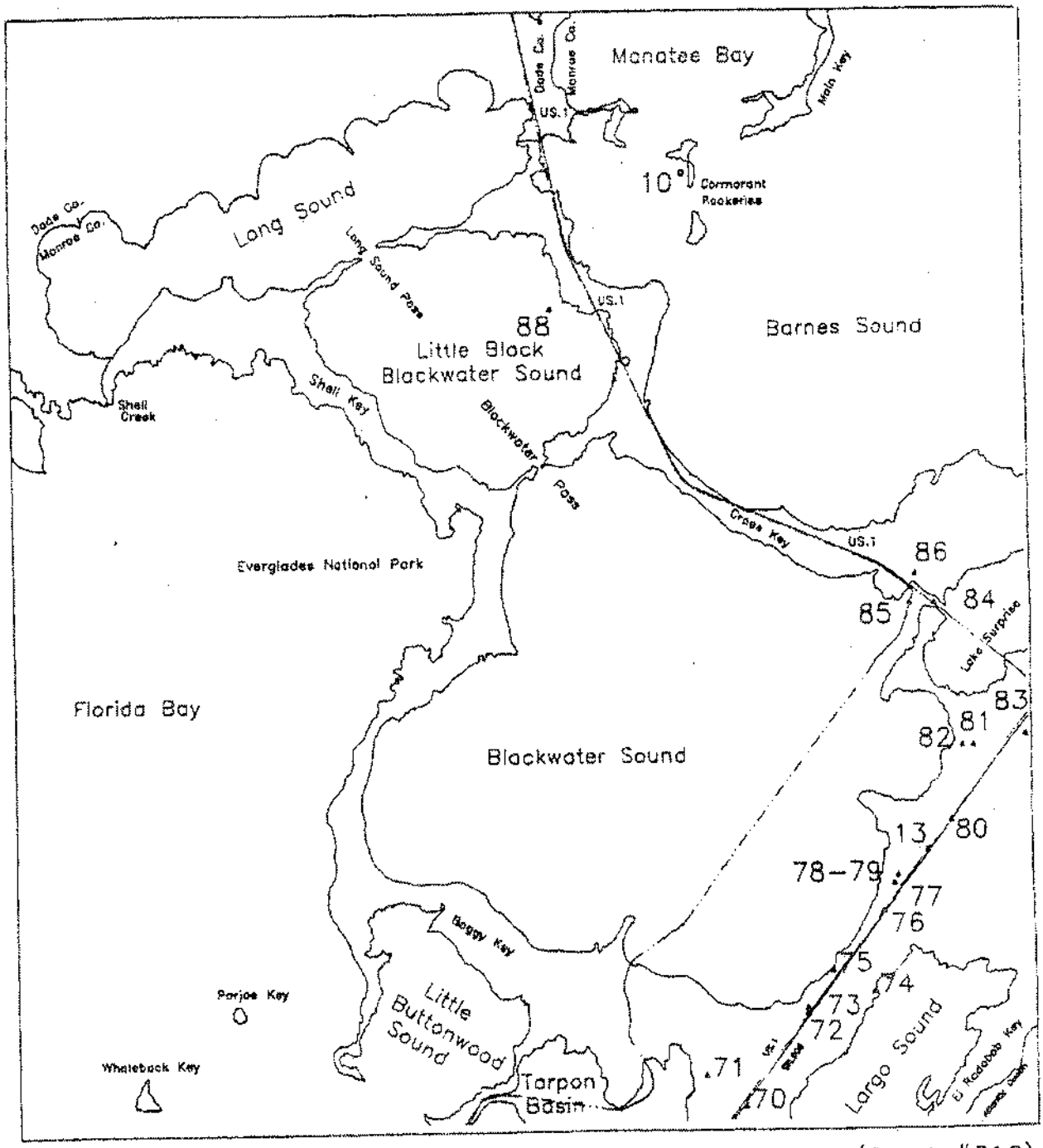
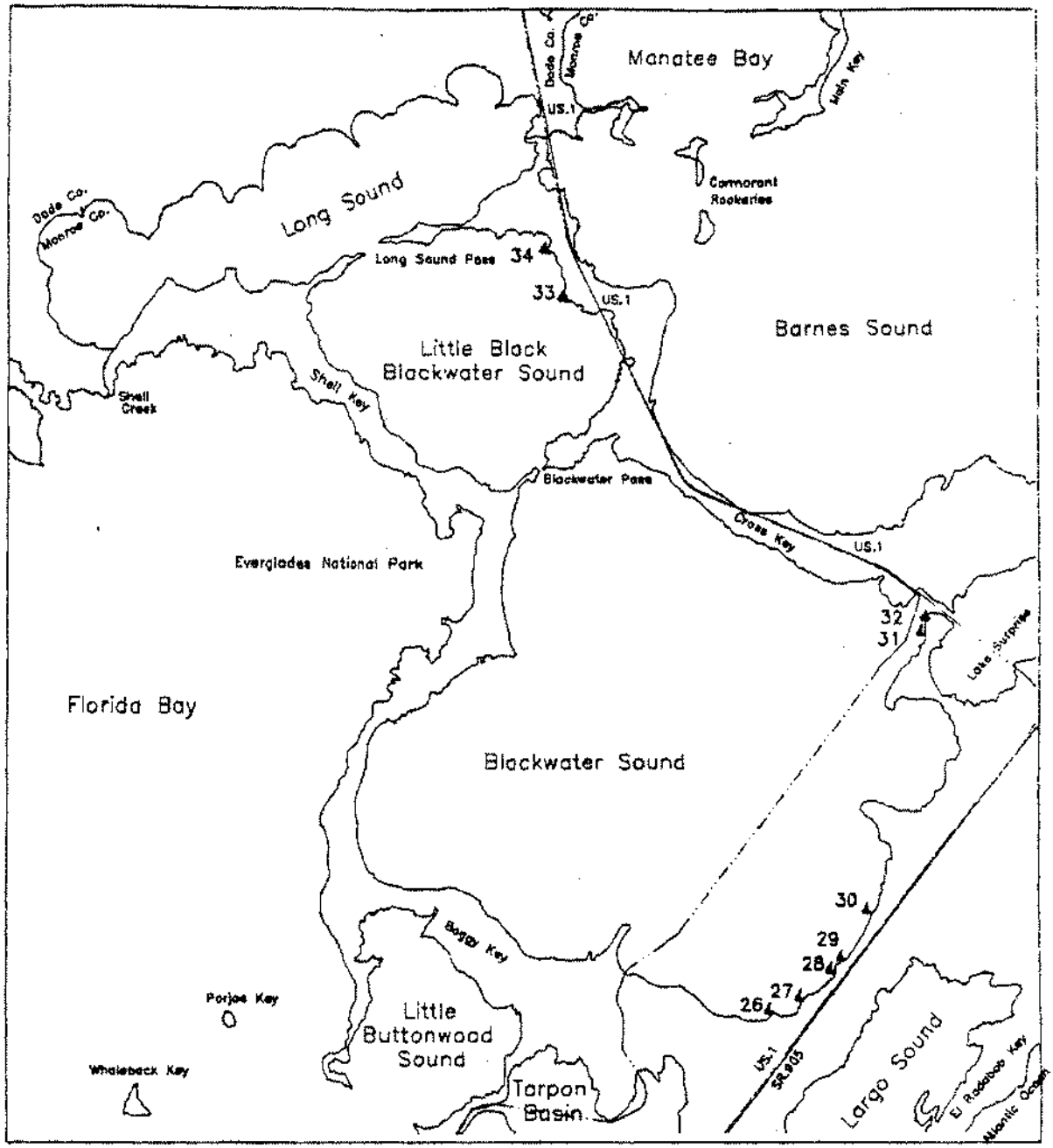

Manatee Bay
Dade Co.
Monroe Co.
US.1
Main Key
10
Cormorant Rookeries
Lang Sound
Dade Co.
Monroe Co.
Long Sound Pass
US.1
88
Little Black
Blackwater Sound
Barnes Sound
Shell Creek
Shell Key
Blackwater Pass
Cross Key
US.1
86
84
85
Lake Surprise
Everglades National Park
Florida Bay
83
81
82
Blackwater Sound
13
80
78-79
77
76
Boggy Key
5
74
73
72
Porjoe Key
Little Buttonwood Sound
Whiteback Key
Tarpon Basin
71
70
Largo Sound
E. Rodobob Key
Point and NonPoint Pollution Sources Blackwater Sound (Quad #316)
Everglades National Park Boundary
N
0
Miles

Figure D-2



Marinas Blackwater Sound (Quad #316)

Everglades National Park Boundary

N

0

Miles

Table D-9. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

Figures D-3 through D-5 show Current Land Use Within the Florida Bay Planning Area.

LEVEL I SFWMD	DOT [1]	LEVEL II SFWMD	DOT	LEVEL III SFWMD	
(U)	(100)				Urban and built up land
		(UR)	(120)		Residential
				(URSL)	Single - family, Low Density (under 2 D.U./gross acre)
				(URSM)	Single - family, Medium Density (2 to 5 D.U./gross acre)
				(URSH)	Single - family, High Density (over 5 D.U./gross acre)
				(URMF)	Multi-family building
				(URMH)	Mobil homes
		(UC)	(140)		Commercial and Services
				(UCPL)	Parking lot
				(UCSC)	Shopping center
				(UCSS)	Sales and services
				(UCCE)	Cultural and Entertainment
				(UCMC)	Marine commercial(Marinas)
				(UCHM)	Hotel-Motel
		(UI)	(150)		Industrial
				(UIJK)	Junkyard
		(US)	(170)		Institutional
				(USED)	Educational
				(USMD)	Medical
				(USRL)	Religious
				(USMF)	Military
				(USCF)	Correctional
				(USGF)	Governmatal(other than military or correctional)
				(USSS)	Social services
		(UT)	(810)		Tranportation
				(UTAP)	Airports
				(UTAG)	Small grass airports
				(UTRR)	Railroad yards and terminals
				(UTPF)	Port facilities
				(UTEP)	Electrical power facilities
				(UTTL)	Major trasmission lines
				(UTHW)	Major highways and right-of-ways
				(UTWS)	Water supply plants
				(UTSP)	Sewage treatment plants
				(UTSW)	solid waste disposal
				(UTRS)	Antenna arrays
				(UTOG)	Oil and gas storage

1 Kuyper,W.H.,J.E. Becker, and A.Shopmyer 1981. Land Use, Cover Forms Classification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981 66pp

Table D-9. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

Figures D-3 through D-5 show Current Land Use Within the Florida Bay Planning Area.

LEVEL I SFWMD	DOT [1]	LEVEL II SFWMD	DOT	LEVEL III SFWMD		
		(UO)	(190)			Open and others
				(UORC)		Recreational facilities
				(UOGC)		Golf courses
				(UOPK)		Parks
				(UOCM)		Cemetaries
				(UORV)		Recreational vehicle parks
				(UOUD)		Open under developement
				(UOUN)		Open and undeveloped within urban
(A)	(200)					Agriculture
		(AC)	(210)			Cropland
				(ACSC)	(216)	Sugar cane
				(ACTC)	(214)	Truck crops
				(ACRF)	(215)	Rice fields
		(AP)				Pasture
				(APIM)	(211)	Improved pasture
				(APUN)	(212)	Unimproved pasture
		(AM)	(220)			Groves, ornamentals, Nurseries, Tropical Fruits, Orchards, Vineyards
				(AMCT)	(221)	Citrus
				(AMTF)	(222)	Tropical Fruits
				(AMSF)	(242)	Sod farms
				(AMOR)	(243)	Ornamentals
		(AF)	(230)			Confined feeding operations
				(AFFL)	(231)	Cattle feed lots
				(AFDF)	(252)	Dairy farms
				(AFFF)	(254)	Fish farms
				(AFHT)	(254)	Horse training and stables
				(AFPY)	(232)	Poultry
(R)	(300)					Rangeland
		(RG)	(310)			Grassland
		(RS)	(320)			Scrub and brushland
				(RSPP)	(321)	Palmetto praries
				(RSSB)	(329)	Brushland
(F)	(400)					Forested
		(FE)	(410)			Coniferous
				(FEPF)	(411)	Pine flatwoods

1 Kuyper,W.H.,J.E. Becker, and A. Shopmyer, 1981. Land Use, Cover Forms Cliassification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981.66pp

Table D-9. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

Figures D-3 through D-5 show Current Land Use Within the Florida Bay Planning Area.

LEVEL I		LEVEL II		LEVEL III		
SFWMD	DOT [1]	SFWMD	DOT	SFWMD		
				(FESP)	(413)	Sand pine scrub
				(FECF)	(441)	Commercial forest(pine)
		(FO)	(420)			Non-coniferous
				(FOAP)	(414)	Australian pine
				(FOBP)	(422)	Brazilian pepper
				(FOPA)	(428)	Palms
				(FOSO)	(432)	Scrub oak
				(FOOK)	(425)	Oak
				(FOCF)	(442)	Commercial forest
		(FM)				Mixed forested
				(FMTW)		Temperate hardwoods
				(FMCM)		Cabbage palms/Melalueca
				(FMCO)		Cabbage palms/Oak
				(FMPM)		Pine/Melalueca
				(FMPO)		Pine/Oak
				(FMTH)		Tropical hammocks
				(FMOF)		Old fields forested
				(FMCD)		Coastal dunes
				(FMPC)		Pine/Cabbage palms
(W)	(600)					Wetlands
		(WF)	(610)			Forested fresh
				(WFCM)		Cypress/Melalueca
				(WFCY)	(621)	Cypress
				(WFWL)	(610)	Willow
				(WFME)	(424)	Melalueca
				(WFSB)	(610)	Scrub and brushland
				(WFMX)	(630)	Mixed forested
		(WN)	(640)			Non-forested fresh
				(WNSG)	(641)	Sawgrass
				(WNCT)	(641)	Cattail
				(WNBR)	(641)	Bullrush
				(WNWC)	(641)	Wire cordgrass
				(WNAG)	(641)	Mixed aquatic plants
				(WNWL)	(641)	Sloughs
		(WS)	(640)			Forested salt
				(WSRM)	(612)	Red magrove
				(WSBW)	(612)	Black and white magrove
		(WM)	(642)			Non-forested salt

1 Kuyper,W.H.,J.E. Becker, and A.Shopmyer. 1981. Land Use, Cover Forms Classification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981 66pp

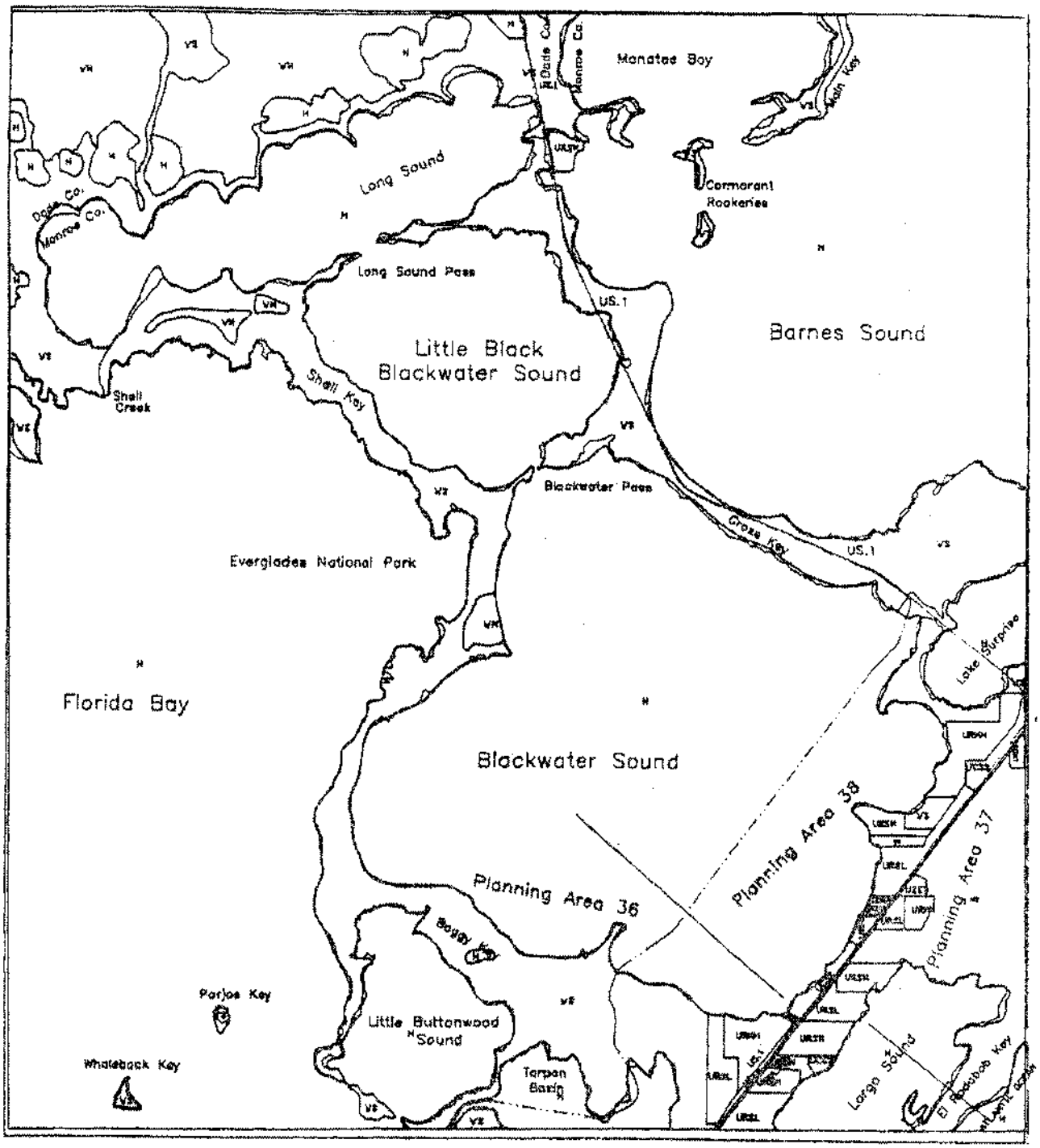
Table D-9. Comparison of SFWMD Land Use and Cover Classifications Codes that are used by the Florida Department of Transportation (DOT)[1]

Figures D-3 through D-5 show Current Land Use Within the Florida Bay Planning Area.

LEVEL I SFWMD	DOT [1]	LEVEL II SFWMD	DOT	LEVEL III SFWMD		
		(WX)	(643)			Mixed forested and non-forested fresh
				(WXPP)	(643)	Pine and wet prairies
				(WXCP)	(643)	Cypress domes and wet prairies
				(WXHM)	(643)	Hardwood marsh
(H)	(500)					Water
(B)	(700)					Barren land
		(BB)	(710)			Beaches
		(BP)	(742)			Extactive (strip mines, quarries, and gravel pits)
		(BS)	(743)			Spoil areas
		(BL)	(744)			Levees

1 Kuyper,W.H.,J.E. Becker, and A.Shopmyer. 1981. Land Use, Cover Forms Classification System - A Technical Manual. State Department of Transportation, Tallahassee, Florida, May,1981.66pp

Figure D-3



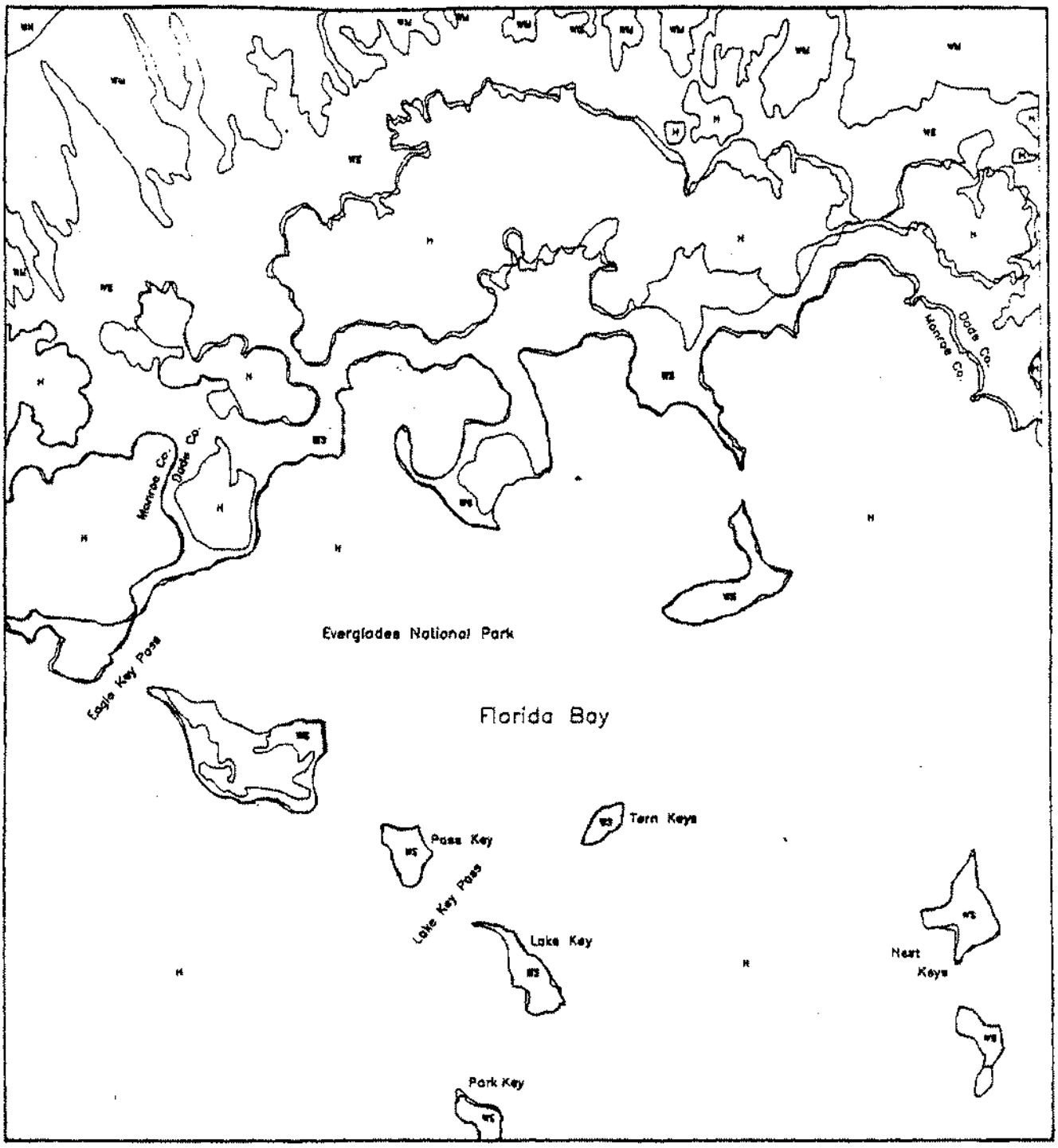
Current Land Use Blackwater Sound (Quad #316)

Everglades National Park Boundary

N

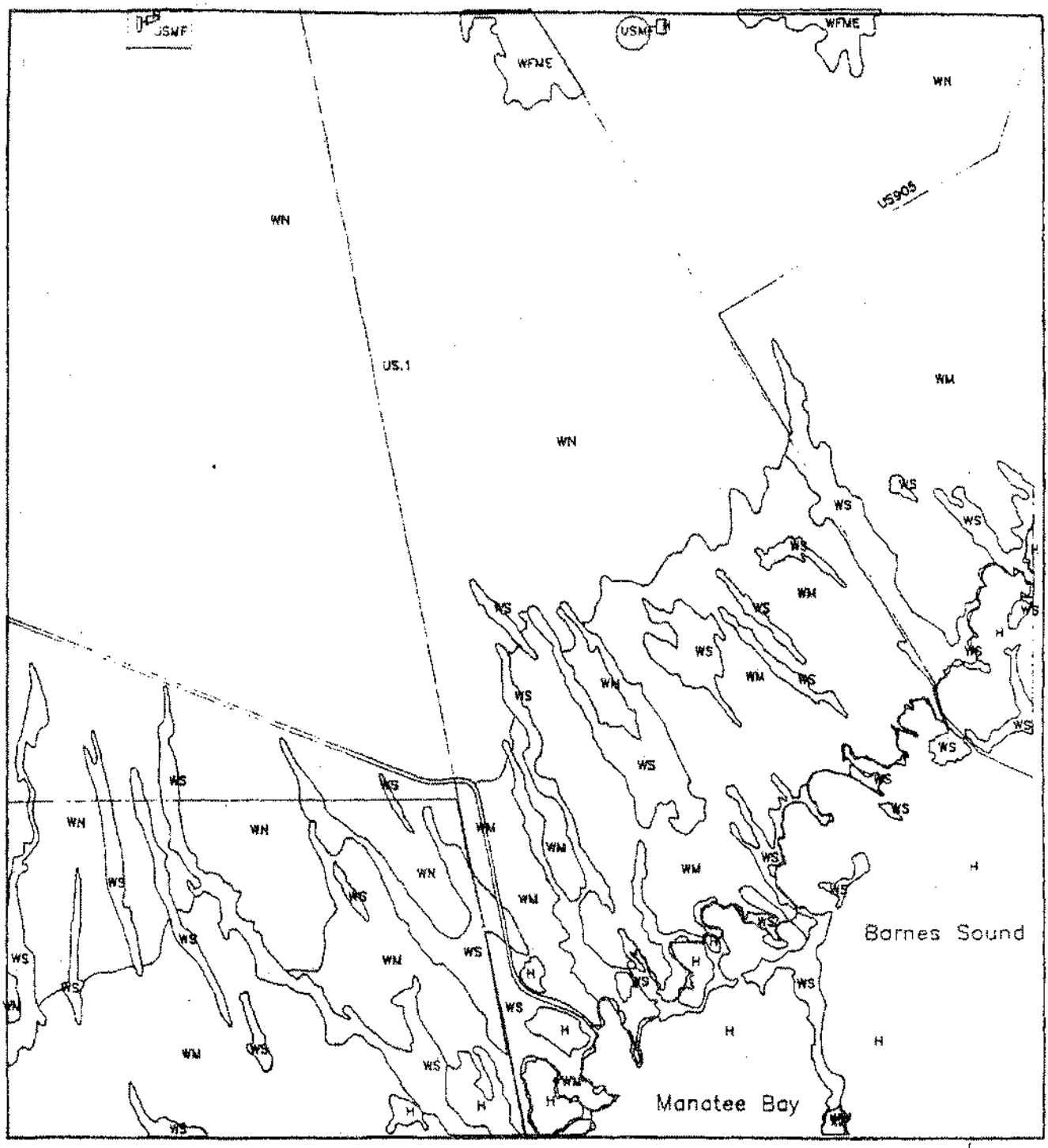
0 1

Figure D-4



Current Land Use
Joe Bay (Quad #315)

Figure D-5



Current Land Use
Glades (Quad #307)

EVERGLADES SWIM PLAN

APPENDIX E

Derivation of Phosphorus Limits for Everglades National Park and Phosphorus Levels for Loxahatchee National Wildlife Refuge

Introduction

During the designated OFW baseline year (March 1, 1978 - March 1 ,1979), inflows to ENP's Shark River Slough had a flow-weighted-mean phosphorus concentration of 6 ppb. During the first year of monitoring by SFWMD (October 1983-September 1984), inflows to ENP's Taylor Slough and Coastal Basins had a flow-weighted-mean phosphorus concentration of 5.8 ppb. In addition to specifying the baseline period for deriving water quality limits, OFW regulations require that seasonal and other cyclical variations of natural origin be taken into account. Accordingly, ENP inflow limits are derived below considering three sources of variation in the annual flow-weighted-mean concentration:

(1) Hydrologic - correlations with basin total flow, to reflect wet-year vs. dry-year influences on water quality;

(2) Trend - correlations with time, to permit adjustment of the standards to the baseline year; and

(3) Random variations - attributed to sampling variations, analytical variations, and other phenomena.

Consideration of these sources of variation leads to Interim Shark River Slough limits ranging from 9 ppb in wet years to 14 ppb in dry years, considerably above the 6 ppb measured during the OFW baseline year. A similar approach is taken in deriving levels for marsh stations in Loxahatchee National Wildlife Refuge, with the exception that hydrologic variations are represented by correlations with water surface elevation.

LIMITS FOR THE ESTIMATED ANNUAL FLOW-WEIGHTED AVERAGE CONCENTRATION OF TOTAL PHOSPHORUS IN THE DISCHARGE TO SHARK RIVER SLOUGH

Data exists for inflow to Shark River Slough occurring through the S12 structures during the period of record 12/1/77 - 9/30/90 and through S333 during 10/1/78 - 9/30/90. Interim water quality limits will be derived from composite flow and total phosphorus concentrations of S-333 and the S-12's. In the long term, modifications proposed by the U.S. Army Corps of Modified Water Delivery GDM will significantly reduce but may not eliminate flows through S-333. The proposed modifications will utilize new structures in the L-67A canal to pass water from WCA-3A to 3B and then to Northeast Shark River Slough via structures in the L-29 (S-355). Approximately 45% of the Park water delivery will be made through the S-12's with the remaining 55% directed throu S-355 into Northeast Shark River Slough. If downstream conditions prevent meeting the targeted 55% delivery through S-355, S333 would be opened to make up the difference in the actual and targeted amounts delivered to Northeast Shark River Slough. Since the long term flows through S-333 will be minimal, these limits will be based on S-12 concentrations. In either case the limits are set by utilizing data from this period of record to statistically project back to the 1978-79 baseline period of 2 water years to obtain a benchmark. The 2 year baseline water year period was chosen so as to include the March '78 to March '79 OFW base period. Inflow phosphorus concentration ([tp]) data from those two baseline years alone would be inadequate to establish a reference point for limits due to the various, year-specific influence of uncontrollable factors such as rainfall. Annual average concentration, flow-weighted across structures and sampling dates, shows a strong negative correlation with the composite annual discharge (Q) from these structures when the underlying increasing temporal trend in phosphorus concentration over the period of record is accounted for. (This combined annual discharge may be viewed as a surrogate variable which integrates other variables such as rainfall, particularly under the Rainfall Plan.)

A multiple regression model incorporating both the linear trend over time (T) and the negative association of discharge (Q) with average [tp] was thus adopted as the statistical model for projecting period of record (por) data back to the baseline period for benchmark purposes. Compositing and averaging was done over the 12 month period October 1 - September 30, the conventional water year. During the calendar year of 1985 an abnormal peak in [tp] was caused by an unusual and never to be repeated release of canal water into the park, elevating the flow-weighted average [tp] for both the water years 1985 and 1986 that contained portions of the 1985 calendar year. These two water years were therefore excluded from the regression analysis, based on this external information. Additionally, a statistical outlier datum occurring on September 24, 1980, was excluded from the 1980 water

year average on the basis of internal (i.e., data based) statistical information (see Appendix II).
The regression model is expressible as a formula,

$$[tp] = a + b \cdot T + c \cdot Q + e \qquad (1)$$

where T ranges from 78 to 90, excluding 85 and 86, and for this por the range of Q is 116.860 to 1061.258 in thousands of acre feet per year. The a, b and c appearing in formula (1) represent unknown coefficients which are to be estimated from the por data in a manner which forces the model to provide a "best fit" to the available data. The symbol e in formula (1) then represents the difference between a model prediction for [tp] and the value of [tp] actually observed for a water year in question. The "least squares" method of fitting the model to the por data results in a "best fit" in the sense that the sum of squares of deviations from predicted (sum of e^2) is minimized by the choice of numerical values for a, b and c.

The fitted model will in future enable predictions to be made of what the [tp] should have been had baseline conditions prevailed at a discharge level equal to a current Q-value. This predicted value is given by the formula:

$$\text{Predicted baseline [tp] at discharge } Q = a + b \cdot 78.5 + c \cdot Q \qquad (2)$$

The difference between such a prediction and a realized current [tp] is a result of two sources of error: error in the prediction formula (2) resulting from those uncontrollable chance variations (e's) that occurred during the 1978-90 period of record and, second, error resulting from unpredictable chance variations (e) that occurred during the current water year in question.

The future issue of whether or not a then current annual Q and [tp] are compatible with the hypothesis that baseline phosphorus conditions prevail thus becomes a statistical question of whether the difference

$$\text{Observed minus predicted} = [tp] - \{a + 78.5b + c \cdot Q\}, \qquad (3)$$

subject to question due to the two sources of error mentioned above, would have reasonable likelihood of being equaled or exceeded under baseline phosphorus conditions. If an observed positive difference in (3) is so large as to have only a 10% or less chance of occurring under baseline conditions then that hypothesis will be rejected. This rule allows a 10% risk of false rejection in contrast to the usual 5% or 1% risk allowed in scientific practice, but the larger the risk of false rejection the smaller the risk of erroneously accepting a baseline hypothesis.

The statistical problem of calculating a 10% rejection limit on the "observed minus predicted" difference in (3) is formally equivalent to the classical regression problem of calculating a 90% upper confidence limit on the "prediction of a new value of Y (=[tp]) at a point X". In the present case the "point X" is a point in two dimensions, T and Q, with T fixed at the midpoint T=78.5 of the 78-79 baseline period, but with Q being a yet undetermined future value of annual inflow to ENP. Statistical textbooks such as Snedecor and Cochran (1980) provide the formula for such a limit expressed in terms of n, the sample size in the period of record (here $n = 11$), the value of Q at which the prediction is to be made, and the standard deviation s derived from the fitted regression over the por. The formula also incorporates other numerical constants derived in the process of fitting the multiple regression model (1) to the por data; these include the arithmetic average of the 11 numbers representing por years,

$$83.727 = (78+79+80+81+82+83+84+87+88+89+90)/11,$$

the corresponding arithmetic average of the 11 Q-values existing over the por, and the sums of squares and crossproducts of deviations from these two averages. Explicit versions of the required formula are given in most statistical textbooks; one general version is given on page 351 of Snedecor and Cochran (1980), with further clarification in simpler formulas on page 342 which are directly applicable to the present specific case of two-variable multiple linear regression.

Table 1 presents the interim limit formula for Shark River Slough as derived by the above statistical methodology,

$$10\%\ \text{Limit} = 11.16 - .00465 \cdot Q + 1.397\sqrt{\{6.377 - .00591 \cdot Q + .00000436 \cdot Q^2\}}$$

If, for example, the annual flow into Shark River Slough in year 2000 were to be Q=700 K acre feet then the 10% rejection limit for the [tp] for that year would be:

$$\begin{aligned} 10\%\ \text{Limit} &= 11.16 - 3.255 + 1.397\sqrt{\{6.377 - 4.137 + 2.1364\}} \\ &= 7.905 + 1.397\sqrt{4.3764} \\ &= 7.905 + 2.923 \\ &= 10.8\ \text{ppb} \end{aligned}$$

Compliance would thus be determined by whether or not the flow-weighted average [tp] of the 26 biweekly samples at all structures discharging into Shark River Slough for that water year was less than or equal to the rejection limit of 10.8 ppb. If the [tp] in question exceeded 10.8 then the "null" hypothesis that baseline or better phosphorus conditions prevailed during the water year 2000 would be rejected.

The factor t=1.397 appearing in this formula is the tabulated 90th percentile of Student's t-distribution with 11-3 = 8 degrees of freedom (df=8). (Choosing numerical values of a, b and c to minimize the sum of squares of the 11 e's in equation (1) restricts the variation in these e's forcing them, for example, to add up to zero and to exhibit zero correlation with the 11 T's and the 11 Q's. These 3 constraints on the 11 e's result in a loss of 3 degrees of freedom in their joint ranges of variation and a corresponding reduction in df for the associated t-statistic.) The tabulated t-statistic multiplies the estimated standard error ($\sqrt{4.3764}$) of the "observed minus predicted" difference in question, so this standard error and its formula are the key to assessing whether the magnitude of an observed difference is statistically significant. An elaboration of the terms var(b), var(c) and cov(b,c) in this standard error formula as it appears in Table 1 can be found on page 342 of the cited textbook, Snedecor and Cochran (1980).

Multiple Linear Regression is a standard statistical method which is available in virtually all commercial statistical software packages. The computer program which generated Table 1 is tailor-made to print the formulas seen there, but is otherwise entirely equivalent to the standard statistical software. The program for Table 1 was written in the programming language APL using the APL*PLUS System, Version 8.0, marketed by STSC,Inc., 2115 East Jefferson Street, Rockville, MD 20852. This program is displayed in APL language in Appendix 2.

The same APL program generated Table 2 giving the long term standard formula for Shark River Slough annual inflow [tp]:

$$10\%\ \text{Limit} = 11.38 - .00538 \cdot Q + 1.397\sqrt{\{2.493 - .00231 \cdot Q + .00000170 \cdot Q^2\}}$$

with calculations now based strictly on por data for the S12 structures, excluding the S333 por water quality data on the grounds that in the long term there will be minimal inflow to Shark River Slough through this structure. Using the same Q=700 K acre feet in this formula produces a 10% limit of 9.4 ppb, applicable after July 1, 2002, in any water year for which the total inflow to Shark River Slough happens to equal 700.

TABLE 1. CALCULATION OF INTERIM LIMITS FOR SHARK RIVER SLOUGH
10% REJECTION LIMIT ON ANNUAL MEAN TOTAL Phosphorus ([tp] ppb)
DETRENDED AND ADJUSTED FOR ANNUAL TOTAL FLOW TO ENP
S12 + S333 flow weighted mean [tp] vs S12+S333 composite annual Q
1 1980 OUTLIER DELETED

1Oct-30Sep year	Q [tp] ppb	1000 acre feet	Fitted ppb	Detrended ppb	10% Rejection Limit ppb
78	6.72	522.803	8.4	8.7	11.7
79	9.79	407.050	9.6	9.3	12.3
80	10.63	649.164	9.0	8.1	11.1
81	12.44	291.687	11.3	9.8	12.9
82	8.42	861.328	9.2	7.2	10.1
83	7.04	1061.258	8.9	6.2	9.4
84	11.97	842.779	10.5	7.2	10.2
87	15.95	276.623	14.9	9.9	13.0
88	15.59	585.451	14.1	8.4	11.4
89	13.53	116.860	16.8	10.6	14.0
90	18.06	148.219	17.3	10.5	13.8

$R^2 = .79880$

Standard error of estimate: $s = 1.87305$

Fitted [tp] $= 11.8309 + .5932(\text{year} - 83.727) - .00465(Q - 523.929)$

$= a + b \cdot \text{year} + c \cdot Q$

$= -35.4045 + .5932 \cdot \text{year} - .00465 \cdot Q$

Standard errors: $\pm 13.3840 \pm .1540 \pm .00209$

Detrended [tp] $= (a + b \cdot 78.5) + c \cdot Q$

$= 11.16 - .00465 \cdot Q$

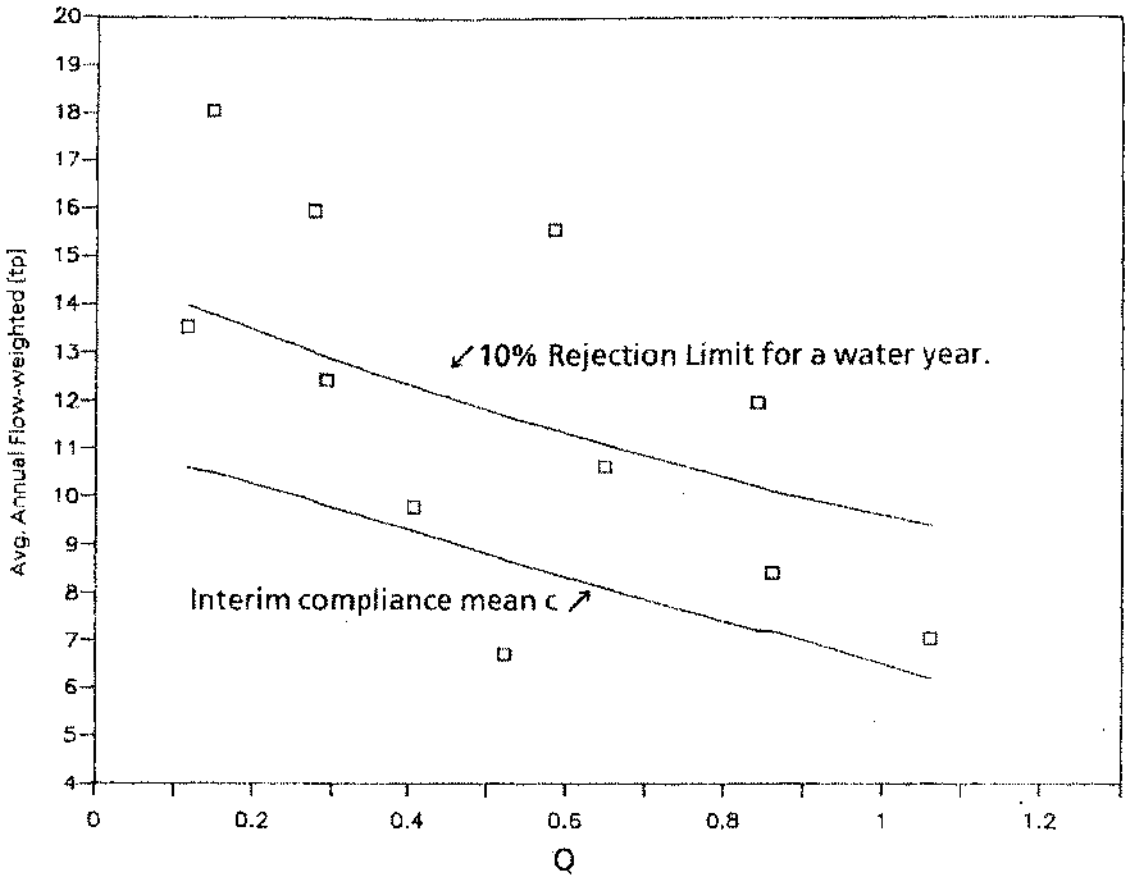
Standard errors: $\pm 1.69 \pm .00209$

$$\text{Upper Limit} = \text{Detrended[tp]} + t\sqrt{[s^2 + s^2/n + \text{var}(b) \cdot (78.5 - 83.727)^2 + \text{var}(c) \cdot (Q - 523.929)^2 + 2 \cdot \text{cov}(b,c) \cdot (78.5 - 83.727) \cdot (Q - 523.929)]}$$

$$\text{Upper Limit} = 11.16 - .00465 \cdot Q + 1.397 \cdot \sqrt{[6.377 - .00591 \cdot Q + .00000436 \cdot Q^2]}$$

Figure 1. Shark River Slough Interim Limits

$$C = 11.16 - .00465 \cdot Q + 1.397 \cdot \sqrt{[6.377 - .00591 \cdot Q + .00000436 \cdot Q^2]}$$



Q = Total inflow (Kac-ft/yr) to Shark River Slough for water year.

TABLE 2. CALCULATION OF LONG TERM LIMITS FOR SHARK RIVER SLOUGH

10% REJECTION LIMIT ON ANNUAL MEAN TOTAL PHOSPHORUS ([tp] ppb)
DETRENDED AND ADJUSTED FOR ANNUAL TOTAL FLOW TO ENP
S12 flow weighted mean [tp] vs S12 + S333 composite annual Q
1 1980 OUTLIER DELETED

1Oct-30Sep year	Q [tp] ppb	1000 acre feet	Fitted ppb	Detrended ppb	10% Rejection Limit ppb
78	6.72	522.803	8.3	8.6	10.4
79	8.76	407.050	9.4	9.2	11.1
80	10.47	649.164	8.6	7.9	9.7
81	12.22	291.687	10.9	9.8	11.8
82	7.92	861.328	8.3	6.8	8.6
83	6.89	1061.258	7.7	5.7	7.6
84	9.83	842.779	9.3	6.9	8.7
87	14.25	276.623	13.7	9.9	11.9
88	12.82	585.451	12.5	8.2	10.1
89	14.42	116.860	15.4	10.8	12.8
90	15.50	148.219	15.7	10.6	12.7

Average = 8.6

$R^2 = .88865$

Standard error of estimate: $s = 1.17116$

Fitted [tp] = 10.8909 + .4449(year - 83.727) - .00538(Q - 523.929)

$= a + b \cdot year + c \cdot Q$

$= -23.5419 + .4449 \cdot year - .00538 \cdot Q$

Standard errors: $\pm$ 8.3687 $\pm$ .0963 $\pm$ .00131

Detrended [tp] $= (a + b \cdot 78.5) + c \cdot Q$

$= 11.38 - .00538 \cdot Q$

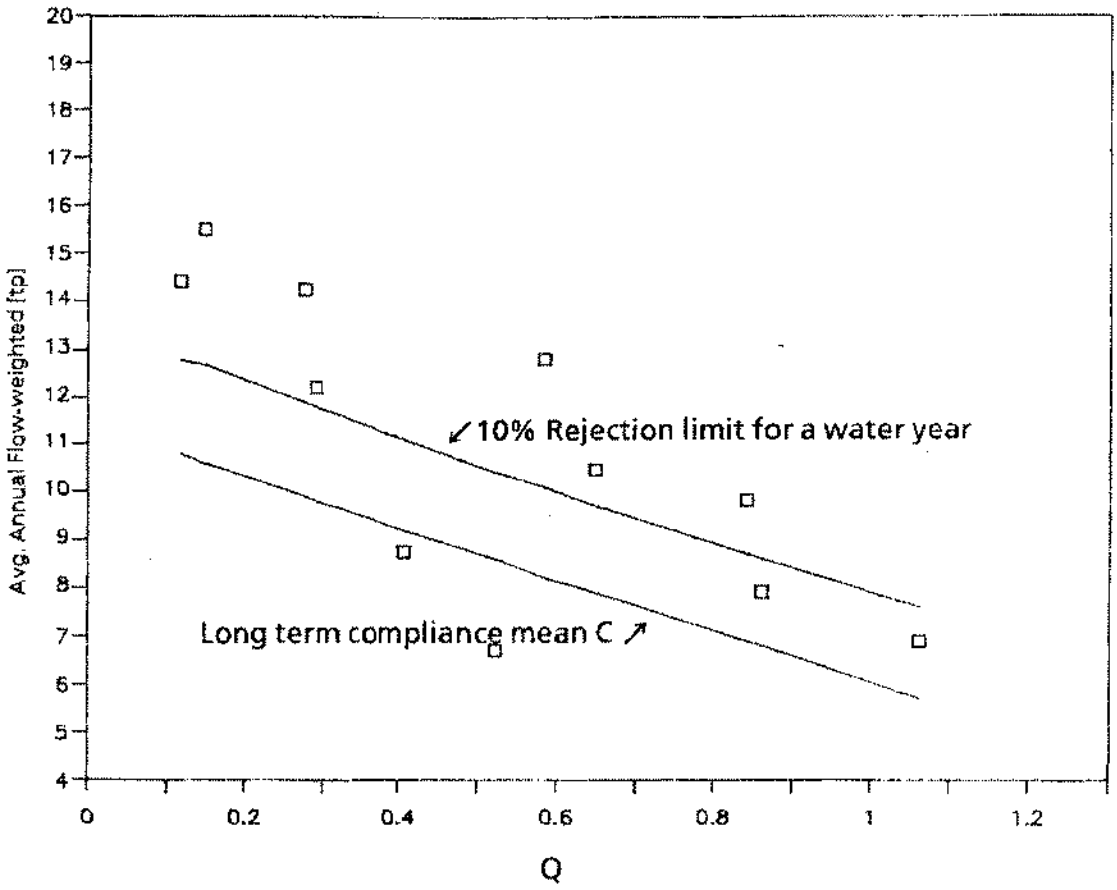
Standard errors: $\pm$ 1.06 $\pm$ .00131

$$\text{Upper Limit} = \text{Detrended[tp]} + t\sqrt{[s^2 + s^2/n + \text{var}(b) \cdot (78.5 - 83.727)^2 + \text{var}(c) \cdot (Q - 523.929)^2 + 2 \cdot \text{cov}(b,c) \cdot (78.5 - 83.727) \cdot (Q - 523.929)]}$$

$$\text{Upper Limit} = 11.38 - .00538 \cdot Q + 1.397 \cdot \sqrt{[2.493 - .00231 \cdot Q + .00000170 \cdot Q^2]}$$

Figure 2. Shark River Slough Long Term Limits

$$C = 11.38 - .00538 \cdot Q + 1.397 \cdot \sqrt{[\,2.493 - .00231 \cdot Q + .00000170 \cdot Q^2]}$$



Q = Total inflow (Kac-ft/yr) to Shark River Slough for water year.

EXCEEDANCE FREQUENCY GUIDELINE FOR THE ESTIMATED PERCENT OF TIME THAT PARK INFLOW PHOSPHORUS CONCENTRATION EXCEEDS 10 ppb

One alternative to average phosphorus concentration during periods of positive inflow as an index of water quality is the percent of this time during the water year that the inflow phosphorus concentration exceeds some specified limit. Such a measure of inflow water quality has the advantage of being less sensitive to the occasional extreme value, and is unaffected by minimum detection limits in the laboratory analyses. A 10 ppb upper boundary for the exceedance frequency provides a control point for the distribution which corresponds with the upper boundary for oligotrophic waters. The 10 ppb exceedance frequency guideline was developed to aid in tracking compliance.

Data for developing this criterion consist of the percent of positive-flow biweekly sampling days on which the flow-weighted average [tp] of Park inflow waters exceeded 10 ppb in each of the 11 por water years. Two 11-year sequences were produced as before, one based on [tp] data only from the S12 structures and the other flow weighted across S333 as well. The same multiple linear regression analyses were performed on these exceedance frequencies as were used on water year flow weighted average [tp], producing formulas for the 10% rejection limit based on total annual discharge Q and adjusted to the 1978-79 base period. The sequences, with and without S333 [tp] included in the biweekly averages, produced very similar rejection limits and only the limit based on the flow weighted [tp] of the S333 and S12 structures is presented here as a supplementary criterion. The 10% Rejection Limit as calculated in Table 3 utilizes flow data for S333 during certain periods in 1980 and 1981 when gates were open but no flow was recorded which is slightly different than that used to calculate the limits.

$$\text{Limit (\%)} = 48.41 - .02896 \cdot Q + 1.397\sqrt{[330.1 - .3071 \cdot Q + .0002254 \cdot Q^2]}$$

Table 3b presents a revised frequency guideline utilizing the same flow data that was employed in calculating the limits:

$$\text{Limit (\%)} = 47.88 - .02819 \cdot Q + 1.397\sqrt{[377.186 - .34971 \cdot Q + .00025769 \cdot Q^2]}$$

For any 12 month period the percentage of biweekly sampling dates with positive park inflow when the 10 ppb [tp] boundary is exceeded by the sample flow weighted average thus becomes a supplementary index to aid in tracking compliance with respect to the annual flow weighted mean. These two 12 month indices are strongly correlated, but they do convey somewhat different information concerning annual pattern of water quality, and one Rejection Limit might be exceeded when the other is not.

TABLE 3. 10 ppb EXCEEDANCE FREQUENCY GUIDELINE FOR SHARK RIVER SLOUGH INFLOW

10% REJECTION LIMIT ON FREQUENCY OF BIWEEKLY TOTAL PHOSPHORUS ppb > 10
DETRENDED AND ADJUSTED FOR ANNUAL TOTAL FLOW TO SHARK RIVER SLOUGH
S12 + S333 flow weighted mean [tp] > 10 frequency vs S12 + S333 composite annual Q
1 1980 OUTLIER DELETED

Water year	Freq [tp]>10 %	Q 1000 acre feet	Fitted %	Detrended %	10% Rejection Limit %
78	4.55	522.803	31.3	33.3	54.5
79	53.85	407.050	38.8	36.6	58.4
80	40.00	658.391	35.9	29.3	50.3
81	62.50	295.759	50.8	39.8	62.3
82	42.86	861.328	38.7	23.5	44.8
83	36.36	1061.258	37.3	17.7	40.1
84	48.00	842.779	48.0	24.0	45.3
87	64.71	276.627	77.5	40.4	63.0
88	77.78	585.451	72.9	31.5	52.5
89	100.00	116.860	90.9	45.0	69.1
90	85.71	148.219	94.3	44.1	67.9

$R^2 = .79138$

Standard error of estimate: $s = 13.45441$

$$\text{Fitted \%} = 56.0282 + 4.3664(\text{year} - 83.727) - .02896(Q - 525.139)$$
$$= a + b \cdot \text{year} + c \cdot Q$$
$$= -294.3510 + 4.3664 \cdot \text{year} - .02896 \cdot Q$$

Standard errors: $\pm 96.3294 \pm 1.1082 \pm .01501$

$$\text{Detrended \%} = (a + b \cdot 78.5) + c \cdot Q$$
$$= 48.41 - .02896 \cdot Q$$

Standard errors: $\pm 12.21 \pm .01501$

$$\text{Upper Limit} = \text{Detrended \%} + t\sqrt{[s^2 + s^2/n + \text{var}(b) \cdot (78.5 - 83.727)^2 + \text{var}(c) \cdot (Q - 525.139)^2 + 2 \cdot \text{cov}(b,c) \cdot (78.5 - 83.727) \cdot (Q - 525.139)]}$$

$$\text{Upper Limit} = 48.41 - .02896 \cdot Q + 1.397\sqrt{[330.1 - .3071 \cdot Q + .0002254 \cdot Q^2]}$$

TABLE 3B. 10 ppb EXCEEDANCE FREQUENCY GUIDELINE FOR SHARK RIVER SLOUGH INFLOW

10% REJECTION LIMIT ON FREQUENCY OF BIWEEKLY TOTAL PHOSPHORUS ppb > 10
DETRENDED AND ADJUSTED FOR ANNUAL TOTAL FLOW TO SHARK RIVER SLOUGH
S12 + S333 flow weighted mean [tp] > 10 frequency vs S12 + S333 composite annual Q
1 1980 OUTLIER DELETED

Water year	Freq [tp] > 10 %	Q 1000 acre feet	Fitted %	Detrended %	10% Rejection Limit %
78	4.55	522.803	31.3	33.1	55.9
79	50.00	407.050	38.2	36.4	59.7
80	40.00	649.164	35.0	29.6	52.1
81	58.33	291.687	48.7	39.7	63.7
82	42.86	861.328	36.2	23.6	46.4
83	36.36	1061.258	34.2	18.0	42.0
84	48.00	842.779	43.9	24.1	46.9
87	58.82	276.623	70.7	40.1	64.3
88	55.56	585.451	65.6	31.4	53.9
89	100.00	116.860	82.4	44.6	70.3
90	76.92	148.219	85.1	43.7	69.1

$R^2 = .71223$

Standard error of estimate: $s = 14.40481$

$$\text{Fitted \%} = 51.9456 + 3.6032(\text{year} - 83.727) - .02819(Q - 523.929)$$

$$= a + b \cdot \text{year} + c \cdot Q$$

$$= -234.9687 + 3.6032 \cdot \text{year} - .02819 \cdot Q$$

Standard errors: $\pm$ 102.9308 $\pm$ 1.1845 $\pm$ .01605

$$\text{Detrended \%} = (a + b \cdot 78.5) + c \cdot Q$$

$$= 47.88 - .02819 \cdot Q$$

$$= 47.88 - .02819 \cdot Q$$

Standard errors: $\pm$ 13.03 $\pm$ .01605

$$\text{Upper Limit} = \text{Detrended \%} + t\sqrt{[s^2 + s^2/n + \text{var}(b) \cdot (78.5 - 83.727)^2 + \text{var}(c) \cdot (Q - 523.929)^2 + 2 \cdot \text{cov}(b,c) \cdot (78.5 - 83.727) \cdot (Q - 523.929)]}$$

$$\text{Upper Limit} = 47.88 - .02819 \cdot Q + 1.397\sqrt{[377.186 - .34971 \cdot Q + .00025769 \cdot Q^2]}$$

LIMITS FOR TAYLOR SLOUGH AND COASTAL BASINS

The period of record for water quality data at structures S18C and S332 extend only back to 1984, and no water quality data were available for S175. Biweekly and annual flow weighted average [tp] values were calculated from the S18C + S332 data files for purposes of deriving Taylor and Coast Basins inflow limits after the manner employed for Shark River Slough, with adaptations to accommodate the shorter por. The first water year of sampling, October 1, 1983, through September 30, 1984, was used as the baseline period. There was no significant trend in the annual average [tp] over this por, nor was there any correlation with discharge; as a consequence, the 1984 water year flow weighted [tp] of 5.8 ppb became the target mean. Since no trend existed over the remaining years, 1985-90, the variability among these 6 years provided the standard error for constructing the 10% Rejection Limit of 11 ppb as given in Table 4. These data, based on an averaging over only two structures were analyzed on the logarithmic scale to reduce the effect of the skewness seen in Appendix 1 for individual structures.

Exceedance frequencies did show a statistically significant linear trend ($p = .07$) and were, accordingly, detrended to the baseline water year. The back-calculated baseline exceedance frequency was 12% and the 10% Rejection Limit as calculated in Table 5 is 53%.

TABLE 4. CALCULATION OF LIMIT FOR TAYLOR SLOUGH AND COASTAL BASINS
10% REJECTION LIMIT ON ANNUAL MEAN TOTAL PHOSPHORUS ([tp] ppb)
ADJUSTED TO 1984 BASELINE INDEPENDENT OF ANNUAL DISCHARGE (Q)
S18C + S332 flow weighted [tp]

year	base	[tp] ppb	Q 1000 acre feet	Fitted ppb	Adjusted to base year ppb	10% Rejection Limit ppb
84	1	5.8	NA	5.8	5.8	11.0
85	0	9.5	NA	10.1	5.8	11.0
86	0	7.5	NA	10.1	5.8	11.0
87	0	16.0	NA	10.1	5.8	11.0
88	0	10.3	NA	10.1	5.8	11.0
89	0	12.6	NA	10.1	5.8	11.0
90	0	7.1	NA	10.1	5.8	11.0

Natural log scale:

$R^2 = .35520$

Standard error of estimate: $s = .30882$

Fitted log[tp] $= 2.23237 - .55360(\text{base} - .14286)$

$= a + b \cdot \text{base}$

$= 2.31145 - .55360 \cdot \text{base}$

Standard errors: $\pm .12608 \quad \pm .33357$

Adjusted log[tp] $= (a + b)$

$= 1.75786$

Standard error: $\pm .30882$

log Upper Limit $= \text{Adj. log[tp]} + t\sqrt{[s^2 + s^2/1]}$

$= 1.75786 + 1.476\sqrt{[2 \cdot (3.0882)^2]}$

$= 2.40248$

TABLE 5. 10 ppb EXCEEDANCE FREQUENCY GUIDELINE FOR TAYLOR SLOUGH AND COASTAL BASINS
DETRENDED TO 1984 BASELINE INDEPENDENT OF ANNUAL DISCHARGE (Q)
% S18C+S332 flow weighted [tp] > 10 ppb

year	Freq [tp]>10 %	Q 1000 acre feet	Fitted %	Detrended %	10% Rejection Limit %
84	4.3	NA	12.1	12.1	53.1
85	25.0	NA	20.0	12.1	53.1
86	23.1	NA	28.0	12.1	53.1
87	45.5	NA	35.9	12.1	53.1
88	30.8	NA	43.8	12.1	53.1
89	90.5	NA	51.7	12.1	53.1
90	32.0	NA	59.6	12.1	53.1

$R^2 = .39949$

Standard error of estimate: $s = 22.96230$

Fitted % $= 35.8750 + 7.914331(\text{year} - 87)$
$= a + b \cdot \text{year}$
$= -652.67166 + 7.91433 \cdot \text{year}$

Standard errors: $\pm 377.63338 \pm 4.33947$

Detrended % $= (a + b \cdot 84)$
$= 12.13197$

Standard error: ± 15.64617

% Limit $= \text{Detrended \%} + t\sqrt{[s^2 + s^2/n + \text{var}(b) \cdot (84 - 87)^2]}$
$= 12.13197 + 1.476\sqrt{772.06995}$
$= 53.1\%$

PHOSPHORUS LEVELS FOR LOXAHATCHEE NATIONAL WILDLIFE REFUGE

The data base for developing interim and long term total phosphorus concentration levels derives from water quality samples taken at the 16 interior marsh stations CA1-1 to CA1-16 on 16 dates during the period from June, 1978, to July, 1983. Sampling at these permanent stations was initially bimonthly but became sparser later in this por, as seen in the data Table 6. Phosphorus concentration was found to be negatively correlated with stage in the marsh as measured by the arithmetic average of water level stage gauges CA1-7, 9 and 8C on each date of sampling. Total phosphorus concentrations during this por will be adjusted to a base period defined by the first 12 months of the por, and adjusted for stage on the day of sampling.

Statistical analyses of these data utilize the logarithmic scale of total phosphorus concentration which was found to improve additivity (Figure C) and reduce skewness. Permanence of the 16 interior marsh stations implies that in the statistical sense they have fixed "effects" on phosphorus concentration, each effect being peculiar to the particular permanent local environmental features at that station. Effects are relative and, on the logarithmic scale, approximately additive; this implies that in a comparison between two particular stations their [tp] values will tend to stand in the same ratio over time. Equivalently, the difference in their log concentrations will tend to remain constant.

The geometric mean concentration on a sampling day (antilog of the average across stations of their log concentrations) provides an index of the phosphorus concentration for the interior marsh at that time. Use of permanent stations enhances precision and comparability between dates, improving chances of detecting change. Missing values at one or more of the permanent stations on some dates will, on the other hand, reduce both precision and comparability over time. Table 6 reveals that stations CA1-1 and CA1-2 data were missing on approximately 40% of the sampling dates during the por while the other 14 stations were almost always represented in the sample. On this basis the two stations CA1-1 and CA1-2 are excluded from the por data for purposes developing levels; geometric means for the interim levels will thus be based on the 14 interior marsh stations CA1-3 through CA1-16.

Reasons for missing values in the por are unknown at this time, but may have resulted from a lack of water to sample at a station due to low stage in the marsh. The por data include stage measurement at the three marsh gauges CA1-7, 9 and 8C on each sampling date, and the average of these three readings is taken as an index of stage for the marsh on that date. Excessively low stage introduces potential biases in the field process of collecting a water sample from a helicopter, while also impairing precision through missing values. The lowest stage [tp] data in the por and on any future sampling dates are therefore of dubious quality and are better excluded both in developing levels and testing for compliance. This exclusion is implemented here by establishing a threshold stage of 15.42 feet MSL for acceptance of a sampling date in the por and in the future compliance monitoring record. Two of the 16 por sampling dates are excluded under this criterion, March and June of 1979 at stages 15.21 and 14.88 feet, respectively; these were also days having the largest numbers of missing values.

TABLE 6. DATA BASE FOR LOXAHATCHEE NATIONAL WILDLIFE REFUGE LEVELS.
TOTAL PHOSPHORUS CONCENTRATION AT 16 INTERIOR MARSH STATIONS ON 16 DATES*

SAMPLING STATION															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TOTAL PHOSPHORUS ppb															
39	26	30	21	16	23	29	35	39	17	8	8	18	10	24	10
23	24	11	11	6	9	7	11	11	8	7	7	7	15	11	3
15	14	14	5	3	5	8	8	5	8	0	13	7	11	7	7
8	5	6	6	9	7	7	8	7	8	0	7	11	10	10	6
0	122	157	17	31	9	24	84	0	13	11	8	50	23	33	0
0	0	3	0	7	4	3	3	2	5	14	14	22	17	31	16
0	0	344	111	19	0	112	259	176	0	10	15	14	261	22	24
0	44	11	12	10	11	14	15	8	14	9	17	21	16	21	22
30	12	5	7	6	5	12	3	3	7	5	3	5	7	10	6
26	8	15	41	13	6	96	19	28	16	13	62	4	13	37	10
0	0	18	14	8	11	21	13	169	34	15	41	95	16	49	43
56	26	16	20	16	10	16	15	12	58	19	494	27	13	121	13
0	0	38	22	22	13	9	19	17	12	27	14	11	25	18	10
0	0	0	99	32	39	11	40	17	31	10	24	9	13	42	14
257	17	16	104	10	57	41	13	5	6	22	5	12	4	4	4
122	0	32	19	0	11	33	122	10	25	19	7	10	4	29	12

* 0 indicates missing value

AVERAGE STAGE AT GAUGES CA1-7, 9 & 8C

Date YYMM	Stage feet
7806	15.70
7808	15.98
7810	16.46
7812	16.63
7903	15.21
7905	15.42
7906	14.88
7908	15.60
7910	17.11
8002	15.91
8007	15.53
8009	16.03
8012	15.59
8204	15.46
8212	16.45
8307	15.77

TABLE 7. GEOMETRIC MEANS DERIVED FROM TABLE 6 GEOMETRIC MEANS BY DATE ACROSS ALL 16 STATIONS

Date yymm	Geometric mean	n
7806	19.50	16
7808	9.64	16
7810	8.03	15
7812	7.49	15
7903	28.44	13
7905	8.55	13
7906	56.56	12
7908	14.80	15
7910	6.81	16
8002	18.05	16
8007	26.11	14
8009	26.64	16
8012	16.91	14
8204	22.89	13
8212	14.85	16
8307	19.89	14

STATION GEOMETRIC MEANS OVER ALL DATES

Station	Geometric mean	n
1	37.52	9
2	19.94	10
3	19.78	15
4	20.68	15
5	11.66	15
6	10.76	15
7	17.65	16
8	19.84	16
9	14.55	15
10	13.57	15
11	12.20	14
12	15.25	16
13	13.89	16
14	14.17	16
15	21.21	16
16	10.81	15

Model development as described in Appendix III to exploit the inverse relationship between [tp] and stage resulted in a simple linear model incorporating stage and a base-year indicator variable allowing ln[tp] on any date at any stage ($\geq$ 15.42 ft.) to be adjusted back to base year conditions. The interim formula which calculates the 10 percent Rejection Limit at any given stage S is expressed on the natural logarithmic (ln) scale of [tp] as (see Table 8):

Interim Limit for ln[tp] =

$$11.9187 - .603261 \cdot S + 1.372\sqrt{[7.5311 - .9247 \cdot S + .02882758 \cdot S^2]}$$

Calculating this limit for the average stage (S) recorded at the three gauges CA1-7, CA1-9 and CA1-8C on a sampling date and comparing this calculated limit with the ln[tp] averaged (arithmetically) over the CA1-3 through CA1-16 stations sampled on that date is equivalent to performing a one-sided, 10% t-test of the hypothesis that baseline geometric mean [tp] conditions prevail.

Long term levels are intended to achieve water quality comparable to those existing at the least impacted stations during the 1978-79 water year. Development of such levels utilizing data for the entire por rather than just 1978-79 data was based on a selection of 3 "clean" stations. Table 9 reveals that the 3 stations CA1-5, 6 and 16 were distinctive in having the lowest phosphorus concentration for the por, with geometric means approximating the classical bound of 10 ppb for oligotrophic waters, as well as having the lowest geometric means during the 1978-89 base year. These "clean 3" were adopted as representing the cleanest [tp] condition during the por, and the geometric means over these 3 stations on the 14 usable sampling days in the por were used in calculating long term phosphorus levels for the refuge.

This results in a more stringent t-test as a long term level using a similar formula derived from the "clean 3" stations but to be applied again to means over all 14 stations (see Table 10):

Long Term Limit for ln[tp] =

$$10.7172 - .541156 \cdot S + 1.372\sqrt{[7.5819 - .9310 \cdot S + .02902216 \cdot S^2]}$$

TABLE 8. CALCULATION OF INTERIM PHOSPHORUS LIMITS FOR LOXAHATCHEE NATIONAL WILDLIFE REFUGE 10% REJECTION LIMIT ON 14-STATION GEOMETRIC MEAN [TP] PPB ADJUSTED TO 1978-79 BASELINE FOR ANY GIVEN MEAN STAGE

STATISTICAL ANALYSIS OF GEOMETRIC MEAN OF STATIONS CA1-3 TO CA1-16

yymm	base year	Geometric mean [tp] ppb	S Stage (ft)	Log linear fitted ppb	Interim expected mean at ppb	10% Rejection Limit ppb
7806	1	18.2	15.70	11.5	11.5	18.5
7808	1	8.5	15.98	9.7	9.7	15.5
7810	1	7.3	16.46	7.3	7.3	11.8
7812	1	7.7	16.63	6.6	6.6	10.7
7905	1	8.5	15.42	13.7	13.7	22.3
7908	0	13.7	15.60	20.0	12.3	19.8
7910	0	5.9	17.11	8.0	4.9	8.4
8002	0	18.6	15.91	16.6	10.2	16.3
8007	0	26.1	15.53	20.8	12.8	20.7
8009	0	25.3	16.03	15.4	9.5	15.1
8012	0	16.9	15.59	20.0	12.3	19.9
8204	0	22.9	15.46	21.8	13.4	21.8
8212	0	12.0	16.45	11.9	7.3	11.8
8307	0	17.3	15.77	18.0	11.1	17.8

Geometric mean = 9.8

ON THE NATURAL LOG SCALE:

$R^2 = .67233$

Standard error of estimate: s = .31027

Fitted [tp] = 2.59 - .4856(base - .36) - .603261(S - 15.97)

= a + b · (base) + c · S

= 12.4043 - .4856 · (base) - .603261 · S

Standard errors: ± 2.7082 ± .1739 ± .169787

Adjusted [tp] = (a + b) + c · S

= 11.9187 - .603261 · S

Standard errors: ± 2.7267 ± .169787

Upper Limit = Adjusted [tp] + $t\sqrt{[s^2 + s^2/n + var(b) \cdot (1 - .36)^2}$

$+ var(c) \cdot (S - 15.97)^2 + 2 \cdot cov(b,c) \cdot (1 - .36) \cdot (S - 15.97)]$

Log Limit = $11.9187 - .603261 \cdot S + 1.372 \cdot \sqrt{[7.5311 - .9247 \cdot S + .02882758 \cdot S^2]}$

TABLE 9. TOTAL PHOSPHORUS PPB AT 14 STATIONS ON 14 USABLE DATES IN THE POR

															Date
					Station CA1-:										Geom
Date	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Mean
7806	30	21	16	23	29	35	39	17	8	8	18	10	24	10	18.2
7808	11	11	6	9	7	11	11	8	7	7	7	15	11	4	8.5
7810	14	5	4	5	8	8	5	8	1*	13	7	11	7	7	7.3
7812	6	6	9	7	7	8	7	8	1*	7	11	10	10	6	7.7
7905	4	1*	7	4	4	4	4	5	14	14	22	17	31	16	8.5
7908	11	12	10	11	14	15	8	14	9	17	21	16	21	22	13.7
7910	5	7	6	5	12	4	4	7	5	4	5	7	10	6	5.9
8002	15	41	13	6	96	19	28	16	13	62	4	13	37	10	18.6
8007	18	14	8	11	21	13	169	34	15	41	95	16	49	43	26.1
8009	16	20	16	10	16	15	12	58	19	494	27	13	121	13	25.3
8012	38	22	22	13	9	19	17	12	27	14	11	25	18	10	16.9
8204	1*	99	32	39	11	40	17	31	10	24	9	13	42	14	22.9
8212	16	104	10	57	41	13	5	6	22	5	12	4	4	4	12.0
8307	32	19	1*	11	33	122	10	25	19	7	10	4	29	12	17.3
						Station geometric mean:									
13.5	18.5	10.4	10.9	15.1	14.9	12.2	13.6	12.5	16.0	12.7	11.1	20.5	10.2	13.4	
		**	**										**		

Station geometric mean during first 12 months of the por:

10.2	9.1	7.5	7.8	8.5	10.0	9.0	8.5	9.2	9.3	11.6	12.3	14.2	7.7	9.5

* "1" denotes a missing value (a convenient convention with geometric means)

** The "clean 3" sites approximating the classical oligotrophic 10 ppb bound

(designated as S5A1 by the U.S.G.S.) in the West Palm Beach canal at the boundary of the EAA.

1. To determine portion of flow from the EAA that enters the Water Conservation Areas, the contribution from the West Palm Beach canal is first determined by taking the minimum of the positive flow leaving the EAA at S5A1 and the positive flow entering the Water Conservation Area 1 through the S5A complex (designated as S5A2 by the U.S.G.S). This flow value is then added to the sum of the positive flows at S6, S7, S150 and S8.

2. The remainder of S5A1 postive flows are assumed to flow to the C-51/L8 canal basins and the flows computed by subtracting the positive flow at S5A2 from the positive flow at S5A1. If this difference is negative, it is set equal to zero.

E. Flows from the WCAs and the C-51/L-8 Basins to the EAA

This is the sum negative flows from S5A1, S6, S7, S150, and S8.

F. Total Net Outflow From The EAA

This is the flow at the south end of each basin minus the volume of flow at the north end (positive or negative) of each basin. If this difference is less than zero for an individual basin, it is set equal to zero. Using the West Palm Beach canal as an example, the net outflow is computed by subtracting the HGS5 flow from S5A1 flow. When this value is less than zero it is set equal to zero. (Outflow from the Miami canal also includes flow from Hendry County through G136 and G88. Since 1980 this flow averaged about 27,000 AF a year).

G. Total Net Inflow to the EAA

This is the volume of flow at the north end minus the flow at the south end of each basin. If this difference is less than zero, it is set equal to zero. Again, using the West Palm Beach canal as an example, the net inflow is calculated by subtracting the S5A1 flows from the HGS5 flows.

The map attached summarizes the different surface water components of the EAA water budget pictorially.

PT/nw
Attachment

c: P. Rhoads
L. Wedderburn
J. Marban

Table 1. Comparison of Flows (thousands of acre-feet)

	Period of Record		Pre-IAP		Post-IAP	
	Consultants	SFWMD	Consultants	SFWMD	Consultants	SFWMD
A	196	250	253	292	109	159
B	163	140	192	167	101	82
C	303	315	315	329	278	286
D	895	896	838	842	1010	1009
E	50	23	35	8	82	55
F	622	1005	719	967	416	1085
G	316	338	322	337	303	341

A. Backpumping To Lake Okeechobee From The EAA

This is the sum of the daily negative volume of flows at HGS5, S2-HGS4, S3-HGS3.

B. Flows From Lake Okeechobee Through The EAA to the WCAs and to the C-51/L-8 Basins

This is computed by taking the minimum of the daily flow entering the north end of the EAA and that leaving the south end of the EAA for each basin. If, on any day for a given basin, these minimums are less than zero, they are set equal to zero. For example, to estimate the flow from Lake Okeechobee to Water Conservation Area 3A through the Miami canal, take the minimum of the flow that left the lake through S3-HGS3 and entered the Water Conservation Area through S8. After making a similar computation for each basin, the flows are summed to determine total flow from the lake through the EAA to the south, either to the Water Conservation Areas or the C-51/L-8 basins.

C. Flows from Lake Okeechobee to the EAA

This is computed by subtracting the flow leaving a basin at the south end of the EAA from that entering at the north end on the same day. If flows at the south end are negative, they are first set to equal zero. If the final computation for a particular basin is less than zero, then it is set equal to zero. Again, using the Miami canal as an example, to determine flows to the EAA from Lake Okeechobee, subtract the S8 flows (leaving the EAA; i.e., positive values only) from the S3-HGS3 flows entering the EAA. If this volume is less than zero, then it is set equal to zero. After making a similar computation for each basin, the flows are summed to determine total flow from Lake Okeechobee to the EAA for a particular day.

D. Flows from the EAA to the WCAs and C-51/L-8 Basin

This is the sum of all positive flows leaving each basin to the Water Conservation Areas and the C-51/L-8 basins. This flow is determined by summing all positive flows at S6, S7, S8, S150, and upstream of the S5A pump

TABLE 10. CALCULATION OF LONG TERM PHOSPHORUS LIMITS FOR LOXAHATCHEE NATIONAL WILDLIFE REFUGE 10% REJECTION LIMIT ON 14-STATION GEOMETRIC MEAN [tp] ppb ADJUSTED TO 1978-79 BASELINE FOR ANY GIVEN MEAN STAGE

Statistical Analysis of Stations CA1-5,6 & 16 geometric mean:

yymm	base year	Geometric Mean [tp] ppb	S Stage (ft)	Log Linear Fitted [tp]	Predicted Long Term Mean at Stage S	10% Rejection Limit [tp]
7806	1	15.4	15.70	9.2	9.2	14.8
7808	1	6.0	15.98	7.9	7.9	12.6
7810	1	5.2	16.46	6.1	6.1	9.9
7812	1	7.2	16.63	5.6	5.6	9.1
7905	1	7.7	15.42	10.7	10.7	17.5
7908	0	13.4	15.60	15.1	9.7	15.7
7910	0	5.6	17.11	6.7	4.3	7.3
8002	0	9.2	15.91	12.8	8.2	13.2
8007	0	15.6	15.53	15.7	10.1	16.4
8009	0	12.8	16.03	11.9	7.7	12.3
8012	0	14.2	15.59	15.1	9.8	15.8
8204	0	25.9	15.46	16.3	10.5	17.1
8212	0	13.2	16.45	9.5	6.1	9.9
8307	0	11.5	15.77	13.8	8.9	14.3

Geometric mean = 7.9

ON THE NATURAL LOG SCALE:

$R^2 = .62224$

Standard error of estimate: $s = .31131$

Fitted [tp] $= 2.35 - .4380(\text{base} - .36) - .541156(S - 15.97)$

$= a + b \cdot (\text{base}) + c \cdot S$

$= 11.1553 - .4380 \cdot (\text{base}) - .541156 \cdot S$

Standard errors: $\pm 2.7173 \quad \pm .1745 \quad \pm .170359$

Adjusted [tp] $= (a + b) + c \cdot S$

$= 10.7172 - .541156 \cdot S$

Standard errors: $\pm 2.7359 \quad \pm .170359$

Upper Limit = Adjusted [tp] + $t\sqrt{[s^2 + s^2/n + \text{var}(b) \cdot (1 - .36)^2 + \text{var}(c) \cdot (S - 15.97)^2 + 2 \cdot \text{cov}(b,c) \cdot (1 - .36) \cdot (S - 15.97)]}$

Log Limit $= 10.7172 - .541156 \cdot S + 1.372 \cdot \sqrt{[7.5819 - .9310 \cdot S + .02902216 \cdot S^2]}$

OUTLIER ANALYSIS FOR TOTAL PHOSPHORUS CONCENTRATION AT S12 AND S333

A search for potentially anomalous total phosphorus concentration ([tp]) records in the SFWMD data files for the S12 and S333 structures was undertaken for the years 1978-90, excluding the 1985-86 data. A log-linear model was used to account for month and year main effects, and flow (Q) at the structure on the sampling date was included as a covariate to further reduce the noise component of the model. For this purpose of detecting outliers, sampling dates for which zero flow was recorded at a structure were included in the analysis (Q=0). The 11 year effects are measured on a calendar year basis and month effects reflect the 12 calendar months.

The outlier deletion criterion employed in this analysis is that described in the statistical textbook by Snedecor, G.W. and W.G.Cochran (1980) 'Statistical Methods', 7th Edition,Iowa State University Press, page 168 and 350. Extreme reluctance to delete data on purely statistical grounds, without external evidence of an anomaly, was built into the present criterion by requiring that the p-value for rejection of a datum be .0001 instead of the customary .05 - .01.

The outlier detection method of Snedecor and Cochran (page 350) was programmed in APL*PLUS, Release 8.0, STSC, Inc., 2115 East Jefferson Street, Rockville, MD 20852. Programs and output are displayed below. One datum met the imposed rejection criterion; [tp] = 142 ppb for Q = 652 cfs on September 24, 1980, at S12C was statistically significant at p = .0001.

APPENDIX I

OUTLIER ANALYSIS FOR TOTAL PHOSPHORUS CONCENTRATION AT S12 AND S333

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The following APL programs were used to translate ASCII character data files into APL data arrays, and compute summary statistics by sampling date and by water year:

```
     ∇GETDTA[⎕]∇
[0]  GETDTA K
[1]   I←0 ◊ DTA← 1 5 ⍴0
[2]  ST:V←⎕NREAD ¯1 82 30 ,(K+I×57) ◊ V[(V='-')/⍳30]←'¯'
[3]   DTA←DTA,[1]⍎¨11V ◊ V ◊ I←I+1 ◊ →ST
[4]  ⍝ This reads dd mm yy q tp from an ASCII file, starting at line K, and
[5]  ⍝ stores it in a 5-column matrix DTA.  Line K is where data for the next
[6]  ⍝ structure begins; the data are in the first 30 characters per ASCII line.
[7]  ⍝ The function aborts when a new structure is encountered, and the first
[8]  ⍝ row of DTA must then be manually deleted, and DTA assigned a structure-
[9]  ⍝ specific name in order to save it.


     ∇GET1N[⎕]∇
[0]  GET1N DTA;N;J;I;JI;m;y
[1]   N←1↑⍴DTA
[2]   I←1 ◊ IYES← 1 2 ⍴0
[3]  ST:J1←((m≥10)×(y-76))+((m←DTA[I;2])≤9)×(y←DTA[I;3])-77 ◊ K←J1∈ 8 9 14
[4]   I←I+K+((DTA[I;5]=0)∨(K=1)∨(DTA[I;4]≤0)) ◊ →((K=1)∧(I≤N))/ST
[5]   IYES←IYES,[1]I,J←J1-2×(J1>7)
[6]   I←I+1 ◊ →(I≤N)/ST
[7]   IYES← ¯1 0 ↓ 1 0 ⍉IYES
[8]  ⍝ IYES identifies the rows of DTA that satisfy the conditions specified in
[9]  ⍝ lines [3,4].  Line [5] appends water year number to the row index.  DTA
[10] ⍝ is the data matrix for an individual structure.


     ∇MATCH[⎕]∇
[0]  MATCH
[1]   I←1 ◊ MT←5⍴0 ◊ FWT← 1 6 ⍴0 ◊ N←⍴0 ◊ FWtp←11⍴0
[2]  ST:NW←(+/IYESa[;2]=I),(+/IYESb[;2]=I),(+/IYESc_1[;2]=I),+/IYESd[;2]=I
[3]   I←NW←NW,+/IYES3[;2]=I
[4]   ALL←DTAa[IYESa[MT[1]+⍳NW[1];1];],[1]DTAb[IYESb[MT[2]+⍳NW[2];1];]
[5]   ALL←ALL,[1]DTAc[IYESc_1[MT[3]+⍳NW[3];1];]
[6]   ALL←ALL,[1]DTAd[IYESd[MT[4]+⍳NW[4];1];] ◊ →(NW[5]=0)/GRD
[7]   ALL←ALL,[1]DTA333[IYES3[MT[5]+⍳NW[5];1];]
[8]  GRD:J←GRAD3 ALL[;2 1 3] ◊ X←ALL[J;] ◊ MT←MT+NW ◊ N←N,+/NW
[9]   FWT←FWT,[1](GETFW ALL[J;]),I ◊ FWtp[I]←YRtp ◊ I←I+1 ◊ →(I≤11)/ST
[10]  FWT← 1 0 ↓FWT
[11] ⍝ The pos'ive flow dates are selected from the DTA's, stacked in ALL, and
[12] ⍝ ALL is then sorted by mm dd yy.  Flow weighted means are calculated by
[13] ⍝ GETFW and stored in FWT by date and FWtp by year.  See GETFW.
```

```
      ∇GRAD3[□]∇
[0]   R←GRAD3 M
[1]    R←4M[;2] ♦ R←R[4M[R;1]] ♦ R←R[4M[R;3]]
[2]   ⍝ The (first) 3 columns of M are mm dd yy; this function sorts by date
[3]   ⍝ and outputs the vector R of row numbers of M in chronological order.

      ∇GETFW[□]∇
[0]   FW←GETFW X
[1]   ⍝ X cols are dd mm yy flow tp year; matrices of several structures are
[2]   ⍝ stacked into one long matrix and sorted by sampling dates by GRAD3.
[3]   ⍝ GETFW operates on an individual year of data.
[4]    K←1 ♦ N1←1↑⍴X ♦ FW← 1 5 ⍴0 ♦ WT←2⍴0
[5]   BGN:WT←WT+(X[K;4],(×/X[K; 4 5])) ♦ K←K+1 ♦ →(K=N1+1)/END
[6]    →((+/X[K-1;⍳3]=X[K;⍳3])=3)/BGN
[7]   END:FW←FW,[1]X[K-1;⍳3],WT[1],÷/WT[2 1] ♦ WT←2⍴0 ♦ →(K≤N1)/BGN
[8]    NY←1↑⍴FW← 1 0 ↓FW ♦ YRtp←(+/×/FW[; 4 5])÷+/FW[;4]
[9]   ⍝ FW cols are: dd mm yy flow tp year ; flow is summed over structures and
[10]  ⍝ tp is the flow weighted mean over structures for that date.
[11]  ⍝ YRtp is the flow weighted mean over structures for the entire water year.

      Print

      ∇XCD[□]∇
[0]   XCD X
[1]    I←1 ♦ XCEED← 11 2 ⍴NT←0
[2]   ST:XCEED[I;1]←N←+/X[;3]=1 ♦ XCEED[I;2]←+/X[NT+⍳N;1]>0.01 ♦ NT←NT+N
[3]    I←I+1 ♦ →(I≤11)/ST
[4]   ⍝ This function operates on X = FWT[;5 4 6] = tp, q, year index to compute
[5]   ⍝ the number of pos've flow sampling dates per year and the number of these
[6]   ⍝ when the flow weighted average across structures exceeds 10 ppb.  The 11
[7]   ⍝ pairs are stored in the matrix EXCEED.
```

APPENDIX II

APL PROGRAMS TO CALCULATE 10% REJECTION LIMITS FOR THE PARK

The following APL programs were used in calculating 10% Rejection Limits for the park from input variables Y = a vector of 11 water year flow weighted average tp concentrations (ppb) and a 11x3 design matrix X =

	year	discharge
1	78	522.803
1	79	407.050
1	80	649.164
1	81	291.687
1	82	861.328
1	83	1061.258
1	84	842.779
1	87	276.623
1	88	585.451
1	89	116.860
1	90	148.219

```
     ∇GETUP10[0]∇
[0]  Y GETUP10 X
[1]   Y REG10 X ⋄ Ynew←Y ⋄ Xnew←Xnew⍪X ⋄ Xnew[;2]←78.5 ⋄ YDJ←Xnew⌹.×CP
[2]   LIM←YDJ UPR10 Xnew
[3]   HDRZLONG
[4]   TB1←'I8,F9.2,F15.3,F14.1,2F13.1' ⎕FMT⍉(6,n)⍴X[;2],Y,X[;3],(YHT,YDJ,LIM)
[5]   TB1
[6]   '    '
[7]   '                                  R⁻ = ',5⍕R2
[8]   '          Standard error of estimate: s = ',5⍕Se ⋄ ' '
[9]   '     Fitted (tp) = ',(4⍕YBR),' +',B,'(year -',X1,') -',C,'(Q -',X2,')'
[10]  '                 =      a     +     b×year +     c×Q'
[11]  '                 = -',A,'  +',B,'×year -',C,'×Q'
[12]  '  Standard errors:  s',SBA,'  s',SBB,'      s',SBC ⋄ ' '
[13]  '  Detrended (tp) = (a + b×78.5) +     c×Q'
[14]  '                 =  ',A2,'     -',C,'×Q'
[15]  '  Standard errors:  s',SBA2,'     s',SBC ⋄ ' '
[16]  '     Upper Limit = Detrended(tp) + tp(s⁻ + s⁻/n + var(b)×(78.5 -',X1,')⁻'
[17]  '                                 + var(c)×(Q -',X2,')⁻'
[18]  '                                 + 2×cov(b,c)×(78.5 -',X1,')×(Q -',X2,'
)]' ⋄ ' '
[19]  '     Upper Limit =',A2,' -',C,'×Q +',(3⍕t1),'×p[',Uc1,' -',Uc2,'×Q +',Uc3
,'×Q⁻]'


[20] ⍝ In lines [7 to 19] the symbol × should be a multiplication symbol,
[21] ⍝ the symbol ⁻ should be a superscript 2, and the symbol ρ should be the
[22] ⍝ square root symbol.
[23] ⍝ For graphing purposes: ⋄ L1←⌊/X[;3] ⋄ L2←⌈/X[;3]
[24]  xADJ←⍉(3,25)⍴(25⍴1),(25⍴78.5),L2,L2+(⍳24)×(L1-L2)÷24
[25]  LIM25←(Y25←xADJ⌹.×Ynew⌹⍪Xnew)UPR10 xADJ
[26]  XYD←⍉3 25 ⍴xADJ[;3],(Y25),LIM25
[27]  xyD←X[;3]DD Y
```

```
     ∇REG10[⎕]∇
[0]  Y REG10 X
[1]   e←Y-YHT←X+.×CF←Y⌹X ⋄ y←Y-YBR←+/Y÷n←ρY ⋄ R2←1-(SSe←+/e*2)÷SSy←+/y*2
[2]   IV←⌹XPX←(⍉X)+.×X ⋄ MSe←SSe÷n-p←1↓ρX ⋄ VB← 1 1 ⍉COVB←MSe×IV ⋄ SE←VB*0.5
[3]   A←4⍕-a←CF[1] ⋄ B←4⍕b←CF[2] ⋄ C←5⍕-c←CF[3] ⋄ XBR←+/[1]X[; 2 3]÷n
[4]   SEA←4⍕SE[1] ⋄ SEB←4⍕SE[2] ⋄ SEC←5⍕SE[3] ⋄ A2←2⍕a2←a+b×78.5
[5]   X1←3⍕XBR[1] ⋄ X2←3⍕XBR[2] ⋄ df←-/ρX ⋄ t1←t[df] ⋄ Se←MSe*0.5
[6]  ⍝ This function calculates the least squares (OLS) fit of Y to X (YHT),
[7]  ⍝ the residuals (e), the covariance matrix (COVB) of the regression
[8]  ⍝ coefficients (CF) and their standard errors (SE).  It also does a
[9]  ⍝ table lookup of the 90th percentile (t1) of Student's t with the
[10] ⍝ appropriate error degrees of freedom (df).  The residual standard
[11] ⍝ deviation is Se.
```

```
     ∇UPR10[⎕]∇
[0]  LIMIT←YJ UPR10 X
[1]   n←ρYJ ⋄ I←1 ⋄ TLC←LIMIT←nρ0
[2]   V22←((X[2;]∘.×X[2;])×IV)
[3]   U← 2 3 ρ(+/[1]V22[1 2 ;]),[1]V22[3;]
[4]   U← 2 2 ρ(+/U[; 1 2]),U[;3]
[5]   G←MSe×UV←U÷X[2; 1 3]∘.×X[2; 1 3] ⋄ SEA2←2⍕G[1;1]*0.5
[6]  ST:LIMIT[I]←YJ[I]+(t1←t[df])×(MSe+TLC[I]←+/+/G×X[I; 1 3]∘.×X[I; 1 3])*0.5
[7]   I←I+1 ⋄ →(I≤n)/ST
[8]   Vc1←1⍕MSe+G[1;1] ⋄ Vc2←4⍕-2×G[1;2] ⋄ Vc3←7⍕G[2;2]
[9]   TLC←(TLC÷MSe)*0.5
[10] ⍝ This function calculates the (upper) 10% rejection limit for testing
[11] ⍝ the null hypothesis that a new Y observed at a design point x (defined
[12] ⍝ by a row of X) came from a population specified by the same linear
[13] ⍝ model assumed in the REG10 calculation, but with X1 now fixed at the
[14] ⍝ midpoint of the baseline period.  YJ is the estimated mean at this X.
```

With cosmetic changes these same programs are used to calculate 10% rejection limits for exceedance frequencies.

APPENDIX II

OUTLIER ANALYSIS OF S12A TOTAL PHOSPHORUS DATA

TPa REG Xa

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
28 11 89	-3.316	0.001097	0.2294
31 10 89	-2.980	0.003267	0.6827
14 11 89	-2.939	0.003707	0.7748

Three most extreme positive residuals:

3 5 89	6.196	0.000000	0.0000
4 4 89	6.115	0.000000	0.0000
14 4 82	2.907	0.004090	0.8548

$R^2 = .553535$ with 23 and 186 degrees of freedom.

The residual standard deviation is .01004. The inverse relation with flow is significant at $p = .032404$

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnTPa REG Xa

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
30 10 90	-3.296	0.001176	0.2457
28 11 89	-2.512	0.012869	2.6895
29 6 88	-2.479	0.014065	2.9395

Three most extreme positive residuals:

14 4 82	2.684	0.007944	1.6603
4 4 89	2.445	0.015441	3.2271
3 5 89	2.065	0.040297	8.4221

R^2 = .573823 with 23 and 186 degrees of freedom.
The residual standard deviation is .47214 on the natural log scale.
The inverse relation with flow is significant at p = .000002

S12A

EFFECTS

FITTED MULTIPLICATIVE REGRESSION MODEL:

[tp] ppb = 13.665 · (Month effect) · (Year effect) · exp(- .0015164 · Q)

MULTIPLICATIVE MONTH EFFECTS

	Effect (%)	t-value	2-tailed p-value
Jan	64.4	3.974	0.00010
Feb	95.8	0.374	0.70865
Mar	98.2	0.167	0.86759
Apr	101.1	0.103	0.91782
May	123.1	1.743	0.08306
Jun	129.2	2.191	0.02970
Jul	126.9	2.197	0.02926
Aug	105.9	0.522	0.60200
Sep	115.6	1.198	0.23225
Oct	81.3	2.006	0.04629
Nov	100.2	0.019	0.98467
Dec	81.0	1.800	0.07351

Geometric mean = 100.000

MULTIPLICATIVE YEAR EFFECTS

	Effect (%)	t-value	2-tailed p-value
78	60.4	5.316	0.00000
79	77.4	2.441	0.01556
80	74.6	3.023	0.00286
81	71.4	1.670	0.09662
82	110.9	0.583	0.56051
83	80.9	1.968	0.05053
84	110.3	0.995	0.32105
87	93.9	0.586	0.55885
88	89.5	1.171	0.24298
89	248.5	7.594	0.00000
90	194.0	4.553	0.00001

Geometric mean = 100.000

OUTLIER ANALYSIS OF S12B TOTAL PHOSPHORUS DATA

TPb REG Xb

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
31 10 89	-1.982	0.048879	10.7534
12 12 89	-1.797	0.073918	16.2619
14 11 89	-1.771	0.078164	17.1960

Three most extreme positive residuals:

14 3 88	13.266	0.000000	0.0000
8 5 79	3.167	0.001789	0.3937
9 1 90	2.656	0.008557	1.8825

R^2 = .358300 with 23 and 197 degrees of freedom.
The residual standard deviation is .01051.
The inverse relation with flow is significant at p = .030373

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnTPb REG Xb

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
24 7 84	-2.903	0.004118	0.9059
1 6 88	-2.884	0.004367	0.9608
31 10 89	-2.407	0.017029	3.7465

Three most extreme positive residuals:

14 3 88	5.092	0.000001	0.0002
8 5 79	2.724	0.007023	1.5450
9 1 90	2.670	0.008215	1.8074

R^2 = .526357 with 23 and 197 degrees of freedom.
The residual standard deviation is .49134 on the natural log scale.
The inverse relation with flow is significant at p = .000009

S12B

EFFECTS

FITTED MULTIPLICATIVE REGRESSION MODEL:

[tp] ppb = 12.321 · (Month effect) · (Year effect) · exp(- .0017434 · Q)

MULTIPLICATIVE MONTH EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
Jan	67.5	3.516	0.00054
Feb	87.5	1.162	0.24644
Mar	103.3	0.290	0.77194
Apr	95.8	0.372	0.71017
May	129.3	2.128	0.03461
Jun	120.6	1.450	0.14863
Jul	131.6	2.513	0.01277
Aug	115.6	1.273	0.20467
Sep	122.7	1.791	0.07475
Oct	84.9	1.601	0.11091
Nov	86.2	1.437	0.15217
Dec	80.3	1.914	0.05710

Geometric mean = 100.000

MULTIPLICATIVE YEAR EFFECTS

	Effect (%)	2-tailed t-value	p-value
78	58.5	5.566	0.00000
79	88.2	1.221	0.22369
80	64.7	4.296	0.00003
81	74.2	1.429	0.15464
82	99.1	0.055	0.95613
83	86.2	1.323	0.18753
84	129.6	2.537	0.01197
87	116.3	1.395	0.16455
88	100.6	0.061	0.95173
89	198.2	5.513	0.00000
90	157.5	3.527	0.00052

Geometric mean = 100.000

OUTLIER ANALYSIS OF 512C TOTAL PHOSPHORUS DATA

TPc REG Xc

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
1 6 88	-1.341	0.181237	42.2283
5 5 87	-1.160	0.247431	57.6514
26 9 79	-1.119	0.264398	61.6048

Three most extreme positive residuals:

24 9 80	10.524	0.000000	0.0000
8 5 79	6.852	0.000000	0.0000
29 6 88	5.618	0.000000	0.0000

R^2 = .160351 with 23 and 210 degrees of freedom.
The residual standard deviation is .01486.
The inverse relation with flow is significant at p = .608090

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnTPc REG Xc

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
1 6 88	-2.838	0.004982	1.1607
24 7 84	-2.429	0.015970	3.7209
13 2 79	-2.008	0.045943	10.7047

Three most extreme positive residuals:

24 9 80	5.185	0.000001	0.0001
8 5 79	3.787	0.000199	0.0464
24 2 87	3.417	0.000761	0.1773

R^2 = .365028 with 23 and 210 degrees of freedom.
The residual standard deviation is .56373 on the natural log scale.
The inverse relation with flow is significant at p = .005283

OUTLIER ANALYSIS OF S12C [tp] AFTER DELETING SEPT 24, 1980 DATA

TPc_1 REG Xc_1

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
1 6 88	-1.710	0.088738	20.5872
5 5 87	-1.440	0.151463	35.1395
13 2 79	-1.296	0.196268	45.5341

Three most extreme positive residuals:

8 5 79	8.905	0.000000	0.0000
29 6 88	7.178	0.000000	0.0000
24 2 87	5.195	0.000000	0.0001

R^2 = .219121 with 23 and 209 degrees of freedom.
The residual standard deviation is .01204.
The inverse relation with flow is significant at p = .095597

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnTPc_1 REG Xc_1

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
1 6 88	-3.042	0.002653	0.6154
24 7 84	-2.603	0.009901	2.2971
13 2 79	-2.176	0.030716	7.1261

Three most extreme positive residuals:

8 5 79	3.997	0.000089	0.0207
24 2 87	3.617	0.000374	0.0867
29 6 88	3.455	0.000668	0.1549

R^2 = .399151 with 23 and 209 degrees of freedom.
The residual standard deviation is .53190 on the natural log scale.
The inverse relation with flow is significant at p = .000596

S12C_1

EFFECTS

FITTED MULTIPLICATIVE REGRESSION MODEL:

[tp] ppb = 12.817 · (Month effect) · (Year effect) · exp(- .0006586 · Q)

MULTIPLICATIVE MONTH EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
Jan	64.7	3.690	0.00029
Feb	92.8	0.631	0.52858
Mar	101.0	0.080	0.93636
Apr	97.3	0.231	0.81790
May	122.8	1.570	0.11785
Jun	135.5	2.340	0.02022
Jul	108.4	0.685	0.49431
Aug	110.9	0.839	0.40250
Sep	134.3	2.531	0.01210
Oct	89.7	0.991	0.32261
Nov	87.9	1.177	0.24058
Dec	80.0	1.810	0.07180
Geometric mean =	100.000		

MULTIPLICATIVE YEAR EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
78	61.8	4.486	0.00001
79	100.4	0.034	0.97305
80	70.0	3.378	0.00087
81	95.8	0.280	0.77969
82	92.6	0.582	0.56112
83	88.0	1.144	0.25407
84	130.4	2.504	0.01303
87	106.7	0.541	0.58874
88	104.2	0.411	0.68113
89	155.0	3.349	0.00096
90	131.4	2.118	0.03537
Geometric mean =	100.000		

OUTLIER ANALYSIS OF S12D TOTAL PHOSPHORUS DATA

TPd REG Xd

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
5 5 87	-2.263	0.024722	5.5872
20 5 80	-1.794	0.074279	16.7870
18 9 84	-1.681	0.094214	21.2923

Three most extreme positive residuals:

8 5 79	8.637	0.000000	0.0000
24 2 87	4.837	0.000003	0.0006
24 9 80	3.348	0.000971	0.2194

$R^2 = .317240$ with 23 and 203 degrees of freedom.
The residual standard deviation is .00961.
The inverse relation with flow is significant at $p = .065121$

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnTPd REG Xd

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
18 9 84	-3.022	0.002839	0.6417
24 7 84	-2.936	0.003716	0.8397
1 6 88	-2.619	0.009496	2.1462

Three most extreme positive residuals:

24 2 87	3.245	0.001373	0.3103
8 5 79	3.070	0.002431	0.5495
24 9 80	3.046	0.002628	0.5940

R^2 = .390552 with 23 and 203 degrees of freedom.
The residual standard deviation is .50806 on the natural log scale.
The inverse relation with flow is significant at p = .001240

S12D

EFFECTS

FITTED MULTIPLICATIVE REGRESSION MODEL:

[tp] ppb = 13.679 · (Month effect) · (Year effect) · exp(- .0004095 · Q)

MULTIPLICATIVE MONTH EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
Jan	64.4	3.763	0.00022
Feb	90.5	0.893	0.37265
Mar	94.1	0.520	0.60395
Apr	94.1	0.527	0.59847
May	161.3	3.959	0.00010
Jun	118.5	1.424	0.15609
Jul	107.8	0.665	0.50651
Aug	126.1	2.087	0.03813
Sep	113.6	1.188	0.23610
Oct	93.0	0.671	0.50317
Nov	96.5	0.320	0.74907
Dec	73.1	2.413	0.01672
Geometric mean =	100.000		

MULTIPLICATIVE YEAR EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
78	60.3	4.988	0.00000
79	106.8	0.667	0.50536
80	93.5	0.653	0.51421
81	110.3	0.927	0.35478
82	108.1	0.649	0.51723
83	59.6	2.900	0.00415
84	125.9	1.875	0.06222
87	101.0	0.089	0.92932
88	86.2	1.573	0.11734
89	144.1	2.960	0.00345
90	147.9	3.310	0.00110
Geometric mean =	100.000		

OUTLIER ANALYSIS OF S333 TOTAL PHOSPHORUS (INDEPENDENT OF FLOW)

TP333 REG X333[;Γ22]

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
1 5 90	-2.198	0.029457	5.0667
24 7 84	-1.748	0.082580	14.2038
21 8 90	-1.563	0.120235	20.6804

Three most extreme positive residuals:

8 5 79	7.909	0.000000	0.0000
9 8 88	6.978	0.000000	0.0000
5 9 90	2.515	0.012953	2.2279

R^2 = .251027 with 22 and 150 degrees of freedom.
The residual standard deviation is .01084.

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnTP333 REG X333[;Γ22]

The following table lists the sample dates, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

Sample date	t-value	2-tailed p-value	n · p-value
24 7 84	-3.691	0.000312	0.0537
1 5 90	-2.769	0.006336	1.0899
13 2 80	-2.415	0.016954	2.9162

Three most extreme positive residuals:

8 5 79	3.590	0.000448	0.0771
9 8 88	3.354	0.001012	0.1740
27 4 82	2.334	0.020957	3.6046

R^2 = .363532 with 22 and 150 degrees of freedom.
The residual standard deviation is .50227 on the natural log scale.

S333

EFFECTS

FITTED MULTIPLICATIVE REGRESSION MODEL:

[tp] ppb = 13.425 · (Month effect) · (Year effect)

MULTIPLICATIVE MONTH EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
Jan	63.6	3.351	0.00102
Feb	101.9	0.121	0.90398
Mar	111.9	0.856	0.39329
Apr	113.8	1.049	0.29586
Jun	138.8	2.479	0.01430
Jul	128.2	1.924	0.05624
Aug	106.0	0.480	0.63185
Sep	128.5	1.892	0.06047
Oct	106.3	0.489	0.62578
Nov	89.5	0.890	0.37479
Dec	76.0	2.273	0.02446
Jan	69.1	2.605	0.01011
Geometric mean =	100.000		

MULTIPLICATIVE YEAR EFFECTS

Sample date	t-value	2-tailed p-value	n · p-value
78	59.0	2.596	0.01036
79	98.1	0.185	0.85366
80	88.9	1.139	0.2565
81	124.8	0.920	0.35930
82	82.9	1.302	0.19489
83	55.0	3.271	0.00133
84	145.6	2.647	0.00898
87	107.0	0.595	0.55303
88	106.0	0.562	0.57510
89	154.8	3.632	0.00039
90	133.7	2.480	0.01424
Geometric mean =	100.000		

APPENDIX III

LEAST SQUARES ESTIMATION OF A THRESHOLD LEVEL FOR STAGE

Prior to developing formulas for total phosphorus levels at the refuge, an attempt was made to estimate a threshold level of stage with respect to [tp]. As stage decreases the concentration of phosphorus in the samples increases, where stage is measured as the average of the three gauges CA1-7,9 and 18C on the day of sampling and ln[tp] is the average over stations of the natural logarithms of [tp]. A stage threshold in this context is defined to be that stage S0 where [tp] conceptually increases without bound, and is estimated by least squares regression of ln[tp] on ln(stage - S0).

An indicator variable (a variable taking value 1 or 0 to indicate whether or not a sample has a specified attribute) is also introduced into the regression model to indicate whether the sample comes from the baseline period defined as the first 12 months of the por. The model is thus:

$$\ln[tp] = a + b \cdot \text{Base period indicator} + c \cdot \ln(\text{stage} - S0)$$

where ln denotes logarithm to the base e (i.e., natural logarithm). The regression coefficient c will be negative to reflect the fact that [tp] decreases as stage increases. The unknown threshold S0 will here be estimated by a grid search method to find the value which best fits the data in the least squares sense. The following APL program called TRY1 implements this grid search.

```
     ∇TRY1[0]∇
[0]  YX TRY1 S
[1]   I←1 ◇ OUT←⍴0 ◇ N←⍴S
[2]  ST:OUT←OUT,YX[;1]RG1 YX[; 2 3],⊗YX[;4]-S[I] ◇ I←I+1 ◇ →(I≤N)/ST
[3]   OUT←⊗(2,N)⍴S,OUT
[4]   '                    S0                    R**2'
[5]   'F25.3 ,F20.6' ⎕FMT OUT


     ∇RG1[0]∇
[0]  RZ←Y RG1 X
[1]   RZ←1-+/(EE←(Y-X+.×cP←YBX)*2)÷SSy←+/(Y-+/Y÷⍴Y)*2 ◇ MSe←EE÷-/⍴X
```

The model was first fit to refuge data using all 16 stations and all 16 sampling dates in the por. As seen on the next page, these data produced a least squares estimate of S0 = 14.415 feet MSL with R^2 = 58%; i.e., this four-parameter model accounted for 58% of the variance ln[tp] among the 16 dates. When the same model was later applied to the 14 stations and 14 dates to be used in setting interim levels for the refuge a least squares grid search for S0 resulted a solution on the lower boundary for this parameter; namely, negative infinity. This boundary solution represents a simpler, 3-parameter model:

$$\ln[tp] = A + B \cdot \text{Base period indicator} + C \cdot \text{stage}$$

and raises the philosophical question of whether this resulting R^2 may be said to rest on 3 and n-3 degrees for freedom or 4 and n-4. (Another statistician might well have started with this simpler model and could justifiably claim 3 and n-3 d.f.). A compromise was reached here by estimating variances on the basis of 3 and n-3 d.f. but applying the tabulated Student t-value with n-4 d.f.. The same phenomenon and issues arose in the analysis of the "clean 3" stations for long term levels.

MODEL: log[tp] = intercept + b · Base indicator + c · log(stage - S0)

GRID SEARCH FOR LEAST SQUARES S0 USING REFUGE DATA FROM
16 STATIONS ON 16 DATES:
YXGEOM =

ln[tp]	intercept	Base	stage
2.97046	1	1	15.70333
2.26559	1	1	15.98333
2.08264	1	1	16.46000
2.01380	1	1	16.63000
3.34768	1	1	15.21000
2.14583	1	1	15.41667
4.03531	1	0	14.88000
2.69441	1	0	15.60000
1.91822	1	0	17.11000
2.89289	1	0	15.90667
3.26240	1	0	15.53000
3.28259	1	0	16.03333
2.82779	1	0	15.59333
3.13061	1	0	15.45667
2.69806	1	0	16.45333
2.99039	1	0	15.76667

YXGEOM TRY1 13.5+.1Γ10

S0	R^2
13.600	0.728636
13.700	0.729278
13.800	0.729958
13.900	0.730673
14.000	0.731415
14.100	0.732163
14.200	0.732879
14.300	0.733483
14.400	0.733812
14.500	0.733507

YXGEOM TRY1 14.35+.01Γ10

S0	R^2
14.360	0.733730
14.370	0.733758
14.380	0.733781
14.390	0.733799
14.400	0.733812
14.410	0.733818
14.420	0.733819
14.430	0.733812
14.440	0.733797
14.450	0.733774

YXGEOM TRY1 14.41+.001Γ10

S0	R^2
14.411	0.733819
14.412	0.733819
14.413	0.733819
14.414	0.733819
14.415	0.733819
14.416	0.733819
14.417	0.733819
14.418	0.733819
14.419	0.733819
14.420	0.733819

GRID SEARCH USING REFUGE DATA FROM 14 STATIONS ON 14 DATES

YX14 =

ln[tp]	intercept	Base	stage
2.90041	1	1	15.70333
2.13828	1	1	15.98333
1.99174	1	1	16.46000
2.03985	1	1	16.63000
2.14583	1	1	15.41667
2.61657	1	0	15.60000
1.77181	1	0	17.11000
2.92491	1	0	15.90667
3.26240	1	0	15.53000
3.23128	1	0	16.03333
2.82779	1	0	15.59333
3.13061	1	0	15.45667
2.48476	1	0	16.45333
2.85088	1	0	15.76667

YX14 TRY1 13.5+.1Γ10

S0	R^2
13.600	0.636209
13.700	0.634607
13.800	0.632853
13.900	0.630924
14.000	0.628790
14.100	0.626418
14.200	0.623762
14.300	0.620766
14.400	0.617359
14.500	0.613443

YX14 TRY1 12.5+.1Γ10

S0	R^2
12.600	0.646925
12.700	0.646151
12.800	0.645328
12.900	0.644451
13.000	0.643515
13.100	0.642512
13.200	0.641437
13.300	0.640279
13.400	0.639030
13.500	0.637678

YX14 TRY1 -10000+10000Γ9

S0	R^2
-20000.000	0.672325
-30000.000	0.672326
-40000.000	0.672327
-50000.000	0.672327
-60000.000	0.672328
-70000.000	0.672328
-80000.000	0.672328
-90000.000	0.672328
-100000.000	0.672328

IMPLIED MODEL:

$$\ln[tp] = 12.40431882 - .48558956 \cdot Base - .60326142 \cdot stage$$
$$\pm 2.70818927 \quad \pm .17388557 \quad \pm .16978685$$
$$R^2 = .67232914$$

APPENDIX IV

OUTLIER ANALYSIS OF TOTAL PHOSPHORUS CONCENTRATION AT THE REFUGE

This analysis follows the same pattern as the outlier analysis of the S12 + S333 data, using the same APL programs with appropriate cosmetic alterations. A linear model with additive effects for the 14 stations and the 14 dates used in the interim analysis was fit to the 191 [tp] measurements and to their natural logarithms. Graphs of observed vs fitted are given in Figure ?. The fit was much better on the log scale (R^2 = .403 vs .186), and no outlier was detected under the p=.0001 criterion on this scale. (The outlier t-test is clearly invalid on the untransformed scale due to the skewness of the error distribution and accompanying dependence between numerator and denominator of the t-statistic.) Note that the "effects" of date and station are almost identical to the relative values of the row and column geometric means in Table 9; the minor differences are due to the five missing values in the 14x14 data array.

APL OUTLIER ANALYSIS PROGRAMS AS MODIFIED FOR THE REFUGE DATA:

```
     ∇reg[⎕]∇
 Y reg X
  CF←IV+.×(⍉X)+.×Y
  e←Y-YHT←X+.×CF ⋄ y←Y-YBR←+/Y÷n←ρY ⋄ R2←1-(SSe←+/e*2)÷SSy←+/y*2
  Se←(MSe←SSe÷df←-/ρX)*0.5 ⋄ SeB←(1 1 ⍉COVB←MSe×IV)*0.5
  Semo←SeB[jmo],(MSe×+/+/IV[jmo;jmo←1+⍳13])*0.5 ⋄ CFmo←CF[jmo],¯1×+/CF[jmo]
  Seyr←SeB[jyr],(MSe×+/+/IV[jyr;jyr←14+⍳13])*0.5 ⋄ CFyr←CF[jyr],¯1×+/CF[jyr]
  X ler Xe ⋄ ' '
  Print

     ∇ler[⎕]∇
 X ler XE
  I←1 ⋄ SE←nρ0 ⋄ D←+/[1]XE*2
 BGN:g←1+((X[I;]+.×IV)+.×X[I;])-2×+/X[I;]×XE[;I]÷D ⋄ SSeI←SSe-(e[I]*2)÷g
  MSeI←SSeI÷Df←df-1 ⋄ SE[I]←(g×MSeI)*0.5 ⋄ I←I+1 ⋄ →(I≤n)/BGN
  Te←e÷SE ⋄ te←Te[I←⍋Te]
  A←(n×plow←Df STDNt|low←3↑te),(⌽¯3↑I),hi,phi,n×phi←Df STDNt hi←⌽¯3↑te
  liers← 2 4 3 ρ(3↑I),low,plow,A
  'The following table lists the sample index, the three lowest and three'
  'highest Studentized residuals, Student p-values and n times the p-value:'
  ' ' ⋄ '                    Three most extreme negative residuals:' ⋄ ' '
  '                                              2-tailed'
  '            index           t-value          p-value          n × p-value'
  '            _____           _______          _______          ___________'
  'I15,F17.3,F17.6,F17.4' ⎕FMT⍉liers[1;;]
  ' ' ⋄ '                    Three most extreme positive residuals:' ⋄ ' '
  'I15,F17.3,F17.6,F17.4' ⎕FMT⍉liers[2;;]
  Print
     ∇effects[⎕]∇
 effects
  ' ' ⋄ '                        FITTED MULTIPLICATIVE REGRESSION MODEL:' ⋄ ' '
  '         [tp] ppb = ',(3⍕*CF[1]),'×(Station effect)×(Date effect)'
  ' ' ⋄ ' ' ⋄ '                             MULTIPLICATIVE STATION EFFECTS'
  '                                                          2-tailed'
  '                       Effect (%)        t-value         p-value '
  '                       __________        _______         _______'
  sta,'F17.1,F17.3,F17.5' ⎕FMT⍉ 3 14 ρ(100×*CFmo),tmo,(df STDNt|tmo←|CFmo÷Se
mo)
  '                       ________'
  '       Geometric mean =  100.000'
  ' ' ⋄ ' ' ⋄ '                              MULTIPLICATIVE DATE EFFECTS'
  '                                                          2-tailed'
  '                       Effect (%)        t-value         p-value '
  '                       __________        _______         _______'
  dt1,'F17.1,F17.3,F17.5' ⎕FMT⍉ 3 14 ρ(100×*CFyr),tyr,(df STDNt|tyr←|CFyr÷Se
yr)
  '                       ________'
  '       Geometric mean =  100.000'
```

OUTLIER ANALYSIS FOR THE 14 STATION x 14 DATES REFUGE [tp] DATA
Yrc REGR Xrc
R = .1862
Yrc reg Xrc

The following table lists the sample index, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

index	t-value	2-tailed p-value	n · p-value
130	-1.399	0.163782	31.2824
125	-1.309	0.192367	36.7420
187	-1.305	0.193641	36.9855

Three most extreme positive residuals:

133	20.790	0.000000	0.0000
116	3.560	0.000486	0.0928
183	2.623	0.009550	1.8240

TRANSFORMING TO THE LOGARITHM OF [tp]:

lnYrc reg Xrc

The following table lists the sample index, the three lowest and three highest Studentized residuals, Student p-values and n times the p-value:

Three most extreme negative residuals:

index	t-value	2-tailed p-value	n · p-value
177	-2.440	0.015745	3.0073
106	-2.372	0.018870	3.6042
189	-2.014	0.045682	8.7252

Three most extreme positive residuals:

133	4.670	0.000006	0.0012
116	3.174	0.001800	0.3437
166	3.028	0.002865	0.5473

FITTED MULTIPLICATIVE REGRESSION MODEL:

$R^2 = .40322$

REFUGE

EFFECTS

[tp] ppb = 13.368 · (Station effect) · (Date effect)

MULTIPLICATIVE STATION EFFECTS

	Effect (%)	t-value	2-tailed p-value
CA1-3	105.6	0.296	0.76728
CA1-4	133.6	1.584	0.11516
CA1-5	79.4	1.263	0.20834
CA1-6	81.5	1.158	0.24859
CA1-7	113.2	0.703	0.48298
CA1-8	111.4	0.613	0.54089
CA1-9	91.1	0.529	0.59726
CA1-10	101.8	0.103	0.91803
CA1-11	84.8	0.863	0.38915
CA1-12	119.6	1.017	0.31056
CA1-13	94.7	0.307	0.75945
CA1-14	83.2	1.045	0.29751
CA1-15	153.3	2.426	0.01637
CA1-16	76.4	1.531	0.12777

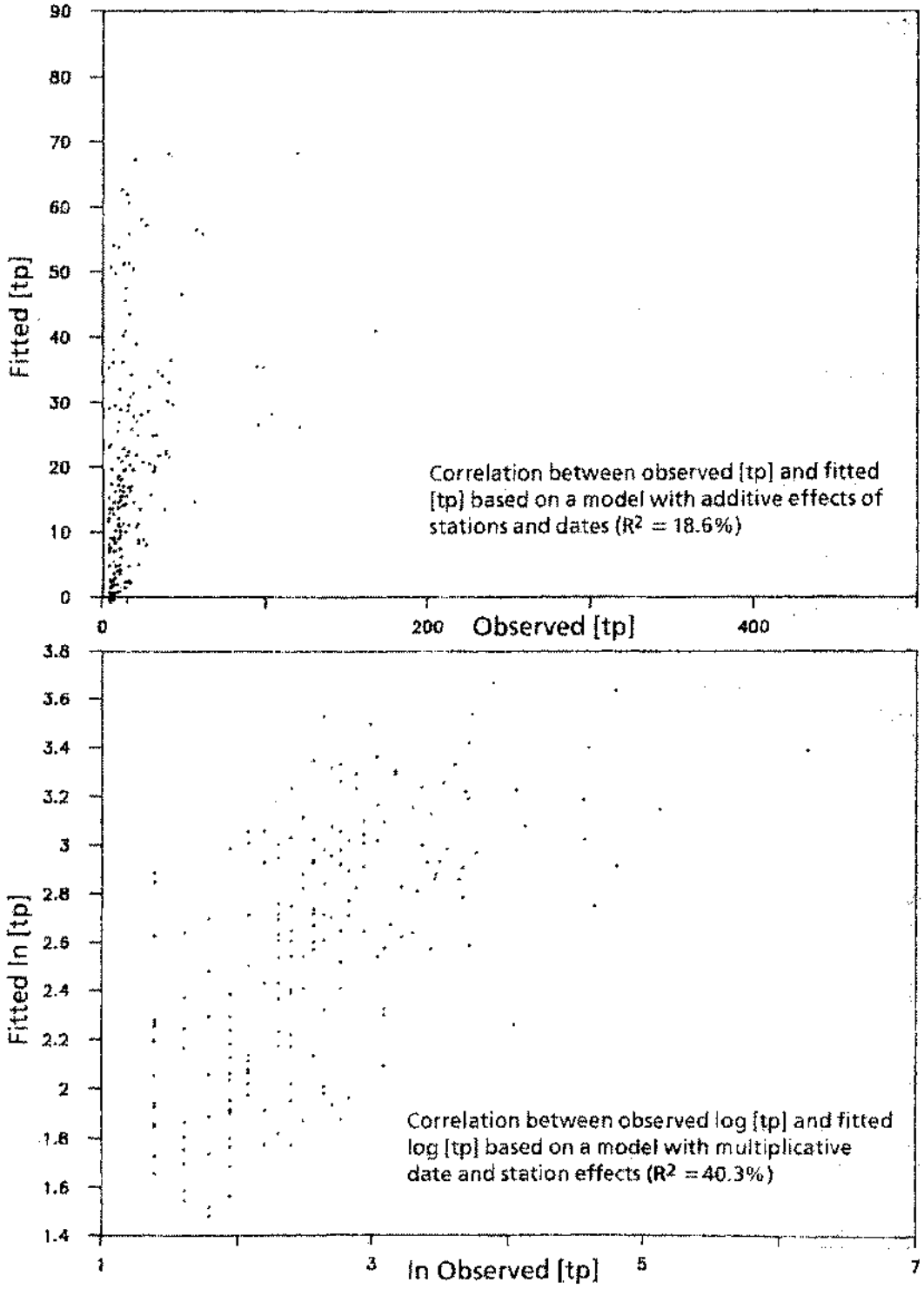
Geometric mean = 100.000

MULTIPLICATIVE DATE EFFECTS

	Effect (%)	t-value	2-tailed p-value
7806	136.0	1.745	0.08290
7808	63.5	2.579	0.01078
7810	54.1	3.357	0.00098
7812	56.8	3.094	0.00232
7905	65.4	2.323	0.02142
7908	102.4	0.134	0.89330
7910	44.0	4.659	0.00001
8002	139.4	1.884	0.06137
8007	195.3	3.799	0.00020
8009	189.3	3.622	0.00039
8012	126.5	1.333	0.18447
8204	171.9	2.963	0.00350
8212	89.8	0.614	0.54037
8307	127.2	1.314	0.19083

Geometric mean = 100.000

Figure 3 . Total Phosphorus Concentration [tp] at 14 stations on 14 dates within the Loxahatchee National Wildlife Refuge.



EVERGLADES SWIM PLAN

APPENDIX F

Documentation of Models Used to Determine the Size of Stormwater Treatment Areas

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LIST OF TABLES

DOCUMENTATION OF MODELS USED TO DETERMINE THE SIZE OF STORMWATER TREATMENT AREAS

A. OVERVIEW

Approximately 553,000 acres of land south of Lake Okeechobee is used for agricultural purposes and is called the Everglades Agricultural Area (EAA) (**Figure 1**). Soils in this area are comprised of rich organic peat and muck and portions of this area have been used for 70 years primarily for production of sugarcane, vegetable, and sod. A canal network operated by the South Florida Water Management District (SFWMD) runs through the EAA. Agriculture draws irrigation water from the canals but also pumps water back into the canals when soils become too wet during local rainfalls. During periods when the soil is exposed to air, oxidation occurs, leading to soil subsidence of approximately 0.025 m/y. The oxidation process leads to the formation of soluble reactive phosphorus that, combined with phosphorus from rainfall and fertilizer, can drain into the SFWMD canals when heavy rainfall necessitates pumping water off the agricultural land.

Phosphorus that is exported via the SFWMD canals from the EAA to the Loxahatchee National Wildlife Refuge (LNWR) and eventually Everglades National Park (ENP) has been identified as a present and potential threat, respectively, to the ecological integrity of these natural areas. Towards decreasing that threat, stormwater treatment areas (STAs) have been proposed that will filter EAA runoff through natural vegetation before it reaches the LNWR, the Water Conservation Areas (WCA), and ultimately the ENP. Described here then, is a modeling approach used to calculate the size of the STAs necessary to filter EAA water to attain acceptable phosphorus levels at the inputs to the LNWR and WCAs. Land for the STAs is to be acquired from the EAA and their general location is indicated in **Figure 1**.

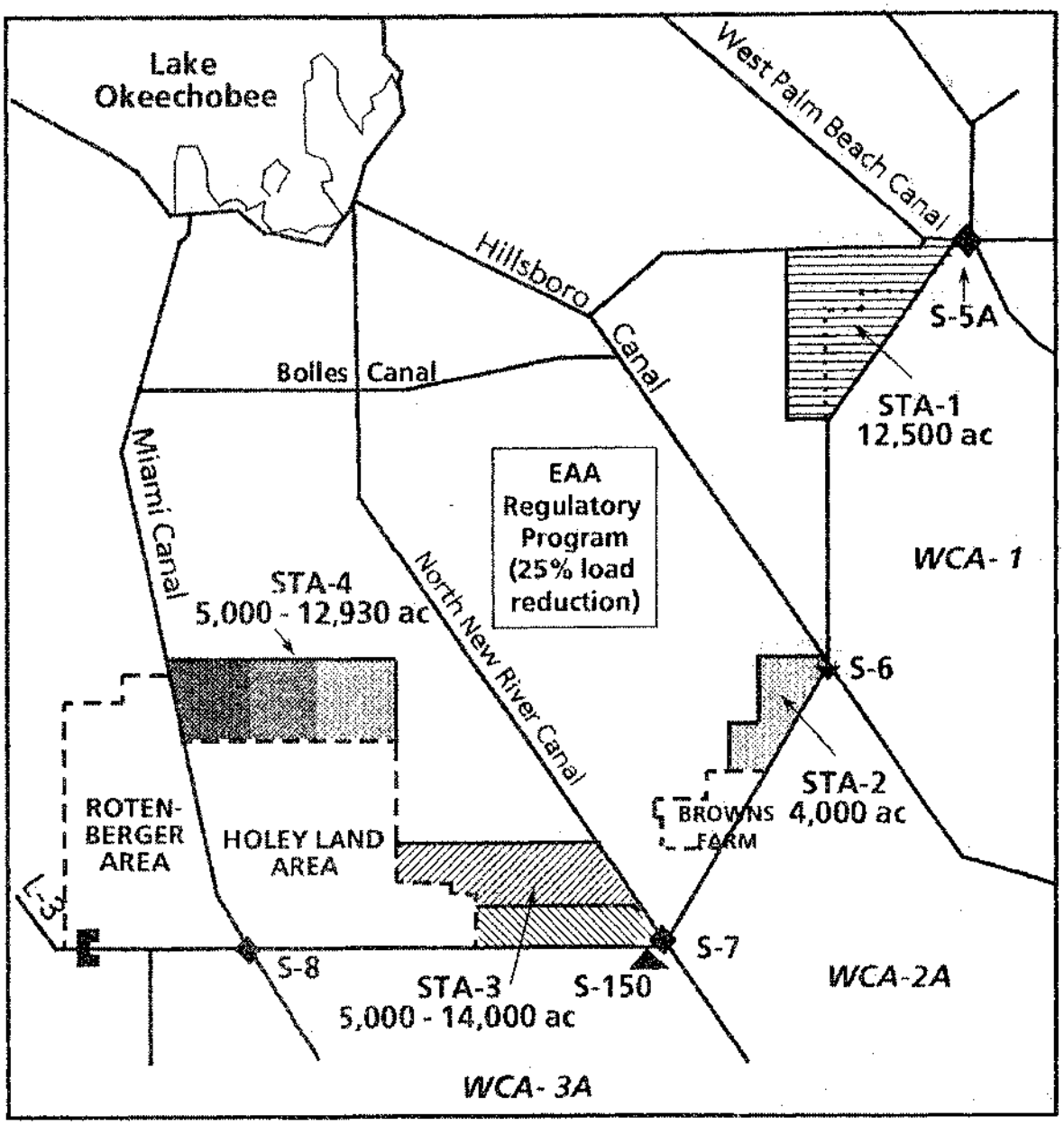
B. MODEL DESCRIPTION

1. Conceptual Basis

The hydrology of the STAs is anticipated to be sheet flow, mimicking characteristics of marshes that existed before establishment of the EAA. Therefore, the model was designed to approximate these hydrologic conditions. In addition, the model was designed with the flexiblity to assess the effects of temporal variability of hydrologic and phosphorus inputs and spatial variability of vegetation type, water retention time, and other factors that could affect filtration efficiency. For the purposes of the management actions required by this study, however, all simulations were run with constant, average water and phosphorus inputs.

The model balances water quantity and phosphorous mass in a series of discrete, linked cells as presented in **Figure 2**. As will be discussed in detail below, this linked cell approach reasonably reproduced the phosphorus filtration characteristics of WCA-2A. This is important because WCA-2A has received EAA phosphorus inputs since about 1960, and has, in essence, functioned as an STA for thirty years. Given adequate information on phosphorus inputs to WCA-2A and its

Figure 1. Generalized Locations and Sizes of Proposed Stormwater Treatment Areas (STAs).*



*Note: map is not drawn to scale.

hydrologic characteristics, a model built to design the STAs should be able to reasonably reproduce measured phosphorus filtration characteristics of WCA-2A.

Hydrologic flows for each model cell include upstream surface water inputs, outputs to downstream cells, precipitation inputs and evapotranspiration. Groundwater interactions are not explicitly addressed. Equations governing the hydrologic mass balance are shown in **Table 1.**

Figure 2. Conceptual diagram of linked-cell model for simulating major hydrologic and phosphorus transport characteristics of STAs.

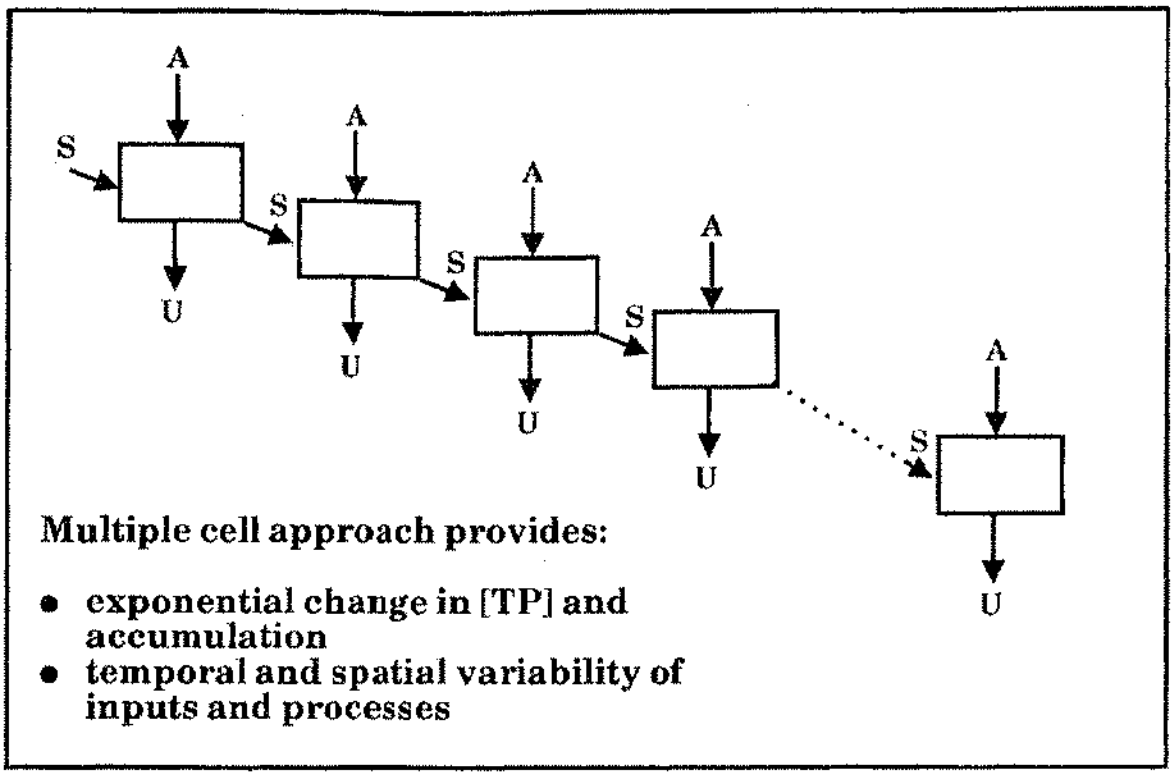


Table 1. Equations governing the hydrologic mass balance of each cell in the STA.

$$\text{Cell } H_2O\ (km^3)_{t+1} = \text{Cell } H_2O\ (km^3)_t + \text{input}\ (km^3/y) + \text{precip}\ (km^3/y) - \text{ET}\ (km^3/y) - \text{output}\ (km^3/y)$$

[basin or upstream cell output (km^3/y)]

[area (km^2) × precip (km/y)]

[area (km^2) × ET (km/y)]

[area (km^2) × ET (km/y)]

The phosphorus mass balance includes surface water inputs and outputs to downstream cells, atmospheric deposition, and net flux of aqueous phosphorus mass

to the sediments. Equations governing the phosphorus mass balance are shown in Table 2. The net flux term represents the sum of all processes affecting the bi-directional vertical movement of phosphorus between soil and water. Such processes include phosphorus uptake by plants, soil-water phosphorus equilibria, resuspension of phosphorus into the water and settling of phosphorus adsorbed to suspended soil particles. Here, the net flux term is always a loss from the aqueous phosphorus mass to the sediments, that is, the downward flux of phosphorus from water is always greater than return flux from sediments to water. Although the net flux term aggregates many important processes that could be examined individually for their relative importance, this aggregate approach has been applied successfully for management purposes in other systems (Chapra and Sonzogni, 1979; Fontaine and Lesht,1987; Lesht et al, 1991; Mitsch,1991).

Table 2. Equations governing the phosphorus mass balance of each cell in the STA.

$$\text{Cell mass TP (mt)}_{t+1} = \text{Cell mass TP (mt)}_t + \text{input mass (mt/y)} \quad [\text{mt/y}] + \text{precip (mt/y)} \quad [\text{mt/km}^3 \times \text{area (km}^2) \times \text{precip (km/y)}] - \text{net settling mass (mt/y)} \quad [\text{mt/km}^3 \times \text{area (km}^2) \times \text{km/y}] - \text{output (mt/y)} \quad [(\text{mt/km}^3) \times \text{H}_2\text{O outflow (km}^3\text{/y)}]$$

2. Data Inputs and Constraints

Hydrology. Expected annual average surface water inputs to the four STAs were determined using data from the period of record (POR is water years 1978-1989) and adjusting it for water supply bypass, EAA acreage removed from production and used as STAs, and retention of water used by the EAA as part of Best Management Practices (BMPs). The hydrologic adjustments are presented in Table 3. Adjustments correspond to that portion of the average annual surface water input that will not flow through the STAs. Adjustments for water supply bypass were made because it is assumed that they would continue indefinitely. Adjustments were made for EAA acreage that would be transformed into STAs because the water is no longer expected to run off the STA in the manner it did when farmed. It is realistic to assume that BMPs installed in the EAA for the purpose of phosphorus retention should retain no more than 20 percent of the water that would naturally leave the EAA as runoff. Precipitation of 1.14 m/y and evapotranspiration of 1.34 m/y was assumed constant across STAs. A 14 day retention time was enforced, by design, on all STAs.

Table 3. Hydrologic flows (ac-ft) to STAs through SFWMD structures after adjustments.*

STA	A Average Annual POR Flows	B Water Supply Bypass	C Land Converted to STAs	A-(B + C) Adjusted Annual POR Flows	0.8[A-(B + C)] Adjusted for EAA BMPs
1 (S-5A)	312,835	7,864	31,618	274,021	218,893
2 (S-6)	155,657	23,511	4,864	128,093	102,150
3 (S-7 + S-150)	275,642	33,239	8,918	233,485	186,464
4 (S-8)	311,314	40,536	26,754	244,025	194,571
TOTALS	1,053,927	105,393	72,964	883,677	702,888

* 50 ppb effluent goal
8 m/y apparent settling rate
25% TP retention by BMPs
20% maximum water retention by BMPs
Numbers may not add up exactly due to rounding
Estimates based on refined estimates (@ 9/5/91) of basin sizes.

Phosphorus. STAs were designed to discharge 50 ppb Total Phosphorus (TP) on an annual average basis at SFWMD water control structures S-5A, S-6, S-7, S-150, and S-8 (**Figure 1**). For possible future use, additional simulations were run to determine STA size for annual average discharge concentrations of 40, 30, and 20 ppb.

Annual average phosphorus inputs (metric tons) were determined for input to the model (**Table 4**) with adjustments made for water supply bypass, and EAA acreage to be removed from production and used as STAs. Adjustments correspond to that portion of the total average load (205 metric tons) for the period of record that will not require treatment by the STAs. Adjustments for TP in water supply bypass were made because it represents a portion of the 205 metric tons discharged through the structures that cannot be attributable to agricultural practices. Adjustments were made for EAA acreage that would be transformed into STAs because the acreage is expected to no longer export TP as it did when it was farmed. Adjustments for EAA acreage will vary as a function of STA TP discharge concentration goals (e.g. desired low TP discharge concentrations require additional STA acreage).

Another adjustment to TP loads would result from implementation of agricultural BMPs. BMPs are to achieve a 25 percent reduction in TP load to the STAs. For possible future use, additional simulations were run to determine the effect on required STA area if the BMPs were more or less efficient than this percentage.

Table 4. Phosphorus loads (metric tons) to STAs through SFWMD structures after adjustments.*

STA	A Average POR TP Load	B Water Supply Bypass	C Land Converted to STAs**	A-(B+C) Adjusted POR TP Load	0.75×|A-(B+C) Adjusted for EAA BMPs
1 (S-5A)	77	0.96	7.7	68	51
2 (S-6)	28	3.1	0.99	24	18
3 (S-7+S-150)	33	4.2	1.0	28	21
4 (S-8)	67	2.7	5.6	59	44
	205	10.9	15.3	179	134

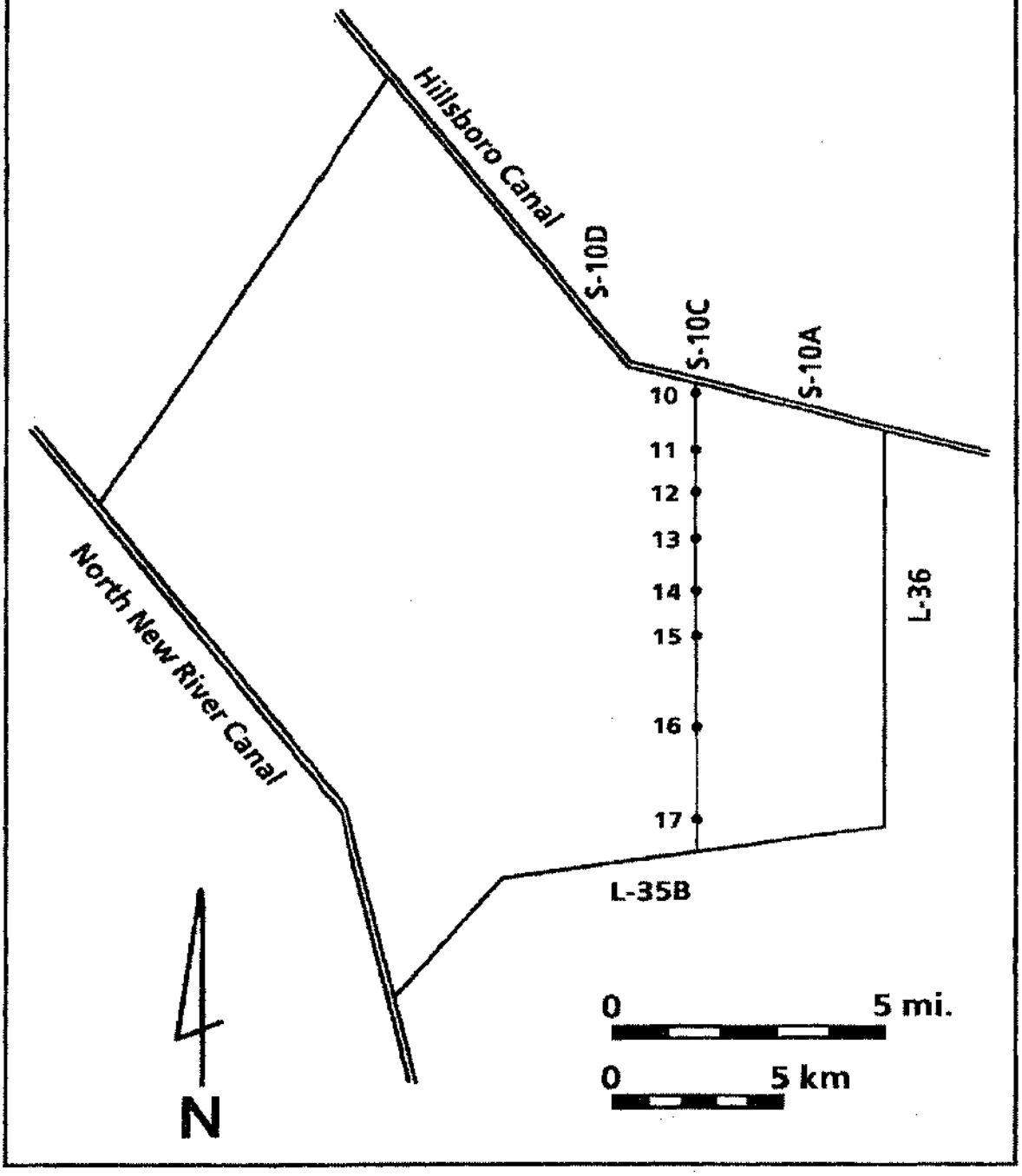
* numbers may not add up exactly due to rounding
50 ppb effluent goal
8 m/y apparent settling rate
25% TP retention by BMPs
20% maximum water retention by BMPs

** estimates based upon refined estimates (@ 9/9/91) of basin sizes and phosphorus loads.

Bulk total phosphorus inputs from atmospheric sources were set at 30, 30, 30, and 50 ppb for STA 1, 2, 3, and 4, respectively. For modeling convenience, the input of bulk total phosphorus from atmospheric sources was computed by multiplying concentration by rainfall volume (Table 2). In reality, the dry portion of bulk phosphorus input would not be associated with rainfall volume.

Net flux of phosphorus to soils. Net flux of phosphorus per unit area of STA (mass/length^2) is calculated in the model by multiplying aqueous TP concentrations (mass/length^3) by an apparent settling rate coefficient (length/time). The settling rate coefficient was estimated from data collected in WCA-2A, and was also determined independently from modeling experiments. In the former case, aqueous and sediment TP concentrations were measured along a transect in WCA-2A (Figure 3). The transect starts at the S10 structures, through which high nutrient EAA runoff water has flowed into WCA-2A for about 30 years. In essence, the area of WCA-2A affected by this EAA runoff has performed as an STA. Therefore, net TP deposition rates measured in sediments of WCA-2A could be expected in STAs when built. Using ^{137}Cs dating techniques, net TP flux rates along the transect were estimated and two regression equations were developed that describe the net flux (g TP/m^2/y) as a function of distance from the S-10 sources (per. comm. M. Koch, SFWMD, 1991).

Figure 3. WCA-2A showing transect along which sediment accumulation rates were estimated.



26 y net TP deposition rate = 0.758 - 0.243 * ln (distance, mi) $r^2 = 0.945$ (1)

5 y net TP deposition rate = 0.95585 - 0.95323 * LOG (distance, mi) $r^2 = 0.850$ (2)

Similarly, a regression of aqueous TP concentrations (g/m^3) measured along the same transect was developed for the period 1986 - 1990 (no samples were taken in 1989 due to drought conditions):

TP concentration = 0.13165 - 0.16159 * LOG (distance, mi) $r^2 = 0.98$ (3)

By dividing the dependent variable of the deposition regression by the concentration regression, an estimate of the apparent settling rate coefficient (m/y) versus distance is obtained. Apparent settling rate coefficient values increased over the first four miles of the transect from 4.8 to 12.3 m/y (average = 7.7 m/y) using the 26 year deposition regression and from 6.7 to 11.1 m/y (average = 8.4 m/y) using the five year deposition regression.

Another approach was used to check the reasonableness of the calculated apparent settling rate coefficients. This was done by constructing a phosphorus mass balance model of WCA-2A, using the equations in **Table 1** and **Table 2**. Assuming standard precipitation and evaporation rates (discussed above), and knowing the average annual phosphorus load for the period of record from the S-10 structures (60 MT, 1989 draft Everglades SWIM plan), average surface water inflow (0.43 Km^3, 1989 draft Everglades SWIM plan), average retention time (73 d, 1989 draft Everglades SWIM plan), and impacted acreage (24000 ac, 1989 draft Everglades SWIM plan), the model was run with three apparent settling rate coefficient settings to see if measured net TP fluxes along the WCA-2A transect could be predicted. The results of these simulations (**Figure 4**) indicate that the apparent settling rate coefficient setting in WCA-2A should fall between 6 and 10 m/y, very similar to that which could be calculated from the empirical evidence above. Therefore, there is a large degree of confidence in employing a settling rate of 8 m/y to calculate STA sizes. In comparison with settling rates measured in 50 other wetland sites worldwide, the 8 m/y value is large, but not out of the range of possible values (**Figure 5**).

C. RESULTS

Using the adjusted hydrologic flows (**Table 3**) and adjusted phosphorus loads (**Table 4**), and other conditions discussed above, the STA size necessary to discharge 50 ppb into the Water Conservations Areas on an annual average basis was computed (**Table 5**). Approximately 6.5 percent additional acreage was added to the effective STA size for required containment berms. The percent reduction of unadjusted TP load to each basin was S5A, 83.8%; S6, 77.4%; S7, 66.6%; S8, 85.5%. For the entire EAA, the percent reduction of unadjusted loads was 81.0%.

The effect of BMP performance on the effective STA size required to reach 50 ppb in discharges to the Water Conservations Areas on an annual average basis was also computed (**Table 6**). Phosphorus load reductions tested ranged between zero and 40 percent effective;, associated water reductions tested ranged between 0 and 32 percent. As the effectiveness of load (and associated water) reductions decreased, the amount of STA land required to discharge 50 ppb increased. Conversely, as the effectiveness of load (and associated water) reductions increased, the amount of STA land required to discharge 50 ppb decreased. Similar relationships were found for

desired discharge concentrations of 40, 30, and 20 ppb (Table 7). In general, as desired discharge concentrations decreased, the amount of land required for the STAs increased.

Figure 4. Simulated and measured net phosphorus flux to sediments of WCA-2A. The effect of three apparent settling rates (values indicated on lines, m/y) on simulated net phosphorus flux to sediments is shown.

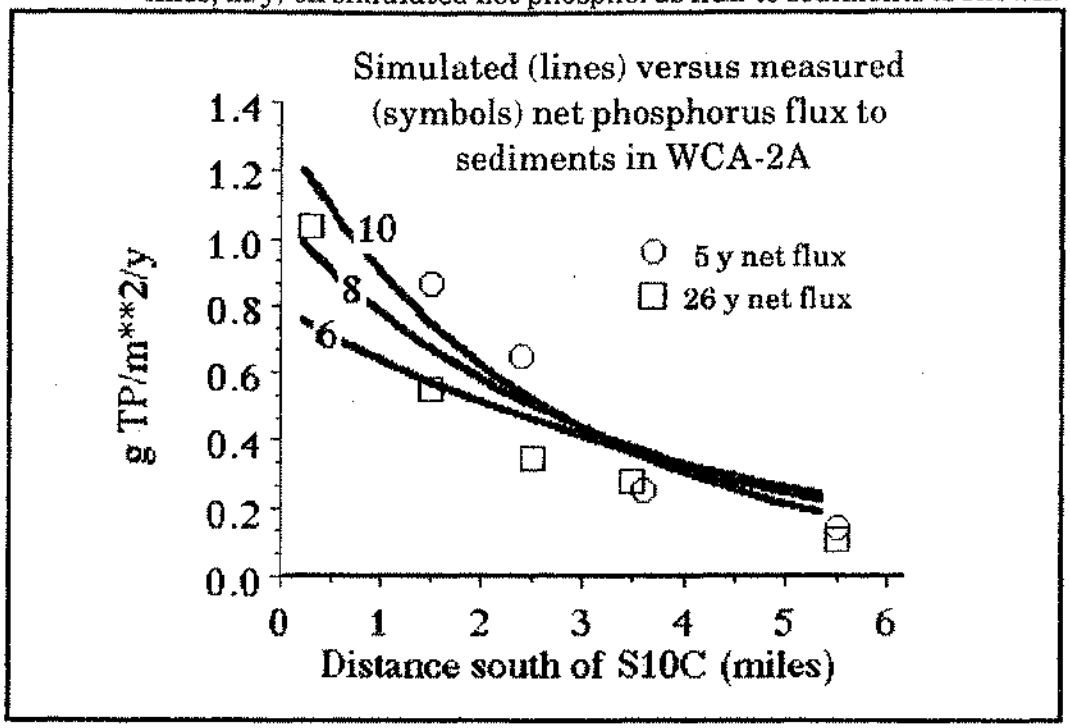
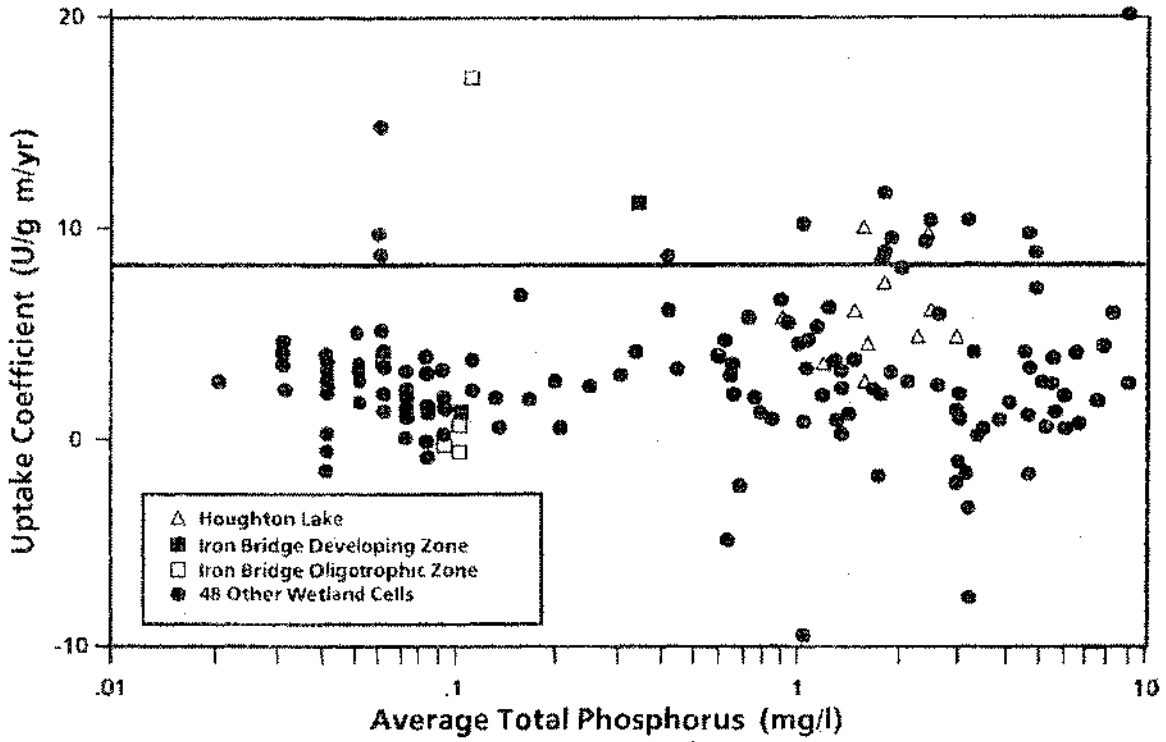


Figure 5. Apparent settling rate coefficients measured 50 wetland sites worldwide. The 8 m/y value used in calculating STA size is indicated by a horizontal line.



per. comm. Dr. Robert Kadlec, Univ. of Michigan, 1991.

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Table 5. Effective acreage required for STAs to reach 50 ppb total phosphorus discharge concentrations.*

Basin	STA	Effective Treatment Area (acres)	Total Area including Levees (acres)
S-5A	STA-1	12,185	12,977
S-6	STA-2	4,540	4,835
S-7	STA-3	4,705	5,011
S-8	STA-4	11,170	11,896
TOTALS		32,600	34,719

* Apparent settling rate = 8 m/y
BMP performance = 25% TP reduction and max. 20% water reduction
Numbers reflect revised estimates (@ 10/21/91) of basin acreages and phosphorus loads.

Table 6. Effective acreage required for STAs to reach 50 ppb TP discharge concentrations, under varying conditions of BMP performance.*

% BMP TP load reduction	0	15	25	40
% BMP water reduction	0	12	20	32
S-5A (STA-1)	15,010	13,120	11,800	9,750
S-6 (STA-2)	4,900	4,190	3,700	2,950
S-7 (STA-3)	6,650	5,635	4,950	3,850
S-8 (STA-4)	15,375	13,460	12,150	10,075
TOTALS	41,935	36,405	32,600	34,750

* Apparent settling rate = 8 m/y
Does NOT yet reflect 10/21/91 revisions to basin size and phosphorus loads.

Table 7. Effective acreage for all STAs to reach goals indicated.*

% BMP TP LOAD REDUCTION	% BMP WATER REDUCTION	SETTLING RATE m/y		
		6	8	10
Goal = 40 ppb				
0	0	65125	49645	40155
15	12	57280	43405	35212
25	20	51815	39125	31400
40	32	43160	32345	25875
Goal = 30 ppb				
0	0	77972	59655	48335
15	12	69115	52525	42673
25	20	62975	47615	38320
40	32	53120	39830	31910
Goal = 20 ppb				
0	0	96780	74150	60119
15	12	86702	65795	53509
25	20	79470	60025	48350
40	32	68050	50895	40725

*Does NOT yet reflect differences due to revised (10/21/91) basin acreages and phosphorus loads.

EVERGLADES SWIM PLAN

APPENDIX G

Public, Local Government and Agency Comments

COMMENTS RECEIVED ON THE DRAFT EVERGLADES SWIM PLAN

	Organization	Signatory Individual
1.	Public Meeting Summary: Belle Glade	20 Speakers
2.	Public meeting summary: Miramar	11 Speakers
3.	Palm Beach County Department of Environmental Resources Management	Richard E. Walesky, Director
4.	Committee for Agricultural Resources in the Everglades	Frank D. Teets, Chairman
5.	South Florida Regional Planning Council	Anita Tallarico, Senior Planner
6.	Palm Beach County Water Utilities Department	Bevin A. Beaudet, Director
7.	Florida Game and Fresh Water Fish Commission	Robert J. Wattendorf, SWIM Coordinator
8.	Florida Depart. of Environmental Regulation	Carol M. Browner, Secretary
9.	Farm Credit of South Florida, ACA	Wallace Hewitt
10.	Sugar Cane Growers Cooperative of Florida, Inc.	William H. Green, Counsel
11.	Florida Sugar Cane League, Inc.	Anderson H. Rackley, Vice Pres. & Gen. Mgr.
12.	City of Belle Glade	Lomax Harrelle, City Manager
13.	Florida Department of Natural Resources	Virginia B. Wetherell, Executive Director
14.	Sierra Club - The Florida Chapter	Craig Diamond, Everglades Chair, Florida
15.	United States unified comments	Myles Flint, Deputy Asst. Attorney Gen U.S. Department of Justice
16.	Southwest Florida Regional Planning Council	Wayne E. Daltry, Executive Director
17.	Florida Dept.of Agriculture & Consumer Services	Gregory J. Krasovsky, Chief Cabinet Aide
18.	Farm Credit of South Florida, ACA	Alexander Kromhout, President & CEO
19.	Higgins Engineering, Inc.	Robert W. Higgins, P.E.
20.	Metropolitan Dade County, Florida Environmental Resources Management	John W. Renfrow, P.E., Director
21.	City of Clewiston	M. Franklyn Jones, Mayor
22.	Florida Depart. of Environmental Regulation Consistency Review	Carol M. Browner, Secretary

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Belle Glade
Monday, November 18, 1991

ATTENDANCE: 130
SPEAKERS: 20

C. P. Tucker, Mayor of Belle Glade:

Speaking in behalf of the City of Belle Glade, the Plan as laid out lists costs in excess of 350-400 million dollars most of which is weighed by the farmers. If this happens, it has the potential to devastate the sugar industry of the area. The City of Belle Glade and surrounding communities will suffer terrible economic impact. Belle Glade is dependent on agriculture, primarily sugar. As you consider this Plan remember the human factor. All the folks out here who are dependent on the jobs that are directly or indirectly related to the sugar industry. Not only here but also in the coastal areas as well.

Dr. Joseph Orsenigo, self-employed consultant:

How much is the Governing Board briefed on these meetings and in what form? Does the staff prepare a synopsis of these public meetings for the Governing Board members? In that case, the comments are filtered, reduced and interpreted, is that correct? Is it possible to get a printed copy of the synopsis of this meeting? I would like one.

Referring to the document on Policy, Purpose Everglades Agricultural Area Regulatory Program (Ch 40 E-63) which serves as a basis for regulatory activity on page 15 under 40E.63.132, Items "7C," 2,3,4 &9 and also to the Draft of the Comprehensive Quality Assurance Plan which contains sampling procedures. This document ignores the field collection of samples. Data is no better than the samples. Sampling is treated with indifference. It provides no real standards for field personnel.

In 40E-62 Works of the District in the Everglades, on page 10, there is map illustrating 145 sample points in the EAA. Were these sampling points used in constructing the SWIM Plan? Ancillary to that, in these documents there is no assurance of good field practice in any of the samples.such as how often the sample was rated. If the samples used in obtaining the SWIM Plan data were similar, it leads to credulity not credibility.

W. Wayne Mikell, Pres. Bank of Belle Glade:

Our success is based on the success of agriculture in this region. Our business base is agriculturally related. Reducing acreage means a direct reduction in our economy, and for our bank a direct reduction in our customer base. Should agriculture in this area diminish in even a small percentage, our bank will feel the effect. The national economy is very precarious; consider the effect of massive lay-offs. There is no other alternative source of employment for the majority of our customers. Consider the implication to the thousands of individuals whose livelihood depends on agriculture.

Summary of Public Hearings on the DRAFT Everglades SWIM Plan

Larry Royal, Belle Glade retailing:

The vast majority of our customers employed by the agricultural industry. If agriculture is lost to the Glades my companies will be out of business. If there is any reduction in agriculture it will be devastating to these businesses.

Reduction in the dairy industry has substantially reduced the economy in Okeechobee. We have lost over 25% of our business since the reduction of the dairy industry and we will lose 100% of our business here. The dairy industry was a smaller percentage of the economy in Okeechobee than the sugar and vegetable growing industry is in Belle Glade. We employ 265 people in the Lake Okeechobee area and they will be in jeopardy of losing their jobs.

Frank Jones, Mayor of Clewiston :

Clewiston is totally dependent on the agricultural industry in the Everglades. Last year at this time, Hendry County had 19.5% unemployment. This year it has been indicated that it is 22% unemployment. Consider the economic implications of the regulations before they are put forth and be sure they are based on scientific fact and not on political expediency.

Charles Wilson, CARE representative:

1) How do we know STA's will work?
2) There is inadequate explanation of the methodology of the Class III standards to be used if any.
3) The Plan does not recognize economic activity
4) Flood control is not adequately addressed in Plan.

Miller Couse, Pres., First Bank of Clewiston:

I would like to second what was said by Wayne Mikell. We have 25 customers who manage family farms. If 500,000 acres are taken out of production I can assume current land that is left in production will decrease by $800/acre if paid by onetime cash payment. If paid over time it can increase to $1600/acre or $80/year/acre over 20 years. That is 40% of the bottom line profit. If a farmer has current debt, that can mean the difference between staying in business or not. This will give us fewer family farms in the EAA.

S. C. Pate, Pioneer Ranch:

I concur with the previous speakers. It's not scientific, it's theory. Agriculture is all we have here.

George Cooper, CEO, Glade & Grove Supply:

We can't farm with a poor political climate. The bottom line is that the consumer pays more. We need to have every arable piece of land in production.

The areas of the Everglades that burn are sawgrass; fire is what keeps the cattails out. I've flown over the Conservation Areas 3A, 3B and 2 twice a week for the last fifteen years. Everglades National Park along with the Audubon Society wanted 300,000 ac/ft of water every January which is the start of the nesting season; this is what killed the birds in the Park but the Park eventually figured this out and the birds returned. The three biggest rookeries are the Andytown rookery, the edge of Loxahatchee and the biggest is behind the old sugar refinery on St.Road 80. The only place cattails are taking over is where it doesn't get dry enough to burn; along Miami Canal and the L-67 there is a 4 mile-wide lane of cattails. As long there are dry periods every year and a burn every couple of years, cattails can't compete with sawgrass. There is no alternative to sugar cane for these 300-400,000 acres. The loss of dairies in Okeechobee put a lot of small shop-owners out of business. There is no other place for these farmers to go to.

Elaina Ferrell, Miami:

I am in support of the SWIM Plan since it seems to have the preservation of our natural resources as it's priority. I also feel it is the beginning to fulfill the mandate of the Marjory Stoneman Douglas Everglades Cleanup Act which is a good law and needs to be enforced. Sugar cane production is the major source of phosphorus overdose to the Everglades. We need to stop fighting and just clean it up. The polluters should pay their fair share. Taxpayers should not have to pay for their mess.

Bill Green, Attorney for the Sugar Cane Growers Cooperative:

This entire meeting and process we're going about is a farce. I could mean the Board, I could mean the DER and I could mean the Governor or all above and I probably do. The SWIM Plan is required by Florida law to be developed, but the Florida legislature did not tell the South Florida Water Management District and the DER to go behind closed doors with U.S. attorneys and map it out without one farmer present and then to come in and window dress before these people whose livelihood depends on farming and then ask them what they think about it.

This entire proposal is based on bad science and you haven't defined the problem yet. Water Conservation areas were established by Congress to promote and protect agriculture in the EAA and to allow the East Coast to develop and have enough water and flood protection and now you want to turn the whole thing around and kick the farmers out to protect the perceived wildlife values of the WCAs. The Duke Wetlands Center has analyzed that and testified before the Board; Dr. Curtis Richardson has said there is absolutely no problem with nutrient enrichment in Everglades National Park. Instead of using the EAA, water could be rerouted or parts of WCA 2 or 3 could be used to build treatment areas instead of in the EAA You can get rid of cattails by a burning process.

The Settlement Agreement in the Appendices has already cast this in concrete; if this is not enough land we'll take more. The facts don't support the environmentalists. The farmer is being taxed, the money being put in a fund and then his land is being bought with it. You have a poisoned process. You need to disassociate yourself from this Settlement Agreement because it's preordained. We are going through a charade tonight. The process is absolutely poisoned.

Summary of Public Hearings on the DRAFT Everglades SWIM Plan

Andy Rackley, Florida Sugar Cane League:

One of the biggest obstacles to solving the Everglades issues is that there is so much misinformation floating around about as to what the issues and problems are and what needs to be done to restore the Everglades. The members of the Florida Sugar Cane League is all for protecting and restoring the Everglades. We don't want to go down in history as the industry that destroyed the Everglades.

35,000 acres won't destroy the industry, but what kind of liability hangs over the heads of businessmen and growers. There is a lot of uncertainty in the Settlement Agreement and the SWIM Plan Those involved with putting together the SWIM Plan say we don't know the appropriate phosphorus level for the Everglades. The Everglades Settlement was not designed to restore the Everglades but to settle the lawsuit. We see references in the Plan that it supposedly is driven by the SWIM Act and the Marjory Stoneman Douglas Act, but the Settlement Agreement is really driving the process. What kind of liability is waiting above and beyond these 35,000 acres that so many say is not based on scientific fact? Farmers should not be asked to pay more than their fair share. Farmers are willing to clean up their own phosphorus. They should not have to pay for cleaning up phosphorus they did not put there.

Philip Parsons, Florida Sugar Cane League:

There are two points based on law that I want to make to you: This SWIM Plan is not consistent with the Marjory Stoneman Douglas Act. The mandate of that Act is to restore the Everglades. The Plan is designed to settle the lawsuit and not restore the Everglades; this Plan does little more than implement the Settlement Agreement. It imposes on you a burden to defend it, makes it impossible for you to inform your Board and ties up your resources.

There was an interesting comment in the Pleading that was filed Friday in the U.S. court by the District, the State of Florida and the federal government. On page 3 of the Joint Status Report, in a footnote, there is a statement: "if in the course of administrative proceedings sound evidence is adduced showing clearly that hydroperiod, rather than nutrients, is responsible for the ongoing degradation of the Everglades, it would be absurd for the Settling Parties to proceed with the phosphorus-based remedial scheme in the Settlement Agreement." We agree with that; we think it is clear that the problem is hydroperiod and not nutrients that is causing the ongoing degradation. This agency and the federal government has always agreed with this through the years.

Our evidence shows that the water that enters the park through the S-12 structures has less phosphorus than those areas that are only impacted by rainfall. It is cleaner than natural background in the Park. This Plan is contrary to what you said in the September 1990 version. The Plan must deal with hydroperiod. The centerpiece of the Plan is construction of STA's on 30-40,000 acres. What changes will this bring? We will bring more evidence in December. Many areas of the Everglades that are without impact have cattails. West of S-9 has a large cattail stand and it has less phosphorus than the level you are trying to achieve. Agriculture cannot survive the Settlement Agreement. You cannot achieve those regulatory numbers. Iron Bridge is not achieving those numbers.

Nael M. El-Hout, Technical Dir., South Bay Growers:

In looking at the data and methodology, I have noticed that there is quite a difference in opinion on scientific practice and methods. We need a referee to look at the numbers and methodology to see if it will work and be worth the money spent. We would like to do our share, but we can't throw dice in a process that no one knows the scientific validity of. Why has the National Academy of Science been rejected to review this process? Other scientists with a different viewpoint have been denied access to collect data. We should employ a third neutral party, a well-respected body of scientists to evaluate this methodolgy and decide if it will do what we set out to do. I am a soils scientist by training. Land loaded with phosphorus when flooded and provided for reduced conditions may release phosphorus. STA' s may not decrease but initially increase phosphorus. A neutral body of scientists should decide if STA's are feasible, and decide what the problem really is.

Tom Weis, Program Director, Clean Water Action:

Very little concern for the ecological health of the Everglades has been expressed here tonight. I would like to thank the South Florida Water Management District for conducting this meeting and for their ongoing work in preserving the ecological integrity of the Everglades. The SWIM Plan is not the final solution but a process to help us on our way. It should be implemented without further delay. The Everglades cannot afford any delay.

Many would have us believe that we have a choice between destroying the local economy or restoring the Everglades. Another option is to hold the sugar industry responsible for their actions. You pollute, you pay. For many decades the sugar industry has displaced their costs on the backs of the local and national taxpayers and America's most important ecosystem, the wetlands. The sugar industry has had a free ride, specifically, tax breaks, import quotas, public works projects, cheap water rates and guaranteed federal loans all at the taxpayer's expense. If the sugar industry will not participate willingly in this program and pay their fair share, they should be required to clean up their run-off before it leaves their land. State water quality laws can be enforced. Continuing destruction of the Everglades is unacceptable. The citizens of Florida should be protected from special interest politics.

Mark Howell, A. Duda & Sons:

I'll start with the permit application fee. Originally, Tim Lynch said it was going to cost $1.50/acre. The document produced at last Thursday's workshop has it at $2.09/acre. If you do it across 521,000 acres instead of 683,000 acres, it's actually $2.73/acre. It's gone up a little more than dollar an acre for a permit application fee.

Pete Rhoads showed me diagram that depicts that there are ~24,000 tons of phosphorus that is either produced or brought into the EAA every year and 202 tons leave. You're trying to fix a system that already is 99 + % efficient in assimilating phosphorus.

The natural wetlands consists of 1.9 million acres. Around 20,000 acres is said to be infected. For 20% of our bottom-line profits you want to protect 1% of a land area from a system that is already more than 99% efficient. I would like to have Dr. Lynch

do an economic study of the aftermath of Lake Okeechobee and then have that study projected on to this area. What system has been devised by the District for the growers to use to meet the permit criteria?

Dick Korbly, small family farm-owner:

This is whole issue is moving too fast. The farmer is a part of the environment. Most are following scrupulously IFAS recommendations on how to farm. Environmental politics are the key. Politicians are listening to people who are driving an issue. The public is well-meaning. Unfortunately, people are believing the media which is one-sided and against the farmer. Farmers are not able to respond to the charges. The farmer is not given the chance to be a part of the process. We can't possibly meet the standards being developed. There should be an open exchange of information. Who is going to pay if it doesn't work? We are exaggerating what needs to be done. Let's start out small. The Knight Reservoir is an ideal study. The farmer needs to be fairly treated.

Sally Morris:

I'm here as a taxpayer. Would you consider the Fanjul family a small family farm-owner? Most of the people here tonight are the farm owners. Where are the workers who cut the cane? This is an industry indicted for slavery in the 1940's and being scrutinized for labor issues today. This is an industry being subsidized by the taxpayers. Let's think about the common good of all of the people of South Florida. The vast majority of the citizens are behind a strong SWIM Plan and support the South Florida Management District in making that a reality.

Forrest Izuno, University of Florida, IFAS:

This is an emotional issue and we lose perspective of the real issues. The problems started when the area was drained and the canal network went in. The soils are high in phosphorus and when the land is drained phosphorus is released The hydroperiod is messed up. The State of Florida, the businessman, and the federal government had a hand in it.

The federal government wore down the state and rushed into an agreement that is not based on sound science. First determine the problem and further define it. Spend money and time for a refereed solution. How can major money and land be used for something that is not proven? We should start out small. Sit down with science; take the safe route. We have time--8 to 10 years. Don't commit $300-600,00 on the unknown. Commit it to finding the solution.

John Schlechter, grower and small business-owner:

The growers are a net water producer; we discharge more water than falls on our property.

The taxpayers are going to have to pay more irregardless of the EAA because of the plans and perimeters listed here When 14 inches of rain fell on Ft. Lauderdale, it didn't all go into the ocean and I'm sure it wasn't all pure water. The idea of a free ride needs to be recognized in the services all of the taxpayers presently are given. To

deduct a cost that has not been assessed is absurd. The State of Florida has basically run out of water. To use one family as if it is symbolic of all of the sugar industry is absurd .

Summary of Public Hearings on the DRAFT Everglades SWIM Plan

Miramar
Tuesday, November 19, 1991

ATTENDANCE: 25
SPEAKERS: 11

G. Counts, Australian Pines:

On page 71 of the SWIM Plan under Exotic Species, the Australian pines are grouped with the melaleuca. I've seen no objective evidence that the Australian pines uses more water than any other pine tree in Florida. Australian pines are tree canopy for places that don't have any other tree canopy. The roots stabilize the banks. You're spending 18 million dollars to eradicate the Australian pines Australian pines; and I think that the money could be better spent keeping people away from the canal banks. If the farming industry wants to keep doing business here, they need to pay their share for reversing the degradation.

Tom Weis, Program Director for Clean Water Action:

I want to commend the SFWMD for conducting these public hearings and the commitment demonstrated by the SFWMD staff to preserving the ecosystem of the Everglades. We see the SWIM Plan not as a definitive answer to the Everglades restoration question but a process to help us get started. I would urge the Governing Board to implement the final SWIM Plan without delay at the December meeting. The Everglades can't wait any longer, and the taxpayers are running out of patience.

The Sugar industry would have us believe that to proceed ahead would obliterate their industry. They are trying to pass the buck to the taxpayer. The sugar industry should be treated just like any other industry. One industry should not be allowed to continue to enforce it's ways on the 4.5 million residents of this state. For many decades the sugar industry has displaced their costs on the backs of the local and national taxpayers and America's most endangered wetlands ecosystem, the Everglades. In quoting a Wall Street Journal article: a study by the Commerce Department in 1988 showed that sugar industry subsidies added an average of 3 billion dollars to the American consumers' grocery bills. The average world wholesale price was 12 cents/lb.; the average American wholesale price was 23 cents/lb., almost double.

The sugar industry in Florida has had a free ride, specifically, tax breaks, import quotas, public works projects, cheap water rates and guaranteed federal loans all at the taxpayer's expense. The Governing Board of the SFWMD has received 7,000 personal letters from citizens of this state letting them know that they are not going to pay for this clean-up. Funding needs to be incorporated into the Plan. The District has offered to work with the industry in building filtering marshes, but they want to block it. The sugar industry uses the state's water and it should abide by the state's water quality laws

Cynthia Hurst, Maryland Resident:

The things that would attract me to Florida, or any professional to Florida is a safe healthy environment. I am concerned about the safety of drinking water for my friends that live here. I am concerned about the future of the Everglades, a natural drinking water filter and habitat for native wildlife species. It has not been proven to me that Florida's economy will suffer if SWIM is enforced, I do know that Florida's economy will suffer if talented professionals stop coming to South Florida.

Elaina Ferrell, Concerned Citizen:

I support the Everglades SWIM Plan. I have a two year old daughter who I would like to one day say to her, once the Everglades were almost gone. There used to be a very powerful industry called sugar cane. They felt that their economic gain was more important than the environment. But now we know that our environment is more important. I was afraid that you would not have any environment left or enough safe water to drink. I and a lot of other people decided that we needed to hold the polluters responsible. Finally the polluters were forced to pay and the Everglades were saved. We did this for you.

Mark Howell, A. Duda & Sons:

The WCAs and ENP contains 1.9 million acres, of which 21,000 acres are said to be affect by nutrient phosphorus. This totals 1.07% of the total area. This area is not destroyed or obliterated, they are affected. The WCAs were constructed as stormwater receivers. Evidence that ENP has been affected has not been shown to agriculture. Public pressure has science searching for a problem that has not be clearly defined. Hydroperiod and nutrients is a puzzle that has not been unraveled. The proposed solutions will cost each farmer 20%-40% of the net income per acre for the next 15 to 20 years. This in order to protect 1% of may be affected natural wetlands. If you add phosphorus mineralized in the soils, plus what phosphorus is added by fertilizer, rain, and irrigation water, 24,000 tons are produced in the EAA each year. Of that, around 202 tons leave. This gives the EAA an efficiency rate of 99+%. In essence, the plan calls to literally cut the lifeblood of an area (EAA) that is 99+% efficient in phosphorus assimilation to save 1% of a natural area that may or may not be affected by the phosphorus instead of the hydroperiod. We are already trying to develop BMP, a lot of farmers have already implemented them, this is normal, this is what farmers do as a matter of business. We will farm to current best science, but we ask that current best science is shown to us. Through the State agencies and the Federal government we have been cut out of this information loop altogether. We don't know what the current science is that developed the settlement agreement which drove the Marjory Stoneman Douglas Act. We haven't seen evidence of any damage and they won't let our scientists in those areas to see if we can find it for ourselves. We are trying to figure our how to fill out the permits. We have no idea of what they want. We are not fighting the SFWMD, the people of South Florida, or the Federal government, we want to help solve the problem but we want to be part of the solution. We are being cut out of the loop and regulated as if we have been doing something wrong all along. The EAA is a utility that was designed by the USCOE for a purpose. The public has decided that the WCAs are no longer stormwater receiving areas, they are now highly valued wetlands. We don't have anything against that, but when you come to us and say 'now that we are changing what we are calling those things, we are going to try to regulate you out of business'

we have to take defense somewhere. The estimated costs have moved around from $10 million to 40, 90, 110, 200, 600 now to $310 million. The cost figures keep sliding. Permit application fee has moved around from $1.50 to $2.09 which equates to $2.73 per acre. US Sugar has started an open door policy called 'Open Harvest' which allows people to actively see what goes on. Farmers are not enemies, farmers have a lot of the same views that the environmentalists have. They seems to be a group of people that want to find a something that will work. There is another group which I call 'political psychopaths' that want to beat it do death with the environmentalists wanting to kill the agricultural industry and vice versa. These arguments are going to lead no where unless these people come to the table. Farming is a utility, with the farmers and people being partners. The farmers owe a great deal to the people of this country and the people in this country owe a great deal to the farmers. We use 303,000 acre-feet of water for irrigation per year from the SFWMD. We ship out over a million acre-feet of water per year. The EAA is a producer of water. Until farmers can be brought in this loop and stop trying to put them out of business, the problem will stay in court forever. The farmers want to use BMPs but the SFWMD is not providing any information of what will work. I would like to see the environmentalists more involved with the data and not just find a cause to fight for. Some of the information you have seen in newspapers is very good and some of it is total guess work. I would like to see everyone pulled into the same loop with the problem being solved.

Wally Hewitt, Farm Credit:

The Everglades issues are essentially three may points: 1) we need to get the lawsuits behind us, 2) we need to do something for the everglades, and 3) If we do the wrong thing, its just big bad sugar that is footing the bill. I agree with 1 & 2, but I don't agree with 3 is a strong enough reason to set aside common sense and waste money. Bottom line is that this is your only opportunity to spend this kind of money. Section E Funding (SWIM Plan) proposes five ways to get money from sugar. I can tell you right now that you will very quickly reach the bottom of their pockets. The SWIM Plan is a sketchily planned water engineering project. The planning and study is almost non-existent. The executive summary states that the water works engineering and ecological studies are going to be done at the same time. This is constructing a bridge without knowing how far it is to the other side. There may have been a time when we could have undertaken such a project, but with today's economy we cannot afford to pay for massive public projects which do not achieve their objectives. Contrary to what you have been told, farmers are ready to cooperate and pay their fair share. The proponents have continually excluded agriculture from the lawsuit, the settlement, and into the SWIM Plan. The TOC consists entirely of state and federal agencies with not agricultural representation. Agricultural has been specifically excluded. There is no place in the SWIM Plan for agriculture input. Common sense says that even if you want to ram the settlement down big sugars throat, you would want them to be around to pay for it. Newspapers say that agriculture is adequately represented by the SFWMD Governing Board, which is nothing more than a rationalization to exclude agriculture. Suppose the US attorney were say that mercury in the Everglades originates from news print, and instead of suing the papers he sued the SFWMD and excludes the news papers from the suit and settlement. Yet the news papers get 5 different taxes to pay for the clean-up. Do you think the publishers and editors would sit still for the same solution that they want to impose on farmers. Agriculture should be fairly represented on the TOC. The SWIM funding section states that an effort will be made to obtain a portion of 'sugar subsidy' to pay for the clean-up. There is no subsidy. Misleading slaps as agriculture are

interspersed throughout the document (SWIM Plan) with no constructive purpose other than to document that the authors of this plan don't understand what they are working with. The Board needs to make a hard judgment of what is equatable and what the public will support. If the question was what should urban people pay to clean up their own pollution. Most of the urban stormwater runoff is flushed out to sea which kills the reefs. None of the sewer plants treating the urban municipal waste water treatment meet the standards proposed in the SWIM Plan. Most of the bond issues to clean-up urban stormwater have been defeated. No one who is supporting the SWIM Plan has the willingness to pay for their personal waste water to be cleaned to these (SWIM Plan) standards. Need to develop hydroperiod programs. The lowest cost engineering and due diligence to prevent cost overruns. Hydroperiod control can be done now without these costs. Farmers must be allowed to participate. Develop and equitable plan for all parties involved.

Julio Sanchez, South Bay Growers:

I have two little boys. The older one calls himself an environmental detective. I am proud of that because I that is what I am teaching my children. I have been involved in agriculture all my life. I have always felt that I would be pleased if my children would become farmers, but now I am not sure if they will have the opportunity. I would like to someday say to my children that there was once a heated debate, even a pitched battle, that could have cost us our livelihood and way of life. But cooler heads prevailed, the right answers were found, and the environment was saved and so was our livelihood and way of life. Some of us believe we should look at the STA technology by using the ENR as an experiment. Hydroperiod correction may correct some of the perceived problems.

George David Alpuche, Concerned Citizen:

I heard some good arguments on both sides. But both sides are admitting there is a problem. The SWIM Plan may not be perfect, but there is a problem that needs to be taken care of and the Plan is all we have right now. This is what we should do. Even if the technology is not 100%, at least something will be done right now to help the Everglades. The sugar cane people say that the damage is not completely proven, but the more we wait, the more damage there will be. The SWIM Plan is at least a start. You're (agriculture) saying there is a problem, we are saying there is a problem, so let's stop talking about it and stop litigating, and start on a solution. You have to start somewhere so start.

Ruth H. Clark, Member-Environmental Coalition of Broward County:

We are glad to see that the SFWMD structures permit has been applied for and the EAA landowners rulemaking are underway. I was delighted to see that the C-111 Basin and western Broward County were included in the Everglades Protection Area and that the Broward County Water Supply Plan is connected to the SWIM Plan. I am sure water users are going to pay plenty eventually, not just the farmers. Since jurisdiction over the Everglades is divided between several agencies with different management objectives, I am very surprised that there is no agency in this state that provided leadership in human public health and has the political clout to provide legislation to protect people from pollutants in the air and water. I would like to think that he Everglade's hydroperiod and natural sheet flow can be restored by the

SWIM Plan so that ENP can continue to be the great drawing card and outdoor educational retreat. Human activities in the plan (p. 72) talks about oil exploration in the Everglades. It is inconceivable that further degradation should be allowed. I hope the developed policy will prohibit those activities. Hunting camps lack adequate waste disposal facilities. There has to be an agency somewhere that regulates in favor of public health. Flood control management will continue to compete with ecosystem management as long as insurance is continued to be allowed. Mercury in Everglades fish and wildlife is an urgent concern. No one seems to be doing a study of mercury in people's blood who eat these fish. Signs warning fisherman about mercury in fish have been removed by the DOT on right-of-way, I have been told. The panthers have more to kill them than cars. Mercury research needs to be focused on what it is doing to the people and wildlife.

Patti Webster, Director-Environmental Coalition of Broward County:

I applaud the SFWMD Everglades SWIM Plan. We would like to see the hydroperiod restored to the Everglades. We all know we have problems to the North with sugar, but I do not think we are properly addressing urban runoff. It is a very serious situation. C-11 basin backpumps into the Everglades by the S-9 pumping station and need to recognize that is a very serious problem. Need to recognize that land and water are interrelated natural resources. I would like to leave a message to the SFWMD GB, please look very closely at permits and everything that is done in this corridor, the lower east coast, as it relates to the Everglades SWIM Plan.

Steve McLoughlin, Concerned Citizen:

Sewage

Concern about political representation. The Fanjul family and sugar in general has contributed about six million dollars to campaign PACs. I think that they feel that they are being represented quite well. Price support for sugar is a cost to the consumers of three billion dollars. How long will the fields be productive given soil subsidence in the EAA? The soil will not last forever. What will happen to the ecosystem when the soil system is gone?

November 15, 1991

Mr. Paul J. Whalen,
Supervising Professional
Everglades SWIM Project Manager
Lower District Planning Division
Planning Department
P.O. Box 24680
West Palm Beach, FL 33416-4680

Dear Mr. Whalen:

SUBJECT: COMMENTS ON THE DRAFT SURFACE WATER IMPROVEMENT AND MANAGEMENT (SWIM) PLAN FOR THE EVERGLADES

We appreciate the opportunity to review and comment on the draft SWIM plan for the everglades. The everglades restoration efforts are of great interest to the Environmental Resources Management Department. While our involvement in this effort is limited, the Department has recently permitted wetland alteration within Storm Treatment Area (STA) 1 under Palm Beach County's Wetland Protection Ordinance. The comments and questions provided below center on what interests the Department most: how will the implementation of the everglades SWIM plan affect eastern Palm Beach County.

1. Is it anticipated that the proposed EAA Regulatory Program and BMP Program will reduce nutrient loading to the Lake Worth Estuary via the C-51 Canal? If so, has this been quantified?

2. Is it anticipated that the EAA Regulatory Program and BMP Program will lead to the use of on-site stormwater detention facilities on existing agricultural lands as currently required by SFWMD for new agricultural activities?

3. In the operation of the STAs, will flow be diverted from the C-51 and Hillsboro Canals that would otherwise be conveyed through eastern Palm Beach County? If so, have the impacts to water resources (wellfield recharge) and nutrient loading to coastal waters been determined?

We thank you again for the opportunity to review the everglades SWIM Plan, and look forward to a response to the questions put forth above.

Sincerely,

Richard E. Walesky

Richard E. Walesky, Director
Environmental Resources Management

REW:BG

cc: Robert Weisman, P.E., Senior County Administrator
Iva Barnett, County Administration

Florida Fruit & Vegetable Association
a non-profit co-operative association

November 19, 1991

Mr. Tilford Creel
Executive Director
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416

Dear Mr. Creel:

The Committee for Agricultural Resources in the Everglades (CARE) of Florida Fruit & Vegetable Association has reviewed the September 24, 1991 Draft of the Surface Water Improvement And Management Plan For The Everglades. We are providing these comments and are requesting that changes be made in The Plan.

1) While the Support Document clearly demonstrates the concern that the District has for hydroperiod, there are no significant action items to address hydroperiod adjustments to the system. The Plan also does not address potential hydroperiod alterations that may be the result of the construction and operation of the Stormwater Treatment Areas (STA's).

2) There is inadequate explanation of the methodology to be used in development of numerical Class III Standards and applicable phosphorus load reduction requirements. Also specify the rationale for the goals or interim standards that are to be the basis for rules and permits. For Outstanding Florida Waters (S-5A, S-6 and ENP inflow points) specify baseline discharge (1978-1979).

3) Are all research projects, that are ongoing, included in the technical evaluation? The technical basis of review should include as much data as possible.

4) The water quality impact assessments, in The Plan, focus on areas primarily in the lower end of WCA-1 and the upper end of WCA-2A where visible vegetative impact changes have occurred. These areas are also areas that have been subjected to hydroperiod alteration including control drawdown, control flooding and , in the case of WCA-2A, an early 1980's attempt at restoration (somewhat described in The Plan). From the information provided it is difficult to understand the impact of these activities on present community structure. These sites may be suffering, in part, from the 1980's handling of water. If so, The Plan should evaluate specific water and area micromanagement techniques instead of solely the one approach (STA's) used The Plan. An evaluation of

a variety of options would be appropriate. The Plan is much too limited in scope with regard to treatment and water management options.

5) Generally the Support Document is more objective than the Planning Document. We recommend that you review The Planning Document and eliminate grossly speculative statements regarding impacts that are not supported by research or are supported by unreliable research (such as the Park dosing study). In both documents the word "threaten" is used without regard to probability that a real threat exists. Additionally, in the Support Document the "Threats to Aquatic Resources" section is highly speculative and unsupported except by reference to studies. Terms such as "implicated"; "may produce measurable changes"; "may be concentrated" imply stronger correlations between data and conclusions than are described in The Plan. We recommend that the staff review this section along with others and make the document more factual and less speculative in nature.

6) In most sections where periphyton impacts are discussed the terms "pollution tolerant" and "natural" are used, associated with specific genera found in the discharge area. As a group these seem to be in the reverse order of the expected pattern where bluegreens are often the "pollution tolerant" group and diatoms are the "natural" and considered valuable in terms of being food for macroinvertebrates. The Plan should provide information regarding algae identified in the impact area, specific tolerance to pollution and more importantly an evaluation of the two communities in terms of value to the foodweb.

7) The Plan discussion of the history of development in the EAA does not review private investment and economic activity. This important component would include some statements recognizing farmers' impact on the economic activity in the region.

8) The Technical Oversite Committee that is proposed seems to be extremely limited. We believe that other groups may be able to provide technical information and balance or you may want to consider a group similar to the one looking at the Nutrient Removal Project currently underway.

9) A complete evaluation of the treatment options, that were considered for EAA discharges should be included in The Plan. Stormwater Treatment Areas are the only treatment methodology discussed. More support information should be provided regarding STA design criteria, operational procedures and treatment reliability.

10) Flood control is not adequately addressed in The Plan. Within the EAA, subsidence may be increasing the risk of flooding. The Plan should address the District's current and future ability to provide flood protection.

Should there be questions regarding our concerns, please contact Mr. Ed Barber at (904) 259-5361 or Mr. Terry Cole at (904) 877-0099.

Sincerely,

Frank D. Teets, Chairman
Committee for Agricultural Resources in the Everglades

FDT/lc
cc: CARE Committee
Pete Rhodes, SFWMD
Sara Nall, SFWMD
Tom McVicar, SFWMD
Richard Harvey, DER

South
Florida
Regional
Planning
Council

November 20, 1991

Mr. Paul Whalen, Coordinator
Everglades SWIM
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680

RE: Everglades SWIM Plan Final Draft

Dear Mr. Whalen:

Thank you for the opportunity to review and provide comments on the Final Draft Surface Water Improvement and Management Plan for the Everglades. The SWIM plan presents an important step in the enhancement and restoration of Everglades National Park and surrounding basins. Staff has reviewed the draft and offer the following comments:

- It appears that the C-9 basin in Broward County has been excluded from the Planning Area as depicted in Figure 1, whereas the C-11 basin to its north is included. A discussion which clarifies why the basin was excluded would be helpful.

- The document could be strengthened by defining levels of flood protection for the C-111, C-11 and the C-9 basin based on the established goals of providing sufficient water supply to the Everglades National Park and Water Conservation Areas and acceptable flood standards. Defining levels of flood protection in semi-urban basins or goals for future flood protection would provide valuable guidance to local governments in the region.

- The executive summary should clearly define the District's priorities regarding flood protection, water supply and water quality.

- It is staff's interpretation that the Planning Document implies that Everglades National Park is the priority recipient for water supply even in times of drought, although the Planning Document does not clearly state this position. If this statement is correct, it should be so stated in the plan, or the concept of shared adversity should be stated as the District's goal in times of drought.

- Several goals in the Planning Document state "preserve or restore". If it is practical at this time, the goals should be made more clear and measurable. This can be accomplished by deleting one of the two words and if "restore" is the proper word, state what degree of restoration is desired.

- Goals for the Water Conservation Areas and the C-111 basin presented on pages 58 and 59 of the Planning Document contain the phrase "protect and improve". Clarity could be achieved by providing more definitive language that will indicate the degree of improvement expected.

- When the phrases "natural state" or "pre-existing state" are used, a year or timeframe reference (e.g., 1940's) would provide clarity in understanding the condition being referred to.

- As you know, District staff worked with Council staff and several additional agencies in preparing the Regional Plan for South Florida. In addition, District staff participated in the collaborative effort of producing the *Southwest Broward/Northwest Dade Subregional Study.* These document provides direction for decision makers in terms of research needs and impacts on water quality and quantity as a result of water management and other land development projects. Council staff urges the District to continue to ensure consistency with the goals and policies of the Regional Plan and the recommendations of the Subregional Study through implementation of the SWIM plan.

Thank you for the opportunity to comment. If you have any questions, please call.

Sincerely,

Anita Tallarico
Senior Planner

AT:icg

WATER UTILITIES DEPARTMENT

November 22, 1991

Mr. Paul J. Whalen
Supervising Professional
South Florida Water Management District
Everglades SWIM Project Manager
P.O. Box 24680
West Palm Beach, Florida 33416-4680

Subject: Comments on the South Florida Water Management District Draft Surface Water Improvement and Management Plan for the Everglades

Dear Mr. Whalen:

Palm Beach County Water Utilities Department (PBCWUD) appreciates the opportunity to comment on the South Florida Water Management District Draft Surface Water Improvement and Management (SWIM) Plan for the Everglades. Our comments are appended to this letter. PBCWUD would appreciate it if you could respond to our comments individually because of our tremendous concern over the impact of the SWIM Plan on water resource management in Palm Beach County.

If you should need to discuss these items please do not hesitate to call or write.

Sincerely,

Bevin A. Beaudet, P.E.
Director

/jp

cc: Robert Weisman
Richard Walesky

COMMENTS

SURFACE WATER IMPROVEMENT AND MANAGEMENT (SWIM) PLAN FOR THE EVERGLADES

Provided by

PALM BEACH COUNTY WATER UTILITIES DEPARTMENT

Palm Beach County Water Utilities Department requests that the SFWMD respond individually to its comments because of the influence that this plan may have on water availability with Palm Beach County. The review provided below is of the Planning Document.

1. The SWIM Plan is a comprehensive document which blueprints the restoration of the Everglades Ecosystem, a unique and irreplaceable national resource. This effort is fully supported by the Palm Beach County Water Utilities Department even though restoration activities may require adjustments to water management at the water utility level.

2. The SWIM document states that the District's Water Supply Planning Initiative provides the basis to quantify water availability within the Everglades and reserve water from allocation to meet the needs of natural systems (p. iii). The section, "Water Quantity, Distribution and Timing (Hydroperiod) on p.92 indicates that Phase II of the effort will consist of identification of areas where water demands will exceed supplies or other resource/use conflicts....Recent discussions with SFWMD staff regarding the development of Water Supply Plans has resulted in vague statements about whether the SFWMD will quantify water availability in southeast Florida (Dade, Broward, Palm Beach, Martin and St. Lucie counties) prior to the time at which water supply plans are developed. Some statements by SFWMD staff in recent Board Workshops have indicated that SFWMD may never be able to quantify the amount of water available. This document needs to more fully explain what the Water Supply Planning Initiative is and what the schedule is for determining water availability within the Lake Okeechobee-Everglades-Southeast Coastal area.

The fact that water availability planning has been on-going for more than ten years (starting with the Corps of Engineers South Florida Water Supply Study) without reaching a conclusion as to water availability in the coastal area is of great concern.Will water availability be quantified by the time that the Palm Beach County Water Supply Plan is finalized in May 1993? Quantification of water availability in South Florida depends on a determination of the water needs for the Everglades. The SFWMD needs to convey more confidently in this document that this quantification of water needs by the Everglades will happen.

From a utility perspective, does a lack of understanding as to water needs by the Everglades means that coastal areas will be forced to utilize much more expensive methods of water treatment and much more expensive means of water conservation (reuse) because of the SFWMD's conservative allocation posture? Palm Beach County requests that quantification of water needs for the Everglades be given a very high

priority. The proposed list of Everglades SWIM Projects on p. 139 does not list "Water Quantity " as a Project but it should to emphasize its importance. Nor does that same list show that any of the $336 million will be spent determining water availability.

3. The SWIM plan is not clear on how hydroperiod problems within the Conservation Areas will be resolved, i.e., short hydroperiods at the north ends of the areas and long hydroperiods at the sound ends of the pools. This issue is perhaps the most critical to restoration of the Everglades. The resolution of this problem may have a significant effect on coastal water availability. Currently, SFWMD has halted the allocation of additional water from the coastal area because of potential impact on the Everglades. Yet, it is clear from this document that the solution to Everglades restoration is not necessarily water quantity but hydroperiod management throughout the area.

4. The section on Water Supply Issues (p. 27-28) appears to indicate that water use in the coastal area has only negative effects on the Everglades. This document clearly leads the reader to believe that all water usage must be terminated in the coastal area in order to restore the Everglades whereas such is not the case. The write-up on this section appears unbalanced to the extent that it appears biased.

First, rainfall falling in the coastal area is capable of recharging the aquifer and being used by the coastal wellfields without harming the Everglades. Second, the source of recharge to the Everglades is in large part Lake Okeechobee which is unfortunately being managed at a lower level than historically documented (ca. 20 feet NGVD). Allowing the lake to fill to a higher level, avoiding devastating discharges to both the Caloosahatchee and St. Lucie River estuaries, and creating greater storage would enable recharge of the Everglades in a fashion duplicating historical hydrology. Historically, the Everglades did discharge to the coastal areas and did recharge coastal aquifers in the same fashion that it does now. If the Everglades functioned well in the pre-drainage past and discharged to the coastal areas then it should be able to be managed in the future and still discharge to the coastal areas. *The solution to Everglades restoration lies in part with better management of Lake Okeechobee. The two SWIM plans are integrally tied together.*

Third, improvements in water management within the coastal area that would result in less draw upon Lake Okeechobee are within the regulatory authority of the SFWMD. In Palm Beach County, water may be unnecessarily used by virtue of the Lake Worth Drainage District and other drainage districts holding flat-pools recharged in part by water from Water Conservation Area 1. As a consequence, rainfall falling on some of the coastal area during both the wet and dry seasons must be discharged to tide because water levels are kept a constant high level. Water levels are under the control of the SFWMD, and, thus, the SFWMD may decrease dependence on water from Water Conservation Area 1 by regulating variations in water levels in the coastal area so as to capture dry season rainfall. *SFWMD needs to consider optimizing current coastal water level management as a means of conserving coastal rainfall, and conserving Everglades water resources.*

The first sentence of "Water Supply Issues," consisting of: "Increased demands on existing water resources due to population and economic growth, coupled with uneven rainfall patterns, have produced recurring water shortages in south Florida"

is untrue. Abundant rainfall exists in South Florida even in the driest years to supply all needs. Unfortunately, the drainage system which SFWMD has inherited does an excellent job of discharging most of the rainfall not lost by evapotranspiration. Even during water shortages, water control structures along the coast will routinely discharge stormwater to the ocean. The problem is not overuse of the water resource but a problem with management of the water resource. This document indicates that the SFWMD desires to correct the management problem with largely conservation efforts implemented through the regulatory program on coastal counties and municipalities.

Palm Beach County needs to understand how the SFWMD is going to change the way **SFWMD** operates to fix the management problem with the Everglades and fix both the management and over-drainage problem with the coastal areas. While many alternatives are laid out for counties and cities to implement, Palm Beach County would like to know what the SFWMD intends to do to improve its own operation. The report refers to nebulous regional options which are actually "SFWMD" options. The SFWMD 's responsibility for fixing problems needs to be more clearly addressed in this report. Short term and long term options need to be laid out for the SFWMD itself to implement.

5. Under "Water Supply Issues" Western wellfields are criticized for both increasing demands on the surface water conveyance system and direct inducement of seepage from the Water Conservation Areas. We are not aware of any wellfield that currently induces seepage from an Everglades Conservation Area.

Fortunately, wellfields do place demands on some of the surface water conveyance system because as recently shown by analysis of the Hillsboro Canal basin, a tremendous amount of water is wasted from the basin and discharged to tide. Wellfields located along the canals conserve this water by capturing as much as they can prior to discharge to tide by a surface water management system that over-drains the coastal area. Problems occur only infrequently during severe droughts where water must be brought in from Lake Okeechobee and the Water Conservation Areas to augment canal supplies. The problem is essentially one of drought management because most of the time, the wellfields effectively use and thereby conserve water which the SFWMD canal system discharges to tidewater. Does it make sense that during all seasons and all years coastal stormwater should be wasted because a wellfield relying on coastal discharges would not have that water during a 1-in-10 year drought? There is little rationale for not using this water and no justification for wasting it.

6. Under Discussion on p. 29, the SWIM report indicates that "These policies must consider "shared adversity" between human and natural needs when there is insufficient or surplus water." The SFWMD must work towards a policy of managing the water resources sufficiently well to the extent that continued water use by utilities in the coastal area does not result in hydrologic adversity to the Everglades. In other words, the coastal water supplies must be managed to prevent adverse impacts on the Everglades during droughts. In our opinion, neither the State of Florida nor the Federal Government will tolerate management of this water system to the continued disadvantage of the Everglades. Insults to the Everglades ecosystem because of mis-management of the water supply may have adverse consequence on coastal utilities

and will eventually only result in water management imperatives which should have been implemented to protect the Everglades at an earlier date.

7. The statement under Discussion on p. 29, "The quantities of water required to maintain optimal surface and groundwater levels to protect natural systems of the Everglades are poorly understood " appears to be a mis-statement of the SFWMD's level of understanding of the Everglades. The SFWMD (previously the C&SFFCD) has managed the Everglades flows for the past 40 years and has studied them for the past twenty years in tremendous detail with yearly water budgets, constant water level monitoring, observations from a fleet of airboats and detailed environmental studies. *How can the SFWMD say that with an annual budget of now in excess of $200 million and a staff of 1500 people that daily manages the flow of every gallon of water into and out of the Everglades , that it doesn't understand what the correct water levels in the Everglades should be?*

8. Under the discussion of "Critical Issues" Aquifer Storage and Recovery (ASR) is mentioned on p 31.as a way to increase regional water supply. From a water supply standpoint, increased storage capacity is needed to prevent regional waste of water. This document does not address increased surface water storage which does appear to be an omission. The SWIM plan does address ASR but the context is unclear. The document needs to more clearly examine the potential benefits of **raw water** ASR. All ASR efforts to date except for the SFWMD's Okeechobee deep well have been treated-water ASR efforts which don't conserve large amounts of water. Raw water ASR, if feasible, has the potential for conservation of large amounts of stormwater discharged from the coast. Raw water ASR would consist of perhaps 150 mgd of injection capacity per location to capture runoff from major canals along the coast during the wet season's high rainfall events . This water, in concept, could then be recovered for use during the dry season. *The feasibility of raw water ASR needs to be determined by the SFWMD and, if workable, implemented by the SFWMD as an alternative to additional surface water storage.* This approach needs to be addressed as a major SFWMD initiative to restore over-drainage of the coastal area.

FLORIDA GAME AND FRESH WATER FISH COMMISSION

DON WRIGHT, Orlando
QUINTON L. HEDGEPETH, DDS, Miami
MRS. GILBERT W. HUMPHREY, Miccosukee
JOE MARLIN HILLIARD, Clewiston
BEN ROWE, Gainesville

ROBERT M. BRANTLY, Executive Director
ALLAN L. EGBERT, Ph. D., Assistant Executive Director

FARRIS BRYANT BUILDING
620 South Meridian Street
Tallahassee, Florida 32399-1600
(904) 488-1960

25 November 1991

Paul J. Whalen
Supervising Professional
Everglades SWIM Project Manager
South Florida Water Management District
P.O. Box 24680
West Palm Beach, FL 33416-4680

Dear Mr. Whalen:

Staff of the Florida Game and Fresh Water Fish Commission has reviewed the draft Surface Water Improvement and Management Plan for the Everglades, pursuant to Section 373.455, F.S. In general, the plan is well written and comprehensive. Our greatest concern continues to be exclusion of the Holey Land and Rotenberger tract from the "protected area" (e.g., map pg. 6). These areas should receive the same protection from phosphorus loading (i.e., an 80% phosphorus reduction) as the Water Conservation Areas.

We request the opportunity to participate on the Technical Oversite Committee and Melaleuca Task Force to assure continued protection of freshwater aquatic life, wild animal life and their habitats. Similarly to help represent the publics that fish, hunt and/or enjoy observing wildlife, we would like to interact with the District as the proposed policy to govern human activities and public access evolves (see page 13, item 9).

In August 1991, the Commission's staff submitted a proposal for a project "to evaluate efforts to restore historic Everglades habitat in the Holey Land Wildlife Management Area and their effects on selected fish and wildlife populations, and their habitats." Proposed funding was for approximately $475,000 per year for five years, and could have come from the Florida Power and Light mitigation settlement. The study referred to in the draft SWIM plan provides only $150,000 for four years and will be inadequate to do the required work. Our staff is willing to meet with District staff to determine what can be accomplished for $150,000 per year. However given our current fiscal situation and staffing shortages, this amount will not provide for a statistically valid study as described on page 172 of the plan.

Project reviewers within the Commission have offered a number of other specific points for your consideration. I have attached memorandums from Messrs. Brad Cook, Steve Coughlin and Frank Morello, which I believe will be helpful to you in updating your plan.

Please contact me if I can provide any further details for you.

Sincerely,

Robert J. Wattendorf
SWIM Coordinator

Enclosure
RJW/ai:whalen/FSH13
cc: Dr. Allan Egbert
Mr. Smokie Holcomb
Mr. Frank Montalbano III
Mr. Brad Hartman
Lt. Colonel Dan Dunford
Mr. Bart Bibler (DER)
Mr. Ernie Barnett (DNR)
Memo Originators

November 19, 1991

M E M O R A N D U M

TO: Robert Wattendorf
Assistant Director
Division of Fisheries

Lt. Col. R. Dan Dunford
Regional Director
Everglades Region

FROM: Frank Morello
Biological Administrator II

SUBJECT: Everglades SWIM Plan

The following is a list of comments concerning the final draft of the Everglades SWIM Plan - Planning Document. These comments are provided by Everglades Regional Fisheries Personnel. Also enclosed is a copy of comments provided by Everglades Wildlife Management Personnel.

Pg. 6. "Map of the Everglades SWIM planning area, which excludes Holey Land from the "protected" area.

The Commission presently has a working agreement with the District concerning operation of the Holey Land; however, we think it has been the Commission's desire to see Holey Land placed within the "protected" status.

Pgs. 8-11 The SWIM plan is driven by the SWIM Legislation Act and the Marjory Stoneman Douglas Act (MSD). The MSD states that nutrient additions to the Everglades Protection Area shall not cause "an imbalance in natural populations of aquatic flora and fauna".

To enforce this criteria, extensive research and monitoring will be required to understand nutrient cycling and affects of nutrient inflows as well as defining and monitoring sources of nutrients.

Pg. 13.9 States "that the District has identified the need to develop policy guidelines to govern human activities and public access in the conservation areas, including recreational use".

Since most of the Everglades is a Type I WMA, the Commission should have input into the process.

Pg. 39 States "that the District has agreed with DER that the major District Water Control Structures (S5,6,7,8,150) should be brought under state permit."

We should support this concept.

Pg. 41 States "that listed species (T,E,SPC) should be protected by controlling or eliminating commercial or recreational harvest".

These activities are presently illegal.

Pg. 42 "Provides the option to acquire areas adjacent to the WCA's and ENP to be used as buffer or management areas that would preclude human encroachment or development".

P. O. Box 840837
Pembroke Pines, FL 33084

October 29, 1991

TO: Greg Holder, Biological Administrator I

FROM: Steven P. Coughlin, Acting Biological Scientist Supervisor (SPC)

SUBJECT: Everglades SWIM Plan Review

The Hollywood office staff has completed the review of the September, 1991 Everglades SWIM Plan. Comments were focused on the wildlife and habitat of the Everglades Wildlife Management Area (EWMA) and the south unit of the East Everglades Wildlife and Environmental Area (EEWEA). Due to the generality of this document, the number of comments made were minimal and many pertained to correcting outdated information. Our comments and their corresponding page and paragraph numbers within the SWIM Plan are as follows:

Supporting Information Document

Page 307, paragraph 2. Approximately 50,000 of the 107,000 acre addition to Everglades National Park (ENP) officially became part of ENP on 1 October, 1991. This paragraph and figures 50 and 51 should reflect this current status. In addition, the Save Our Rivers property managed as the EEWEA should also be identified. Page 311, paragraph 4. This paragraph identifies that the lower C-111 basin is owned and managed by the South Florida Water Management District (SFWMD). While these lands are owned by the SFWMD, the Florida Game and Fresh Water Fish Commission (GFC) is the lead management agency for this area.

Page 313, paragraph 6. The land use description fails to identify the 45 square miles of this area that is managed for wildlife recreation in the EEWEA.

Page 322, paragraph 5. It is stated that the C-111 General Design Memorandum would be available to the general public in 1990. However, it will not be available until 1992 at the earliest.

(DNP) was the major landowner, DNP would have to be the lead agency in any attempts to control the building of new camps. Due to the limited number of tree islands in the conservation areas and their importance to wildlife during periods of high water, the issue of agency responsibility and the legality of enforcing new camp regulations needs to be clarified in the SWIM plan.

The comments mentioned above summarize our review of the Everglades SWIM Plan dated 24 September, 1991. If you have any questions pertaining to our comments, please give me a call.

SPC:gn

WLD-8

cc: F. Smith
C. Chappell
✓P. Wattendorf

2. Since the Rotenberger tract and the Holey Land are managed for public use, I feel that they should be included in the EPA. These areas should be afforded the opportunity to receive waters with an 80% reduction in total phosphorus, just like the WCAs.

3. The Florida Game and Fresh Water Fish Commission (GFC) should be included as part of the Technical Oversite Committee and the Melaleuca Task Force.

4. Page 17 - The description of the GFC's role in the review process should mention the addressing of topics concerning fish and wildlife and their habitats.

5. Page 41 - Reword the following statement to read... Sport fisheries include largemouth bass, black crappie, bluegill, and warmouth in fresh water areas, and snook, tarpon, redfish, and sea trout in Florida Bay.

6. Public use of the Everglades should be encouraged but effectively managed. Education is critical to teach the public to respect this fragile resource and help protect it by not littering or vandalizing. However, educational facilities and boardwalks already exist at the LNWR and the ENP. There is no need for any further such facilities. Brochures and videotapes would reach a much wider audience for educational purposes. Management of public use should include limited access and restrictions on ORV use. Until definitive proof documenting that airboats are destructive to the environment can be provided, they should not be restricted in the WCAs. Education and regulation enforcement would help to alleviate destruction of turtle grass beds and manatee or sea turtle encounters in Florida Bay.

7. Pages 58-59 - Part C. (II)-(WCAs) - Maintenance of water quality standards should be included as a management goal.

8. Page 66 - b. 3. - The District should be commended for including monitoring and enforcement as part of this version of the Everglades Plan.

9. Page 67 - b. 4. d. - The results of the research on marinas and boat facilities should be published by the District. Very little up to date literature exists concerning this water quality related subject.

10. Page 70 - a. 2. a. - The cooperation of the District and the GFC in managing and understanding the Everglades freshwater fishery resources is extremely important. However, the proposed studies would require extensive monitoring efforts on the part of the GFC and manpower requirements would need to be addressed.

Bob, considering the complexity of this plan, I feel that very positive results will be achieved if all efforts are coordinated as described. Hopefully, this plan will only get better as it further evolves during the

Florida Department of Environmental Regulation
Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400
Lawton Chiles, Governor
Carol M. Browner, Secretary

November 25, 1991

Mr. Til Creel, Executive Director
South Florida Water Management District
Post Office Box 24680
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

Dear Til:

The Everglades Surface Water Improvement and Management Plan (Draft SWIM Plan) dated September 24, 1991 was received here on October 11, 1991. Pursuant to Chapter 373.455 and 373.4592, Florida Statutes, and Rule 17-43, Florida Administrative Code, the Draft SWIM Plan has been reviewed. The comments that follow are recommendations that we believe will help assure both the likelihood of success in achieving restoration and protection and the cost-effective use of SWIM funds--as we are directed to consider by the SWIM Act.

Historical Nutrient Loadings to the Water Conservation Areas

The nutrient loadings for the historical October 1, 1979 to September 30, 1988 period of record are fundamental to the Everglades Agricultural Area (EAA) regulatory program and the stormwater treatment area sizing. Please correct the discovered errors (per your Errata sheet) as expeditiously as possible, and revise the stormwater treatment area sizes as necessary.

EAA Regulatory Program

The description of the EAA regulatory program (pp. 107-109) indicates rule development and adoption subsequent to final approval of the SWIM Plan, and does not describe the phased approach presently being pursued by the District. Both the description and schedule should be revised. The presently proposed rule does not provide reasonable assurance that the regulatory program's stated goal of a 25% reduction in phosphorus prior to inflow into the stormwater management systems will occur, although the proposed sizing of the stormwater treatment areas depends on this reduction.

Compliance Schedule for All Water Quality Standards

An implementation schedule should be provided as part of the proposed 5-step process described to assure compliance with all applicable state water quality standards (pp. 126-127). Existing water quality data of the District should allow strategy development to proceed expeditiously for some parameters already known to exceed standards.

Phosphorus Reduction Compliance Monitoring

The proposed phosphorus reductions from the EAA into the Water Conservation Areas (per p. 64, loads reduced by approximately 80% by July 1, 1997, inflow concentrations reduced to a maximum long term average of 50 parts per billion) need further refinement in order to be used as specific conditions in your Everglades structures permit applications. A monitoring program to ensure the accuracy of data and measure progress toward achieving interim concentration levels and applicable water quality standards is required pursuant to the Marjory Stoneman Douglas Everglades Restoration Act. Please specify a proposed methodology for determining phosphorus reduction compliance from the EAA into the Water Conservation Areas. The methodology should include consideration of extreme storm event bypass and water supply delivery bypasses.

Non-EAA Basins Tributary to the Everglades Protection Area

Specific schedules should be provided for non-EAA basins tributary to the Everglades Protection Area detailing when basin assessments will be completed, recommendations will be converted to strategies and subsequently implemented to achieve compliance with applicable state water quality standards.

Monitoring, Research, and Data Control Programs

The monitoring, research, and data control programs described are very comprehensive. The Technical Oversight Committee (TOC) will need to review and recommend all aspects of these programs, prior to submittal for the DER Quality Assurance/Quality Control plan approval. The proposed organizational structure of the TOC as shown on p. 91 meets with our approval. Consideration should be made for including advisory members such as urban, agricultural and environmental interests, if requested by such interests. Due to the complexity of the proposed TOC structure, I am revising my designated representative to be Richard Harvey, and Frank Nearhoof will assist him particularly with the monitoring, research and data control aspects. I would like to initiate the first meeting of the TOC as expeditiously as possible.

Attached are additional specific comments. I appreciate the cooperation exhibited by the District in the Everglades SWIM Plan development and permitting effort.

Sincerely,

Carol M. Browner
Secretary

Attachment

Additional DER Staff Comments
Draft Everglades SWIM Plan
SFWMD 9/24/91

1. Pursuant to Section 373.453(2)(c), F.S., the SWIM Plan should include "a list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are: (1) operating without a permit; (2) operating with a temporary operating permit; and (3) presently violating effluent limits or water quality standards." Appendices B, C, and D contain lists of existing point and nonpoint source permits; however, the list is not categorized as required and no details regarding permit conditions are provided.

2. Pursuant to Section 373.453(2)(f), F.S., the SWIM Plan should include "a listing of studies that are being or have been prepared for the water body." A number of studies are described throughout the documents; however, no detailed list is provided.

3. The Plan should include a complete description of how the legal boundaries of the Loxahatchee National Wildlife Refuge (LNWR) are different from WCA-1.

4. The Plan should provide a discussion of how the STAs will be operated to maintain treatment capability over an extended period of time. Monitoring the STAs for nutrient removal does not provide assurance that treatment performance can be maintained.

5. The Plan should discuss the impacts of burning in the EAA on phosphorous concentrations in both wet and dry deposition over the EAA and EPA.

SPECIFIC COMMENTS

6. The Plan should describe the mitigation measures the District will implement for any flow reductions that may occur in the EPA as a result of efforts to improve water quality. The Plan should also discuss any impacts that will occur as a result of these measures (p. ii).

7. On p. iii the Plan includes a statement that the SFWMD intends to initiate studies to identify other pollutants (besides nutrients). However, the primary parameters of concern have already been identified. They include dissolved oxygen, BOD, fecal bacteria, mercury, iron, chlorides, specific conductance, suspended solids, pesticides and herbicides, unionized

ammonia, and biological integrity. The Plan should include these parameters in all discussions of water quality. The Plan should also propose strategies that, when followed, will achieve compliance with all water quality standards as required by the MSDE Act ("recommendations and schedules for bringing all pollution sources into compliance with State water quality standards").

8. The definition of the EPA on p. 4 includes all adjacent tributaries and distributaries to basins and sub-basins within the EPA. The Plan should use the MSDE Act definition of the EPA.

9. The Everglades SWIM Planning Area shown on p. 6 excludes the drainage districts along Lake Okeechobee. Do any of these districts ever discharge south? If so, they should be included within the Planning Area as well as the EAA regulatory program.

10. The first full paragraph of p. 9 describes water quality data analyses performed by DER. These analyses should be fully referenced.

11. The Plan should discuss how the USFWS proposal to change the water regulation schedule in WCA-1 to provide deeper water and longer hydroperiods (discussed on p. 26) can be accomplished without increasing the ponding problems already occurring in the southern end of WCA-1.

12. The Hydroperiod Management Issues in Specific Areas section on pp. 26 and 27 does not include WCA-3B.

13. On p. 36, SFWMD cites extensive research conducted over the last 13 years that has documented a variety of ecological impacts to wetland areas in WCA-2A. The Plan should identify these impacts and the specific studies that documented them.

14. Page 39 states that the SFWMD has applied for permits for structures S-5A, S-6, S-7, S-8 and S-150. The statement needs to be modified to include all structures discharging into or within the Everglades Protection Area.

15. The Rotenberger restoration project is not described, although the acquisition and management of this area are a part of a 1983 Memorandum of Agreement, and portions are designated as Outstanding Florida Waters. Page 64 describes BMP phosphorus load reductions for flows into Rotenberger, but these are not a part of the presently proposed EAA Regulatory program. Please describe the District's land acquisition and restoration program for the Rotenberger project.

16. Figure 5 on p. 97 contains references to SOR land acquisition. The Plan should include a discussion of this in the text.

17. What is the timeframe for development of the EAA water budget as described on p. 113?

18. Please provide details for the seepage monitoring program mentioned on p. 113.

19. Please describe the "additional instrumentation and experimental studies ... to improve estimates of rainfall contribution and evapotranspiration losses" mentioned on p. 113.

20. Public Information implementation efforts are not shown on the schedule on p. 136.

21. DER policy regarding SWIM Trust Funds as described on p. 138 should be corrected. The only permit monitoring requirements or permit conditions which the DER cannot approve for SWIM funding would be those for which permits were issued prior to the 1987 enactment of the SWIM Program.

22. How does the ecological assessment described on p. 172 differ from the existing permit conditions for the Holeyland Restoration Project?

23. Tables 23, 27, and 30 (pp. 178, 182, and 186) contain areal loadings of 0.23, 0.25, and 0.14 grams/m^2/yr for WCA-1, WCA-2A and WCA-3A, respectively. If the loadings listed in these tables are divided by the WCA areas given in table 32 (page 187), areal loadings of 0.36, 0.41, and 0.22 g/m^2/yr are derived for WCA-1, WCA-2A and WCA-3A, respectively. Similarly, I calculate the areal retention rates to be 0.18, 0.29 and 0.21 g/m^2/yr, compared to the tabular values of 0.11, 0.18 and 0.13, respectively. If areal loadings and retentions are not calculated in this manner, the method of areal loading calculation should be described.

Farm Credit of South Florida, ACA

10084 70th Road South
P.O. Box 6559
Lake Worth, Florida 33466
(407) 965-9001

November 26, 1991

Board of Governors
South Florida Water Management District
P.O. Box 24680
West Palm Beach, Florida 33416

RE Everglades Agricultural Area SWIM Plan

Gentlemen and Ladies:

I attended the two SWIM plan public hearings held November 18,19, 1991 and spoke at the 2nd hearing. My presentation at the 2nd hearing is enclosed for your information.

The majority of the speakers identified the serious economic, engineering, ecological, ethical, and administrative shortcomings of the current SWIM plan. You should note that a minority of the speakers advocated adoption of the SWIM plan without further change. The proponents of the SWIM plan did acknowledge, repeatedly, the plan's serious shortcomings. Their rationale was that the serious shortcomings should be ignored because the plan can be corrected later.

The plan does not incorporate any mechanism for correction or change. In fact, the lawsuit settlement precludes later change. Minor engineering refinements can be made only to the extent further research confirms and refines the assumptions and remedies of the plan. There is no mechanism for the correction of the basic inequities and shortcomings of the plan. There is no mechanism for correction if further research disputes the assumptions and engineering remedies of the plan.

I am very concerned with an attorney's statement at the first hearing to the effect that these hearings were a legal sham - they were being held simply to satisfy a state regulatory requirement for the Everglades lawsuit settlement - since the settlement cannot be changed, the SFWMD Board is precluded from giving serious consideration to public comment and suggestions provided within the hearings.

I feel that you are compelled by your public trust and responsibility to validate the SWIM plan hearings by giving serious consideration to the public comment and incorporating appropriate changes.

Sincerely,

Wallace Howitt

SFWMD SWIM plan public hearings November 18,19, 1991
Wallace Hewitt, Farm Credit employee, presentation as an individual

I would like to address my comments primarily to the Executive Summary and the Board. The arguments I've heard for the SWIM plan as it is drafted here boil down to three points

1. We need to get the lawsuits behind us.
2. We need to do something about the Everglades
3. If we do the wrong thing, its just big bad Sugar that's footing the bill.

I agree strongly with 1 & 2, I don't agree that #3 is a good enough argument to set aside common sense and waste money. The bottom line is this is your only opportunity to spend this level of money. You may already be too late to tap into money the state and federal governments don't have. Section E, Funding, proposes five possible ways to tax big bad Sugar - I think we could argue all day about how much they can afford to pay - but you're certainly proposing to go after everything they've got right now. I can tell you that you are going to reach the bottom of big bad Sugar's pocket very quickly. You may undertake this effort out of political expediency, but the bottom line is that there will be no money to fix things later. This document's solution to the Everglade's problems is a massively expensive, sketchily planned, water engineering project. But the planning and study which should be the foundation for this project is almost nonexistent. This document lays out a clear road to massive cost overruns. Basically, as set out in the Executive Summary you are going to do both the water works engineering and the ecological studies at the same time. Instead of Ready, Aim, Shoot you're doing Ready, Shoot, Aim. You're starting to construct a bridge without knowing how far it is to the other side. There may have been a time when we could have undertaken such a project but you need to understand that, today, our economy cannot pay for massive public projects which don't clearly achieve their objectives. We cannot afford anymore Kissimee River remediation projects.

Contrary to what you read in the newspapers, farmers are ready and willing to cooperate and pay their fair share of the Everglades cleanup program. The proponents of the SWIM plan settlement have specifically set about to exclude farmer cooperation and participation. That was the legal tactic used in the suit and in the settlement and, unfortunately it continues right into the SWIM plan proposed here. Right at the top, the Technical Oversight Committee which will do the planning, reviewing, and compliance determinations consists entirely of state and federal agencies in which, hydrologists, civil engineers, and ecologists are well represented, but no agricultural representation. This is a very expensive action plan for the Everglades Agricultural Area and Agriculture has been specifically excluded from participation. People are being incited to demand that agriculture stop stonewalling and start cooperating with the cleanup. Read the Executive Summary - there is replace for the input of agriculture, replace for cooperation with agriculture. It specifies in vague terms what hydrologists, civil engineers, and ecologists intend to do to the agricultural area and that is it.

Common sense says, that even if you want to ram this settlement down Big Sugar's throat, you still want to keep Big Sugar around to pay for it. But in the process of trying to clop down Big Sugar you have excluded farmers from participation and forced their opposition. There are some newspaper editors who say agricultural interests are adequately represented by SFWMD - which is nothing more than a rationalization to exclude agriculture. Look at an analogous situation that is very possible - Suppose the US attorney were to allege that mercury poisoning in the Everglades originated from newsprint - mercury in the ink and in the paper pulp winds up in the Everglades. Instead of suing the papers, the attorney sues SFWMD and specifically excludes the newspapers from the suit, access to the settlement, or participation in the cleanup - but they must pay. Now, do you think the newspaper publishers and editors would sit still for the same solution they want to impose on the farmers. More important, do you think this board would attempt to hammer a solution for newspaper publishing which excludes the newspaper publishers from participation. Why is agriculture any different from any other business group. Fairness dictates, agriculture should be fully represented on the technical oversight committee.

On page iv. under the funding section there is a sentence - "An effort will be made to obtain a portion of the federal sugar price support subsidy for Everglades restoration." That is a totally misleading statement, there is no sugar subsidy, you can look all through the federal budget, there is no money budgeted for a sugar subsidy. The sugar program works by managing supply and demand to achieve target prices. An economist collects supply and demand data and makes recommendations and that is it. You may argue that the price is a penalty to consumers but there is no federal subsidy money that can be diverted to this project. So why is this statement here? It's here as a gratuitous, inflammatory, misleading slap at agriculture. It encourages those who believe that this plan is a vehicle to put big bad sugar in its place. And it also encourages those who believe that this is a plan to put the farmer out of business and gives them no choice but to dig in their heels and fight. These type of misleading, divisive, slaps at agriculture are inserted throughout this document. They serve no constructive purpose - other than documenting that the authors of this plan really don't understand what they're working with. These gratuitous statements are custom designed to keep this plan in litigation and fuel divisiveness on both sides.

The Board needs to make a hard judgement at what is equitable and what would the majority of people in South Florida support. Now, ironically, we do have solid scientific evidence of what the people of South Florida want. You will hear many try to mislead you into believing they represent the majority and the majority want this plan implemented. If the question is - "Do you want big Bad Sugar to clean up the Everglades?" - no question the majority would say yes. But if the question were - "What standards would you be willing to set for yourself and how much would you be willing to pay to clean up your personal water pollution?" - you've got clear evidence sitting all around you right here (Miramar city hall) as to what the answer clearly is. None of the sewer treatment plants serving the people right here come close to meeting these standards. These people would not even begin to let you plan to make them pay to have their wastewater and runoff treated to these standards. Most of the bond issues to improve wastewater and stormwater runoff in the urban areas have been soundly defeated. The standards proposed here greatly exceed the EPA and DER standards for municipal wastewater treatment. You could not convince people here that they ought to pay to have their water made cleaner than rain. . <u>The bottom line is that no one who is supporting this SWIM plan is willing or able to pay for their personal wastewater to be cleaned to these standards - and that can be scientifically proved by looking at the sewer plant that serves them.</u>

I believe that you need to develop hydroperion and water quality control programs that you can reasonably support to be adequate. Then you need to develop the lowest cost engineering specifications to do the job. You need to exercise due diligence, your public responsibility, to prevent cost overruns. There are a number of helpful things, hydroperion control and so forth, that you can do now without these massive engineering project expenditures. You know they are effective and you need to implement them. The farmers need to be involved and participate. Their cooperation will result in tremendous cost savings and substantially improve the chances for the success of the project. Don't allow hotheads who just want to get big bad sugar to stampede you into ignoring your public trust and responsibilities and endorsing this badly flawed plan. Do what the judge told you to do, tell your staff to develop an equitable plan for all parties involved - the farmer, the woodstork, the public, the panthers.

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W. ROBERT FOKES

November 27, 1991

VIA FACSIMILE

Mr. Paul Whalen
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

RE: Comments on Draft SWIM Plan for the Everglades dated September 24, 1991

Dear Mr. Whalen:

This letter is submitted to the District on behalf of the Sugar Cane Growers Cooperative of Florida, Inc. (Cooperative), in response to the District's request for comments on the above-referenced Surface Water Improvement and Management (SWIM) Plan. You will recall that comments were made on the Cooperative's behalf at the public workshop held on November 18, 1991 in Belle Glade, Florida. We presume that the comments of that workshop will be transcribed or summarized for the Governing Board's use and, therefore, do not intend to repeat all of them here.

It is the Cooperative's view that the currently proposed SWIM Plan has been essentially poisoned by the Settlement Agreement that was executed by the District, the Department of Environmental Regulation (DER), and the U.S. Attorney's Office in the Federal lawsuit now pending before the Honorable Judge William Hoeveler in Miami. With all due respect, it would appear that the efforts towards achieving expediency by those Settlement Agreement parties have resulted in a blatantly unfair and we believe scientifically unsound framework upon which the new SWIM Plan draft hangs. In fact, the Settlement Agreement has been called a blueprint for Everglades restoration by its promoters.

Aside from the fact that the Settlement Agreement was negotiated behind closed doors, without any input whatsoever from the agricultural industry - the primary targets of regulation - the Cooperative and, I am sure, other members of the regulated community, have <u>severe</u> reservations

concerning its technical appropriateness. Those concerns are compounded by the fact that the present SWIM Plan follows the "party line" of the Settlement Agreement in all respects.

I. The Problem

The draft SWIM Plan continues to be premised on the notion that Water Conservation Area One (WCA-1) and the Everglades National Park (ENP) are endangered by high phosphorous levels that they receive as a result of Everglades Agricultural Area (EAA) activities that send phosphorous to the WCAs and the ENP by District structures and works. Accordingly, the SWIM Plan goes to great lengths to establish numerical limitations on discharges to the ENP, to the WCAs and ultimately would establish phosphorous reduction requirements on EAA sub-basins and would require the conversion of some 36,000 acres of agricultural lands into Stormwater Treatment Areas (STAs) intended to further remove phosphorous. Each of these components has been developed without recognizing or dealing with what surely is a more significant concern to these areas - that is, alterations of hydroperiod. The Cooperative is very concerned that the implementation of the SWIM Plan as drafted might turn out to have a substantial adverse impact on the ecology of the entire area because of the failure to properly account for hydroperiod influences.

Despite the passage of a substantial amount of time, it appears that the District has not succeeded in clearly defining the "phosphorous problem" that it is apparently seeking to solve. First, independent experts have testified before the Board that the Everglades National Park is <u>not</u> threatened by high phosphorous levels or nutrient enrichment. The vast majority of phosphorous that the ENP receives, as you well know, comes from rainfall. The percentage of phosphorous which could possibly be attributed to activities in the EAA is miniscule compared to that which the Park receives from rainfall. Second, to the extent that the District still contends that cattails are promoted by phosphorous addition, it would seem that the District should consider these undesirable cattails to be no more than aquatic weeds which can be controlled with typical weed control measures, such as controlled burns, rather than by disrupting the EAA at extreme expense to the farmers and perhaps to the public as well. Further, it is apparent that WCA-1 phosphorous concerns can be addressed through water

flow directional changes to a great extent and that has not even been properly considered. Finally, it should be recalled that the Central and Southern Florida Flood Control Project had as a primary purpose, flood control and water conservation in service of the EAA and the developing East Coast. In contrast, under the proposed SWIM Plan, the focus is changed to requiring the EAA lands to serve the perceived environmental needs of the Water Conservation Areas. Not only is this contrary to the primary purpose of the Central and Southern Florida Flood Control Project, the shift in emphasis has not been scientifically justified.

II. Solution

There are two major differences that the Cooperative has with the proposed SWIM Plan approach. Number one, we believe that it is absolutely foolhardy to implement a 36,000 acre or more public works water treatment project on EAA lands when the scientific underpinnings of the project are so meager. The Everglades Nutrient Removal Project (ENR) has not yet been demonstrated to be capable of phosphorous removal at the levels that the SWIM Plan would require of STA areas. There can be no justification for expenditures and disruptions of the magnitude envisioned in this Plan prior to a successful demonstration project on lands already controlled by the District. Clearly, the Cooperative is extremely pessimistic that the phosphorous removal performance of the STAs will be within the required range. The best way to find out is to do a fair demonstration project, <u>first</u>.

The second major difference that the Cooperative has with the Plan is that it takes the STAs completely out of EAA lands and does not consider the possibility that the northern perimeters of the WCA-2 and WCA-3 might be utilized instead. After all, these are water conservation and storage areas and not productive agricultural lands. Of equal significance, these lands are already owned by the State of Florida and would not need to be purchased at a three hundred million plus cost to the taxpayers. The STA land area needs are only a small percentage of the WCA-2 and WCA-3 land areas.

Along similar lines, there seems to have been no consideration of the possibility that District discharges should be granted mixing zones, exemptions, site specific

alternative criteria or variances under DER rules, or possibly that special water quality standards should be adopted for the areas in question. The federal/state water quality standards statutory and regulatory scheme is predicated on the notion that water quality standards should be attainable in light of socioeconomic and other factors. Economic dislocation is certainly one of those factors. The District and DER have utterly failed to evaluate the ameliorating provisions that are presently available in Florida's water quality standards, which were intended by the Environmental Regulation Commission which set those standards to be taken into account during their application. See Rule 17-3.011(11), F.A.C.

We have stated many times and wish to state once again that the 25% BMP reduction, the 50 part per billion STA phosphorous discharge limitation, and the phosphorous discharge limitations proposed for the ENP and District pump structures are all in dispute because of questions about data validity, statistical analysis, lack of demonstrated performance, improper legal interpretation of Florida water quality regulations, and lack of environmental necessity. We are especially concerned about the 50 part per million STA discharge limitation because as we understand it, it is based primarily upon one number - the settling rate of phosphorous in such systems. That settling rate, we are advised, could be off by as much as a factor of ten from what the District has assumed. If it is, then STA areas ten times as large as now envisioned could be required to achieve the phosphorous limit that this Plan would irrevocably impose.

III. Marjory Stoneman Douglas Act

It is our opinion that the infusion of the Settlement Agreement into the SWIM Plan process has generated a draft SWIM Plan that is inconsistent with the requirements of the Marjory Stoneman Douglas Everglades Protection Act of 1991. That Act requires the District to propose interim phosphorous concentration levels and discharge limitations for District discharge structures that are designed to achieve compliance with state water quality standards "to the maximum extent practicable". There is insufficient information to indicate that the phosphorous concentration levels and discharge limitations proposed by the District in the SWIM Plan are achievable, much less practicable. If the

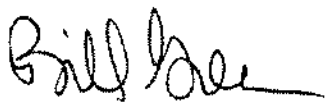
District is wrong in its technical assumptions, as we fear, it will be accepting and enforcing limits that place the farmer ultimately at risk. We believe that that is entirely inconsistent with the intent of the legislature.

IV. Summary

The numerical phosphorous limitations and requirements should be deleted from the SWIM Plan as should the structural framework imposed by the Settlement Agreement. The District should prove the efficacy of the ENR Project prior to going forward with any purchases or substantial expenditures toward the establishment of STAs within the EAA. The relief provisions in DER rules should be pursued and the use of limited areas in WCA-2 and WCA-3 should be evaluated. Best Management Practices should be required within the EAA, but the 25% phosphorous reduction requirement should be deleted. Even the District's BMP experts have admitted during BMP rule workshops that this percentage reduction cannot be achieved on some farms due to the nature of the soil or other uncontrollable factors.

Thank you for this opportunity to comment on the SWIM Plan. Please do not hesitate to call if you have any questions.

Sincerely,



William H. Green
Counsel for the Sugar
Cane Growers Cooperative of
Florida, Inc.

WHG/sdf
cc: Governing Board Members
Secretary Carol Browner

Florida Sugar Cane League, Inc.

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November 27, 1991

HAND DELIVERED

Mr. Tilford Creel
Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

RE: Comments and Suggestions on Everglades SWIM Plan

Dear Mr. Creel:

This letter provides the Governing Board, you and the District's staff with the Florida Sugar Cane League's comments, suggestions and requests regarding the proposed Everglades SWIM Plan. As you know, the League members live, own property, farm and conduct agricultural activities in the Everglades Agricultural Area, the primary geographic area regulated under the Everglades SWIM Plan.

The League supports the District in its efforts to solve Everglades problems. The League asks only that the SWIM process be open, that it not be preordained by the secretly negotiated Settlement Agreement, and that all of the problems of the Everglades, including hydroperiod, be addressed in a realistic, technically supported and financially responsible SWIM Plan.

For your convenience and consideration, we have summarized several of our comments on the SWIM Plan below:

- All components of the SWIM Plan should be technically and economically feasible. Several requirements of the present Plan are neither. One example is the massive pumps and levy construction needed for the STAs.

- The Plan should focus and require action on hydroperiod and other causative factors, not just water quality issues as yet not proven to be the cause of asserted damage to Everglades National Park or other areas. The Marjory Stoneman Douglas Act expressly requires that programs addressing hydroperiod restoration be included in the Everglades SWIM Plan.

- A successful SWIM Plan must also contain a realistic cost analysis and overall "fair share" allocation of costs among all concerned South Florida interests, including the federal government's remedying any problems the Central and Southern Florida Flood Control Project has created.

- Flood control is not adequately addressed. The District's current and future ability to provide EAA flood protection after implementing the Plan needs to be addressed in detail.

- The Plan should recognize and make provisions for the fact that the hydrology of South Florida was permanently altered by the Central and Southern Florida Flood Control Project and its manipulation of hydroperiod. The vegetative impacts of this manipulation are not adequately analyzed.

- The SWIM Plan did not evaluate and does not allow for consideration of other alternatives to the narrow remedial water quality approach dictated by the Settlement Agreement.

- Attempts by other agencies to perpetuate secrecy and exclude the regulated community from regulatory decisions, to covertly implement the Settlement Agreement through the SWIM Plan process, should be rejected by the Governing Board.

- The current Plan improperly seeks to implement the politically based, secretly negotiated and technically flawed Settlement Agreement. As the District staff has noted, implementation of the Settlement Agreement will not achieve Everglades restoration and, in fact, the STAs are inconsistent with natural Everglades systems. That, however, should be the goal of the SWIM Plan.

- No credible evidence linking the EAA to any damage or threats to Everglades National Park is identified in the Plan. This lack of relationship between the EAA and Everglades National Park needs to be clearly stated in the Plan.

- The District has not provided needed information about the causal connection, if any, between reduction of phosphorus at S-5A and S-6 structures and the attainment of the mandated Water Conservation Area criteria.

- The Plan is unreasonable in proposing programs costing in excess of Three Hundred Million Dollars to correct only the unsubstantiated nutrient impacts alleged in the federal lawsuit.

- The Plan should address the role played by the urbanized lower east coast - the major regional water user. Regional water supply impacts and needs should be integrated into the SWIM Plan.

- The Plan fails to specify, explain, or provide information as to how the 85% phosphorus reduction in the Loxahatchee National Wildlife Refuge is required to meet State water quality standards or to otherwise provide a rational or plausible interpretation of asserted OFW requirements.

- The present role and existing public purposes served by the Water Conservation Areas as functioning components of the Central and Southern Florida Flood Control Project should be recognized in the SWIM Plan. An environmental impact statement should be done before the purposes of these areas and other components of the Project are changed.

- The proposed SWIM Plan should integrate present and future water supply and flood protection needs into the Plan.

- The League and others cannot make complete and informed comments on the proposed Plan until they receive the technical documents, alternative approaches, and other information contained in, or supposedly supporting, the still-withheld drafts of the Settlement Agreement or related documents.

- The proposed Plan does not contain information or data rationally justifying the dramatic changes from earlier versions of the Plan, especially the September, 1990 Plan.

- The Plan does not adequately address the relative impacts and action to remedy to the problem of extensive infestation of melaleuca and exotic species.

- Fairness requires a recognition of the historic, equitable position of EAA farmers and growers and their actions in reliance on prior commitments and alterations of the natural system by the federal government and the District.

Our more generalized comments are set forth below.

1. <u>The Plan, like the Settlement Agreement, fails to address hydroperiod manipulation as the major damaging factor to Everglades resources</u>.

The Marjory Stoneman Douglas Act expressly requires that programs addressing the impacts of hydroperiod alteration be included in the Everglades SWIM Plan. The current version of the Everglades SWIM Plan provides for no programs or projects to restore, or even study, the Everglades hydroperiod impacts, or to assess what can be done to prevent the undisputed damage that hydroperiod alteration and the operation of the Federal Flood Control Project has caused over the last forty years.

For example, in the "Goals, Objectives and Strategies" section on hydroperiod in the planning document of the current Draft Plan there appears to be, at first glance, a comprehensive plan addressing hydroperiod. However, upon closer examination, it appears that most of the "strategies" are nothing more than things that "should" be done:

> C.1...The District, Corps of Engineers, and other agencies <u>should</u> re-evaluate (page 60, Planning Document)
>
> C.3...The SFWMD <u>should</u> continue operation of the S12 and S33 structures in accordance with the rainfall plan...(p. 61, Planning Document)
>
> D.2...The District and the U.S.C.O.E. <u>should</u> consider operational and structural changes...(p. 61, Planning Document)

Hydroperiod is addressed only as a potential "additional" benefit which "may also accrue" from the construction and operation of water quality remedies. <u>See</u> B.1 at page 60, Planning Document. These vague statements promising future cooperation in support of

other agencies and their efforts in the future to address hydroperiod, and speculation as to possible hydroperiod benefits accruing from the expensive water quality programs the Plan is mandating are inadequate. The District in this Plan avoids the real problem facing the Everglades: How to balance the regional needs of flood control and water supply with the hydroperiod and water quality needs of the remaining Everglades ecosystem.

The hydrology of South Florida was permanently altered by the installation of the Central and Southern Florida Flood Control Project, and has been impacted over the last forty years by the manipulation of the hydroperiod in the region through the operation of that project. Even the "Water Conservation Areas" are not "natural". They are secondary reservoirs of the Federal Project, completely diked and controlled for water supply and management purposes with a completely artificial hydroperiod. To replicate "natural" hydroperiod, waters will have to be pumped, diverted and released to and from these areas by artificial means. The current draft of the Plan, like the Settlement Agreement, fails to recognize the practicality of the situation, and the need to assess and balance the competing needs of the region. The District should try to find a feasible solution which will result in a fair allocation of both the benefit and the adversity of all competing users of the Federal Project, to accomplish regional water management for the competing regional purposes of flood control, water supply and environmental protection, including water quality.

2. <u>The STAs mandated by the Settlement Agreement and Plan are a technically unsound, premature commitment of limited public and private resources.</u>

The STAs are but one example of the emerging problems created by the politically dictated, technically flawed Settlement Agreement. As the District's consultants have recently reported, the cost of the STAs will be enormous. Any demonstrable water treatment function will be minimal. As noted above, the League and its members are willing to cooperate in reducing nutrient levels in surface waters in the Everglades area through reasonable, feasible means. The stormwater treatment areas and best management practices dictated by the Settlement Agreement, as arbitrarily echoed in the Plan, are intended to reduce nutrients in waters running from EAA property to levels cleaner than rainfall, will cost in excess of Three Hundred Million Dollars, but will accomplish no demonstrable benefit to the Everglades resources. Additional public works projects would then be necessary for real solutions to Everglades problems. Even assuming the STAs would accomplish some demonstrable benefits by reducing nutrient levels,

the design of the STAs are, as are most other elements of the secretly negotiated Settlement Agreement, impractical, experimental, exorbitantly expensive and will require the construction of massive structural components and pumps.

The Marjory Stoneman Douglas Act does not designate STAs as the method of protecting the Everglades; it only authorizes the District to use them if the District determines, based on substantial competent evidence, that such areas are necessary to protect Everglades resources. The Plan provides no such showing. The District should not allow the arbitrary political decisions underlying the Settlement Agreement to divert it from its statutory obligation to explore through the SWIM planning process the best, most workable, solutions to all problems facing the Everglades.

3. The SWIM Plan should not adopt the technically flawed requirements of the Settlement Agreement.

As is becoming apparent to the Government Board, the secretly negotiated, politically dictated regulatory provisions of the Settlement Agreement are seriously flawed. This should come as no surprise: public regulatory decisions hatched behind closed doors so as to exclude the regulated private sector and even Governing Board members, must, of necessity, be incomplete, ill-advised, and arbitrary. Those features, so evident in the Settlement Agreement, should not be duplicated verbatim, as they are in many instances, in the SWIM Plan. The STAs are but one example.

The SWIM Plan as designed by DER will placate federal demands in the lawsuit, instead of formulating a balanced, feasible program to protect Everglades resources now and in the future, as required by state law. Such an approach, although mandated by the secretly negotiated Settlement Agreement, is not consistent with general SWIM planning requirements or the balanced requirements of the Marjory Stoneman Douglas Act.

The District staff has advised the Board that there are no valid, scientific data demonstrating a correlation between nutrient levels in surface waters flowing from the Everglades Agricultural Area to an alleged injury in Everglades National Park. Although nutrients play some role, available evidence suggests that alteration of vegetation in these areas is, to a large degree, the result of the regional alteration of hydroperiod caused by the installation and operation of the federally run Central and Southern Florida Flood Control Project.

The Plan is also arbitrary in that it proposes programs costing in excess of Three Hundred Million Dollars to correct only the unsubstantiated nutrient impacts alleged in the federal lawsuit, but which the District's own staff concedes have not been demonstrated either to be occurring, or to be attributable to nutrient levels in EAA surface waters.

Because the Plan is predicated on and perpetuates the false factual assumptions and arbitrary requirements of the Settlement Agreement, the SWIM Plan is also arbitrary and inadequate to accomplish the mandates of either the Marjory Stoneman Douglas Act or other provisions of Chapter 373 of the Florida Statutes.

The Plan should address all impacts posing a significant threat to Everglades resources. Instead of trying to protect the Everglades, the SWIM Plan's conclusions and remedial programs, lifted from the Settlement Agreement, are concerned only with addressing the allegations of "nutrient pollution" raised in the federal lawsuit. The Plan thus appears to be both incomplete and arbitrary.

4. <u>The factual basis for the Plan is inadequate and has been kept from the League and the public.</u>

It is also difficult for the League or others to offer fully informed comments on the SWIM Plan, because the full technical basis for the Settlement Agreement, and thus the Plan, has been withheld from the public. As the Plan reflects on its face in the "errata" caveat prefacing each volume, even the numbers contained in the Plan are not correct and may change in the future, apparently depending either on future number "crunching," additional dictates from the federal government, or further exploration of facts which have not been considered to date.

The Florida Department of Environmental Regulation, and the federal officials involved in the federal lawsuit have done everything they can to avoid full disclosure of the technical information on which the Settlement Agreement, and the Plan, are premised. The District has been more forthcoming but appears to feel constrained to comply with the demands of DER and the United States to keep rationales and information confidential. This is especially regretful when, as here, the subject is regulatory requirements applied to EAA farmers, but dictated by the Settlement Agreement. As the Board is aware, the League has been compelled to file public records lawsuits to get any of the technical information underlying the settlement and thus the Plan.

The weakness of the technical support for the settlement, and thus this draft Plan, are becoming evident. By way of example, the District and DER have stipulated in settling that violations of state water quality standards have occurred or are imminent. Yet, on November 20, 1991, Richard Harvey, from DER, stated to the Board that DER is "in the process" of gathering documentation which demonstrates that there has been a violation of state water quality standards in the Everglades, but would not have that documentation gathered for about ninety (90) days. Transcript of Everglades Workshop, South Florida Water Management District, November 21, 1991, Page 21.

The League has attempted for several years, as the Board probably knows, to gain entrance to Loxahatchee National Wildlife Refuge and Everglades National Park in order to scientifically test, sample and otherwise determine the nature and extent of the alleged injuries to these areas and the existence and degree of the water quality violations on which the federal lawsuit, the Settlement Agreement and the Plan are premised. For reasons as yet unexplained, the federal government has adamantly resisted entry, for scientific testing purposes, into these areas. They have refused to produce the technical information in their possession on which the Settlement Agreement and the Plan are predicated, and have demanded that the state agencies similarly withhold the information from the public.

Until all the technical information supposedly underlying the Settlement Agreement, and the Plan which implements it, are made available to the public and the Board, there can be no meaningful comment on the Plan, nor can there be any meaningful assessment by the Board as to its soundness and its validity.

5. <u>The Settlement Agreement is illegal and should not determine the components or nature of the SWIM Plan.</u>

A review of the SWIM Plan makes it quite clear that the SWIM Plan, for the most part, is not based on the District's independent analysis or the District's legal obligation to meet the requirements of the SWIM and the Marjory Stoneman Douglas Acts but is, in fact, a politically dictated attempt to implement the Settlement Agreement. That Agreement committed the State to new regulatory programs and decisions, new state standards, permit conditions and other agency actions targeting agriculture in the EAA. The Settlement Agreement was secretly negotiated by a technical advisory committee or a "policy group." These groups met in secret, so as to exclude the regulated community, and without notice and recorded minutes in violation of Section 286.011 of the

Florida Statutes. The Governing Board was then presented with the Settlement Agreement for ceremonial rubberstamping notwithstanding the League's request for an administrative hearing to dispute the facts and regulatory policies in the Agreement.

The Settlement Agreement also appears illegal under Florida law because it commits the District to specific regulatory actions and infringes on their discretionary decision-making authority to develop components of the SWIM Plan that meet statutory requirements and benefit the citizens of Florida. The legality of the Agreement is now pending in state court.

The District appears to have no discretion, by virtue of the Settlement Agreement, to do anything but implement the terms of the Settlement Agreement in the SWIM Plan. The Settlement Agreement obligates the District to:

(1) establish new water quality standards (Settlement Agreement paragraphs 1, 7 and 8, Appendix a and b);

(2) alter regional surface water flows to give priority to the needs of the Park and Refuge (Settlement Agreement, paragraph 9, Appendix c);

(3) create stormwater treatment areas on lands currently in private ownership within the EAA (Settlement Agreement, paragraph 10, Appendix c);

(4) establish specific new regulatory requirements (Settlement Agreement, paragraphs 12 and 13, Appendix e);

(5) establish and fund new research and monitoring programs (Settlement Agreement, paragraphs 11, Appendix d); and

(6) schedule permitting and adoption of the SWIM Plan for the Everglades region (Settlement Agreement, paragraphs 12-14).

Each of these binding obligations, which affects the League's substantial interests, are found as integral components, some word for word, in the SWIM Plan. The SWIM Plan is replete with sections which are directly lifted from the Settlement Agreement. By doing this, the District has contracted away its statutorily delegated regulatory responsibilities and has agreed to exercise its legislative delegated duties in a manner inconsistent with guidelines and standards contained in presently existing applicable regulatory statutes and rules. The District's discretion in developing the SWIM Plan is only as broad as its legislative mandate contained in the Marjory Stoneman Douglas and SWIM Acts. Neither of these Acts allows the District to contract away its discretionary authority as the District has done in the Settlement Agreement.

The Governing Board should also be advised by District staff that the Fourth District Court of Appeals has entered a stay prohibiting implementation of the Settlement Agreement. The current Plan clearly is designed to implement the Settlement Agreement and contains large components, sometimes lifted verbatim, from the Settlement Agreement. This would appear to violate the present stay. Thus, the SWIM Plan should not, and probably cannot, adopt the mistakes and provisions of the secretly negotiated Settlement Agreement.

SUGGESTIONS AND REQUESTS

The League supports the District in its efforts to meet the goals and objectives defined in the Surface Water Improvement and Management Act, and the Marjory Stoneman Douglas Act. The League has and will continue to take the position that the members of the League are willing to work to improve their water management practices and to pay their fair share of funding for reasonable and feasible programs demonstrated to promote and achieve the goals of short and long-term protection of Everglades resources. For example, see the 1990 Comments.

The League believes that implementation of the Plan in its current form will not achieve protection of the Everglades, and will squander much of the limited state and private monies to satisfy the often arbitrary, technically flawed and politically dictated demands of the Settlement Agreement. If such an approach, focusing exclusively on implementing the technically unsound Settlement Agreement proceeds, hundreds of millions of dollars will be spent on a solution which your own staff has stated is not an

Everglades restoration program. We, therefore, request that the Governing Board:

1. Determine SWIM Plan programs without regard to the flawed, illegal requirements of the Settlement Agreement.

The League respectfully requests that this Board fulfill its obligations under Chapter 373, Florida Statutes, without regard to the mandates of the Settlement Agreement. The Board should revise the current settlement-defined draft of the Plan and direct staff to develop an Everglades SWIM Plan which analyzes needs of the Everglades, and propose a concrete plan to address all significant problems including hydroperiod, melaleuca, flood control, water supply, and others. The SWIM analysis must be made free from the encumbering chill the federal litigation and Settlement Agreement have placed on the Everglades SWIM process since 1988.

The Board should direct its staff to look beyond the Settlement Agreement and explore alternatives which will fully address the real problem in the Everglades--the hydroperiod manipulation necessitated by the federal and state balancing of regional water supply, flood control and environmental needs over the last forty years.

2. The Board should dictate the release all still-withheld documents or data to the public.

The League respectfully requests that the Board instruct its staff to make available to the public all of the technical information considered in the formulation of the Settlement Agreement and this Plan and its programs. Only then can there be any meaningful public input, or can this Board fully assess whether the Plan is adequate. Claims of confidentiality must fall in the face of SWIM regulatory provisions dictated by DER staff's attempts to implement the Settlement Agreement.

The League also requests that the Board direct staff to take all actions in public and to invite real public input. Attempts to continue to perpetuate secrecy and the exclusion of the regulated community from regulatory decisions must be halted. The decisions reflected in the SWIM Plan will directly and substantially affect agricultural activities in the EAA. Please don't let staff delegate to committees, individual Board members or other agencies, the important public policy decisions that will be reflected in the EAA SWIM Plan. This was done in the Settlement Agreement and we are all now paying the price. The problems facing South Florida can only be resolved through cooperative efforts of all those

involved. Secret negotiations behind closed doors based on untested facts and unproven assumptions can only lead to a continuation of protracted litigation, unnecessary acrimony and, in the end, will only damage the Everglades by preventing or delaying any reasonable, well thought out solutions.

3. Request for Point of Entry

The EAA is the primary regulatory target of the Settlement Agreement and, therefore, the Plan. The League and its members will be substantially and adversely affected by provisions of the Plan and its implementation. We therefore request, pursuant to Section 120.57, Florida Statutes, notice and a point of entry to dispute the erroneous material facts on which the Plan is predicated through a formal administrative proceeding.

The Board should also be advised that the League and other farming interests have also offered substantive comments on the prior draft of the Plan. The comments of the League, S. D. Sugar Company, South Bay Growers, Inc., New Hope South, Inc. and other farming interests are also incorporated by reference, and attached hereto as Attachment A ("1990 comments"). Most of the questions raised in those comments remain unanswered, and are equally applicable to the extant draft of the Plan.

We also ask that the Board be informed of the pendency of the League's petition to dispute the "Settlement Agreement." As you probably recall, we asked the District and were denied the right to a public hearing to dispute certain facts and regulatory policies in the Settlement Agreement prior to its approval by the Governing Board. Since the current draft of the Everglades SWIM Plan essentially restates most of the terms of the Settlement Agreement and appears intended to implement the Settlement Agreement, the legal issues and material factual issues raised in the League's earlier petition are equally applicable to the Everglades SWIM Plan. In other words, we respectfully advise the Board that we must dispute the same facts and issues specified in that prior request for a hearing insofar as the same facts and policies are contained in the current SWIM Plan. For purposes of convenience, we have attached a copy of the League's July 22, 1991 Petition for Formal Administrative Hearing Pursuant to Section 120.57(1), Florida Statutes, to Dispute Material Facts as to Agency Action Determining Substantial Interests and the factual disputes and legal issues raised therein are incorporated herein by reference as Attachment B.

We sincerely thank you for the opportunity of commenting on the present SWIM Plan. The League seeks only an open and balanced SWIM Plan which addresses all Everglades problems and is not predetermined by the terms of the secretly negotiated and technically flawed Settlement Agreement. Thank you.

Sincerely,

FLORIDA SUGAR CANE LEAGUE

A. H. Rackley

Anderson H. Rackley
Vice President and General Manager

cc: All Governing Board Members

Attachments

City of Belle Glade

BELLE GLADE MUNICIPAL COMPLEX
110 S.W. AVENUE E
Belle Glade, Florida 33430
TELEPHONE (407) 996-0100 / Fax 992-9619
OFFICE of THE CITY MANAGER

LOMAX HARRELLE

November 27, 1991

VIA FAX

South Florida Water Management
District, Board of Trustees
Post Office Box 24680
3301 Gun Club Road
West Palm Beach, Florida 33416-4680

Re: City of Belle Glade, Florida
Comments to proposed Everglades SWIM Plan

Gentlemen:

The City of Belle Glade, Florida, submits the following comments to the proposed Everglades SWIM Plan:

OUTLINE OF COMMENTS TO EVERGLADES SWIM PLAN

1. The interests of the City will be substantially affected by the proposed agency action contained in the SWIM Plan. Florida Statutes, chapter 120 requires that the SWIM Plan provide a clear point of entry at which a party whose substantial interest will be affected can adjudicate any disputed material facts and proposed agency action. The City requests that the SWIM Plan be modified to provide a clear point of entry.

2. The current SWIM Plan is fundamentally different from the earlier versions of the SWIM Plan, particularly the SWIM Plan of September, 1990. The District has not included any new information or data in the SWIM Plan to justify this change. The only basis for the change appears to be the settlement agreement. The earlier SWIM Plan found that water quality into the Park was good and that no adverse impact had been shown. The current SWIM Plan at Volume I, page 98, states that surface water entering the Park contains excessive nutrients which are being accumulated in the soils and sediments downstream from Park water delivery structures. The current SWIM Plan represents a major shift in the District's technical position by emphasizing the harm resulting from increased phosphorus in the soils. There is, however, no new data presented in the SWIM Plan that would support such a shift.

3. The SWIM Plan states that the vegetative communities in the Refuge and Park have been highly impacted by the construction and operation of the Federal Central and Southern Flood Control Project (Supporting Information Document at p. 118). The SWIM Plan also claims that total phosphorus concentration has significantly affected vegetative communities. The SWIM Plan, however, does not even attempt to separate out the relative importance of these two and other possible factors. The SWIM Plan only focuses on remedies for the total phosphorus problem. The SWIM Plan only focuses on remedies for the total phosphorus problem. The SWIM Plan needs to be more balanced in dealing with all possible factors and allocate the available resources to deal with each factor. Attempting to solve only one aspect of the causative factors will result in a failure to solve the entire problem.

4. Congressional purposes in authorizing the Central and Southern Florida Flood Control Project is misstated. House Document 643, and Corps of Engineers planning documents clearly state that construction of the Project was authorized to provide flood protection for the municipalities (Clewiston and Belle Glade) lying in the wake of Lake Okeechobee. Planning Document at p. 3, B. 1.

5. The SWIM Plan at p. 8, D. states that "final cost estimates for each project listed will be determined...". Cities are unable to address what beneficial aspects may be present and their affect on municipal resources where no funding or cost projections, nor economic impact statements, have been prepared for SWIM Plan projects.

6. The SWIM Plan states the District will implement "mitigation measures" to offset flow reductions to the Everglades Protection Area, but does not describe what and how mitigation measures will be applied (Planning Document at p. 9, D.3). The District fails to address that hydroperiod must be maintained to assure adequate water supply and flood control for municipalities (Planning Document at p. 10, D.3).

7. The absence of adequate water supply planning, leaving regional water supply issues to be addressed in the future, is a missing element that adversely affects local resources. Without a balanced management plan, including appropriate water supply planning incorporated into the SWIM Plan, the adverse effects on local resources exceed any anticipated benefits. While the District recognizes that conflicts over competing demands will be addressed in finalizing additional plans, at a later date, the Legislature requires that plans and programs to protect water bodies be accomplished with local government input in an integrated process. The Cities recommend that the SWIM Plan be modified to include an analysis of long-range regional water

supply planning.

8. District's development of a model to "simulate changes in vegetation and water quality in response to various water management alterations" should consider surface water flow and water level requirements for providing adequate water supply and flood protection for municipalities.

9. Florida Statutes, § 373.453 and § 373.4592(3) set forth the criteria which the SWIM Plan must incorporate in order to meet the requirements of Florida law. Specifically, the Douglas Everglades Protection Act requires that the SWIM Plan establish programs and projects to restore the Everglades hydroperiod. The current version of the SWIM Plan provides no programs or projects to restore the Everglades hydroperiod. Most of the SWIM Plan deals with water quality programs, the content of which is a mere duplication of the conditions of the proposed settlement agreement in United States v. South Florida Water Management District, et al., Case No. 88-1886-CIV-Hoeveler, United States District Court, Southern District of Florida. The SWIM Plan does not implement the Douglas Everglades Protection Act but, in fact, implements the settlement agreement.

10. The SWIM Plan states that the Everglades Agricultural Area ("EAA") does not "share adversity" during times of drought or flood, but rather freely discharges flood waters to the WCAs and is never denied irrigation water. (Planning Document at p. 31). The District implies that EAA water use has been excessive while the lower east coast has been damaged by drought and the WCAs and the Everglades National Park ("Park") have suffered from excessive drying. The SWIM Plan should point out that the EAA suffers flood damage, that the EAA is subject to water use restrictions more severe than those imposed on urban areas and that the EAA is a net producer of water.

11. The District's attempts to implement the settlement agreement via the SWIM Plan has resulted in an insufficient consideration of alternatives to creation of the STAs and implementation of the proposed regulatory program. The District should explore other alternatives before committing itself to the costly approach of constructing and operating STAs, which approach might prove to be ineffective.

12. The SWIM Plan's treatment of the hydroperiod issue is inadequate. The SWIM Plan's promises that it addresses hydroperiod are never adequately fulfilled. Many of the "strategies" are stated as things that "should" be done and the few actions that are set forth are not directly related to hydroperiod. Only two projects directly related to hydroperiod are listed as proposed Everglades SWIM Projects (Planning Document at p.v). These represent only 0.5% of the SWIM Project's

budget. Only one of the projects provides actions to actually correct hydroperiod problems and these are limited to the C-111 Basin.

13. The SWIM Plan does not adequately address several critical issues including the following:

a. The relationship between hydroperiod and nutrients as both items relate to the environmental conditions in the Park and Refuge. The technical data included in the SWIM Plan is not sufficient to determine the relationship between these items and to verify the primary source of the vegetative changes purportedly identified in the Park and Refuge.

b. The SWIM Plan does not contain a sound technical basis for the projected phosphorus uptakes for the STAs.

c. The SWIM Plan needs to address whether the programs dictated by the SWIM Plan will cause adverse effects on water supply and flood control within the region.

d. There is not sufficient technical data to determine whether the programs dictated by the SWIM Plan will actually work, i.e. prevent imbalances in natural populations of aquatic flora and fauna in the Park and Refuge.

e. There is a lack of supporting technical data to determine whether the phosphorus concentration limits and levels set out in the SWIM Plan are reasonable and necessary to protect the Park and Refuge ecosystems.

f. The SWIM Plan does not identify the threshold level of phosphorus concentration that will trigger an adverse imbalance of flora and fauna in the Park and Refuge ecosystems.

14. We object to the concept of the Technical Oversight Committee (TOC) as stated in the SWIM Plan. The District's authority to establish the TOC should be set forth in the SWIM Plan. Moreover, if such a committee is going to exist, all interests should be equally represented and the committee should only have advisory powers. The proposed composition of the TOC does not provide the regulated community with any representative and the federal interests have disproportionate voting power. in the event there is a dispute among TOC members, this dispute

should be resolved by the Board and not under the "settlement of disputes" process outlined in the settlement agreement. The SWIM Plan contemplates that the TOC will establish total phosphorus concentration limits that will be binding presumably on the District and the regulated community (Planning Document at p. 102). This procedure is contrary to Florida law.

15. The SWIM Plan contains a number of financial estimates concerning construction, operation and maintenance of the STAs, as well as the impacts from implementation of BMPs. The SWIM Plan does not contain any support for the numbers presented. We question the validity of these estimates.

16. The STAs were apparently designed to "treat" the volume of flow measured during the 1979-1988 base period (Planning Document at p. 11, 4). This was a drought period as shown by the District's own data. If the District's goal is to treat all water from the EAA as stated in the SWIM Plan (Planning Document at p. 105), then it is unreasonable to design the system based on a drought period.

17. The SWIM Plan is inadequate in areas dealing with water supply issues. The SWIM Plan states that water supply issues will not be addressed until 1992. However, the Douglas Everglades Protection Act requires the SWIM Plan to adjust hydroperiod restoration which cannot be accomplished without a clear understanding of water supply.

18. The SWIM Plan repeatedly asserts that total phosphorus concentrations must be reduced to 50 ppb to prevent violations in water quality standards. However, the SWIM Plan also states on page 125 that the District must undertake a research program to determine what total phosphorus levels actually cause violations of the standards. There does not seem to be any scientific basis for the 50 ppb design criteria of the STAs or the Park and Refuge limits.

Very truly yours,

Lomax Harrelle
City Manager

cc: Honorable Mayor and Commission

FLORIDA DEPARTMENT OF NATURAL RESOURCES

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399

Virginia B. Wetherell, Executive Director

Lawton Chiles
Governor

Jim Smith
Secretary of State

Bob Butterworth
Attorney General

Gerald Lewis
State Comptroller

Tom Gallagher
State Treasurer

Bob Crawford
Commissioner of Agriculture

Betty Castor
Commissioner of Education

November 26, 1991

Mr. Tilford Creel, Executive Director
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Dear Mr. Creel:

We have reviewed the Draft Surface Water Improvement and Management Plan for the Everglades. Enclosed are the Department's comments.

We look forward to working with the South Florida Water Management District to implement SWIM projects of mutual interest.

Sincerely,

Virginia B. Wetherell

Virginia B. Wetherell
Executive Director

VBW/cb
Enclosure

COMMENTS ON EVERGLADES
SURFACE WATER IMPROVEMENT AND MANAGEMENT PLAN

Planning Document

Page 38: Paragraph 2 states that freshwater releases that have occurred from the C-111 Basin may impact coastal estuaries. Monitoring and research have made it clear that such releases have adversely affected the estuaries. We recommend changing "may impact" to "have impacted".

Page 67: Under Marina and Boat Facilities, investigations should also include the impacts associated with increasing numbers of live aboard vessels that anchor in the poorly flushed bays and sounds of eastern Florida Bay, Barnes and Card Sounds, and Manatee Bay. We concur with the proposal to require marina facilities to have operating permits.

Page 67: Under Septic Tanks, it would be appropriate to evaluate septic tank efficiency and optimum density factors on Key Largo limestone and Miami Oolite strata. Exploration of more efficient alternative or conversion technologies, such as the STEP system and dry composting, for single-family residential use should also be encouraged.

Page 67: Under Non-Point Sources of Pollution, the continued use of cess pits in older construction and shallow well (bore hole) injection of secondary treated sewage, especially in the Keys, should also be investigated. It is not clear whether smaller capacity package treatment plants are covered under the point source category.

Page 72: The goal for human activities includes avoiding environmental impacts from "incompatible commercial activities". This suggests that only commercial activities might be incompatible. We recommend deleting "commercial".

Pages 74 and 132 reference development of an oil drilling and exploration policy for the Water Conservation Areas to be coordinated with the DNR. On May 8, 1990, the Board of Trustees of the Internal Improvement Trust Fund approved a policy prohibiting exploratory or production drilling and geophysical testing for oil and gas on state-owned lands in the Water Conservation Areas. Chapter 18-2, Florida Administrative Code is currently being amended to incorporate this policy.

Page 77: We endorse the proposals included in Everglades Research Goals, Objectives and Strategies beginning on page 77. Nutrient thresholds are valid parameters to ascertain whether present state water quality standards are adequate to protect

tropical oligotrophic systems. Measurable parameters for specific nutrients and acceptable cumulative impact levels from multiple sources need to be defined for fresh, estuarine and marine waters. We recommend that sediments be studied as part of this research. Nutrients are not the sole source of pollution/contamination. Mercury, pesticides and other chemicals present in water borne sediments may potentially cause more harm than the nutrients. Since there are proposals to study nutrient loading in soils, it would not seem overly burdensome to include other contaminants in a monitoring program, which was suggested on page 346 of the Supporting Information Document.

Page 85: Although mercury contamination is discussed in other areas of the plan (page 127 under programs and projects for initial implementation), Table 3, Summary of Issues, Goals, Objectives, Strategies and Projects, includes no specific goals or strategies which identify a course of action, investigation or coordination for this issue.

Page 91: As public lands stewards, managers and researchers, the Department of Natural Resources should be included on the Technical Oversight Committee. Staff from the Divisions of Marine Resources, State Lands and Recreation and Parks may be of assistance in the Research Group structure. Given the importance of the Holey Land and Rotenberger tracts in the plan, the Game and Freshwater Fish Commission, managers of this land, should also be considered for the committee.

Page 94: We support the plans to increase and regulate sheetflow in the Holey Land and the Everglades Protection Area. However, it is improbable that sheetflow will be maintained during times of drought. If water continues to be processed through the Stormwater Treatment Areas and the nutrient loads are reduced, these areas should benefit. However, when drought levels occur, pumping water from the treatment areas could be done prematurely, which could cause increased nutrient levels, leading to an imbalance. The same could occur during times of flooding, when the treatment areas might need to be drained prematurely. Another concern is that inflows to the Holey Land will begin before there is any significant reduction in phosphorus loadings. The discharge of high phosphorus loads and other pollutants to the Holey Land will require the Water Management District to monitor closely the invasion of cattails and to adhere strictly to the 2,000 acre threshold of new cattail growth, which would trigger a reevaluation of the interim schedule.

Page 95: The C-111 program will promote overland distribution of flow to the Everglades National Park, restore water levels to over-drained marshes and reduce the salinity impacts on marine biota on downstream estuaries. The problem once again is the

fact that high concentrations of nutrients and other pollutants are transported in the water column of the canal, and to dispose of this high nutrient water into the Park will require extensive monitoring of the invasion of cattails in existing native marsh lands.

Page 102: There is no discussion of what is planned if the Stormwater Treatment Areas are functioning properly and the soils and vegetation become overburdened, thereby limiting or preventing their filtering capability.

Page 106: The plan discusses alternative options for acquiring land for the Stormwater Treatment Areas, which include use of state-owned lands. The Board of Trustees has made no final decision on the disposition of state-owned lands in the Everglades Agricultural Area, and, as the document says, the Water Management District is presently negotiating with the State to pursue land swap, purchase and other options. We will continue to work with the District on behalf of the Trustees to determine the best use of these lands.

Although Brown's Farm is located within the Everglades Protection Area (it will abut STA-2), little reference is made to incorporating this area into plans for hydroperiod restoration. While it may not be a priority now, future revisions of the plan should address this area if restoration efforts can benefit or will negatively affect the Game and Freshwater Fish Commission's management of Brown's Farm.

Page 110: As discussed above, sediment monitoring should be included under the monitoring program scope.

Page 113: The Everglades Agricultural Area (EAA) landowners will eventually be responsible for monitoring quality of the water from the pump-out stations from their lands, while the Water Management District will be responsible for monitoring the pump-out stations into and out of the Stormwater Treatment Areas. The District should provide a check that the EAA landownwers are meeting their responsibility.

Page 124: In discussing the water quality monitoring in Florida Bay, we recommend adding at the end of paragraph 3: Additional cooperation will occur with the Florida Keys National Marine Sanctuary, particularly with the water quality program. We strongly support the proposals for additional biological monitoring in Florida Bay.

Page 125: We concur with the proposals under Research to Interpret Class III Water Quality Standards. However, the research should include marine and estuarine waters and sediments within the study area.

Page 130: We support the proposals for melaleuca control, as they reflect the work of the Melaleuca Task Force, of which we are a member. We do recommend that management of exotic species be shifted to a higher priority, as all of the other efforts in trying to restore a more natural Everglades may be in vain due to extreme ecological damage that will be caused by invasive exotic vegetation in this system.

Support Document

Pages 286 and 405: The tables on these pages are in conflict and in error. On page 286 the manatee is listed as "endangered" by the federal government and "threatened" by the state. On page 405 it is listed as "threatened" by the federal government and "endangered" by the state. In fact, the manatee is both a federal and state listed "endangered" species.

Page 404: Following are some corrections in paragraph 2 on manatees: The total number of manatees (Trichechus manatus) in Florida is estimated to be ~~about 1,200~~ at least 1,465, a population which is roughly equally split between the Atlantic and Gulf coasts (with slightly more animals on the Atlantic coast). This population count is based on a synoptic aerial survey of the state's manatee population performed by DNR in February 1991. There is marginal interchange between the east and west coast populations. ~~Populations on the Atlantic and Gulf coasts are believed to be isolated. The number of animals on the Gulf coast is about 350 to 400. The principal reasons for reductions in the manatee population in Florida are 1) propellers of powerboats, 2) vandalism, 3) poaching, and 4) habitat destruction (Pritchard, 1970).~~ The greatest known causes of manatee mortality are human related; of these, collisions with watercraft account for about 80% of the deaths. Irvine et al. (1981) surveyed manatees of the west coast of Florida. ENP represents the southern limit of that population. They noted several individuals entering Whitewater Bay in the winter months. More recently, biologists at ENP have performed manatee surveys.

Page 408: The document should acknowledge the existence of the Florida Keys National Marine Sanctuary.

SIERRA CLUB The Florida Chapter

2205 Croydon Rd.
Tallahassee, FL 32303
25 November 1991

South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33416-4680

Dear Mr. Whalen:

Thank you for the opportunity to review the October Draft Everglades SWIM Plan. Attached are the comments of Florida Chapter of the Sierra Club's comments on the plan. We look forward to receiving the final plan. Also, the Club expresses its interest in serving on any Oversight or Advisory Committees that are established with regards to plan implementation.

Sincerely,

Craig Diamond
Everglades Chair, Florida

COMMENTS FROM THE SIERRA CLUB, FLORIDA CHAPTER,
REGARDING THE DRAFT EVERGLADES SWIM PLAN

Overall, the plan is good and is ambitious and of course requires more work. The supporting documents are very helpful and provide comprehensive summaries of most of the data available on the EPA.

The Club wishes to emphasize that water management options and considerations should be made in recognition that protection of the remaining healthy ecosystems and restoration of impacted wetlands is the principle basis for SWIM planning. While this is stated in the text in several places there are many instances in the plan where water management decisions are apparently driven by sub-regional concerns, water supply for agriculture or the lower east coast in particular. Pursuant to Governor Chile's statements last winter, the SFWMD must take the lead in demonstrating that water allocation in south Florida will be based first on environmental protection and ecosystem needs and second on the needs associated with the human-based economy. The long-term health and sustainablility of the entire region is predicated on proper resource management and restoration. The ramifications of prioritizing water management by other standards should be fully explored in any and all instances and put on paper as part of the long term planning process. There are a number of lesser points addressed below.

a) Total research and monitoring costs of EAA-related projects are less than 1.8 percent of the total costs, and monitoring of the District works is less than 0.5 percent of total costs. This is an unreasonably low estimate.

b) The plan makes evident that past solutions to regional problems, (e.g., Lake Okeechobee) were partial in scope and made problems worse for downstream components. Including the Conservation Areas into the Everglades SWIM plan is an appropriate step; however, the relationship to Lake Okeechobee and upstream elements of the watershed remains neglected. The plan suggests that the overlap of the Glades and Lake SWIM plans (part of the EAA) represents a source of conflicts. It is our belief that this location presents a locus for goals and strategies that would reduce conflict among plans. Systematic review of the goals for the independent plans should clarify this perceived problem.

c) The Club has never supported the use of the STAs as water quality improvement devices; "STA" is a misnomer given the nature of most discharges to these areas. However, the role of STAs in terms of regional water supply, functional wetlands, or habitat is not adequately addressed. The STAs may serve as experimental restoration areas which could be implemented throughout the EAA in the future. The use of STAs in terms of peat creation will be critical when dealing with phosphorus retention and residence time.

d) In the Planning Document the discussion of data related to Environmental Resource Mgmt. issues is weak relative to other components. While the WMD's responsibility is water, there is much field data available on communities in the WCAs and ENP that could be summarized and included. This information would include current estimates on acreages and habitat quality. This information bears heavily on water management and water quality. Also, as property managers for the WCAs (in conjunction with USFWS and FGFWFC), the issue of burns, prescribed and natural, was not addressed well.

e) The summary of Issues, Goals, Objectives, and Strategies is very helpful and that portion of the planning document is good. We suggest that in the spirit of comprehensive planning in Florida that some schedule of activities be identified in each section thus committing the SFWMD to rough timelines for accomplishment. Where capital improvements are to be made in support of any activities specified, estimates should be provided as well as an indication of sources of funding and any anticipated shortfalls. This section of the document needs to be tied more realistically to the schedule of funding reporting in section V.

f) It would have been worth the effort to indicate the effects on regional hydrology and habitat without the plan. In addition to monitoring the impacts on the environment as the plan is implemented, estimation of the effectiveness of various strategies (independently and in combinations) could be tested for feedback and refinement of the plan as a whole for the next cycle.

g) A column for regional averages of parameters, i.e., an arithmetically average or flow weight of the data reported across the inflows to the ENP, should be provided in Tables C-23 through C-27.

h) There is a continuous typo, "por" for what is probably "period" in Appendix E.

i) We need more time to fully assess the methodogy for phosphorus limits. However, we expect that soil concentration and habitat data will be incorporated eventually into the P model. Basing interim and long term limits purely on inflow character does not account for P dynamics. The proposed limits are commendable, relative to current system behavior which is increasing concentration in inflows. Some recognition of concentrations recorded prior to OFW designation would be appropriate, however, and would affect the chosen limits strongly.

j) The plan presumes that STAs will be responsible for most of the improvement in water quality. There is no active discussion of BMPs (e.g., what they might include, what impacts they may have, etc.) for the EAA. These are alluded to, but the plan places no further responsibility for water management within the EPA on the EAA.

U.S. Department of Justice

Environment and Natural Resources Division

Office of the
Deputy Assistant Attorney General

Washington, D.C. 20530

December 2, 1991

Mr. Tilford Creel
Executive Director
South Florida Water Management District
3301 Gun Club Road
P.O. Box 24680
West Palm Beach, Florida 33416-4680

Dear Mr. Creel:

This letter provides the South Florida Water Management District with the United States' unified comments on the September 24, 1991 Everglades SWIM Plan. Comments on specific sections of the Plan supplement the general comments presented in this letter.

The September 24 draft SWIM Plan is a vast improvement over the District's earlier SWIM Plan drafts. As you know, the United States has emphasized for some time the need to address the severe water quality problems facing the Everglades, in particular nutrient-related degradation of the Loxahatchee National Wildlife Refuge and Everglades National Park. The United States generally supports the District's plan to implement more extensive regulation of agricultural drainage in the Everglades Agricultural Area and Stormwater Treatment Areas (STAs) in order to meet strict interim and long term phosphorus concentration limits and levels in the Park and Refuge.

The United States understands that the SWIM Plan represents the District's initial step toward protecting and restoring Everglades resources. The scientific case is clear for taking the aggressive first moves presented in the SWIM Plan for eliminating nutrient degradation of the Everglades. The United States supports the District's plan to pursue expanded research, monitoring and other efforts to augment the existing state of knowledge of the Everglades system and the impacts of efforts to manage it.

Several areas where the need for additional planning and study is already pressing are apparent. Water supply management issues will need to be integrated closely with water quality issues as the SWIM Plan is implemented and the full impacts of the water management scheme on Everglades resources

are better understood. Although the Everglades study area serves numerous purposes, the United States believes those purposes can be harmonized and are not necessarily conflicting. In addition, more specific information on the best management practices anticipated for the EAA should be included in the SWIM Plan now and supplemented as it is more fully developed. Information on the integration of compliance and enforcement programs with proposed regulatory and research and monitoring programs is also critical to the Plan and should be included expeditiously.

The United States notes that the Supporting Information Document of the SWIM Plan is generally too tentative and not entirely consistent with the Planning Document. The United States assumes that the Planning Document, which the United States generally supports, sets forth the principles that guide the other documents in the Plan. The Supporting Information Document appears to be very similar to Volume III of the Everglades SWIM Plan dated September 12, 1990, several aspects of which the United States found objectionable. The United States adheres to those objections presented in previous SWIM comments to the District that continue to apply to many portions of the Supporting Information Document. Those portions of the Supporting Information Document that retain objectionable sections of earlier SWIM Plan drafts should be revised to be made consistent with the Planning Document.

The United States looks forward to working closely with the District in a spirit of cooperation as the District implements the SWIM Plan and initiates urgently needed action to restore and maintain the invaluable resources of the Everglades.

Sincerely,

Myles Flint
Deputy Assistant Attorney General
Environment and Natural Resources
Division

cc: Carol Browner

SPECIFIC COMMENTS

A. Planning Document

Page iii, v.
Under "Research Program", "determination of Class Water quality standards" should be "numerical interpretation of Class III water quality standards." This same change should be made in Table I under "Research".

Page iv, 137, "Federal Contributions".
These pages propose using a portion of a federal sugar subsidy to pay for the cost of implementing the SWIM plan. This is based on a misunderstanding federal price support programs that benefit sugar producers in Florida. Specifically, there is no federal sugar subsidy or any other program benefitting the Florida sugar industry that involves a direct cost to the federal government. However, federal import quotas that control domestic sugar prices may enhance the ability of the Florida sugar industry to contribute to the funding of Everglades SWIM programs.

Page 2, "SFWMD Structures Permits Application".
Tracking the Marjory Stoneman Douglas Everglades Protection Act, this section notes that the District's permit application shall include "proposed interim concentration levels designed to achieve such compliance to the maximum extent practicable." The SWIM Plan should make clear that the proposed interim concentration levels in the Plan meet this practicability criterion.

Page 3, and the list of abbreviations with definitions.
This is the first use of the term Best Management Practices (BMPs). Some definition or clarification would help the reader to understand BMPs. We suggest the following definition of BMPs, as used in the SWIM Plan: "Practices or combinations of practices that are effective means of reducing pollutant discharges from agricultural land to a level compatible with water quality requirements."

Page 3, "Existing Conditions".
This paragraph should mention the Loxahatchee National Wildlife Refuge and the Everglades National Park, and note that the Park's authorizing statute in 1934 included a preservation mandate that has been in effect ever since. Thus, environmental protection of Everglades natural resources is not a recent priority. In addition, the ninth line down should read "coastal areas, and flood protection for agricultural and urban development . . . ."

Page 4. "Purpose of the Everglades SWIM Plan", 1st para.
This paragraph should note the extensive advice and comment that various private interests, including the agricultural community, have provided in the development of previous SWIM Plan drafts, on which much of the present draft is based.

Page 4.
Under "Major problems confronting the Everglades system . . .", it should be noted that long-term discharges of nutrient-enriched water into the WCAs, along with other phenomena, not only threaten but in fact have already caused changes in existing vegetative species composition. This comment applies also to the first paragraph on page 32.

Page 5, final para.
The purposes for the WCAs are not necessarily conflicting. The goal of the SWIM plan should be to harmonize the purposes of the WCAs as much as possible.

Page 8-9, "Areas in Need of Preservation and Restoration".
This section is somewhat confusing in that it suggests incorrectly that Class III standards apply only to degraded areas. This should be clarified. Also, in the last paragraph of this section, the fact that water quality data are limited for the regions mentioned underscores the need to conduct further research and monitoring to determine whether the water quality in those regions meets applicable state standards.

Page 9, "Technical Oversight Committee"
It should be mentioned that the TOC will be an advisory committee and will have no binding authority over the represented agencies. Also, it should be noted that TOC meetings will be conducted with extensive opportunity for public participation. FDER should be DER to be consistent with the list of abbreviations. Also, the membership of the TOC should be described consistently throughout the Plan (e.g. pp. 19, 91).

Page 10, "Water Quality".
The second paragraph does not make clear that the MSD Act requires recommendation of long-term ambient phosphorous concentration levels and phosphorous discharge limitations that will meet state water quality standards, regardless of practicability. The practicability criterion applies only to interim levels.

Page 11, third paragraph.
In discussing the operation of the STAs, it should be noted that stored water in the STAs occasionally could be brought back to the EAA for irrigation, especially if water with

unusually high concentration of phosphorus has entered the system.

Page 11, fourth paragraph.
It should be made clear here that implementation of more intensive management of STAs will not be the sole additional remedy implemented if concentration limits and levels are not met.

Page 28, "Use of the Everglades to Transmit Water".
We suggest replacing "Everglades" in the header to "Water Conservation Areas (WCAs)".

Page 31, Second paragraph
In assessing future EAA water supply needs, it must be noted that maintaining elevated water levels in the EAA will be critical for reducing phosphorus loads.

Page 36, "Water Quality Impacts on Everglades Habitat".
This section, or a separate section, should mention the nutrient-related impacts that have been documented in the Refuge.

Page 45, Regional Options.
The Corps of Engineers, in cooperation with SFWMD, has some efforts underway to improve the system. These include studies or design memorandum on C-51, Hillsboro Canal, C-111, and Bolles and Cross Canal.

Page 54, "Support of Agricultural Interests".
The "special efforts" for education of agricultural interests suggested in this paragraph should be planned affirmatively, rather than suggestively. The SWIM Plan is an appropriate means for describing definite plans for this sort of outreach, which relates directly to the water management issues addressed in the Plan.

Page 58 and 59.
Meeting applicable state water quality standards should be included as a management goal for the WCAs. All the basins are listed except EAA. What are the objectives for the EAA? The EAA goal might be stated as "reducing discharge of nutrients from the EAA to the EPA while maintaining a viable agricultural community."

Page 61, paragraph c.3, "Releases into the ENP".
What kinds of improvements to the S-12's are needed?

Page 63, "Water Quality Objectives".
The Plan should be more specific in identifying the 14 interior marsh stations (CA-3 to CA-16) and the three stage-gage stations (CA1-7, CA1-9, and CA1-8C) that will be used

to determine compliance with the interim phosphorus levels with in the Loxahatchee National Wildlife Refuge. This might be achieved here by referencing supporting information elsewhere in the Plan. However, it would be appropriate to summarize here the long-term levels applicable to the Refuge. Also, LWNR should be LNWR in the heading.

Page 65, "Other parameters".
This paragraph indicates that the District will develop appropriate standards for other water quality parameters. The term "standards" appears to be inappropriate here.

Page 76, "Water Quality Compliance".
The second line of this paragraph should read "concentration standards, narrative water quality standards and water delivery schedules . . . ."

Page 77, Paragraph F, "Everglades Research Goals, Objectives, and Strategies".
The Water Resources Development Act of 1988 authorized the Corps to develop and operate hydrologic and ecologic simulation models in the Central and Southern Florida area. The Jacksonville District is completing a Reconnaissance Report on this subject that is scheduled to be submitted to South Atlantic Division in November 1991. These projects could be mentioned in this section.

Page 86, Table 6, Column "Issues".
Should state "Backpumping to protect urban and agricultural areas"

Page 93, Paragraph 2, "Flow and Water Level Requirements for the Everglades".
The plan states implementation of minimum flows and level requirements for the Everglades will probably be set by rule. In addition, Corps of Engineers' water control plans and regulation schedules for the C&SF Project might have to be revised, although it would be far too speculative at present to predict specific changes that might be necessary. Also, minimum deliveries to Everglades National Park are subject to federal law.

Page 96, top partial paragraph
The structure used to raise water levels may raise water tables in the agriculture area. In the design, profiles of the water table versus design of new surface water profiles need evaluation to assure adequate aerobic soil profile for crops.

Page 103, Table 11.
The headings in this table appear to be reversed.

Page 104-106, percentage calculations.
The percentage figures are confusing. The Plan should show the following calculations:

Assume 100 Units.....	100
Less 6% with land use changes.....	-6
Remaining = ...	94
25% reduction from BMPs 94 * .25 = 23.5	-23.5
Remaining = ...	70.5
STA reduction of 70%; 70.5 * .7 = 49.35.....	-49.4
Remaining = ...	21.1
Percent reduction:	78.9%

Therefore, the combined STA/Regulatory Program will achieve a phosphorus reduction of approximately 80%.

Also, not all of the acreage listed for STA-1 on p. 105 will be operational by 1997.

Page 115, ""STA Performance Monitoring".
The STAs should be monitored for pesticides, herbicides and heavy metals and other appropriate water quality parameters, such as dissolved oxygen, pH, total suspended solids, etc..

Pages 137, 138, 139, "Project Costs and Funding Levels".
As Figure 10 of this section depicts, 78% of the funding sources for the Everglades Restoration Projects are to be derived from what is called "Primary Sources". Many of these sources appear tenuous, in that the fiscal resources must be obtained by legislative action or the assertion of an implied discretionary authority by the district. The District should commit more affirmatively to courses of action it will take to pursue funding, e.g. "The District will use its authority to establish stormwater utility fees, etc."

B. Supporting Information Document.

Page 7, Table 2.
The Flood Control Act of 1968 (PL 90-483) should be included. H.D. 90-363 recognized that preservation of Everglades National Park was a project purpose of the C&SF Project. The Park's preservation mandate also could be mentioned under notes on the Everglades National Park authorization statute of 1934.

Page 10, Table 4.
There are other authorizations that we believe are pertinent. Pl. 98-181, Pl 99-190, PL 101-229, and PL 102-

104 pertain to Everglades National Park water supply and should be included in Table 4. Some general authorizations are the Flood Control Acts of 1936, 1938, 1941, and 1944; the Fish and Wildlife Coordination Act of 1958; the National Environmental Policy Act of 1969; the Endangered Species Act of 1973; and the Water Resources Development Act of 1990.

Page 13, 4th paragraph.
The criteria for the project are contained in the Operations and Maintenance Manual, Water Control Plans, and Water Control Manuals.

Page 14, "Water Supply".
The State is responsible for allocating water supply releases from project storage, except where specified by federal law. The Corps considers the authorized water supply purposes in determining the regulation schedules and operating criteria for the C&SF Project.

Page 17, "Everglades National Park Water Quality Monitoring Agreement".
Congress in S.D. 91-895 directed that Corps and National Park Service were to reach agreement on measures to assure water delivered to ENP was of sufficient purity to prevent ecological damage or deterioration of the park's environment.

Page 53, "Future Threats to the Everglades System".
This section should be renamed to make clear that it refers only to hydrologic threats.

Page 66, "Historic Conditions"
This section refers to Part IV of the Supporting Information Document, which does not exist.

Page 69-71, "Water Quality Changes in the WCAs".
This section should describe high nutrient inflows and violations of water quality standards in all of the WCAs, not just WCA-1. Also, the section on cattails fails to describe the extent of cattail invasion or the correlation between cattail and nutrient levels in the WCAs. To the extent this information is described elsewhere (e.g. p. 194-95), a cross-reference would be helpful. In general, however, greater discussion of the cattail problem is needed in the Plan. Finally, this section should mention the interrelationship between the categories of impact described in the section, and the overall impacts on wildlife habitat and ecosystem function, either directly or by cross-reference.

Page 71, "Water Quality in ENP".

This section does not make a strong enough statement about the impacts of nutrient-enriched water entering the Park. The section should acknowledge that surface water entering the Park from the WCAs contains excessive nutrients that are being accumulated in the soils and sediments downstream of one or more Park water delivery structures. Once these soils and sediments are loaded with excess phosphorus, nuisance species are able to invade the marsh, The presence of these excessive nutrients is potentially harmful or injurious to animal and plant life in the Park. Accordingly, such nutrient-polluted water is, or is reasonably expected to be, a source of pollution in the Park.

Page 75, Table 6.
Federal review of the gopher tortoise has been completed, and the species was designated as threatened.

Page 115, Paragraph 2, "Regulation Schedules".
The authority to change regulation schedules and water control plans for the C&SF Project rests with the Secretary of the Army. Authority to approve changes has been delegated to the Corps of Engineers' Division Engineer (South Atlantic Division). Water control plans developed for specific projects and reservoir systems are to be clearly documented in the water control manual. The water control plans are to conform with objectives and specific provisions of authorizing legislation and applicable Corps of Engineer reports. This includes any applicable authorities established after project construction. Water control plans are to be revised as needed to meet changing requirements resulting from developments in the project area and downstream, technological improvements, new legislation and other relevant factors, provided revisions comply with Federal Regulations and Corps of Engineers policy. Water control plans are to be developed in concert with all basin interests. The water control plans include regulation schedules and such additional provisions as may be required to collect, analyze, and disseminate basic data; prepare detailed operating instructions; assure project safety; and carry out regulation of projects in an appropriate manner. Water control plans for multi-purpose projects must meet all the varied purposes. Regulation schedules and operating criteria are revised and refined as needed.

Page 122, Figure 22.
This map represents vegetation characteristics in the Refuge in 1972 and should be dated as such. A more recent map would be more appropriate in discussing current Refuge vegetation patterns. The vegetation map of WCA-2 (page 130) also should be updated, and a date should be placed on the map of WCA-3 vegetation (Page 134).

Specific Comments 7

Page 232, "Pre-drainage surface water deliveries".

Appendix B of Part I, Supplement 33 - General Design Memorandum Conservation Area No. 3 (June 1960) contained an estimate of historic water delivery to Everglades National Park. For normal annual rainfall (57 inches) the Corps estimated annual runoff to Everglades National Park (Tamiami Canal, L-30 to Monroe) was about 1,250,000 acre-feet.

Page 316, "Agricultural".
The Corps of Engineers was not a party to the Frog Pond agreement.

Page 317, "Structural Water Control Features".
L-31N was built in two stages. L-31N Remainder (the southern portion) was constructed in 1966-67.

Page 326, "Taylor Slough".
PL 91-282 guaranteed a minimum delivery to Taylor Slough, and the ENP-South Dade Conveyance System provided the facilities to achieve it.

Page 326, "C-111 Basin".
S-197 has not been removed 5 times. The sentence should be rewritten to say the plug at S-197 has been removed 5 times.

Page 332, A.3., "More effective use of S-332".
The statement that the NPS has complete authority to specify how S-332 is operated is inaccurate. The agreement and permit for S-332 between the Corps, SFWMD, and NPS states what the minimum monthly flow rates are, and that during flood periods such rates may be exceeded, up to capacity of the pump station, upon mutual agreement of the parties.

Page 370, "Whitewater Bay".
The plug in the Bottonwood Canal was constructed by the Corps of Engineers.

Southwest Florida Regional Planning Council

4980 Bayline Drive, 4th Floor, N. Ft. Myers, FL 33917-3909 (813) 995-4282

P.O. Box 3455, N. Ft. Myers, FL 33918-3455 SUNCOM 721-7290 7291

FAX 813-995-7895

November 25, 1991

Mr. Paul J. Whalen
Supervising Professional
3301 Gun Club Road
P.O. Box 24680
West Palm Beach, FL 33416-4680

RE: IC&R PROJECT #91-172
PROJECT NAME: South Florida Water Management, Surface Water Improvement and Management Plan for the Everglades

Dear Mr. Whalen:

The staff of the Southwest Florida Regional Planning Council reviews various proposals, Notifications of Intent, Preapplications, permit applications, and Environmental Impact Statements for compliance with regional goals, objectives and policies, as determined by the Regional Comprehensive Policy Plan. The staff reviews such items in accordance with the Florida Intergovernmental Coordination and Review Process (Chapter 29I-5, F.A.C.), and adopted regional clearinghouse procedures.

These designations determine Council staff procedure in regards to the reviewed project. The four designations are:

Less Than Regionally Significant and Consistent - no further review of the project can be expected from Council.

Less Than Regionally Significant and Inconsistent - Council does not find the project of regional importance, but will note certain concerns as part of its continued monitoring for cumulative impact within the noted goal areas.

Regionally Significant and Consistent - Project is of regional importance and appears to be consistent with Regional goals, objectives and, policies.

Regionally Significant and Inconsistent - Project is of regional importance and does not appear to be consistent with Regional goals, objectives, and policies. Council will oppose the project as submitted, but is willing to participate in any efforts to modify the project to mitigate the concerns.

TO: Paul J. Whalen
DATE: November 25, 1991
PAGE: TWO
RE: IC&R PROJECT #91-172

The above-referenced permit application has been reviewed by this office, and based upon information contained in the application and on local knowledge, has been found Regionally Significant and Consistent with adopted goals, objectives, and policies of the Regional Comprehensive Policy Plan. Regional Staff provides the following:

1. The intent behind this Surface Water Improvement and Management (SWIM) plan for the Everglades furthers the regional goals and issues in the Southwest Florida Regional Policy Plan (RPP). Further, nothing within this document seems to conflict with the RPP itself, however, given the complex nature of this undertaking (to protect and enhance the Everglades), how can Regional Planning Councils be of more assistance.

2. Could the Regional Planning Council(s) be utilized as an educational forum, or to help coordinate with local governments, agencies, and private parties to help resolve disputes that may arise during plan implementation.

Should you or any other party request this finding to be reconsidered, please contact Mark Phelps, IC&R Coordinator, with this request or any questions concerning staff review of this item.

This recommendation will be discussed at the next scheduled Council meeting. Should Council action differ from the staff recommendation, you will be notified.

Sincerely,

SOUTHWEST FLORIDA REGIONAL PLANNING COUNCIL

Wayne E. Daltry
Executive Director

WED/MDP/dh

Florida Department of
Agriculture & Consumer Services

BOB CRAWFORD
COMMISSIONER

The Capitol
Tallahassee
32399-0810

PLEASE RESPOND TO:

December 3, 1991

Mr. Paul J. Whalen
Supervising Professional
Everglades SWIM Project Manager
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680

Dear Mr. Whalen:

This is in response, pursuant to 373.455, Florida Statutes, to the proposed Everglades Surface Water Improvement and Management (SWIM) Plan currently under review by the District.

Based on an initial technical review of this complex proposed plan, no written comments or recommendations will be submitted by the Department at this time. The Department will continue to review the plan and any changes to it.

Sincerely,

Gregory J. Krasovsky
Chief Cabinet Aide

bc:kl

Farm Credit of South Florida, ACA

10084 70th Road South
P.O. Box 5559
Lake Worth, Florida 33466
(407) 965-9001

December 3, 1991

Board of Directors
South Florida Water Management District
P. O. Box 24680
West Palm Beach, FL 33416-4680

RE: SFWMD S.W.I.M. Plan Comments

Gentlemen:

On behalf of its farmer based membership, Farm Credit of South Florida, Agricultural Credit Association (ACA) wishes to express deep concern over the proposed S.W.I.M. Plan and the potential adverse effects on the future viability of their farming operations, the loss to the memberships and therefore, on the Association as a cooperative financial institution.

Currently, Farm Credit of South Florida, ACA has over $232,000,000.00 in loans outstanding to over 680 farmers/members in the South Florida region. In the spirit of expressing their mutual concerns, the Board of Directors of Farm Credit of South Florida, ACA has passed the enclosed resolution for your due consideration regarding the proposed S.W.I.M. Plan. The resolution urges that the proposed Surface Water Improvement and Management Plan (S.W.I.M. Plan) for the Everglades Protection Area be fair and equitable for all concerned and further, that it includes:

1. Water quality standards which can be reasonably supported by scientific evidence as adequate to maintain and preserve the Everglades National Park's (ENP) ecological systems,
2. Hydroperiod requirements of the ENP ecological systems which can be reasonably supported by scientific evidence,
3. Reasonably supported planning for the most cost-effective systems of water control and cleanup where necessary, and
4. A reasonably supported apportionment of the responsibilities for the necessary water control and cleanup systems with concurrent allocation of costs to all public and private water users and sources.

We further offer to you some comments relating to the S.W.I.M. Plan's Executive Summary as published for general public consideration. Arguments for the S.W.I.M. Plan, as it is presently drafted and commented on to date, boil down to only three basic points:

1. The need to settle a lingering lawsuit,
2. The need to do something about the Everglades, and
3. Who will pay for the project.

We agree with the need to settle the lingering lawsuit (#1 above), and we also agree that, based on initial public concerns, it appears that something needs to be done about the Everglades (#2 above). However, do we know yet what needs to be done? Many still question this issue, for only limited scientific data is available from which to base any conclusions. As to who will pay and to what extent agriculture should share in the overall costs of the proposed project remains to be equitably resolved, in our opinion.

The level of funds to be expended in this S.W.I.M. Plan are astronomical and require the combined resources of all to make it happen. Neither agribusiness, the state government nor the federal government can afford to waste any money in this project, considering its overall cost. In the Plan's Section E (Funding), the five possible ways to tax agribusiness, as proposed herein, will tax agriculture in the Glades area to the absolute limit.

Political expediency may require that we move forward with this proposed project, but the bottom line is that there will be no money to fix things later if the proposed S.W.I.M. Plan is wrong. As now proposed in the Executive Summary, both the water works engineering and the ecological studies will be done all at the same time. How can one build a sound and cost effective plan when one does not yet know what he or she is planning for? Further, today's economy demands that those acting for the public's trust use due diligence in the planning of such a project to insure that funds are properly spent and are not wasted. One only need to look to the Kissimmee River Basin Remediation Project to see just how expensive it is to correct the wrongs of past good intentions.

Agribusiness in South Florida is ready and willing to cooperate and pay its <u>fair</u> share of the Everglades cleanup program. In exchange, however, Agribusiness only asks that the program be planned and conducted in an open setting, and be based upon scientific and factual information from which reasonable conclusions can be drawn. To do anything less is considered to be illegal under Florida's Government in the Sunshine Law, and irresponsible on the part of the Public Trustees in charge. Why has agribusiness and/or farmer interests been excluded from the Technical Oversight Committee? This Committee is responsible for doing the planning, reviewing and compliance determinations. To exclude agriculture is simply not fair considering the amount it is being required to pay in proportion to the Plan's total projected costs. Instead of including agriculture, this Committee is stacked with others like state and federal agency representatives by which hydrologists, civil engineers and ecologists are all well represented and whom agriculture mistrusts as to their intentions and knowledge over the economic farming issues at hand. At the very least, should not a representative from the Everglades Agricultural Area be included, considering this project's ultimate impact on the Glades area? Instead of mutual cooperation, people are being incited to demand that agriculture stop stonewalling and cooperate with the cleanup for which agriculture is supposedly to blame, which is also unproven at this point. <u>Fairness dictates that agriculture should be fully represented on the proposed Technical Oversight Committee</u>.

Ironically, no solid scientific facts have been collected and reported in an unbiased way to the general public for their consideration. Without sound factual information, impartially reported, how can the people of South Florida be expected to make an educated and reasonable decision? What standards would they be willing to set for themselves and others who are contributing to the overall water pollution problem? None of the sewer treatment plants serving the people along the lower east coast of South Florida currently come close to meeting the S.W.I.M. Plan's expected standards. Are the residents of South Florida, if properly noticed, willing to fall under the Plan's standards and pay their fair share? If locally proposed bond referendums are any example of their possible response, most have been soundly defeated to date. It will be difficult to convince the general public why they ought to pay to have their waste water and runoff made cleaner than the rain that falls on them, as is being asked of farmers.

We urge the due diligent review of all existing and alternative hydroperiods and water quality control program options to develop the lowest cost engineering specifications necessary to get the job done to within scientifically acceptable levels. Further, instead of fighting with farmers, we urge their inclusion in the overall process. Their cooperation and understanding will result in tremendous cost savings and should substantially improve the chances for the final success of the project. This will accomplish what the judge told SFWMD to do: to develop an equitable plan for all parties involved - for the resident Joe Q. Publics, the Farmers, the Woodstorks and the Panthers. The current S.W.I.M. Plan does not do this and will only lead to further litigation.

Thank you for your consideration. We trust you will yield to reason and address our concerns. As an agricultural financial institution serving the South Florida region effected, including the Glades, we urge your careful reconsideration of what is being proposed within the context of the concerns we express herein.

Sincerely,

Alexander Kromhout
President & CEO

AK:jw

Enc.

c: All SFWMD Governing Board Members
SFWMD Board of Directors
Florida Sugar Cane League, Inc.
Richard Joyner, President, Farm Credit of Southwest Florida, ACA

S.W.I.M. RESOLUTION

WHEREAS, the Board of Directors of Farm Credit of South Florida, ACA, respectfully requests the Board of Governors of the South Florida Water Management District give due consideration to the following resolution adopted by the Farm Credit Board at its meeting of November 27, 1991.

WHEREAS, the Surface Water Improvement and Management Plan for the Everglades Protection Area should include:

1. Water quality standards which can be reasonably supported by scientific evidence as adequate to maintain and preserve the Everglades National Park's (ENP) ecological systems.

2. Hydroperiod requirements of the ENP ecological systems which can be reasonably supported by scientific evidence.

3. Reasonably supported planning for the most cost-effective systems of water control and cleanup where necessary.

4. A reasonably supported apportionment of the responsibilities for the necessary water control and cleanup systems with concurrent allocation of costs to <u>all</u> public and private water users and sources.

NOW, THEREFORE, BE IT RESOLVED, the Farm Credit of South Florida Board of Directors believes the above is necessary for an effective S.W.I.M. plan for the Everglades Protection Area which is fair and equitable for all South Florida.

BE IT FURTHER RESOLVED, the Farm Credit Board has reviewed the S.W.I.M. Plan dated September 24, 1991, and does not find that the Plan provides adequate support for its water quality and control objectives, for its water quality and control remediation projects, and for its apportionment of the costs. The Farm Credit Board asks that the South Florida Water Management Board of Governors direct their staff to amend the S.W.I.M. plan with reasonably supported identification of the problems and equitable, cost-effective solutions.

HIGGINS ENGINEERING, INC.

Mr. Paul Whalen
South Florida Water Management District
3301 Gun Club Road
Post Office Box 24680
West Palm Beach, Florida 33406

December 6, 1991

Re: Draft Everglades SWIM Plan - September 24, 1991

Dear Mr. Whalen:

The purpose of this letter is to provide you with comments on one specific section of your draft plan which is found within the supporting information document Section 7 - Future Threats to the Everglades System, pages 53 - 54. Specifically, the first paragraph on page 54 states "the loss of peripheral wetlands is considered to be a key factor in the decline of nesting wading bird populations and the disruption of timing of their nesting in the southern Everglades (Davis, et.al., 1987). Many of these short hydroperiod wetlands which served as early dry season feeding habitats for wading birds are now lost because of wetland conversion for development. Loss of wetlands and associated aquatic habitats is a continuing threat to these natural systems". We have researched the referenced document and find the conclusions as stated in the paragraph to be an incorrect extrapolation of the Davis report study findings. Because this paragraph has already been referenced in other studies (even though your report is in draft form) we feel that it is necessary and appropriate to revise this section.

The Davis report is an investigation within the Everglades National park as it relates to potential benefits received from a revised water delivery schedule from the conservation areas into the park. The Davis report is confined to the Everglades National Park and focuses solely on hydroperiod effects (i.e., water levels and timing of deliveries) within the park as related to nesting habitats. The report does not evaluate "short hydroperiod wetlands", nor does it look at any areas outside of the park. Their conclusion is "restoration of natural water distribution into . . . the southern Everglades would create the conditions necessary for optimum primary production . . . ". Re-worded, this conclusion is that a natural hydroperiod within the park is necessary as it relates to wading bird habitats, which is solely a function of water deliveries from Water Conservation Area 3 into the park.

4623 Forest Hill Blvd., Suite 114 West Palm Beach, FL 33415
(407) 439-7807

Further research on this subject includes review of "Reproductive Ecology of Wading Birds in Relation to Water Conditions in the Florida Everglades", by Frederick and Collopy, April 1988. This second report was an investigation of wading bird habitat within the conservation areas and not areas outside of the conservation areas. Their conclusion, which is similar to the Davis report, is that optimum conditions are a function of water levels within the conservation areas. They refer to a necessary drawdown period over an extended period of time such that food sources are concentrated within the conservation areas themselves, as opposed to areas outside the conservation areas.

Both of these reports do not lead you to a conclusion as stated in your report that "many of these short hydroperiod wetlands are now lost because of wetland conversion for development". Both of the other reports are referring to short hydroperiod wetlands within the conservation areas and the park itself. Therefore, it is our recommendation that you modify this paragraph or strike it in its entirety. In addition, the whole theme of the section (starting on page 53) warrants revision.

In advance, thank you for your cooperation in this matter. If you have any questions, please feel free to give us a call.

Very truly yours,
HIGGINS ENGINEERING, INC.

Robert W. Higgins, P.E.

RWH/gw
85-20
cc: Roy Rogers
Cotter Christian
Tom Lodge

METROPOLITAN DADE COUNTY, FLORIDA

METRO-DADE

METRO-DADE CENTER

PLANNING DEPARTMENT
SUITE 1220
111 N.W. 1st STREET
MIAMI, FLORIDA 33128-1972
(305) 375-2800

December 4, 1991

Mr. Paul J. Whalen, Manager
Everglades SWIM Plan
South Florida Water Management District
P. O. Box 24680
West Palm Beach, FL 33416

Dear Mr. Whalen:

Dade County is pleased to have the opportunity to comment on the September 1991 draft of the Everglades SWIM Plan. As with earlier versions of this Plan, Dade County appreciates the complexity and challenges that formulating this Plan presents. The document in its present form is better formatted than its predecessors. Tables 3 through 10 are particularly helpful in putting the issues and strategies into perspective. We suggest that you take this format one step further with a series of tables that would link the strategies to the research and monitoring goals, and projects for initial implementation.

Among the many positive features of this new document, we are particularly supportive of the establishment of the Technical Oversight Committee (TOC) and linkages to other planning efforts and the emphasis on Melaleuca control. While we understand the need to keep the TOC at a manageable level, it would be strengthened by recognizing the experience and expertise that local governments have in Everglades and estuarine monitoring and management. For this reason, we believe that local governments within the Everglades Protection Area (EPA) should also be included as members of the TOC.

Dade County has over a decade of experience in monitoring Biscayne Bay and Card Sound that could be useful in addressing problems in Barnes Sound and Florida Bay. The County also has an active wetland regulatory program in portions of the EPA outside of Everglades National Park. The SWIM Plan recommends developing operating permits for marinas. Dade County established a marina operating permit program in 1990.

There are a few strategies and objectives in this draft that should be strengthened. In the section on protecting adjacent wetlands, we suggest that you add a new e.2.: " Work with local land acquisition programs to acquire and protect wetlands that are important to the restoration and maintenance of the Everglades Protection Area." The section on human activities should include an objective and strategies to provide financial assistance to counties to stop illegal dumping and filling in the EPA and adjacent wetlands. We also recommend that you include an objective to monitor agricultural and urban expansion within the EPA and in wetlands adjacent to the EPA. In developing regional water supply plans it is also important to consider the water quality and quantity requirements of adjoining estuarine ecosystems, including Biscayne Bay.

Dade County supports making ecologically sound hydrological improvements in the C-111 basin and restoring water flows under US 1. The operational criteria for the proposed pump station, described on pages 95-97 should be reviewed by the TOC and designed to be consistent with the objectives of the Dade County Comprehensive Development Master Plan (CDMP). The description of the C-111 CDMP Environmental Protection Subarea states that "no further filling or draining of wetlands should be permitted". In the CDMP South Dade Open Land Subarea, seasonal agriculture may be permitted provided that "no additional off-site drainage will occur." The potential operational mode of the proposed pump station is of concern to the County, because, the language in a.4. on page 72 suggests that additional drainage may be provided to an undefined area around C-111.

One final area of concern relates to funding. The heavy reliance on SWIM funds for non-EAA projects in fiscal years 93-95 is troubling given the present level of budgetary uncertainty in Tallahassee. If SWIM funds are curtailed, several south Florida projects, including Everglades flow requirements and basin and estuarine water quality monitoring will be seriously under funded.

Overall, we commend you for the outstanding job that you have done in taking a regional and comprehensive approach to the task of Everglades restoration. As we have stated in our comments on previous drafts, this will, of necessity, be a long term, iterative process. Dade County is willing to participate and cooperate in this process.

Sincerely,

John W. Renfrow, P.E., Director
Environmental Resources Management

Reginald R. Walters, AICP
Planning Director

JWR/RRW/JHE

CC: Annie Betancourt
Allan Milledge

CITY OF CLEWISTON

115 WEST VENTURA AVENUE
CLEWISTON, FL 33440

TELEPHONE 983-6101
AREA CODE 813

POST OFFICE BOX 698

November 27, 1991

Governing Board
South Florida Water Management District
3301 Gun Club Road
Post Office Box 24680
West Palm Beach, Florida 33416

Re: Everglades SWIM Plan

Dear Ladies & Gentlemen:

As Mayor of the City of Clewiston, I offer the following comments for your consideration while deliberating on whether to adopt the Everglades SWIM Plan as it is presently drafted:

1. The economic health of the City of Clewiston is almost totally dependent, either directly or indirectly, on the well being of the Western Palm Beach County and Eastern Hendry County agriculture community. A large percentage of the population of the City of Clewiston is made up of individuals and their families who either own farms, are employed on farms, or provide goods and services to farms located in the general area of Clewiston.

2. It is my understanding that the proposed SWIM Plan provides for the agricultural lands in the general area of Clewiston to be assessed for the cost of remediation projects in the Everglades agricultural area. It is also my understanding that there is no firm estimate of the cost of these remediation projects. Additionally, it is my understanding that there are no assurances that the desired results will be accomplished by these projects.

3. The Everglades agricultural area farms are already economically stressed without being subjected to assessments for projects the scope and cost of which have not been sufficiently planned and the results of which are unknown. There is great, and I think valid, concern that the Everglades agricultural lands cannot carry additional economic burdens of speculative value.

4. If farming operations in Western Palm Beach County and Eastern Hendry County are significantly reduced because of unnecessary economic impositions and/or regulations, the City of

Clewiston will be in approximately the same measure, directly adversely affected. Clewiston and Hendry County are already severely economically stressed as is indicated by the 22% unemployment rate reported in October 1991 by the Southwest Florida Regional Planning Counsel.

For the foregoing reasons, I request that the Everglades SWIM Plan, before being adopted by the Governing Board be modified to be limited to economically reasonable remediation projects based upon proven scientific evidence.

Respectfully Submitted

CITY OF CLEWISTON

M. Franklyn Jones

M. Franklyn Jones, Mayor

Florida Department of Environmental Regulation
Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400
Lawton Chiles, Governor
Carol M. Browner, Secretary

February 5, 1992

Mr. Til Creel
Executive Director
South Florida Water Management District
Post Office Box 24680
West Palm Beach, Florida 33416-4680

Dear Mr. Creel:

The Everglades Surface Water Improvement and Management Plan (Draft SWIM Plan) dated January 2, 1992 was received here on January 6. The Draft SWIM Plan has been reviewed to ensure consistency with the State Water Policy (Chapter 17-40, Florida Administrative Code) and the State Comprehensive Plan (Chapter 187, Florida Statutes). This letter is the Department's consistency determination pursuant to Section 373.456, Florida Statutes (F.S.). This letter will also provide the Department's recommendations and comments on the Draft SWIM Plan pursuant to our general supervisory authority under Section 373.026, F.S.

The Draft SWIM Plan for the Everglades is hereby determined not to be consistent with both State Water Policy and the State Comprehensive Plan. Specifically, the Draft SWIM Plan is not consistent with the following:

State Water Policy

PART I GENERAL WATER POLICY
17-40.120 Department Rules:
(2) Surface Water Quality Standards, Ch. 17-302, F.A.C.
(3) SWIM Rule, Ch. 17-43, F.A.C.
17-43.035(1)(e) A description of strategies for restoring or protecting the water body sufficient to meet Class III standards or better.

PART III GENERAL PROVISIONS
17-40.310 General Policies:
(16) Restore and protect the quality of ground and surface water by ensuring high quality treatment for stormwater and wastewater.

PART IV RESOURCE PROTECTION AND MANAGEMENT
17-40.403 Water Quality:
(1) Water quality standards shall be enforced pursuant to Chapter 403, F.S., to protect waters of the State from point and non-point sources of pollution.

State Comprehensive Plan

(8) WATER RESOURCES.-
(a) Goal.- Florida shall assure the availability of an adequate supply of water for all competing uses deemed reasonable and beneficial and shall maintain the functions of natural systems and the overall present level of surface and ground water quality. Florida shall improve and restore the quality of waters not presently meeting water quality standards.
(b) Policies.-
(10) Protect surface and groundwater quality and quantity in the state.
(12) Eliminate the discharge of inadequately treated wastewater and stormwater runoff into the waters of the state.

(23) AGRICULTURE.-
(b) Policies.-
(13) Eliminate the discharge of inadequately treated wastewater and stormwater runoff into waters of the state.

The Draft SWIM Plan is determined not to be consistent because it does not contain appropriate commitment and strategy to ensure:

A. That state water quality standards will be met.

The following are specific comments and recommended changes for making the Draft SWIM Plan consistent with both the State Water Policy and the State Comprehensive Plan:

1. The District provided a five step process and schedule for assuring compliance with all applicable water quality standards, other than phosphorus. This schedule proposes no implementation of strategies for meeting these standards for the Everglades Agricultural Area (EAA) structures until the year 2003.

The first full paragraph on page 136 and Figure 11 on page 137 of the Planning Document should be revised. Implementation of new water quality strategies (for parameters other than

phosphorus) for EAA structures should begin no later than the year 2000. The development of correction strategies for non-EAA structures (Step 3) should commence immediately subsequent to determination of parameters which cause impact (Step 2), or no later than early FY96, and be completed by the end of FY96. Implementation should begin by FY97.

The following additional recommendations and comments are made pursuant to the Department's general supervisory authority under 373.026, F.S., but are not part of the consistency review under Section 373.456, F.S.:

i. The lower right title and the map key on Figure 1, page 7, should be revised, from Everglades Restoration Area to Everglades SWIM Planning Area.

ii. The text on page 9 should include restoration to applicable Outstanding Florida Waters criteria.

iii. Total phosphorus reduction calculations shown on page 109 should be separated from the text. The calculations should be revised, with the 25% reduction due to BMPs occurring first, then land use changes and STA reductions.

iv. Table 12 on page 116 should be corrected, showing the effective date of the Phase I Rule as December 1991 rather than 1992.

v. The September 24, 1991 draft Everglades SWIM Plan Planning Document errata sheet indicated that nutrient loads and concentrations in Table 2 (page 34) were expected to increase by approximately 5 percent after correction of errors due to data base conversion. In the revised January 2, 1992 draft, Table 2 shows that S-5A and S-6 basin loads have increased by 4 and 22 percent, respectively, while the S-7 basin load remained unchanged and the S-8 basin load decreased by 13 percent. Comparison of Table 1 in the September 24 and January 2 drafts indicates effective treatment acreage decreases of 2.5, 3.8 and 8.7 percent for the S-5A, S-7 and S-8 basins, respectively, and an increase of 3.4 percent for the S-6 basin. Please explain why treatment acreage corrections do not correspond to loading corrections.

vi. Table 16 of the January 2 draft Supporting Information Document contains revised areas for WCAs 1, 2A and 3A when compared to the September 24 draft. The revisions were apparently not carried over to Table 20, which contains the same areal loading and retention rates in both drafts. The same holds true for Table B-26 of the draft Appendices Document. Please explain these discrepancies.

vii. The average Total Phosphorus loading data from Table 22 of the January 2 draft Supporting Information Document remain unchanged from the September 24 draft. Please correct.

viii. On pages 110-117 of the Planning Document, the EAA Regulatory Program is referred to as Chapter 40E-62. The correct reference is Chapter 40E-63.

ix. The first paragraph on page 12 describes the requirements of the Marjory Stoneman Douglas (MSD) Act regarding ambient discharge limitations and discharge levels. The wording used does not clearly describe the intent of the MSD Act and should be reworded to be identical to the MSD Act.

x. As requested in our November 25 letter and required by Section 373.453(2)(c), F.S., the SWIM Plan should include "a list of the owners of point and nonpoint sources of water pollution that are discharged into each water body and tributary thereto and that adversely affect the public interest, including separate lists of those sources that are: (1) operating without a permit; (2) operating with a temporary operating permit; and (3) presently violating effluent limits or water quality standards." As in the September 24 draft, Appendices B, C, and D contain lists of existing point and nonpoint source permits; however, the lists are not categorized as required and no details regarding permit conditions are provided.

xi. Clarification is needed to the Governing Board's December 12 language specifying advertisement of "a clear point of entry for challenging the Everglades SWIM Plan." The Board's language identifies the advertised notice as "'intended agency action.'" This appears to vary from the plain language of

§373.456(5)(b), Florida Statutes, which refers to the action to be advertised as "final agency action." We do not construe that subsection as denying affected parties the opportunity to seek an administrative challenge under Section 120.57, Florida Statutes, to the Board's decision to accept the SWIM Plan either with or without approving the Department's comments. We are concerned, however, that the provision might be interpreted to provide "two bites out of the apple" - once when the Board determines whether or not to accept the Department's comments, and then again by a subsequent action after there is a hearing on that determination. It must be made clear that the decision of the Board with regard to the acceptance of Department comments constitutes the "final agency action" of the Board, subject to Chapter 120 review. This could be done, for example, by the addition to the December 12 language of a sentence which states: "The SWIM Plan shall constitute final agency action of the Board without further action by it unless a timely request is made in compliance with the notice of rights within the advertised time frame."

We appreciate the diligent efforts by the District throughout the Everglades planning process. Although we do not anticipate any difficulties for the District in addressing our comments, we are available to meet with you should this be helpful. We are eager to see the final adoption of this Everglades SWIM Plan addressing water quality, and to broadening our focus to water quantity issues Please contact me if you have any questions regarding this determination.

Sincerely,

Carol M. Browner
Secretary

CMB/jb
Attachment

cc: SFWMD Governing Board Members

South Florida Water Management District

P.O. Box 24680 • 3301 Gun Club Road • West Palm Beach, FL 33416-4680 • (407) 686-8800 • FL WATS 1-800-432-2045

PRO SWIM EV

October 19, 1990

Secretary Dale Twachtmann
Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, FL 32399-2400

Dear Secretary Twachtmann:

A proposed strategy and schedule to fully address water quality issues in the Everglades is enclosed for your review.

This strategy and schedule will assure that applicable parameters other than phosphorus are fully monitored and analyzed to determine what, if any, additional corrective steps may be required to achieve continued compliance with state water quality standards. This fundamental step is important to achieve the overall resource protection goals of the Everglades SWIM Plan.

Thank you for your continued interest in protecting South Florida's unique environment.

Sincerely,

John R. Wodraska
Executive Director

FEDERAL EXPRESS
Enclosure

c: Governing Board Members
Scott Benyon
Peggy Mathews

EVERGLADES SWIM PLAN STRATEGY TO ADDRESS STATE WATER QUALITY STANDARDS

One of the goals of the Everglades SWIM Plan is to provide a description of strategies for restoring and maintaining the applicable water quality standards for the Everglades and implementing activities to achieve them. This proposed 5-step process for assuring protection of the Everglades in relation to state water quality standards is designed to achieve this goal.

The process will result in identifying water quality parameters that may require additional action, prioritizing them according to their relationship to state water quality standards, and implementing corrective measures through the Everglades SWIM Plan. The specific steps are as follows:

1. Develop and implement a water quality assessment program to evaluate whether waters of the state exceed existing water quality standards within the Everglades system.

    a. Identify the areas where Class III water quality standards apply and where Outstanding Florida Waters water quality standards apply within the Everglades system.

    b. Evaluate historical water quality, quantity and physical data (including sediment, tissue and other biological information), to determine trends and to identify data gaps.

    c. Design an expanded monitoring program to evaluate existing problem parameters and to obtain information about those parameters for which insufficient data exists or for which a change is predicted.

    d. Conduct the monitoring program.

2. Determine which water quality parameters may cause or contribute to water quality standard exceedences or adversely impact the Everglades.

3. Develop a strategy and schedule to address problem parameters on a priority basis as follows:

    a. First priority will be given to parameters where it is shown that the Everglades resource is being adversely impacted and state water quality standards are being exceeded.

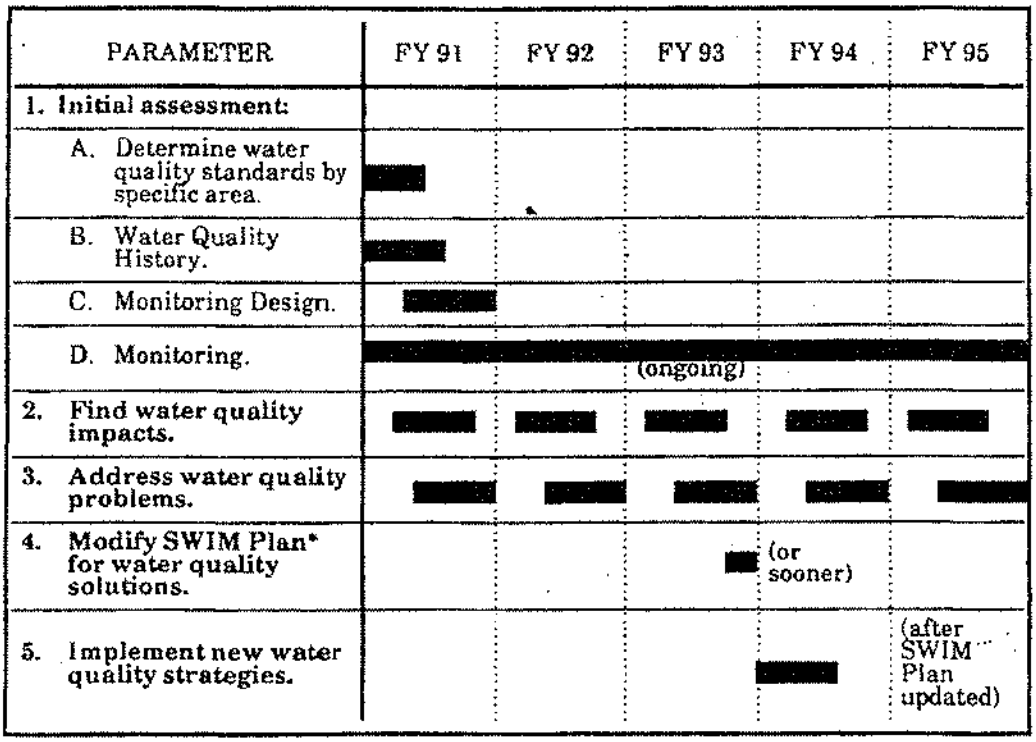
    b. Second priority will be given to parameters where it is shown that the Everglades resource is being adversely impacted but state water quality standards are being met. Consideration will be given to seeking state adoption of new, revised, or more specific criteria to protect the Everglades.

c. Third priority will be given to those parameters where it is shown that the Everglades resource is not being adversely impacted but state water quality standards are being exceeded. Consideration will be given to seeking state adoption of more appropriate criteria for the Everglades.

4. Amend the Everglades SWIM Plan to incorporate the strategies and schedules developed in 3.

5. Implement the amended water quality component of the Everglades SWIM Plan, and monitor for its success.

Schedule to assure compliance with water quality standards for discharges to the Everglades.



* SWIM Plan (Task 4) to be updated a minimum of every three years or sooner by Governing Board.