

Rules of the South Florida Water Management District

Minimum Flows and Levels Chapter 40E-8, F.A.C.



Effective: October 14, 2008

CHAPTER 40E-8 MINIMUM FLOWS AND LEVELS

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40E-8.011 Purpose and General Provisions.

(1) The purpose of this chapter is:

(a) To establish minimum flows for specific surface watercourses and minimum water levels for specific surface waters and specific aquifers within the South Florida Water Management District, pursuant to Section 373.042, F.S.; and

(b) To establish the rule framework for implementation of recovery and prevention strategies, developed pursuant to Section 373.0421, F.S.

(2) Minimum flows are established to identify where further withdrawals would cause significant harm to the water resources, or to the ecology of the area. Minimum levels are established to identify where further withdrawals would cause significant harm to the water resources of the area. Specific minimum flows and levels (MFLs) are established in this rule for specified priority water bodies that have been designated pursuant to Section 373.042(2), F.S.

(3) The MFLs established herein are based on existing best available information, and will be periodically reviewed, at least every five years, based on new information and changing water resource conditions. Revisions to established MFLs will be peer reviewed as required by Section 373.042, F.S., prior to rule adoption. The minimum flow criteria for the Caloosahatchee River in subsection 40E-8.221(2), F.A.C., shall be reviewed within one year of the effective date of this rule, September 10, 2001, and amended, as necessary, based on best available information.

(4) The recovery and prevention strategies set forth in Rule 40E-8.421, F.A.C., the consumptive use permitting procedures described in paragraph 40E-2.301(1)(i), Rule 40E-8.431, F.A.C., Section 3.9 of the "Basis of Review for Water Use Permit Applications within the South Florida Water Management District – September 10, 2001," the water shortage plan implementation provisions specified in Rules 40E-8.441, 40E-21.531, and 40E-21.541, and Part III of Chapter 40E-22, F.A.C., September 10, 2001, are inseparable components of the minimum flows and levels established in Rules 40E-8.321 and 40E-8.331, F.A.C., September 10, 2001. The District would not have adopted the minimum flows and levels set forth in Rules 40E-8.321 and 40E-

8.331, F.A.C., for Lake Okeechobee, the Everglades, the Biscayne Aquifer, the Lower West Coast Aquifers, and the Caloosahatchee River without simultaneously adopting their related implementation rules. If the rules cited above, as they pertain to a specified MFL water body, are found to be invalid, in whole or in part, such specified minimum flow(s) or level(s) in Rule 40E-8.321 or 40E-8.331, F.A.C., (including Lake Okeechobee, Everglades, Biscayne Aquifer, Lower West Coast Aquifers, Caloosahatchee River) (month, year) shall not be adopted, or if already in effect, shall not continue to be applied, until the District amends the applicable regional water supply plan(s), as necessary, and amends the subject rules, as necessary to address the reason for invalidity consistent with the requirements of Section 373.0421, F.S. This section shall be triggered after a rule is found to be invalid pursuant to a final order issued under Section 120.56, F.S., and after appellate review remedies have been exhausted.

(5) In concert with establishment of the MFL for the Northwest Fork of the Loxahatchee River in subsection 40E-8.221(5), F.A.C., the District commits to the following activities that are described in greater detail in the Recovery and Prevention Strategy section, subsection 40E-8.421(6), F.A.C.:

(a) Restore freshwater flows to the Northwest Fork of the Loxahatchee River beyond the MFL by developing programs and projects that will provide surface water flows as identified in a practical restoration goal and plan, to be developed with the Florida Department of Environmental Protection.

(b) Implement the restoration plan through structural and non-structural projects associated with the Comprehensive Everglades Restoration Plan and the regional water supply plan;

(c) Establish water reservations to deliver and protect water supplies for restoration of the Loxahatchee River; and

(d) Revise the MFL and the associated recovery and prevention strategy, as necessary, to be consistent with established restoration goals and future water reservations.

(e) Establish Minimum Flows and levels for other tributaries to the Northwest Fork of the Loxahatchee River including Loxahatchee Slough, Cypress Creek, Kitching Creek and Hobe Grove Ditch as committed to in the District's Priority Water Body List, as updated.

Specific Authority §§ 9, 10 P.L. 83-358, 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History—New 9-10-01, Amended 4-1-03, 1-19-06.

40E-8.021 Definitions.

The terms set forth herein shall have the meanings ascribed to them, unless the context clearly indicates otherwise, and such meanings shall apply throughout the rules contained in this chapter. The terms defined in Rule 40E-8.021, F.A.C., shall apply throughout the District's consumptive use permit rules. In the event of a conflict or difference between the definitions contained in Rule 40E-8.021, F.A.C., and the definitions set forth in other District rules, the definitions in this Rule 40E-8.021, F.A.C., shall control for purposes of this chapter.

(1) Biscayne Aquifer – means the highly permeable surficial strata (hydraulic

conductivities generally greater than 500 ft/day) that occur within Monroe, Miami-Dade (excluding those portions of coastal Monroe and Miami-Dade counties that discharge groundwater into Florida and Biscayne Bays), eastern Broward, and portions of eastern Palm Beach counties.

(2) Caloosahatchee River – means the surface waters that flow through the S-79 structure, combined with tributary contributions below S-79 that collectively flow southwest to San Carlos Bay.

(3) C&SF Project – means the project for Central and Southern Florida authorized under the heading ‘CENTRAL AND SOUTHERN FLORIDA’ in section 203 of the Flood Control Act of 1948 (Chapter 771).

(4) CERP – means the Comprehensive Everglades Restoration Plan contained in the ‘Final Integrated Feasibility Report and Programmatic Environmental Impact Statement’, dated April 1, 1999, as modified by the Water Resources Development Act of 2000.

(5) Certification or Certify – means the formal determination by the District, through a validation process consistent with state and federal law, of the total amount of water made available by a project or project phase of a recovery or prevention strategy, as appropriate, for natural systems and other uses.

(6) Direct Withdrawal means:

(a) A ground water withdrawal that causes a water table drawdown greater than 0.1 feet, as determined using a model accepted by the District, at any location beneath the MFL surface water body or aquifer, up through a 1 in 10 year drought; or

(b) A surface water withdrawal from facilities physically located within the boundaries of a MFL surface water body.

(7) Everglades – means the lands and waters included within Water Conservation Areas, the Holeyland/Rotenberger wildlife management areas, and the freshwater portions of the Everglades National Park.

(8) Northeast Subregion of Florida Bay (hereinafter “Florida Bay”) – means the bays, basins, and sounds within Taylor Slough and the C-111 Canal basin watersheds, including Long Sound, Little Blackwater Sound, Blackwater Sound, Buttonwood Sound, Joe Bay, Little Madeira Bay, Madeira Bay, Terrapin Bay, Eagle Key Basin, and other open waters of Florida Bay northeast of a boundary line between Terrapin Bay and Plantation Key (see Map 2).

(9) Harm – means the temporary loss of water resource functions, as defined for consumptive use permitting in Chapter 40E-2, F.A.C., that results from a change in surface or ground water hydrology and takes a period of one to two years of average rainfall conditions to recover.

(10) Indirect Withdrawal – means the withdrawal of water from a water source for a consumptive use that receives surface water or ground water from an MFL water body or is tributary to an MFL water body.

(11) Lake Istokpoga – means the lands and waters contained within the Lake below 40.0 feet NGVD, the top of the U.S. Army Corps of Engineers’ regulation schedule.

(12) Lake Okeechobee – means the lands and waters contained within the perimeter of the Hoover Dike.

(13) LEC Plan – means the Lower East Coast Regional Water Supply Plan – May 2000, including all three volumes.

(14) Lower West Coast Aquifers – means the lower Tamiami aquifer, sandstone aquifer and the mid-Hawthorn aquifer that occur within Charlotte, Hendry, Glades, Lee and Collier counties.

(15) LWC Plan – means the Lower West Coast Regional Water Supply Plan – April 2000, including all three volumes.

(16) Minimum Flow – means a flow established by the District pursuant to Sections 373.042 and 373.0421, F.S., for a given water body and set forth in Parts II and III of this chapter, at which further withdrawals would be significantly harmful to the water resources or ecology of the area.

(17) Minimum Flow and Level Exceedance – means to fall below a minimum flow or level, which is established in Parts II and III of this chapter, for a duration greater than specified for the MFL water body.

(18) Minimum Flow and Level Violation – means to fall below a minimum flow or minimum level, which is established in Parts II and III of this chapter, for a duration and frequency greater than specified for the MFL water body. Unless otherwise specified herein, in determining the frequency with which water flows and levels fall below an established MFL for purposes of determining an MFL violation, a “year” means 365 days from the last day of the previous MFL exceedance.

(19) Minimum Level – means the level of groundwater in an aquifer or the level of surface water established by the District pursuant to Sections 373.042 and 373.0421, F.S., in Parts II and III of this chapter, at which further withdrawals would be significantly harmful to the water resources of the area.

(20) MFL Water Body – means any surface water, watercourse, or aquifer for which an MFL is established in Part II or III of this chapter.

(21) Northwest Fork of the Loxahatchee River: Means those areas defined below:

(a) Northwest Fork of the Loxahatchee River that has been federally designated as Wild, Scenic and Recreational uses (as defined in the Loxahatchee River Wild and Scenic River Management Plan 2000) (see Map 1, incorporated herein), including the river channel that extends from river mile 6.0 (latitude 26.9856, longitude 80.1426) located near the eastern edge of Jonathan Dickinson State Park and continues upstream to the G-92 structure (latitude 26.91014, longitude 80.17578), including the C-14 Canal. The river channel includes the physical water flow courses and adjacent floodplain up to the limits of the floodplain swamp and wetlands within Riverbend Park, as determined by state wetland delineation criteria;

(b) Cypress Creek which extends westward from river mile 10.6 to the intersection of Gulf Stream Citrus Road (latitude 26.96484, longitude 80.1855) located approximately one mile west of the Florida Turnpike and includes its natural river channels and contiguous floodplain as determined by state wetland delineation criteria;

(c) Kitching Creek which extends from river mile 8.1 (latitude 26.9908, longitude 80.1540) northward through Jonathan Dickinson State Park to north of Bridge Road (latitude 27.05513, longitude 80.17580), including its natural river channels and contiguous floodplain as determined by state wetland delineation criteria; and

(d) Hobe Grove Ditch which extends west from river mile 9.1 (latitude 26.9854, longitude 80.1594) westward to the Hobe-St. Lucie Conservancy District pump station outfall (latitude 26.5908, longitude 80.1031) including its natural river channels and contiguous floodplain as determined by state wetland delineation criteria.

(22) Operations – means activities taken by the District for the movement of surface water through works of the District pursuant to Chapter 373, F.S.

(23) Parts Per Thousand (ppt) – means in the measurement of salinity the total amount of salt in grams per 1000 grams of water. Practical salinity units (psu) similarly means a measure of salinity, but one that is based on conductivity of water at a standard temperature and pressure. Both terms are used interchangeably for purposes of this rule.

(24) Prevention Strategy(ies) – means the structural and non-structural actions approved by the District in regional water supply plans, pursuant to Section 373.0421, F.S., or by rule, for areas where MFLs are currently not violated, but are projected to be violated within twenty (20) years of the establishment of the minimum flow or level, if said prevention strategies are not implemented.

(25) Recovery Strategy(ies) – means the structural and non-structural actions approved by the District in regional water supply plans, pursuant to Section 373.0421, F.S., or by rule, for areas where MFLs are currently violated.

(26) Regional Water Supply Plan – means a plan approved by the District pursuant to Section 373.0361, F.S.

(27) St. Lucie River North Fork – means the surface waters that extend from the Gordy Road Bridge structure (state plane coordinates, x851212.831, y1116105.7470), combined with tributary contributions below Gordy Road and collectively flow south to the confluence with the C-24 canal (state plane coordinates, x873,712.20, y1064,390.41).

(28) St. Lucie River South Fork – means the surface waters that extend from the culverts located at state plane coordinates x902,512.67, y1,001,799.91, north to the confluence of the river and the St. Lucie Canal (C-44).

(29) St. Lucie Estuary – means the surface water body south of the confluence of the St. Lucie River North Fork and C-24, north of the confluence of the St. Lucie River South Fork and C-44, and west of the western boundary of the Intracoastal Waterway, exclusive of canals.

(30) Serious Harm – means the long-term loss of water resource functions, as addressed in Chapters 40E-21 and 40E-22, F.A.C., resulting from a change in surface or ground water hydrology.

(31) Significant Harm – means the temporary loss of water resource functions, which result from a change in surface or ground water hydrology, that takes more than two years to recover, but which is considered less severe than serious harm. The specific water resource functions addressed by an MFL and the duration of the recovery period associated with significant harm are defined for each priority water body based on the MFL technical support document.

Specific Authority §§ 9, 10 P.L. 83-358, 373.044, 373.113, 373.119, 373.129, 373.136, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History–New 9-10-01, Amended 11-11-02, 4-1-03, 1-19-06, 12-12-06.

40E-8.221 Minimum Flows and Levels: Surface Waters.

The MFLs contained in this Part identify the point at which further withdrawals would cause significant harm to the water resources, or ecology, of the area as applicable,

pursuant to Sections 373.042 and 373.0421, F.S. It is the District's intent to correct or prevent the violation of these MFLs through management of the water resources and implementation of a recovery strategy.

(1) Lake Okeechobee. An MFL violation occurs in Lake Okeechobee when an exceedance, as defined herein, occurs more than once every six years. An "exceedance" is a decline below 11 feet NGVD for more than 80, non-consecutive or consecutive, days, during an eighteen month period. The eighteen month period shall be initiated following the first day Lake Okeechobee falls below 11 feet NGVD, and shall not include more than one wet season, defined as May 31st through October 31st of any given calendar year.

(2) Caloosahatchee River. A minimum mean monthly flow of 300 CFS is necessary to maintain sufficient salinities at S-79 in order to prevent a MFL exceedance. A MFL exceedance occurs during a 365 day period, when:

(a) A 30-day average salinity concentration exceeds 10 parts per thousand at the Ft. Myers salinity station (measured at 20% of the total river depth from the water surface at a location of latitude 263907.260, longitude 815209.296; or

(b) A single, daily average salinity exceeds a concentration of 20 parts per thousand at the Ft. Myers salinity station. Exceedance of either paragraph (a) or (b), for two consecutive years is a violation of the MFL.

(3) Everglades.

(a) Criteria for Peat-Forming Wetlands. Water levels within wetlands overlying organic peat soils within the water conservation areas, Rotenberger and Holeyland wildlife management areas, and Shark River Slough (Everglades National Park) shall not fall 1.0 feet or more below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for a minimum of 30 days, at specific return frequencies as specified in Table 1, below.

(b) Criteria for Marl-Forming Wetlands. Water levels within marl-forming wetlands that are located east and west of Shark River Slough, the Rocky Glades, and Taylor Slough within Everglades National Park, shall not fall 1.5 feet below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for a minimum of 90 days, at specific return frequencies for different areas, as identified in Table 1, below.

The MFL criteria listed in Table 1 are based on existing changes and structural alterations to the pre-drainage conditions of the Everglades. It is the District's intent through implementation of the LEC Plan and the CERP to achieve minimum hydropattern return frequencies that approximate CERP compatible pre-drainage conditions in the Everglades. As a result, as the existing structural changes and alterations are corrected, the MFL criteria contained herein will be modified through a rule amendment consistent with the LEC Plan and the CERP.

(4) Northwest Fork of the Loxahatchee River.

(a) An enhanced freshwater regime is necessary to prevent significant harm to the water resources and ecology of the Northwest Fork of the Loxahatchee River, pursuant to Sections 373.042 and 373.0421, F.S. By establishing the MFL set forth in paragraphs (b) and (c), along with implementation of the associated recovery strategy, it is the interim goal of the District to provide sufficient freshwater flows to create at River Mile 9.2 the freshwater regime found at River Mile 10.2.

(b) A MFL violation occurs within the Northwest fork of the Loxahatchee River when an exceedance, as defined in paragraph (c), occurs more than once in a six year period.

(c) A MFL exceedance occurs within the Northwest Fork of the Loxahatchee River when:

1. Flows over Lainhart Dam decline below 35 cfs for more than 20 consecutive days;
or

2. The average daily salinity concentration expressed as a 20-day rolling average exceeds two parts per thousand. The average daily salinity will be representative of mid-depth in the water column (average of salinities measured at 0.5 meters below the surface and 0.5 meters above the bottom) at river mile 9.2 (latitude 26.9839, longitude 80.1609).

(d) In addition to this MFL, which is intended to achieve partial enhancement of the Northwest Fork of the Loxahatchee River to prevent significant harm, restoration of the Loxahatchee River beyond the MFL will be addressed pursuant to subsection 40E-8.421(6), F.A.C., and other applicable provisions of state law. This MFL will be reviewed within two years of adoption and revised, if necessary, to ensure consistency with the restoration goal and plan identified pursuant to Rule 40E-8.421, F.A.C., or other applicable provisions of state law.

(5) Florida Bay.

(a) The minimum flow is that necessary to maintain salinity as described in paragraph (b), below. A net discharge into northeastern Florida Bay of 105,000 acre-feet of water over a 365-day period (a running total measured at West Highway Creek, at 25°14'33" north and 80°26'50" west; Trout Creek, at 25°12'53" north and 80°32'01" west; Mud Creek, at 25°12'09" north and 80°35'01" west; Taylor River, at 25°11'27" north and 80°38'21" west; and McCormick Creek, at 25°10'03" north and 80°43'55" west), is estimated to be necessary to maintain salinity as described in paragraph (b), below.

(b) An exceedance of the minimum flow criteria will be deemed to occur when the average salinity over 30 or more consecutive days exceeds 30 parts per thousand at the Taylor River salinity monitoring station, located at 25°13'29" north and 80°39'10" west. Multiple events of 30 or more day periods with salinity greater than 30 parts per thousand, occurring within a single calendar year, are considered as a single exceedance.

(c) A minimum flow violation occurs when an exceedance occurs during each of two consecutive years, more often than once in a ten-year period. By this definition, three consecutive years of exceedances constitute a violation.

Specific Authority §§ 9, 10 P.L. 83-358, 373.042, 373.044, 373.113, 373.119, 373.129, 373.136, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History—New 9-10-01, Amended 4-1-03, 12-12-06.

Table 1. Minimum water levels, duration and return frequencies for key water management gages located within the Everglades ^(1,2,3)

Area	Key Gage	Soil Type & MFL Criteria	Return Frequency (years) (3)-(4)
WCA-1	1-7	Peat(1)	1 in 4

WCA-2A	2A-17	Peat	1 in 4
WCA-2B	2B-21	Peat	1 in 4
WCA-3A North	3A-NE	Peat	1 in 2
WCA-3A North	3A-NW	Peat	1 in 4
WCA-3A North	3A-2	Peat	1 in 4
WCA-3A North	3A-3	Peat	1 in 3
WCA-3A Central	3A-4	Peat	1 in 4
WCA-3A South	3A-28	Peat	1 in 4
WCA-3B	3B-SE	Peat	1 in 7
Rotenberger WMA	Rotts	Peat	1 in 2
Holeyland WMA	HoleyG	Peat	1 in 3
NE Shark Slough	NESRS-2	Peat	1 in 10
Central Shark Slough	NP-33	Peat	1 in 10
Central Shark Slough	NP-36	Peat	1 in 7
Marl wetlands east of Shark Slough	NP-38	Marl (2)	1 in 3
Marl wetlands west of Shark Slough	NP-201 G-620	Marl	1 in 5
Rockland marl marsh	G-1502	Marl	1 in 2
Taylor Slough	NP-67	Marl	1 in 2

(1) = MFL Criteria for Peat-forming wetlands: Water levels within wetlands overlying organic peat soils within the water conservation areas, Rotenberger and Holeyland wildlife management areas, and Shark River Slough (Everglades National Park) shall not fall 1.0 feet or more below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for at least 30 days, at specific return frequencies shown above.

(2) = MFL Criteria for Marl-forming wetlands: Water levels within marl-forming wetlands that are located east and west of Shark River Slough, the Rocky Glades, and Taylor Slough within the Everglades National Park, shall not fall 1.5 ft. below ground surface, as measured at a key gage, for one or more days during a period in which the water level has remained below ground for at least 90 days, at specific return frequencies for different areas, as shown above.

(3) = Return frequencies were developed using version 3.7 of the South Florida Water Management Model (SFWMM) and are the same as those stated on page 168, Table 44 of the adopted LEC Regional Water Supply Plan (May 2000).

(4) = MFL depth, duration and return frequencies are based on historic rainfall conditions for the 31 year period of record from 1965 to 1995.

40E-8.231 Minimum Levels: Aquifers.

Biscayne Aquifer – The minimum level for the Biscayne aquifer is the level that results

in movement of the saltwater interface landward to the extent that ground water quality at an established withdrawal point is insufficient to serve as a water supply source. A MFL violation occurs when water levels within the aquifer produce this degree of saltwater movement at any point in time.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 9-10-01.

40E-8.321 Minimum Flows and Levels: Surface Waters.

The MFLs contained in this Part identify the point at which further withdrawals would cause significant harm to the water resources or ecology, of the area, as applicable, pursuant to Sections 373.042 and 373.0421, F.S. It is the District's intent to correct or prevent the violation of these criteria through management of the water resources.

Specific Authority 373.044, 373.113, 373.119, 373.129, 373.136, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. History–New 9-10-01.

40E-8.331 Minimum Levels: Aquifers.

The minimum levels for the lower Tamiami aquifer, the Sandstone aquifer and the mid-Hawthorn aquifer shall equal the structural top of the aquifer. A violation of this criteria occurs when the water levels drop below the top of the uppermost geologic strata that comprises the aquifer, at any point in time. Water level measurements that are made to monitor the conditions of the aquifers for the purpose of this rule shall be located no closer than 50 feet from any existing pumping well.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 9-10-01.

40E-8.341 Minimum Flows and Levels: Surface Waters for Upper East Coast Regional Planning Area.

St. Lucie Estuary – mean monthly flows to the St. Lucie Estuary should not fall below 28cfs from the Gordy Road structure to the St. Lucie River North Fork for two consecutive months during a 365-day period, for two consecutive years.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 11-11-02.

40E-8.351 Minimum Levels: Surface Waters for Kissimmee Basin Regional Planning Area.

Lake Istokpoga – An MFL violation occurs in Lake Istokpoga when surface water levels fall below 36.5 feet NGVD for 20 or more weeks, within a calendar year, more often than once every four years.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 1-19-06.

40E-8.351 Minimum Levels: Surface Waters for Kissimmee Basin Regional

Planning Area.

Lake Istokpoga – An MFL violation occurs in Lake Istokpoga when surface water levels fall below 36.5 feet NGVD for 20 or more weeks, within a calendar year, more often than once every four years.

Specific Authority 373.044, 373.113, 373.171 FS. Law Implemented 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. History–New 1-19-06.

40E-8.421 Prevention and Recovery Strategies.

(1) At the time of adoption of this rule, the existing flow or level for certain specified water bodies is below, or within 20 years is projected to fall below, the applicable MFL. For this reason, Section 373.0361, F.S., requires regional water supply plans to contain recovery and prevention strategies, including water resource development and water supply development projects that are needed to achieve compliance with MFLs during the planning period. The implementation of such projects will allow for the orderly replacement or enhancement of existing water sources with alternative supplies in order to provide sufficient water for all existing and projected reasonable-beneficial uses, consistent with Section 373.0421, F.S.

(a) MFLs and recovery and prevention strategies will be implemented in phases with consideration of the District's missions in managing water resources, including water supply, flood protection, environmental enhancement and water quality protection, as required by Section 373.016, F.S.

(b) MFLs are implemented to prevent significant harm to the water resources and, where applicable, the ecology of the area due to further withdrawals (Sections 373.042 and 373.0421, F.S.). A consumptive use permitting program is implemented to prevent harm to the water resource (Section 373.219, F.S.). A water shortage program is implemented to prevent serious harm to the water resource (Sections 373.175 and 373.246, F.S.). Additionally, the protection of water resources will, in part, be achieved through the reservation of water for fish and wildlife or public health and safety (Section 373.223(4), F.S.). The conceptual model identifying the relationships between these water resource protection requirements is set forth in Figure I in this Part.

(c) The rules implementing water resource protection tools, including Chapters 40E-2, 40E-8, 40E-20, 40E-21, 40E-22, F.A.C., and the "Basis of Review for Consumptive Use Permits Within the South Florida Water Management District – April 23, 2007", identify the specific factors and conditions that will be applied and considered in implementing the conceptual model. Due to the extreme variations in water resource conditions, climatic conditions, hydrologic conditions, and economic considerations that will be faced when implementing these rules, it is critical to apply such criteria flexibly and to reserve for the governing board the ability to implement water resource protection and allocation programs considering all of the District's missions under Chapter 373, F.S., and to balance water supply, flood protection, resource protection and water quality protection needs. Implementation of the recovery and prevention strategies will be achieved in compliance with the assurances to consumptive users and to natural systems contained in the LEC Plan and the LWC Plan.

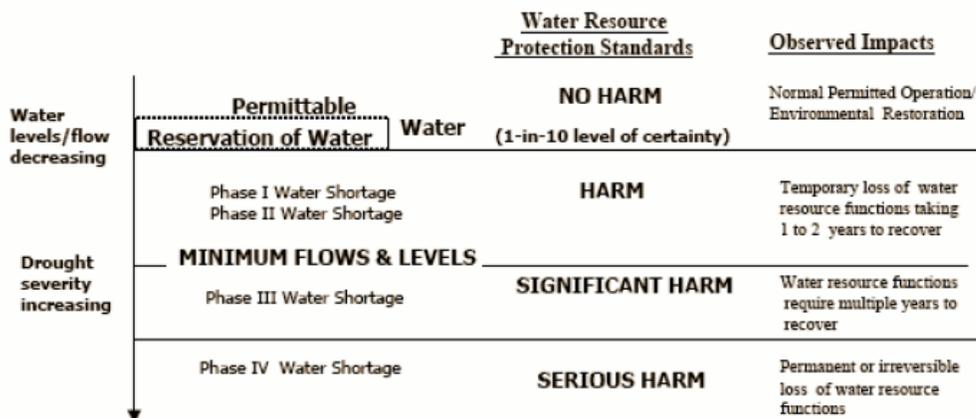
(d) The phasing and timetables for implementation of structural components in recovery and prevention strategies contained in approved regional water supply plans are found to meet the requirements in Section 373.0421(2), F.S., for the expeditious

and practicable recovery of the MFLs.

(e) Upon completion of each project or project phase of a recovery or prevention plan the District will certify the availability of water, as defined in subsection 40E-8.021(5), F.A.C.

(f) In order to ensure that the actual and projected performance of prevention and recovery strategies approved in the regional waters supply plans is sufficient to meet water resource needs, including MFLs, and the existing and projected reasonable-beneficial uses, the District will update recovery and prevention strategies on a periodic basis, based on new information and system performance. The performance of the recovery and prevention strategies in comparison to the performance projected in the regional water supply plans, will be assessed by the District for each recovery or prevention strategy phase. Based on the actual performance and new information obtained regarding the water resources, the District will review and revise, if necessary, recovery and prevention strategies through the regional water supply plan update process every five years, or sooner, as required by Section 373.0361, F.S. At that time, the governing board will determine if rule modifications to the MFL or recovery and prevention strategies are necessary to continue to meet the requirements of Sections 373.042 and 373.0421, F.S.

Figure 1: Conceptual Relationship Among the Harm, Serious Harm and Significant Harm Standards



(2) The Everglades, Lake Okeechobee, and the Caloosahatchee River.

(a) The Everglades, Lake Okeechobee and Caloosahatchee River have experienced or are projected to experience MFL violations. As a result, the LEC Plan and the LWC Plan contain approved recovery strategies, pursuant to Section 373.0421, F.S. Included in these recovery and prevention strategies is the CERP.

(b) MFLs within the Everglades, Lake Okeechobee, and the Caloosahatchee River, that are part of or served by the C&SF Project, will not be achieved immediately upon adoption of this rule largely because of the lack of adequate regional storage, including U.S. Army Corps of Engineers' regulation schedule effects, or ineffective water drainage and distribution infrastructure. Although not all locations within the Everglades are currently in violation of the proposed MFL, the Everglades, as a whole, is subject to a recovery strategy. The LEC Plan identifies the structural and non-structural remedies

necessary for the recovery of MFL water bodies. These structural and non-structural remedies are also intended to restore the Everglades, Lake Okeechobee and the Caloosahatchee River above the MFLs, through Chapter 373, F.S., authorities of the District.

(c) The projected long-term restoration of flows and levels in the Everglades resulting from implementation of the LEC Plan and the CERP is documented in the LEC Plan, and are intended to more closely approximate “pre-drainage” conditions. The planned components include implementing consumptive use and water shortage programs, removing conveyance limitations, implementing revised C&SF Project operational programs, storing additional freshwater, reserving water for the protection of fish and wildlife, and developing alternative sources for water supply. These components will be implemented over the next 20 years, resulting in a phased restoration of the affected areas.

(d) The District, as the U.S. Army Corps of Engineers’ local sponsor of the C&SF Project, is charged with implementing the CERP, in accordance with the Water Resources Development Act of 2000 (WRDA), Title VI entitled “Comprehensive Everglades Restoration,” and in accordance with State law. Assurances regarding water availability for consumptive uses and protection of natural systems are set forth in WRDA, Chapter 373, F.S., CERP and the LEC Plan, which will be followed by the District in implementing this chapter. Additional quantities of water for both consumptive uses and the natural systems made available from the CERP and other water resource development projects will be documented and protected on a project basis. For project components implemented under CERP, the additional quantity, distribution and timing of delivery of water that is made available for the natural system for consumptive use, will be identified consistent with purposes of the CERP. Under State law, water reservations and water allocations to consumptive uses will be utilized to protect water availability for the intended purposes.

(e) Lake Okeechobee. Under implementation of the Water Supply and Environment (WSE) lake regulation schedule assumptions, the Lake Okeechobee MFL was not projected to be violated and a MFL prevention strategy was adopted. However, due to changes in the Lake Okeechobee Regulation Schedule (LORS), which received final approval in April 2008, the Lake MFL is projected to be violated and a MFL recovery strategy is necessary. This recovery strategy will remain in effect until the MFL criteria is met pursuant to Section 373.0421, F.S. The Lake Okeechobee MFL recovery strategy shall consist of four components, as fully described in the LEC Regional Water Supply Plan, Appendix H, as updated in October 2008. These components consist of:

1. Environmental enhancement projects to be implemented during extreme low Lake stages,
2. Regulatory constraints on consumptive use of Lake water,
3. Water shortage restrictions as described in Chapter 40E-22, F.A.C., and
4. Capital projects that improve storage capacity both within and adjacent to the Lake.

(3) Biscayne Aquifer. The LEC Plan contains an approved prevention strategy for the Biscayne Aquifer pursuant to Section 373.0421, F.S., which consists of the following:

- (a) Maintain coastal canal stages at the minimum operation levels shown in Table J-

2 of the LEC Plan;

(b) Apply conditions for permit issuance in Chapter 40E-2 or 40E-20, F.A.C., to prevent the harmful movement of saltwater intrusion up to a 1-in-10 year level of certainty;

(c) Maintain a ground water monitoring network and utilize data to initiate water shortage actions pursuant to Rule 40E-8.441, F.A.C. and Chapters 40E-21 and 40E-22, F.A.C.;

(d) Construct and operate water resource and water supply development projects; and

(e) Conduct research in high risk areas to identify where the portions of the saltwater front is adjacent to existing and future potable water sources.

(4) Lower West Coast Aquifers. The LWC Plan identifies a prevention strategy for the LWC Aquifers, pursuant to Section 373.0421, F.S., as follows:

(a) Establish “no harm” maximum permissible levels for each aquifer (regulatory levels) for a 1-in-10 year level of certainty;

(b) Implement rule criteria to prevent harm through the consumptive use permitting process, including conditions for permit issuance in Rule 40E-2.301, F.A.C.;

(c) Construct and operate water resource and supply development projects; and

(d) Implement the water shortage plan in Chapter 40E-21, F.A.C., as needed to prevent serious harm during drought conditions in excess of a 1-in-10 year level of certainty.

(5) St. Lucie River and Estuary. The following is the prevention strategy for the St. Lucie River and Estuary:

(a) Discharges from the North Fork will be managed within the operational protocols of the Ten Mile Creek Project scheduled to be completed by 2004. Flow targets will be consistent with the CERP performance requirements for Indian River Lagoon.

(b) A research and monitoring strategy for the North and South Forks of the St. Lucie River will be developed and implemented in coordination with the Upper East Coast Regional Water Supply Plan update.

(6) Northwest Fork of the Loxahatchee River Recovery Strategy: Purpose and Intent.

(a) The Northwest Fork of the Loxahatchee River is currently not meeting the MFL and requires implementation of a recovery strategy to achieve the MFL as soon as practicable, consistent with Section 373.0421, F.S. The recovery strategy consists of projects contained within the following approved plans: the Lower East Coast Regional Water Supply Plan (LEC Plan), the Comprehensive Everglades Restoration Plan (CERP), and the Northern Palm Beach County Comprehensive Water Management Plan (NPBCCWMP). Four phases of recovery are identified in the Technical Documentation to Support Development of Minimum Flows and Levels for the Northwest Fork of the Loxahatchee River, November 2002, which are projected to increase flows to meet the MFL for the Northwest Fork of the Loxahatchee River. As part of the recovery strategy, as provided in this rule, the consumptive use permitting and water shortage requirements in this Chapter and Chapters 40E-2, 40E-20, 40E-21, F.A.C., and the “Basis of Review for Water Use Permit Applications within the South Florida Water Management District – April 23, 2007”, including Section 3.2.1.E. regarding Restricted Allocation Areas for Lower East Coast Everglades Waterbodies and North Palm Beach County/Loxahatchee River Watershed Waterbodies, shall apply

to consumptive use direct and indirect withdrawals from surface and groundwater sources from the Northwest Fork of the Loxahatchee River and those areas directly tributary to the Northwest Fork.

(b) In addition to implementation of this MFL recovery strategy, the District commits to restore freshwater flows to the Northwest Fork of the Loxahatchee River above the MFL through Chapter 373, F.S., and the Comprehensive Everglades Restoration Plan and its associated authorities. The District will continue to partner with the Florida Department of Environmental Protection in establishing a practical restoration goal and plan for the Loxahatchee River watershed. Recognizing that natural seasonal fluctuations in water flows are necessary to ensure that the functions of the Loxahatchee River are protected, this restoration goal and plan will include a more complete set of seasonally managed flow criteria for the river that are driven primarily by natural rainfall and runoff patterns within the watershed.

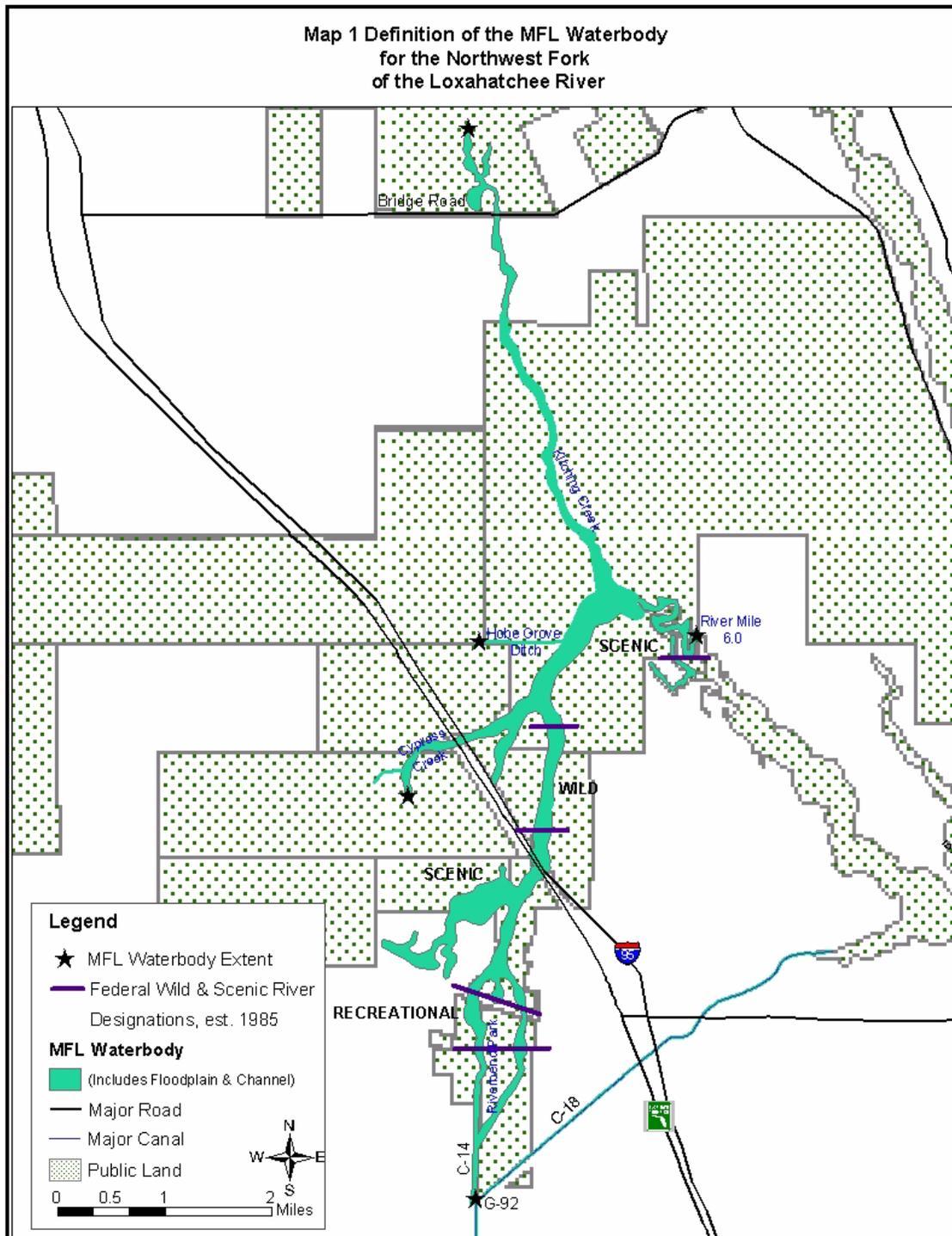
(c) The District shall continue to operate the G-92 structure and associated structures to provide approximately 50 cfs or more over Lainhart Dam to the Northwest Fork of the Loxahatchee River, when the District determines that water supplies are available.

(d) Additionally, it is the intent of the District to continue the current operational protocols of the G-92 structure so as not to reduce the historical high, average and low flows as estimated over the 30 year period of rainfall record used as the basis for the MFL for the Northwest Fork of the Loxahatchee River.

(e) It is the District's intent to implement, along with other partners, projects to meet the practical restoration goal developed according to paragraph (b). Projects contained in the Comprehensive Everglades Restoration Plan, the LEC Plan and the NPBCCWMP will provide increased storage and conveyance within the basin with a goal of providing more water for restoration of the Northwest Fork of the Loxahatchee River.

(f) To protect water made available for the recovery and restoration of the Loxahatchee River through implementation of these associated projects, the District intends to adopt water reservations for the Loxahatchee River, pursuant to Section 373.223(4), F.S., on a project by project basis over the next 20 years. In addition, the SFWMD intends to adopt an initial reservation to protect existing water used for protection of fish and wildlife, consistent with the practical restoration goal identified for the Loxahatchee River, by 2004. Future reservations related to the Loxahatchee River will be consistent with the reservations being developed for restoration of the Everglades under CERP, and will reflect the needs of the natural system through a range of hydrologic conditions. These water reservations are intended to prevent the future allocation to consumptive uses the freshwater intended for restoration of the Loxahatchee River. The reservations will be implemented through the consumptive use permit program, operational protocols, water shortage rules, and other appropriate provisions in Chapter 373, F.S.

(g) As reservations are adopted to restore the Loxahatchee River beyond that to be achieved by the MFL, the District shall revise the minimum flow and level and associated prevention and recovery strategy, as appropriate, under Sections 373.042 and 373.0421, F.S., to be consistent with the reservation.



(7) Lake Istokpoga. The water levels in Lake Istokpoga are controlled by operation of water control structures (G-85 and, primarily, S-68) as guided by a regulation schedule adopted by the U.S. Army Corps of Engineers and implemented by the District. The existing regulation schedule, typical regional weather patterns, and present levels of

inflows from area creeks make violation of the Lake's minimum level unlikely; no such events have occurred since implementation of the Lake regulation schedule. Analysis of the current regulation schedule and operational policies for the Lake indicate the proposed Lake Istokpoga minimum level will be met for the foreseeable future. Therefore, the prevention strategy for Lake Istokpoga consists of continuation of the current operational plan and regulation schedule. The District, in coordination with other appropriate agencies, should also plan and operate extreme Lake drawdowns for environmental purposes in a manner that, to the greatest extent possible, avoids an MFL violation. If significant changes to the Lake's water level management occurs due to new information, altered operational plans, or regulation schedule, a re-evaluation of the minimum level criteria will be conducted. This re-evaluation will occur as part of the next Lake Istokpoga MFL update which is scheduled to occur in 2010, or sooner, if significant changes to Lake management are proposed.

(8) Florida Bay. Under existing system conditions, violations of the MFL are not anticipated to occur. Therefore, a prevention strategy is contained in this rule. In addition to the prevention strategies identified in subsection 40E-8.421(1), F.A.C., the following actions will be taken:

(a) Modifications to operations for improved management of freshwater discharges to the headwaters of Taylor Slough and the southeast Everglades should consider the MFL, in coordination with:

1. The Modified Waters Deliveries to Everglades National Park project and the C-111 Canal project, and any associated operational and construction plans pursuant to these projects;

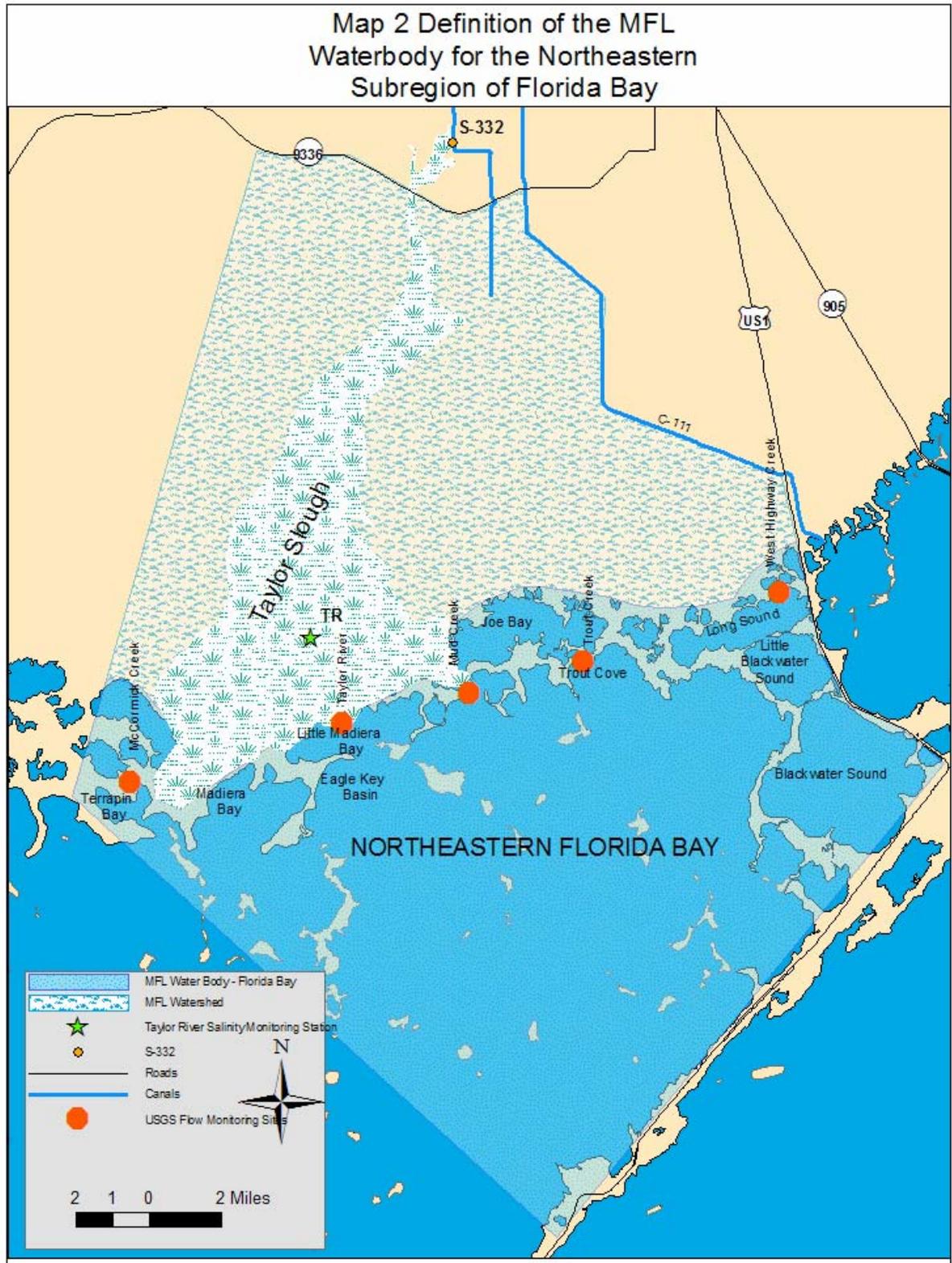
2. The C-111 Canal Spreader Acceler8 and CERP Projects;

3. The CERP Florida Bay and Florida Keys Feasibility Study.

(b) The SFWMD, in cooperation with other management agencies, will continue field monitoring and research to assess salinity, water level, and flow conditions and biological resource response in the region specified above.

(c) The update of the LEC Plan (anticipated in 2006) will contain a description of the elements, scheduling, and funding of the research and monitoring program and additional details of the prevention strategy for Florida Bay pursuant to Section 373.0421, F.S.

(d) These MFL criteria will be reviewed and may be revised no later than five years after adoption based on new information from the CERP Florida Bay and Florida Keys Feasibility Study or other scientific data that may become available. After the initial review, the MFL criteria will be reviewed at subsequent five-year intervals in conjunction with updates to the LEC Plan.



Specific Authority §§ 9, 10 P.L. 83-358, 373.044, 373.113, 373.171 FS. *Law Implemented* 373.016, 373.036, 373.0361, 373.042, 373.0421, 373.175, 373.216, 373.219, 373.223, 373.246 FS. *History*—New 9-10-01, Amended 11-11-02, 4-1-03, 1-19-06, 12-12-06, 4-23-07, 10-14-08.

40E-8.431 Consumptive Use Permits.

(1) Consumptive use permit applications that propose to withdraw water directly or indirectly from a MFL water body, that meet the conditions for permit issuance in Part II of Chapter 373, F.S., (including implementing rules in this chapter, Chapter 40E-2, F.A.C., the Water Use Basis of Review, and Chapter 40E-20, F.A.C., as applicable), and are consistent with the approved recovery and prevention strategies under Section 373.0421, F.S., will be permitted. Consumptive use permit applications will be reviewed based on the recovery and prevention strategy approved at the time of permit application review.

(2) An existing permit will not be subject to revocation or modification by the District, prior to permit expiration, based on its impact on a MFL water body, unless the District has determined in the regional water supply plan that the reasonable-beneficial use served by the existing permitted allocation can otherwise be met from new or alternative water sources available (in place and operational) concurrent with such revocation or modification.

(3) A permittee must comply with the requirements of Rule 40E-2.351, F.A.C., in order to obtain a permit transfer to a new permittee.

Specific Authority 373.044, 373.113, 373.171 FS. *Law Implemented* 373.016, 373.036, 373.0361, 373.042, 373.0421 FS. *History*—New 9-10-01.

40E-8.441 Water Shortage Plan Implementation.

(1) Water shortage restrictions will be imposed as required by District rules on the direct or indirect withdrawals from a MFL water body if a MFL exceedance occurs or is projected to occur during climatic conditions more severe than a 1 in 10 year drought, to the extent consumptive uses contribute to such exceedance. Under these circumstances, the District will equitably distribute available supplies to prevent serious harm to the water resources, pursuant to Sections 373.175 and 373.246, F.S., and the District's Water Shortage Plan, Chapter 40E-21, F.A.C. The Water Shortage Plan utilizes a phased cutback approach with the severity of use restrictions increasing commensurate with increased potential for serious harm to the water resources.

(2) Water shortage restrictions will not be used in place of a component in an approved recovery plan to provide hydrologic benefits that are ultimately to be provided by such recovery strategy.

(3) MFL criteria will not be utilized to trigger water shortage restrictions during climatic conditions less severe than a 1 in 10 year level of drought.

(4) Water shortage restrictions will be implemented considering the factors in Chapter 40E-21, F.A.C., and this rule. In declaring a water shortage to protect a MFL water body, the governing board shall give consideration to:

(a) The level of drought;

(b) Whether the MFL criteria will be or is being exceeded due to direct or indirect withdrawals;

(c) The magnitude of the impact on the MFL water body, including water resource functions addressed by the MFL, from such withdrawals;

(d) The magnitude of the regional hydrologic improvements projected to be derived from the proposed cutbacks;

(e) Water management actions significantly contributing to the MFL exceedance; and

(f) The practicality of using other methods, such as deliveries of water from the regional system, to reduce MFL exceedances.

(5) The establishment and implementation of MFLs shall not limit the District's ability to impose water shortage restrictions pursuant to Sections 373.175 and 373.246, F.S., and the District's Water Shortage Plan, Chapter 40E-21, F.A.C., when water levels in a MFL water body are above an established MFL, nor shall it limit the District's ability to allow for the discharge or withdrawal of water from a MFL water body, when water levels are below an established MFL.

(6) Phase III water shortage restrictions may be imposed, consistent with the factors herein, when a MFL criteria exceedance or violation is imminent. Phase III or greater water shortage restrictions shall be implemented allowing for a shared adversity between continuing consumptive use and water resource needs.

Specific Authority 373.044, 373.113 FS. Law Implemented 373.042, 373.0421, 373.175, 373.246 FS. History—New 9-10-01.