BROOKER CREEK
WATERSHED MANAGEMENT PLAN

(Chapters 1-15)

Submitted to:

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EXECUTIVE SUMMARY

Introduction

In September 2003, Hillsborough County retained Ayres Associates Inc to update the Watershed Management Plan (WMP) for the Brooker Creek watershed, which was originally prepared in 2001. The main objective of this project is to perform water resources, natural systems assessment, Total Maximum Daily Load (TMDL), and water quality modeling for the watershed and prepare its supporting documents.

This study does not include the task of updating hydrological and hydraulic models for the watershed. As a result, Chapters 1 through 6 of this report remain for the most part, similar to the original version prepared in 2001. Throughout the report, where water quantity is discussed, this was generally left unchanged. Chapters 7 through 15 have been added to the report to reflect recent watershed conditions and studies performed during this study.

Based on the information collected and the analysis performed, a series of alternatives were developed to address water quality issues within the watershed. Chapter 15 presents the recommended projects for water quality improvement. In addition, a cost estimate for each recommended project was prepared. Since no hydraulic analysis could be performed, the accurate project sizing was not known. Therefore, project costs presented in this report may be subject to adjustments, depending on their actual size and detailed designs.

Condition of the Watershed

The Brooker Creek Area (BCA) watershed drains approximately 22 square miles of land located in northwest Hillsborough County, Florida. Brooker Creek is located in the northern half of the watershed and outfalls to Lake Tarpon in Pinellas County. The southern part of the watershed is comprised of a lake chain and wetland system that outfalls under Patterson Road into a drainage ditch and ultimately outfalls to Pinellas County. The southern system is also partially interconnected to the northern system via small diameter pipes that were most likely installed for agricultural purposes. Currently the project area consists of both agricultural and single family land uses. Some of the residential areas located in the BCA watershed include: Cheval, Canterberry, Van Dyke Farms, Keystone Terrace, and the Sand Dollar Resort.

The purpose of the study was to develop a computer simulation model of the BCA watershed. The model was used to develop this Storm Water Management Master Plan (SMMP) for the BCA watershed. The objective of the SMMP is to determine levels-of-service (LOS) for existing stormwater infrastructure and to develop alternatives and recommendations for improving those systems that are deficient.

In August of 2000, the existing conditions portions (Chapters 1 – 6) of the SMMP was updated to include calibration of the model using the September and December 1997 storms (El Nino) and adaptation of the model to Hillsborough Counties latest SWMM model.

The update also included adding in any significant development that occurred from 1995 – 2000 within the basin.

The U.S. Environmental Protection Agency's Storm Water Management Model (SWMM) was used to model the Brooker Creek watershed. The SWMM model utilizes a RUNOFF Block for hydrologic simulation and the EXTRAN Block for detailed hydraulic simulation. The RUNOFF Block, was modified by Hillsborough County to use the SCS runoff method, incorporating the required SCS shape factor of 256 which is dictated by the flat terrain of Florida.

The model study included field reconnaissance and collection of available survey and other relative data (e.g. SWFWMD aerials etc.). The model developed for the BCA basin includes the simulation of 107 subbasins and numerous open and closed conduit reaches. Numerous storage elements were also included to simulate the significant storage capacity of the existing lakes and wetland systems. Available rainfall data from two SWFWMD rain gages and stage data for eighteen lakes located within the basin were used for calibration of the model.

Historically, the BCA has had minimal flooding problems that are directly related to Brooker Creek. Per Hillsborough County's Northwest Maintenance Unit those areas where there have been significant problems in the past, such as the overtopping of Patterson Road in the southern part of BCA basin have been corrected. Other ongoing problems are localized and are typically a result of depressional areas or undersized driveway culverts or lack thereof.

The results of the model suggest that the LOS at three roadway crossings may not meet the County's requirements. The County's level of service requirements for road crossings state flooding of the roadways may not occur for either a 5, 10 or 25-year storm event. These include crossings at Spencer, Echo View, and Boy Scout Roads. Potential alternatives were developed and modeled for all the crossings as part of the original 1988 Brooker Creek SMMP. All of the alternatives were to increase the existing pipe sizes from as small as 18 in. to as large as double 30 in. pipes. Based on an initial estimate the cost for these improvements would range from $5,400 to $77,600. Additionally, it has also been verified that these improvements would not reduce the level of service of the downstream basins. Other possibilities to consider may include the impoundment of runoff at various locations in the watershed to enhance existing wetlands through supplemental hydration.

Recent County Improvements: Of the alternatives mentioned above, only Boy Scout Road had both historical evidence and model predicted flooding. Therefore, it was the only alternative recommended for implementation as part of the original Master Plan study. This project was recently completed by the County as part of the Capital Improvements Program (CIP 47129, Boy Scout Road Culvert Upgrade) and was added to the existing conditions model. The improvements have resulted in an improved LOS of "A" for the roadway crossing in this area. The two other locations are still only being recommended for monitoring.

Further model refinements can be made through the collection and verification of additional data (e.g., survey, field reconnaissance, additional interviews with local residents, etc.). This particularly applies in cases where there is a lack of historical data related to the “model identified” problem areas.

The SWMM model created for the BCA produces reasonable results for the simulation of hydrology and hydraulics of the basin. Model results suggest that the basin is neither peak nor volume sensitive and normal development criteria should apply. Additionally future development within the basin can continue to be incorporated into the model as well as other potential alternatives.

Water Quality, Natural Systems, and TMDL Requirements

The assessment of existing water quality and natural systems for the watershed is presented in Chapters 7 and 8, respectively, while water supply issues are discussed in Chapter 9. The existing information was used to perform pollutant loading and removal modeling (Chapter 10). The modeling results were used to develop water quality level of service (LOS) that is discussed in Chapter 11. Public involvement process and survey of potential contaminant sources are described in Chapters 12 and 13, respectively. Subsequently, best management practices (BMPs) were developed to address existing water quality issues that are presented in Chapter 14. In selecting the location for final structural BMPs, attempts were made to identify and use available publicly owned properties. Additional exploratory site visits were also performed to examine the suitability of the sites for specific projects. Final recommendations along with individual preliminary cost estimates are presented in Chapter 15.

To meet water quality standards both the Federal (Clean Water Act [CWA]) and state (Chapter 62-302, Florida Administrative Code [F.A.C.]) rules apply, and certain actions must be taken to protect, restore, and maintain water quality. In addition, for the area of this project, discharges to surface waters are also regulated by the Florida Department of Environmental Protection (FDEP), Southwest Florida Water Management District (SWFWMD), Hillsborough County Environmental Protection Commission (HCEPC), and/or the US EPA, depending on types and magnitude of the discharge. Water quality assessment of the BCA and TMDL evaluations were conducted taken into considerations all the applicable regulations by collecting water quality data and using a water quality model described in Chapter 7. A brief summary is described below.

Overall Water Quality Level of Service (LOS)

Using an average score for all water quality parameters combined, the overall LOS score for the entire watershed is a D. The greatest concentration of D and F scores for total nitrogen, total phosphorus, and TSS, was located in the central region of the watershed primarily surrounding the Keystone Lake, as well as nearby residential areas. These areas are predominantly comprised of various density residential and agricultural uses. These land uses contribute large quantities of various pollutants into surface waterbodies.

The overall low LOS score for the entire watershed (D) indicates that many subbasins surrounding large areas of contiguous remnant natural systems have been developed to some degree, resulting in low LOS scores for seemingly large undeveloped subwatershed.

Unless effective treatment measures are implemented, continued loading to surface waters in the watershed, and eventually into Old Tampa Bay, may result in significant water quality degradation. Efforts to reduce loading of pollutants to the Brooker Creek, channels, lakes, sinkholes, and groundwater should be incorporated into future management activities for the watershed. Reduction of pollutant loading should include implementation of local and regional stormwater best management practices (BMPs) to reduce or eliminate pollutant loading to receiving waters. To achieve this goal, a variety of BMPs, such as wet detention ponds, baffle boxes, alum treatment, improved wastewater treatment systems, and restoration of natural ecosystems may be used.

Natural System Conditions

The Brooker Creek watershed area encompasses 14,272 acres in Hillsborough County. The watershed contains plant communities, both terrestrial and aquatic, that provide a variety of important environmental functions, including habitat for listed species and other wildlife, stability for stream banks and lake shores, improvement of water and air quality, and moderation of water and air temperatures. However, plant communities have undergone several periods of significant alteration since the 1830's as land use in the watershed changed from original conditions to agriculture to the current suburban/urban uses. Land use shifts have left the watershed with substantially less acreage in native plant communities, impaired water quality in streams, degradation of all plant communities by non-native invasive plants, and highly disturbed stream banks and lake shores. Most populations of native wildlife have been reduced and/or eliminated. The changes to the natural system impact ecosystem behavior in ways that may alter water quality and viability of habitats. In order to remedy the adverse impacts to water quality, maintain healthy habitats, and meet the regulatory requirements, appropriate BMPs are recommended. Such recommendations are made based on the survey of existing natural conditions and water quality improvement goals.

Regulatory Background/TMDL

The Total Maximum Daily Load (TMDL) was originally promulgated as a part of the Federal Water Pollution Control Act and was later expanded by the Clean Water Act (CWA). The law requires states to define state-specific water quality standards for various designated uses and to identify water bodies that do not meet established water quality standards. Water bodies that do not meet such water quality standards as a result of human-induced conditions, are to be considered impaired.

In Florida, the TMDL process is multi-phased and includes identification, verification, and listing of impaired waterbodies, followed by the development and implementation of constituent-specific TMDL for different water quality parameters.

The Brooker Creek watershed has been delisted by FDEP for coliforms and nutrients, but US EPA proposed a TMDL for DO and has approved a TMDL for Fecal Coliforms. Public water supply requirements have impacted water levels/quality in both the surface water system and aquifers in the Tampa Bay region and TMDL development for receiving waters will be required in the near future.

Pollutant Loading and Water Quality Level of Service (LOS)

The gross pollutant loading within the watershed was estimated based on the 2004 land use and soils characteristics. The 2004 land use map indicated 10 different land uses categories that were evaluated for the pollutant loading model. Water quality evaluations were performed by assessing 12 water quality constituents in receiving waters. Gross pollutant loading was estimated by assuming no treatment of stormwater runoff. This parameter indicates the potential of each land use in yielding contaminants into the environment. To approximate the net pollutant loading within the watershed, the loading reduction due to the existing BMPs, was subtracted from the gross loading value for that watershed. Analyses were conducted at both watershed and subbasin levels. The details of these analyses are discussed in Chapter 10 of this report.

Based on these results, a water quality treatment level of service was determined at the subbasin and watershed levels within the Brooker Creek watershed. This type of analysis facilitates prioritization of water quality improvement alternatives for the watershed. Water quality treatment levels-of-service criteria were used as part of this study to allow comparisons of existing and proposed stormwater treatment conditions to pollutant loading goals and to help prioritize alternative BMPs throughout the watershed.

Three water quality constituents were identified and analyzed in greater detail due to their importance in local water quality management programs. These parameters included total suspended solids, total phosphorus, and total nitrogen. In addition, based on specific concerns, some subbasins required assessment of other parameters, including heavy metals and bacteria. Excess nitrogen can stimulate algal growth resulting in reduced light penetration through the water column, resulting in loss of seagrass. Other factors that affect light availability in the Bay are also of concern, including excess total suspended solids. Excess phosphorous can promote eutrophication and algal blooms, leading to degradation of water quality. Results from the pollutant loading model were used to develop LOS for each water quality constituents that are fully described in Chapter 11 of this report.

Structural BMP Alternatives

Analyses were performed using GIS to strategically locate structural BMP sites for water quality and natural systems improvements. Various methods were used to identify feasible alternative projects for implementation that are described extensively in Chapter 14. Water quality conditions were evaluated using the County's Water Quality Treatment Level of Service criteria and pollutant loading model. The proposed alternatives are developed to improve water quality and natural systems consistent with the overall goals of the County.

Recent aerial photos were used to identify the most suitable and cost-effective sites for implementation of structural BMPs. The main criteria for site selection included proximity to streams/rivers (500-meter buffer zone), open areas, and publicly owned properties that are readily available for stormwater treatment in the form of retention or detention facilities. Initially a total of four locations for potential siting of structural BMPs are identified. Of the 4 potential sites, all fall within the 500-meter buffer of major streams. GIS analyses were performed to verify that the identified sites had no existing construction and were open areas suitable for construction of a stormwater treatment facility. The analysis showed that all four sites met this criterion. Further GIS analyses were performed to identify the parcels that were publicly owned. A field survey was conducted to examine the feasibility of placing BMPs at these four facilities. The survey indicated that only two of the four sites are feasible and are recommended as potential structural BMPs locations based on the established criteria in this study, except that these sites are privately owned. Site location, photos, maps and detailed preliminary cost estimates are described in Chapter 15. A brief summary of each site and total costs are presented below:

1. Binder

This site is located at the corner of Cosme Road and Gunn Highway and is under private ownership. The site is located to the west of an orange grove. The parcel also contains a private residence; however, the area located to the south of Cosme Road may provide and opportunity for water retention. This area of land is open with a few large trees. No wetland feature is visible and a tree nursery is located across the street of Cosme Road. This location is suitable for a structural alternative. The estimated cost of implementing such facility is $1,077, 700.

2. Rainbow Terrace

This site is located at the intersection of Crawley Road and Roberts Road, along Rainbow Terrace. The size and location of the parcel make it an acceptable location for a small treatment pond. This location is adjacent to an agricultural property and a horse farm. In addition, there is a possibility of a small wetland located in the back of the parcel. This location is fenced off due to its private ownership; land acquisition costs will be considered during the final cost analysis. This location may not only provide an opportunity for a wetland improvement/expansion project, but also become a home to a new treatment pond. The estimated cost of implementing this facility is $869,432.

In addition to the structural BMPs enumerated above, there are various state and local agencies that provide educational and outreach materials for the public at large and academic institutions. The specifics of these educational programs are presented in Chapter 15.

CHAPTER 1: INTRODUCTION

1.1 Project Location and Description

The Brooker Creek (BCA) watershed lies in the northwest portion of Hillsborough County. The watershed has two major conveyance systems. These two loosely connected portions of the basin are best described as the northern and southern systems. The eastern half of the northern system is comprised of several lake chains and wetland storage areas that form the beginnings of the creek. Brooker Creek is located in the western half of this system and eventually outfalls to Lake Tarpon in Pinellas County. The southern system is comprised of a lake chain and wetland system that discharges under Patterson Road and ultimately into the Double Branch Creek system. The northern and southern systems are partially interconnected by small diameter pipes in the area of Patterson Road. The location of the BCA watershed is indicated on Figure 1-1.

The majority of the BCA project area is rural and agricultural land cover with urban development concentrated around the lake chains. Significant residential areas located in the BCA watershed include: Cheval, Canterberry, Van Dyke Farms, Keystone Terrace, and the Sand Dollar Resort.

1.2 Current Management of the Watershed

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1.3 Climate of the Brooker Creek Watershed

The climate in Hillsborough County can be characterized as subtropical. The average annual rainfall is approximately 50 inches. The wet season is approximately four months long during the summer, usually beginning in June and ending in September. The summer is generally hot and humid with daily high temperatures in the 90's. Afternoon thunderstorms of high intensity and short duration are common during the wet season.

1.4 Historical Flooding

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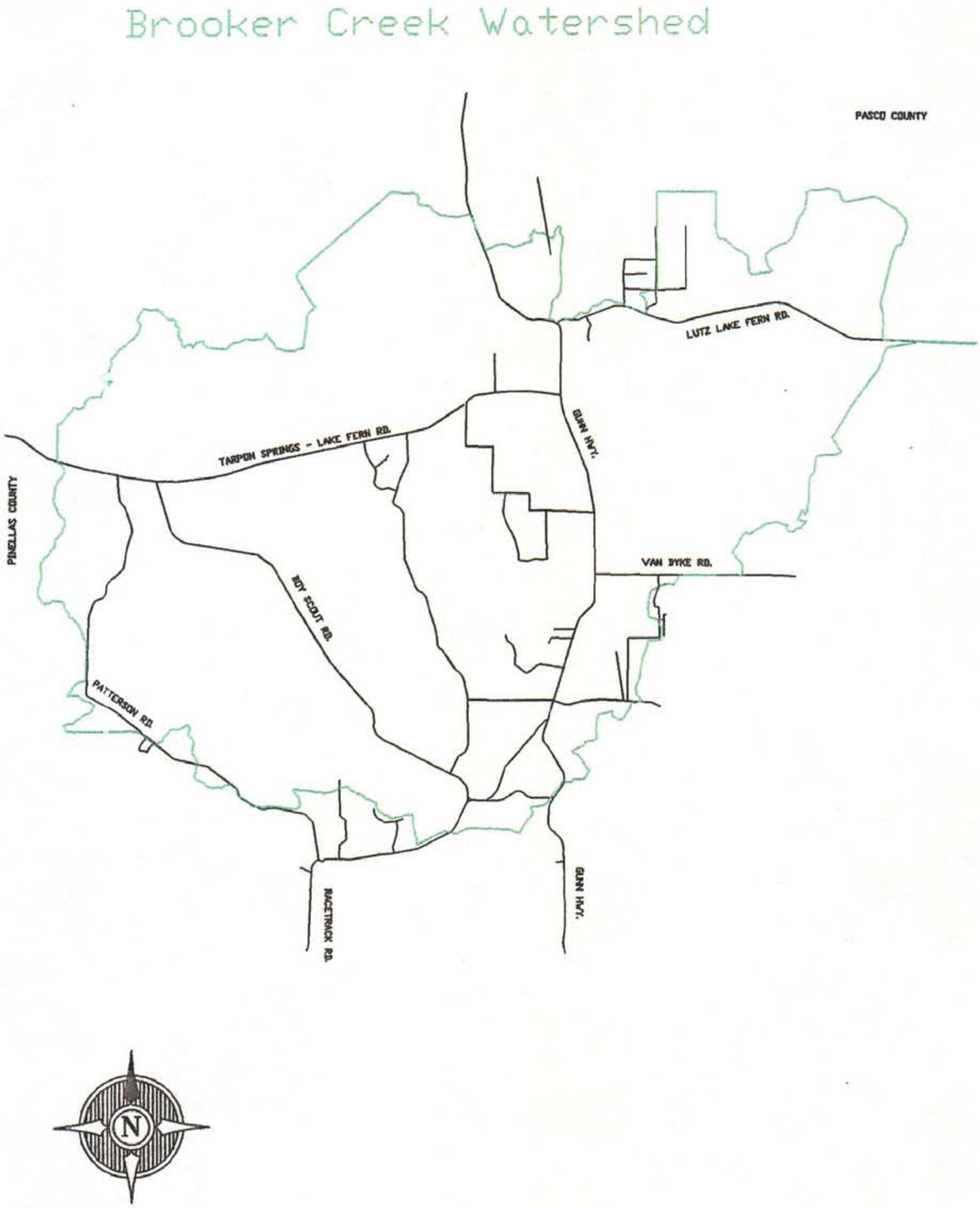


Hillsborough County Florida

Brooker Creek
Existing Conditions Model

Figure 1 - 1
Existing Conditions
Basin Location Map

1.5 Scope of the Project

The scope of the project includes the establishment of the existing conditions for the BCA stormwater management infrastructure in terms of computed water surface elevations and discharge rates. A computer model of the major physical characteristics of the watershed has been developed to determine the existing conditions for the 2.33-year, 5-year, 10-year, 25-year, 50-year and 100-year design storm events.

1.6 Background and Data Collection

In 1996 Hillsborough County retained Ayres Associates to develop an EXTRAN model for the Brooker Creek watershed using the Hillsborough County Stormwater Management Modeling System (HILLSMMS). The model was developed using the latest available SWFWMD aerial contours (1989) and survey information from 1995. This model was stabilized but never calibrated. In 1997, Ayres Associates was again retained to perform a review of the model against current watershed characteristics. The scope of work also included calibrating the model to a known event and assisting the County in generating this SMMP report for the watershed during FY 1998.

The EXTRAN block of the Hillsborough County model was modified by Ayres Associates based on changes in the watershed characteristics. The information contained in the HEC-1 hydrologic input file generated during the original effort was also modified. The EXTRAN block was then used along with the hydrologic data as input for a modified SWMM model (Ver. 4.31n). The modeling effort reported herein is based on a hydrodynamic modeling technology that computes discharge and water surface elevation as a function of simulated time.

Water surface profiles showing computed water surface elevations at principal locations along Brooker Creek have been included. The predicted lake surface elevations for 24 lakes located within the basin have also been included. Computed water surface elevations on channels and/or waterways are frequently significantly lower than the expected flood elevations at adjacent or off-line sites. There is frequently a significant gradient between the computed data point and the remote site. Water surface elevations at points outside the channel or lake basin where computed water surface elevations are reported should be evaluated by a registered professional engineer before being used for design or construction purposes.

In August of 2001 Advantage Engineering completed an update of the SMMP which included Chapters 1 – 6 or existing conditions portions of the SMMP (previous version Chapters 1 – 5).

The update included:

- Updating the existing SWMM Model to Hillsborough County's latest modified version.
- Renumbering all of the nodes and junctions to include the BCA descriptor number 49 in all numbers for easy identification of the watershed.
- The addition of new development or significant physical changes that have occurred in the watershed during the period from 1995 – 2000 (e.g., new roads, developments, stormwater projects, etc.).

The update also included additional verification of the previous model calibration using the September and December 1997 storms which occurred during El Nino, which is consistent with calibration runs used in the completion of other recent SMMPs located in Hillsborough County.

1.7 Project Objectives

The objective of this study is to develop an existing conditions model for the BCA watershed. The model was used to develop this Storm Water Management Master Plan (SMMP). The SMMP evaluates the level-of-service for existing conditions and investigates potential improvements for raising the level-of-service.

CHAPTER 2: GENERAL DESCRIPTION

The Brooker Creek Area (BCA) watershed drains approximately 22 square miles of land located in northwest Hillsborough County, Florida. Brooker Creek is located in the northern half of the watershed and outfalls to Lake Tarpon in Pinellas County. The southern part of the watershed is comprised of a lake chain and wetland system that outfalls under Patterson Road into a drainage ditch and ultimately outfalls to Pinellas County.

The southern system is also partially interconnected to the northern system via small diameter pipes that were most likely installed for agricultural purposes. Currently the project area consists of both agricultural and single family land uses. Some of the residential areas located in the BCA watershed include: Cheval, Canterberry, Van Dyke Farms, Keystone Terrace, and the Sand Dollar Resort.

2.1 Climate

The climate of the BCA, and for Hillsborough County as a whole, can be classified as humid subtropical. Annual average precipitation is around 52 inches and almost 60% of this total falls during the four-month rainy season that extends from June through September. This time frame coincides with the occurrence of most tropical storms and hurricanes and the conditions are ripe for regular, convective afternoon and evening thunderstorms. These summer events, which can be very localized, are highly variable in both intensity and volume. The larger, normal summer storm events and those associated with tropical systems can cause flooding problems in areas where there are deficiencies in existing stormwater systems.

Winter rainfall is, historically, relatively light and is generally associated with the weak cold fronts that descend from the northern part of the country and travel south through the region. However, in late 1997 and early 1998, some of the largest rain events occurred in the winter months, and this is especially true in El Nino years.

The mean annual temperature in Hillsborough County is approximately 72°F (Fahrenheit). The mean monthly temperature ranges from a low of approximately 60°F in January to a high of approximately 82°F in August. Typically, summer temperatures range from morning lows in the high 70's and low 80's to afternoon highs that routinely reach into the mid-90's, but rarely do they exceed 100°F. Summer humidity that ranges into the mid to upper 90's can further exacerbate the situation. Conversely, typical winter low temperatures generally range above freezing into the 40's; only occasionally dropping into the low 20's and teens. High temperatures generally reach into the upper 60's or low 70's for most of the season, especially between passages of the cold fronts.

2.2 Topography

The Basin, shown in Figure 2-1, is composed of 107 sub-basins ranging in size from approximately 10 to 400 acres. Topography varies from a high of greater than 50 feet National Geodetic Vertical Datum (NGVD) in the northwestern portion of the watershed to a low of less than 20 feet NGVD at its outfall near Lake Tarpon. Figure 2-2 presents the basin topography.

2.3 Soils

Soil distribution by type is shown in Figure 2-3. This information was developed based on Geographical Information Systems (GIS) coverages developed by SWFWMD. Much useful information, such as drainage classification, percent slope, water table depth, permeability, natural vegetation and potential uses for development and agriculture, can be obtained by consulting the SCS Manual for Hillsborough County for each particular soil type.

These soil types can be arranged into four groups based on their runoff-potential; these types are shown in Figure 2-4. The hydrologic groups are commonly used in watershed planning to estimate infiltration rates and moisture capacity. Soil properties that influence the minimum rate of infiltration obtained for a bare soil after prolonged wetting are: a) depth to seasonally high water table, b) intake rate and permeability, and c) depth to a layer or layers that slow or impede water movement. The major soil hydrologic groups are:

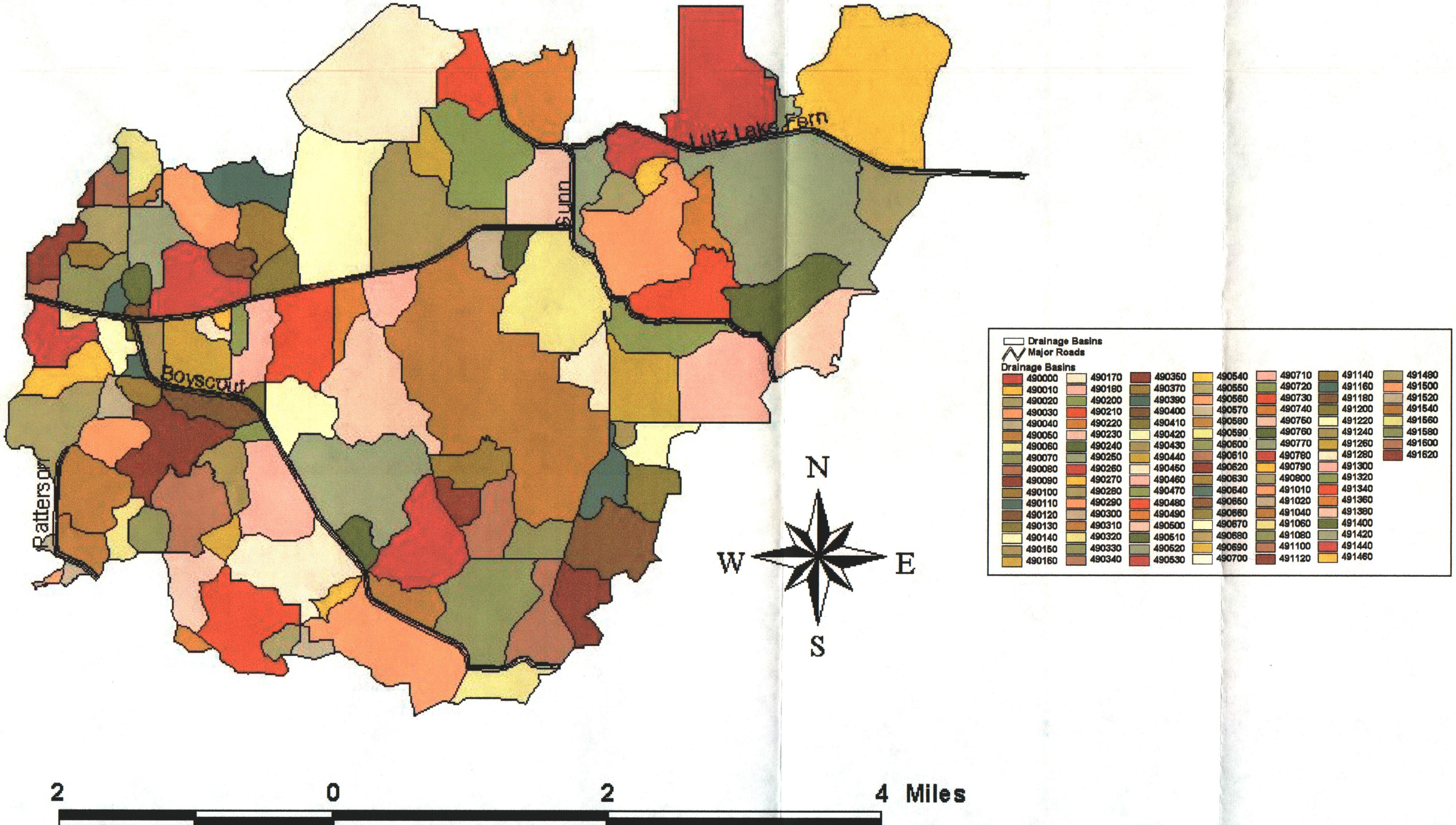
- Group A (low runoff potential) soils have high infiltration rates and a high rate of water transmission even when thoroughly wetted. They have typical infiltration rates of 10 in./hr when dry and 0.50 in./hr when saturated.

- Group B (moderately runoff potential) soils have moderate infiltration rates when thoroughly wetted and a moderate rate of water transmission. They have typical infiltration rates of 8 in./hr when dry and 0.40 in./hr when saturated.

- Group C (moderately high runoff potential) soils have low infiltration rates when thoroughly wetted and a low rate of water transmission. They have typical infiltration rates of 5 in./hr when dry and 0.25 in./hr when saturated.

- Group D (high runoff potential) soils have very slow infiltration rates when thoroughly wetted and a very low rate of water transmission. They have typical infiltration rates of 3 in./hr when dry and 0. 10 in./hr when saturated.

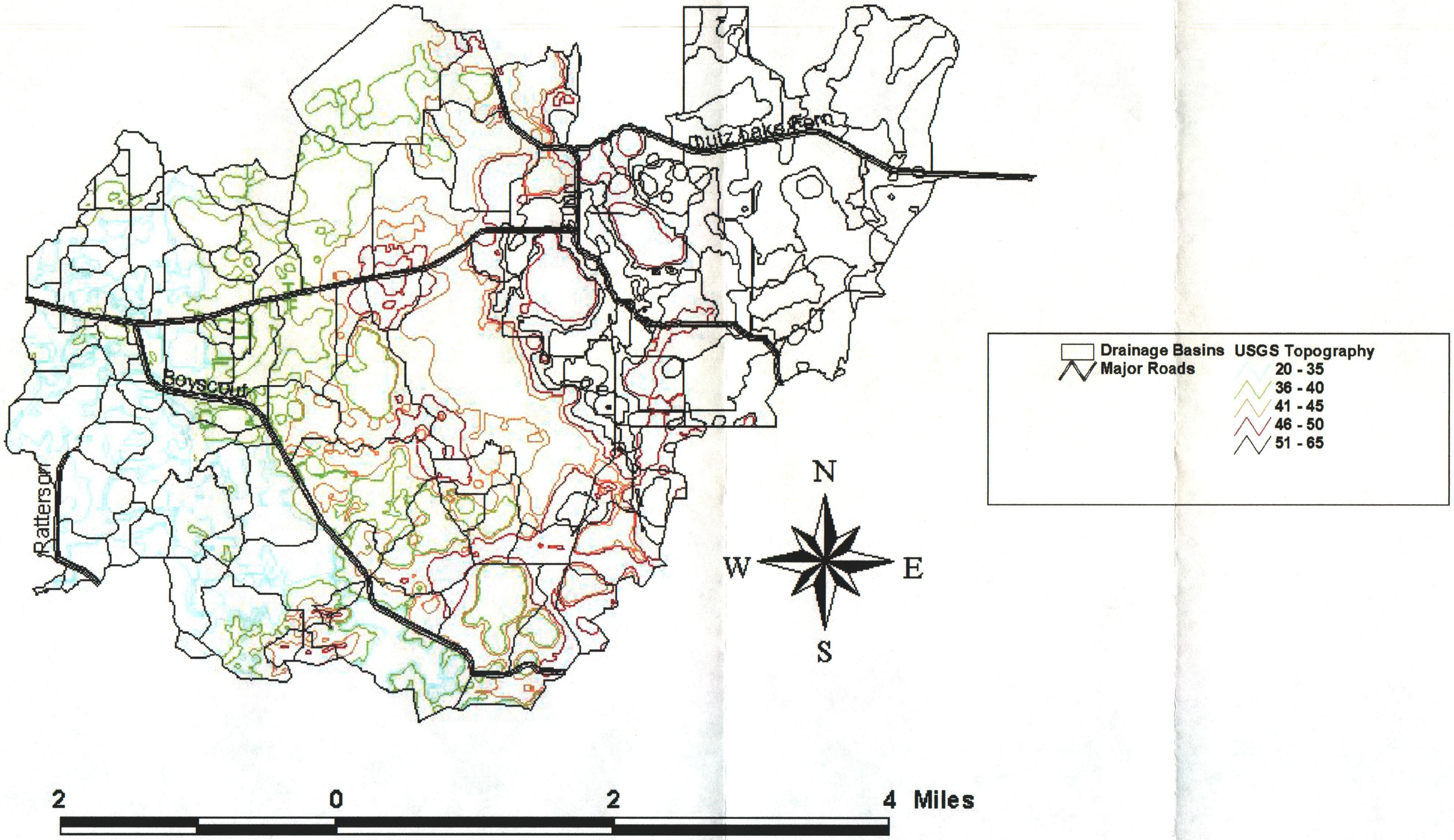
Soils can also be assigned dual classifications (e.g. A/D or B/D) to soils that exhibit substantially different hydrologic characteristics during the wet and dry seasons. During the wet season, these soils become saturated throughout much of the soil column due to elevated water table conditions.



Brooker Creek
Storm Water Management Plan
Advantage Engineering, Inc.

SWIM Basin Delineations

Figure
2-1

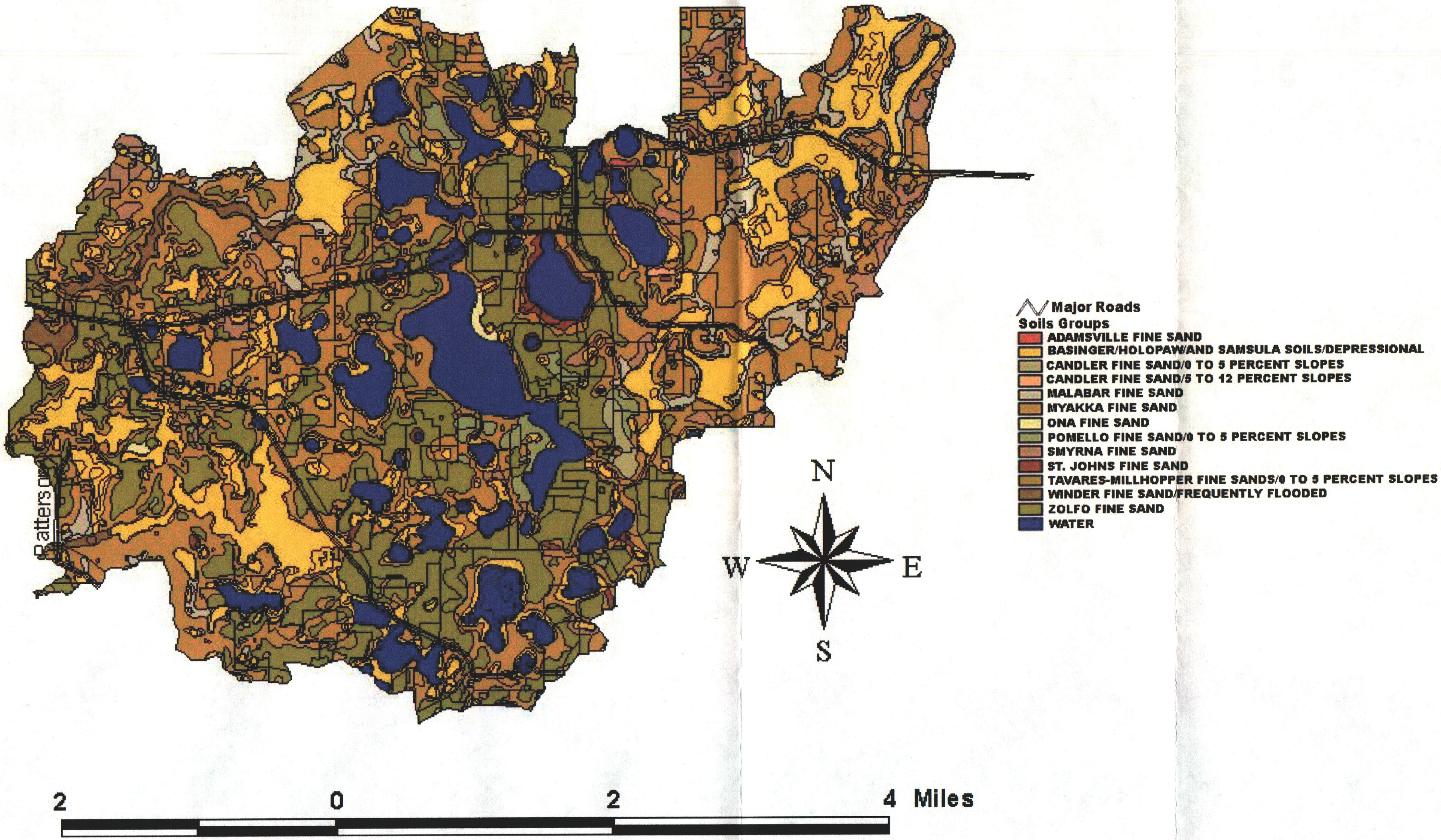


Brooker Creek
Storm Water Management Plan
Advantage Engineering, Inc.

Topography

Figure

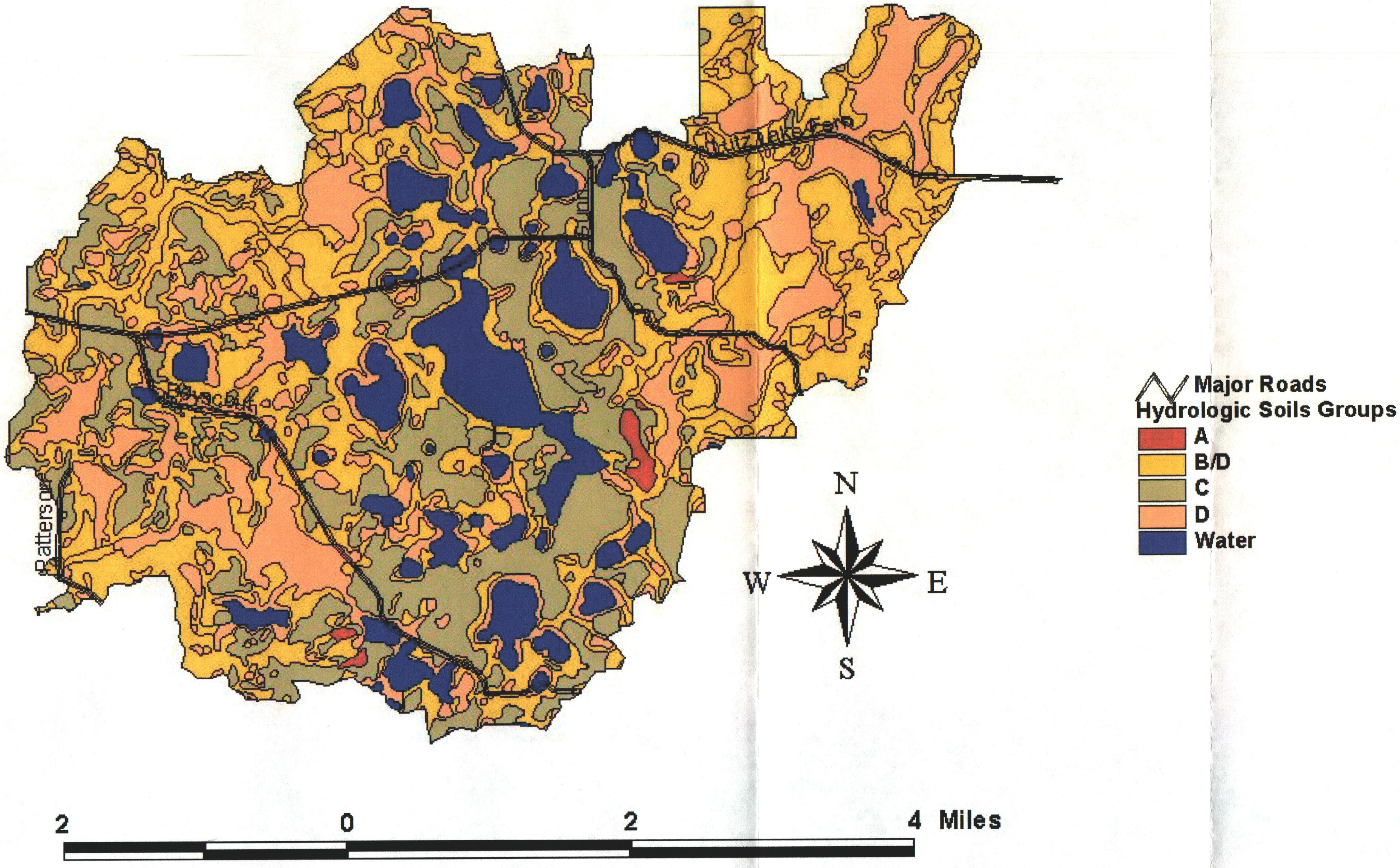
2-2



Brooker Creek
Storm Water Management Plan
Advantage Engineering, Inc.

Soil Types

Figure
2-3



Brooker Creek
Storm Water Management Plan
Advantage Engineering, Inc.

Hydrologic Soils Group

Figure
2-4

Infiltration is thus impeded and the soils exhibit Group D infiltration and runoff rates. During the dry season when the water levels recede, infiltration rates increase and runoff rates decline to Group A or Group B levels. Soil types that fall within the B/D classification found within the BCA are Adamsville, Bassinger, Malabar, Pomello, St Johns, and Smyrna fine sands. Table 2-1 presents the area percentages of each soil group for each of the four hydrologic soils groups.

Table 2-1 Area Percentage for Hydrologic Groups

MUID	MUNAME	AREA	%AREA	HYDGRP
057002	Adamsville Fine Sand	5464586.252	0.88%	B/D
057005	Basinger/Holopaw/And Samsula Soils/Depressional	221202805.4	35.65%	B/D
057005	Basinger/Holopaw/And Samsula Soils/Depressional	54928758.93	8.85%	C
057005	Basinger/Holopaw/And Samsula Soils/Depressional	58606097.75	9.45%	D
057005	Basinger/Holopaw/And Samsula Soils/Depressional	17218311.45	2.78%	W
057007	Candler Fine Sand/0 To 5 Percent Slopes	26348.3939	0.00%	D
057007	Candler Fine Sand/0 To 5 Percent Slopes	5037900.54	0.81%	W
057008	Candler Fine Sand/5 To 12 Percent Slopes	179855.9131	0.03%	D
057027	Malabar Fine Sand	324510.1942	0.05%	A
057027	Malabar Fine Sand	4638883.325	0.75%	B/D
057027	Malabar Fine Sand	10954904.54	1.77%	C
057027	Malabar Fine Sand	9394664.818	1.51%	D
057027	Malabar Fine Sand	19071397.58	3.07%	W
057029	Myakka Fine Sand	2128408.371	0.34%	A
057029	Myakka Fine Sand	7085742.713	1.14%	B/D
057029	Myakka Fine Sand	14449366.32	2.33%	C
057029	Myakka Fine Sand	15753436.56	2.54%	D
057029	Myakka Fine Sand	8440643.783	1.36%	W
057033	Ona Fine Sand	370095.5606	0.06%	B/D
057033	Ona Fine Sand	200091.5424	0.03%	D
057041	Pomello Fine Sand/0 To 5 Percent Slopes	2373538.959	0.38%	B/D
057041	Pomello Fine Sand/0 To 5 Percent Slopes	6525765.781	1.05%	C
057041	Pomello Fine Sand/0 To 5 Percent Slopes	2811540.046	0.45%	D
057041	Pomello Fine Sand/0 To 5 Percent Slopes	260225.5268	0.04%	W
057046	St. Johns Fine Sand	524816.119	0.08%	B/D
057046	St. Johns Fine Sand	32175970.33	5.19%	C
057046	St. Johns Fine Sand	1168825.091	0.19%	D
057046	St. Johns Fine Sand	142065.9491	0.02%	W
057052	Smyrna Fine Sand	1125415.089	0.18%	B/D
057052	Smyrna Fine Sand	5536849.888	0.89%	C
057052	Smyrna Fine Sand	24159028.6	3.89%	D
057052	Smyrna Fine Sand	930656.0688	0.15%	W
057053	Tavares-Millhopper Fine Sands/0 To 5 Percent Slopes	1064792.486	0.17%	D
057060	Winder Fine Sand/Frequently Flooded	191646.0062	0.03%	C

MUID	MUNAME	AREA	%AREA	HYDGRP
057060	Winder Fine Sand/Frequently Flooded	2212093.452	0.36%	D
057061	Zolfo Fine Sand	731876.7183	0.12%	A
057061	Zolfo Fine Sand	4117108.021	0.66%	B/D
057061	Zolfo Fine Sand	15252193.02	2.46%	C
057061	Zolfo Fine Sand	5622429.171	0.91%	D
057061	Zolfo Fine Sand	12225691.44	1.97%	W
057099	Water	30782032.8	4.96%	B/D
057099	Water	3946366.876	0.64%	C
057099	Water	4619776.721	0.74%	D
057099	Water	6482424.014	1.04%	W

2.4 Land Use / Coverage

Existing Land Uses

The Southwest Florida Water Management District's 1995 Land Use/Land Cover Map is shown in Figure 2-5. There are several areas of Significant or Essential Upland Wildlife Habitat which exist within the watershed area which are associated with the Brooker Creek floodplain and other large lake and wetland areas. Residential areas are concentrated around many of the lakes with other subdivisions scattered throughout the portion of the watershed. The majority of these residential areas tend to be older subdivisions with little or no stormwater treatment being provided.

Future Land Uses

Due to the large lake and wetland areas in the BCA, not many changes in land use are predicted by the Hillsborough County Comprehensive Plan.

Table 2-2 Area Percentage for Various 1995 Land Uses

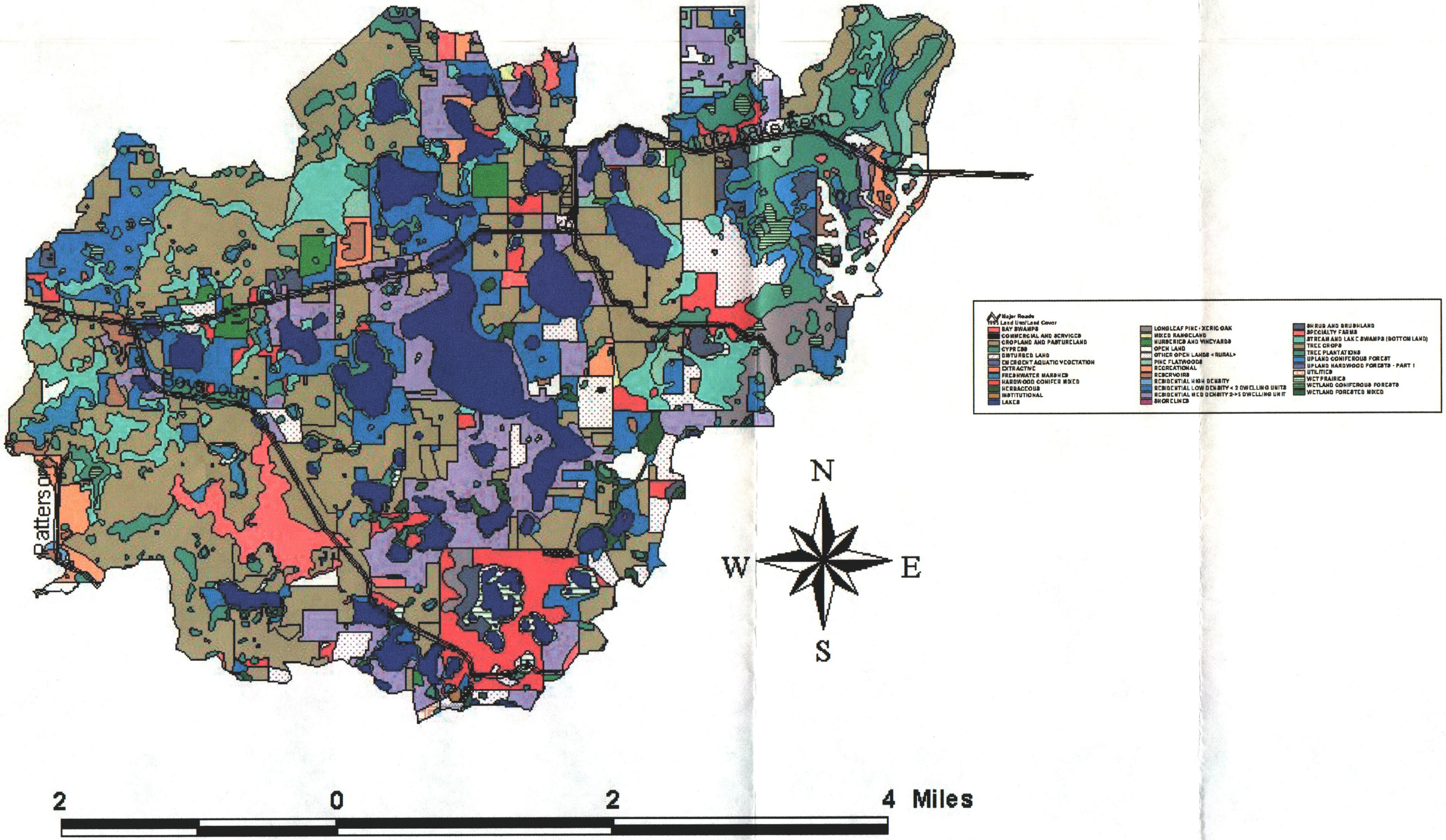
FLUCCS	FLUCSDESC	AREA	% AREA
1100	RESIDENTIAL LOW DENSITY < 2 DWELLING UNITS	8714618.0	2.01
1200	RESIDENTIAL MED DENSITY 2->5 DWELLING UNIT	27342517.7	6.30
1300	RESIDENTIAL HIGH DENSITY	836805.4	0.19
1400	COMMERCIAL AND SERVICES	56699.2	0.01
1600	EXTRACTIVE	53655.3	0.01
1700	INSTITUTIONAL	13868.2	0.00
1800	RECREATIONAL	4975197.8	1.15
1900	OPEN LAND	4714123.8	1.09
2100	CROPLAND AND PASTURELAND	342709866.2	78.90
2200	TREE CROPS	6025306.3	1.39
2400	NURSERIES AND VINEYARDS	707709.3	0.16
2500	SPECIALTY FARMS	543569.9	0.13

FLUCCS	FLUCSDESC	AREA	% AREA
2600	OTHER OPEN LANDS <RURAL>	2611784.3	0.60
3100	HERBACEOUS	11439.1	0.00
3200	SHRUB AND BRUSHLAND	1232806.5	0.28
3300	MIXED RANGELAND	707709.3	0.16
4100	UPLAND CONIFEROUS FOREST	477131.9	0.11
4110	PINE FLATWOODS	836805.4	0.19
4120	LONGLEAF PINE - XERIC OAK	2150693.3	0.50
4200	UPLAND HARDWOOD FORESTS - PART 1	19577.9	0.00
4340	HARDWOOD CONIFER MIXED	2404238.4	0.55
4400	TREE PLANTATIONS	54833.5	0.01
5200	LAKES	6255321.7	1.44
5300	RESERVOIRS	812452.8	0.19
6110	BAY SWAMPS	1312165.8	0.30
6150	STREAM AND LAKE SWAMPS (BOTTOMLAND)	3702479.7	0.85
6200	WETLAND CONIFEROUS FORESTS	429892.1	0.10
6210	CYPRESS	5184073.1	1.19
6300	WETLAND FORESTED MIXED	1109586.5	0.26
6410	FRESHWATER MARSHES	1365941.0	0.31
6430	WET PRAIRIES	523835.5	0.12
6440	EMERGENT AQUATIC VEGETATION	6255321.7	1.44
6520	SHORELINES	11302.6	0.00
7400	DISTURBED LAND	67838.6	0.02
8300	UTILITIES	117109.4	0.03

2.5 Physiography and Hydrology

The BCA lies within the Polk Upland physiographic unit as defined by White. This unit is part of the Central or Mid-Peninsular physiographic zone, one of three in Florida. This zone is characterized by discontinuous highlands formed by sub-parallel ridges that are separated by broad valleys. Land elevations in the BCA vary between a high of approximately 60 feet NGVD in the northeast portions of the watershed to a low of around 20 feet NGVD near the Lake Tarpon outfall. These elevations are shown on Figure 2-2. The watershed has two major outfalls or system.

There are many lakes, wetland areas and depressions located within the watershed. The numerous lakes and other depressional features in the area have been formed by sinkhole formation and other processes associated with the dissolution of the underlying limestone formations. Small lakes tend to be round, the most common expression of a sinkhole or solution feature.



Brooker Creek
Storm Water Management Plan
Advantage Engineering, Inc.

1995 Land Use

Figure
2.5

Larger lakes usually are formed by the coalescence of several or many solution features and do not express a characteristic shape. Surface flows are generally from the northeast to the west toward Lake Tarpon.

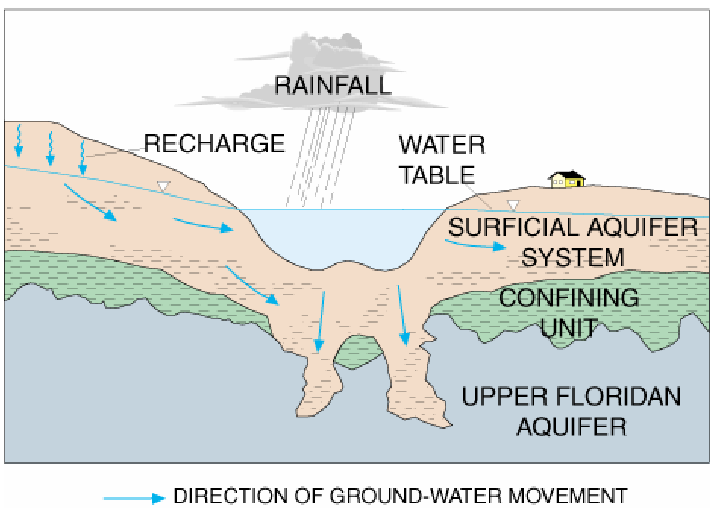
2.6 Hydrogeology

The area is underlain by a thick sequence of sedimentary strata divided into an upper zone of unconsolidated sediments and lower zone of consolidated carbonate rock.

At land surface, undifferentiated sediments including silt, sand, and clay form surficial deposits which vary in thickness from less than 10 feet in coastal areas to over 100 feet in paleokarst depression or in sand ridges. Typical thickness of the surficial deposits varies from 20 to 50 feet. In low-lying areas near lakes and streams, thin layers of organic material mix with the surficial deposits. Pleistocene-aged silts and clays form the base of the undifferentiated sediments.

Underlying the unconsolidated material is a series of Tertiary-aged limestones and dolomites that form the carbonate platform of peninsular Florida. The sequence of carbonate rocks includes, in descending order, the following formations: Tampa Member of the Hawthorn Group, Suwannee Limestone, Ocala Group, Avon Park, Oldsmar, and Cedar Key Formations. A lithographic change from limestone and dolomite to a sequence of gypsiferous dolomite begins in the lower portion of the Avon Park Formation and continues into the Oldsmar and Cedar Key Formations. The top of this lithologic change marks the middle confining unit of the Floridan aquifer system. The middle confining unit is generally considered the base of the freshwater production zone of the Upper Floridan aquifer.

The Tampa Member of the Hawthorn Group is a tan-colored carbonate and sand mixture, which can contain variable amounts of clay and minor amounts of phosphate. The Tampa Member can be fossiliferous and may also contain phosphate grains and chert. The Tampa Member ranges from 50 to 150 feet in thickness. The Suwannee Limestone consists of two rock types; the upper portion is a tan-colored, crystalline limestone containing prominent gastropod and pelecypod molds, and the lower portion is a cream-colored limestone containing foraminifers and pellets of micrite in a finely crystalline limestone matrix. The Suwannee Limestone varies from 150 to 300 feet in thickness. The Ocala Group contains a series of limestones that are generally soft, friable, porous and fossiliferous. This unit is late Eocene in age and ranges in thickness from 90 to 300 feet. The



Avon Park Formation comprises brown, highly fossiliferous, soft to well-indurated, chalky limestone and a gray to brown, very fine microcrystalline dolomite. The Avon Park Formation ranges from 300 to 500 feet in thickness.

The hydrogeologic flow system of the Tampa Bay region contains two distinct groundwater reservoirs: the unconfined surficial aquifer and the semi-confined Upper Floridan aquifer. The Upper Floridan aquifer is under water table conditions in areas where the clay confining layer is discontinuous or absent

Surficial Aquifer

The surficial aquifer is comprised primarily of unconsolidated deposits of fine-grained sand with an average thickness of 30 feet. Due to the karst geology of the region, thickness of the sand is highly variable. The depth of the water table ranges from near land surface to several tens of feet below land surface. Water table elevation is primarily influenced by rainfall; annual highs in most years occur during the end of the wet season (in Sept.- Oct.), and annual lows occur near the end of the dry season (in May-June). The direction of groundwater flow varies locally and is significantly influenced by the topography of the land surface. The hydraulic gradient (change of elevation per unit length) in the area typically ranges from a few feet per mile to about ten feet per mile. The permeability of the surficial aquifer is generally low and water withdrawn from this aquifer is used most often for lawn irrigation and watering livestock. Surficial aquifer wells typically yield less than 20 gallons per minute.

Semi-Confining Zone

Below the surficial aquifer is a semi-confining unit comprised of clay, silt and sandy clay that somewhat retards the movement of water between the overlying surficial aquifer and the underlying Floridan Aquifer. The confining materials are comprised of blue-green to gray, plastic, sandy clay and clay. The upper portion of the Arcadia Formation (Hawthorn Group) typically forms the semi-confining layer.

Leakage from the surficial aquifer into the Floridan aquifer occurs by infiltration across the semi-confining layer or through fractures or secondary openings in the semi-confining unit caused by chemical dissolution of the underlying limestone. Due to the highly karstic nature of the geologic system, the clay semi-confining layer can be absent in one area but tens of feet thick a short distance away. These localized karst features, in which the clay semi-confining layer is breached or missing, significantly increases hydraulic connection between the two aquifers (Hancock and Smith 1996).

Upper Floridan Aquifer

The Upper Floridan aquifer consists of a continuous series of carbonate units that include portions of the Tamar Member of the Hawthorn Group, Suwannee Limestone, Ocala Limestone and Avon Park Formation. Groundwater within the Upper Floridan aquifer is typically under artesian conditions within the project area.

Near the base of the Avon Park Formation lies the middle confining unit of the Floridan aquifer, an evaporate sequence of very low permeability that is composed of gypsiferous dolomite and dolomitic limestone. The middle confining unit generally delineates the boundary between the freshwater Upper Floridan aquifer and the brine-saturated Lower Floridan aquifer. The evaporites function as a lower confining unit and retard vertical flow across the boundary. In general, the permeability of the Upper Floridan aquifer is moderate in the Tampa Member and Suwannee Limestone, low in the Ocala Limestone and very high in portions of the Avon Park Formation. The limestone and dolomite beds produce significant quantities of water due largely to numerous solution openings along bedding planes and fractures. The Ocala Limestone yields limited amounts of water and may be considered a semi-confining layer within the Upper Floridan aquifer. Overall, the Ocala Limestone tends to act as a semi-confining zone between the overlying Tampa/Suwannee Formations and the underlying Avon Park Formation. Transmissivity of the Avon Park Formation is very high due to the fractured nature of the dolomite zones.

Groundwater flow in the Floridan aquifer originates as rainfall that percolates downward from the surficial aquifer. In areas where the Upper Floridan aquifer outcrops, this recharge can be direct. Recharge rates are generally higher in the northern portion of the County. Recharge can be highly variable throughout the area, however, due to karst ecology and induced leakage caused by groundwater withdrawals. The regional hydraulic gradient and direction of flow in the Upper Floridan aquifer is generally toward the south and west.

CHAPTER 3: WATERSHED DESCRIPTION

3.1 Introduction

This chapter contains a general description of the two major conveyance systems in the BCA watershed. The existing conditions level of service analysis for the major conveyance systems is contained in Chapter 6.

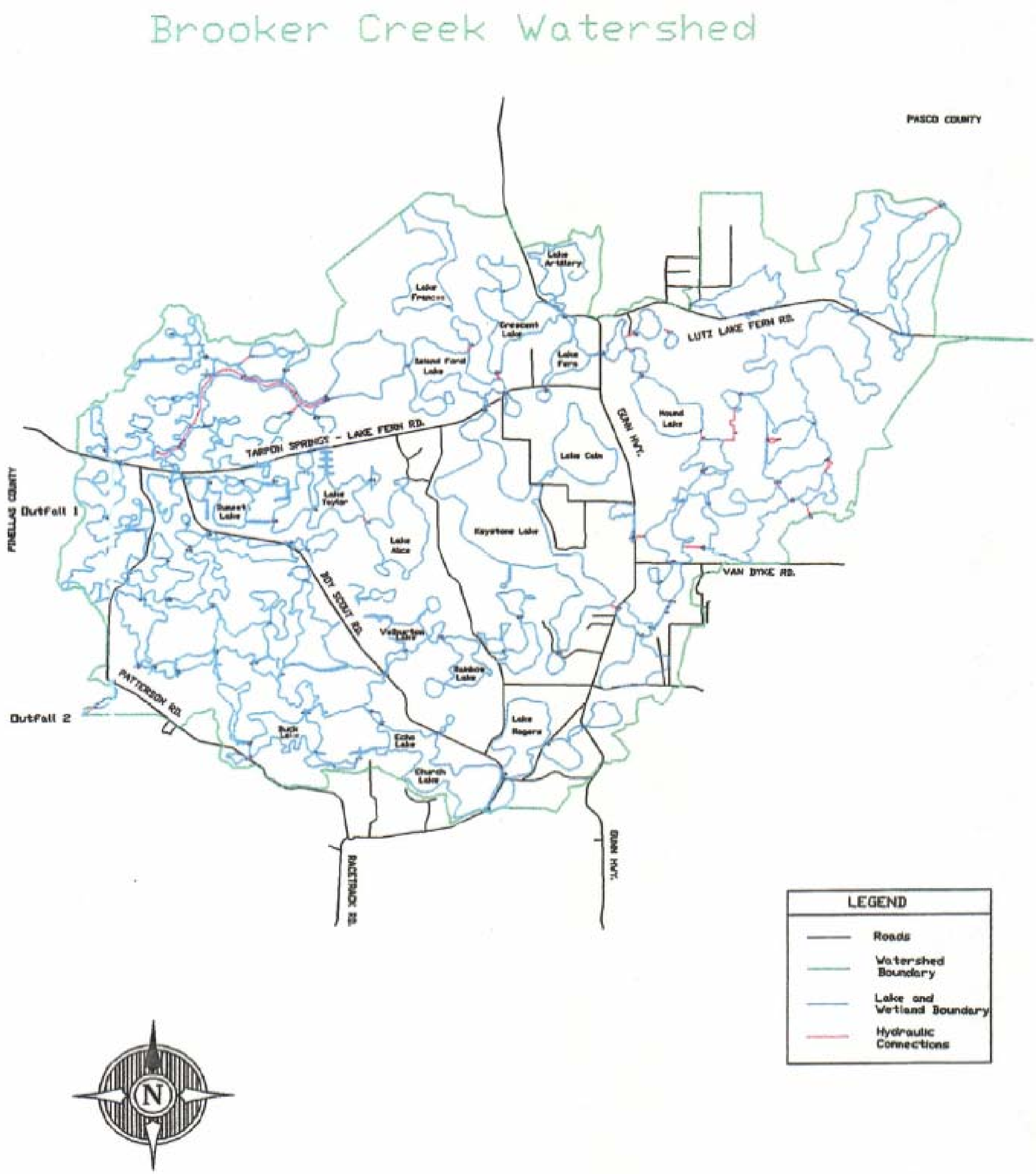
The description of major conveyance systems in the BCA watershed has been segmented into discussion areas as follows:

1) Northern System
   - A.) Wetlands and Keystone Lake
   - B.) Island Ford Lake and Lateral Lake Chain
   - C.) Lake Alice Chain
   - D.) Brooker Creek Channel

2) Southern System
   - A.) Horse Lake Chain
   - B.) Lake Juanita Chain
   - C.) Orange Grove Wetlands and Outfall Ditch

Each discussion area represents a distinct system, or lateral. As a part of this update, over fifty-one (51) new systems were initially reviewed and considered for adding to the model. Some of these permits consisted of minor development or required modifications to the original permit. However, only twenty-one (21) new systems were further copied and reviewed for the model update. A sensitivity analysis was done for each site to determine its relative impact to the overall watershed. As a result primary changes to the model only included updating the CN's for various sub-basins and in some cases modifying basin divides. A summary of the changes is provided in the table located at the end of this section.

Figure 3-1 identifies locations of the outfalls, as well as other existing conditions features within the Brooker Creek project area. Exhibits 1 and 2 contain existing conditions water surface profiles computed for the mean annual, 5-, 10-, 25- and 100-year events for Brooker Creek. Exhibits 3-7 contain lake surface elevations computed for the 10-, 25-, and 100-year events. A Sub-basin Boundary Map and Link-Node Diagram is also included as Exhibit 8. The link node diagram is useful for locating junctions, conduits, channels, weirs, and storage areas in the SWMM model.



Brooker Creek
Existing Conditions Model

Figure 3-1

Existing Conditions
Basin Features Map

3.2 Northern System

The northern system of the watershed is comprised of several wetlands and lake chains that form the beginnings of Brooker Creek. This system also contains the creek itself as it becomes channelized in the wetlands downstream of Island Ford Lake. The boundary between the northern and southern lake chains is well defined. However, downstream of the lake chains the boundary is not as well defined. The systems are partially interconnected by small culverts at the boundaries of large wetlands. While these basins are contiguous, no clear flow path exists between the basins.

3.2.1 Wetlands and Keystone Lake

The wetlands located in the northeast part of basin are the headwaters of Brooker Creek. The wetland located to the north of Cheval drains south under Lutz Lake Fern Road into several other wetland basins. These wetlands form the start of Brooker Creek which flows south under Van Dyke Road before turning westward towards Gunn Highway. The creek discharges under Gunn Highway into a short canal leading to Keystone Lake. The canal connects to the large bend in Keystone Lake located in the southern part of the lake. Keystone is the largest lake in the watershed with an approximate surface area of 400 acres. Discharge from Keystone is controlled by two adjustable gates at the northern end of the lake. The gates discharge into the box culverts under Tarpon Springs Road that connect Keystone Lake to the southern end of Island Ford Lake.

3.2.2 Island Ford Lake and Lateral Lake Chain

Island Ford Lake is also the outfall of a lateral lake chain that contributes to the flow downstream in Brooker Creek. While some of the lateral lake chain basins are connected by well-defined flow paths, others are only connected by overland flow. The chain begins with Mound Lake and Lake Elizabeth connecting to Lake Wood. A canal connects the western boundary of Lake Wood to Lake Fern. A wetland located in the northern part of the Lake Fern basin connects this part of the chain to Crescent Lake. Lakes Artillery and Wastena discharge into Crescent Lake from the north to complete the lateral lake chain. Crescent Lake connects to Island Ford Lake via a wetland branch extending to the south. There are three adjustable gates and a concrete spillway at the western end of Island Ford Lake. This structure controls the collective discharge of the two systems.

3.2.3 Lake Alice Chain

Lake Alice is the starting point of an additional lake chain that contributes flow to Brooker Creek. This lake chain is located to the south of Tarpon Springs Road and west of Keystone Lake. Lake Alice is connected to Lake Taylor by overland discharge. Sunset Lake to the west is connected to Taylor Lake via irrigation ditches in a plant nursery. Sunset Lake is connected on its western border to Jackson Lake. Flow from this lake chain then passes under Boy Scout Road and turns north. The flow immediately passes under Tarpon Springs Road and joins Brooker Creek.

3.2.4 Brooker Creek Channel

The Island Ford control structure discharges into a large wetland that also receives the overflow of Lake Francis. Brooker Creek becomes channelized in this region of the northern system. The Creek flows in a westward direction for almost a mile before turning towards the south. It then flows in a southwestern direction and receives the discharge of the Lake Alice chain before crossing under Tarpon Springs Road. The creek continues to flow in a southwesterly direction until crossing the county line where the SWMM model has a boundary condition. Brooker Creek eventually outfalls into Lake Tarpon in Pinellas County.

3.3 Southern System

The second major system in the Brooker Creek watershed is located in the southern half of the basin. This system is comprised of two lake chains and several large wetlands that flow from the eastern part of the basin to the west. The inter-connectivity of this system with the northern system is not clearly defined.

3.3.1 Horse Lake Chain

Horse Lake forms the beginning of a lake chain in the southeastern most part of the watershed. The lake is connected to the Lake Raleigh basin via a crossdrain under Gunn Highway. Lake Raleigh is connected to Lake Rogers on its northern border. This lake is connected to Church Lake under Boy Scout Road. Lake Echo and Church Lake are separated by a narrow wetland and are treated as one basin in the SWMM model. This basin is connected to the downstream wetlands by irrigation ponds within the orange groves that separate the basins.

3.3.2 Lake Juanita Chain

A second lateral lake chain exists in the southern system. This chain starts at Lake Juanita and connects to Rainbow Lake on the western side of Crawley Road. A wetland in the northern part of the Rainbow Lake basin connects to Velburton Lake. The overflow from Velburton is connected to the downstream wetlands via a ditch and a culvert under Boy Scout Road.

3.3.3 Orange Grove Wetlands and Outfall Ditch

The two southern lake chains discharge into the first of several wetlands. The wetlands in this region flow through several large orange groves. Flow in these wetlands is to the west towards the Sand Dollar Golf and Shooting Club. Discharge from the wetlands flows under a bend in Patterson Road via 3-42 inch RCP's where the road turns to the north. A well-defined ditch exists downstream of these culverts and outfalls the flow to a second drainage ditch that flows along the northern boundary of the Nine Eagles subdivision and out of the basin.

Table 3-1 1995-2000 New Permits – Brooker Creek Curve Number Adjustments

Curve Number Adjustments

Project Name	Permit Number	Site (Basin) Size (ac.)	Curve Number	Original Basin Number	Overall Basin Size (ac.)	Overall Curve Number	Adjusted Curve Number
Council Crest Subdivision	# 4013466	23.08	62.8	490430	312.9	89.3	89.3
Mound Lake Subdivision	# 4417882.00	74.2	83.56	490560	297.2	85.4	85.4
Fern Ridge Subdivision	# 495662.00	18.02	87.55	490530	35	84.32	87.30
Fern Ridge Subdivision	# 495662.00	69.94	88.16	490740	80.6	78.4	86.9
Lake Alice Subdivision	# 409771.00	43.53	78.67	490230	291.5	88.8	88.8
Keystone Shores Estates	# 4420036.00	88.8	84.5	490650	179	85.6	85.6
Kash n' Karry - Keystone Crossing	# 4421359.00	5.92	84.44	490680	17.3	66.5	72.6
B.B. Walker Middle School	# 4013491.00	19.43	86	491620	107.2	84.7	84.9
Suncoast Parkway SPN 97103-3300	# 4316172.00	81.45	90.7	490790	586.8	89.4	89.6

CHAPTER 4: HYDROLOGIC/HYDRAULIC MODEL METHODOLOGY

General Hydrology / Hydrologic Model Development

Several computer software products and analysis techniques have been used to develop the Brooker Creek existing conditions model. This chapter provides a general description of these methods and approaches.

The U.S. Soil Conservation Service (SCS) Runoff Curve Number (CN) method has been used to generate runoff hydrographs from rainfall data and watershed parameters. This method estimates expected storm water runoff on the basis of soil and land cover characteristics. Runoff hydrographs have been developed by the U.S. Soil Conservation Service Dimensionless Unit Hydrograph method. A modification of the HEC-1 computer program (U.S. Army Corps of Engineers) was used to generate runoff hydrographs.

Inflow hydrographs have been generated at nodes. Discharges have been routed through the system using a modified version of the EPA Storm Water Management Model v. 4.31 (SWMM). The EXTRAN block of SWMM provides a hydrodynamic channel routing model.

4.1 Hydrology

SWFWMD GIS soil coverage was used to obtain soil information for the BCA watershed. The SWFWMD coverage was developed from data in the SCS Soil Survey of Hillsborough County, Florida, 1989. Each soil polygon in the GIS coverage is associated with an attribute that designates its soil identification number. A database table was used to associate soil identification numbers with their corresponding hydrologic soil group (HSG). Hydrologic soil groups in the BCA watershed consist of five designations- A, B, C, D, B/D, and Water. The HSG A soils have a high infiltration rate and low runoff potential. HSG B soils are moderately well-drained and have a moderate infiltration rate. HSG C soils have slow infiltration rates and may contain a layer of fine texture soil which impedes the downward movement of water. HSG D soils include poorly-drained, very silty/clayey/organic soils or soils with high groundwater tables. Dual hydrologic classifications (B/D) includes soils which have a seasonal high water table but can be drained; the first hydrologic soil group designates the drained condition and the second hydrologic soil group designates the undrained condition of the soil. Figure 2-4 shows the hydrologic soil groups used in the analysis. It is based on the SWFWMD GIS soil coverage.

The SWFWMD GIS Land Use coverage (1995) was used to represent existing conditions land use. Each land use polygon in the GIS coverage is associated with an attribute that designates a classification from the Florida Land Use Classification System (FLUCCS). There has been development in the BCA Watershed since 1995 that would not be represented in the SWFWMD coverage. As impervious area increases, runoff usually increases. However, SWFWMD has been regulating quantity of storm water runoff since 1985. The objective of regulation has been to prevent peak runoff rates under developed conditions from exceeding peak runoff rates associated with predevelopment conditions. Figure 2-5 shows the Land Use/Land Cover data used in the analysis. It is based on the SWFWMD GIS coverage for land use/land cover. The SWFWMD land use coverage is based on 1995 aerial infrared photography.

Data Sources

Survey data was obtained from the Hillsborough County Survey and Mapping Section of the Real Estate Department and from other private sources. Culvert sizes, inverts, and cross section data was obtained from the County survey.

Many elevations were taken from SWFWMD aerial topographic maps. Most are to a scale of 1" =200' and show contours on a one foot interval. Elevations taken from maps include but are not limited to tops of roads; stage-area data for lakes, wetlands and other storage areas; inverts of channels; control elevations for overland flow evaluation; site and road elevations for level-of-service determinations.

Published reports, books, and maps used to obtain data or methodology are shown in the REFERENCES section of this report.

4.1.1 Hydrologic Model

The U.S. Army Corps of Engineers hydrologic computer model HEC-1 was modified to account for the relatively flat terrain of Hillsborough County. The modifications included altering the "shape factor" and the corresponding dimensionless unit hydrograph ordinates.

4.1.2 Rainfall Depths and Distribution

Rainfall depths were estimated from isohyetal maps shown in the Southwest Florida Water Management District's Environmental Resource Permitting Information Manual. The rainfall depths for the 1-Day (24 hours) storm event used in the model simulation are as follows:

STORM EVENT PRECIPITATION	24-HOUR DEPTH (in.)
Mean Annual	4.50
5-year	5.50
10-year	7.00
25-year	8.00
50-year	10.5
100-year	11.5

The design storm rainfall distribution used is the SCS 24-Hour Type II Florida Modified as required by SWFWMD and Hillsborough County.

4.1.3 Time-of-Concentration

Time-of-concentration estimates were made by adding the travel time for segments of appropriate flow paths. The methods used for calculating travel times are based on that shown in the Hillsborough County Stormwater Technical Manual, and are summarized as follows:

Overland Flow	Kinematic Wave Equation
Shallow Concentrated Paved	SCS equations relating velocity to watercourse slope
Shallow Concentrated Unpaved	SCS equations relating velocity to watercourse slope
Channel Flow	Assumed velocity 2 ft/sec
Pipe Flow	Assumed velocity 3 ft/sec

4.1.4 Basin Delineations

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4.1.5 Runoff Curve Numbers

The Soil Conservation Service (SCS) Runoff Curve Number method was used to compute rainfall excess values. Runoff Curve number calculations were based on a GIS intersection of the SWFWMD land use coverage with the SWFWMD soil coverage and with the Brooker Creek Watershed subbasin map. The subbasin map was prepared in AutoCAD and exported in DXF format. It was then imported to the GIS system for overlay with the soil and land use coverages. The resulting GIS polygons are associated with attributes of soil type and FLUCCS code as represented in the SWFWMD GIS coverages. Each soil type was then associated with a hydrologic soil group (A, B, C, or D), and each FLUCCS code was associated with an SCS land use category. A CN value was then assigned to each polygon based on the specific hydrologic soil group and land cover classification. Table 4-1 shows the database lookup table that was used to associate each FLUCCS code with an SCS land use category for purpose of computing runoff numbers (CN). The average area weighted CN value was then computed for each subbasin (Figure 4-1).

4.1.6 Initial Abstraction

An initial abstraction coefficient of 0.2 was used throughout this study. Initial abstraction is computed by HEC-1 as the initial abstraction coefficient multiplied by the soil storage depth. The soil storage depth(s) is computed from the runoff curve number (CN) by HEC-1 on the basis of the SCS methodology.

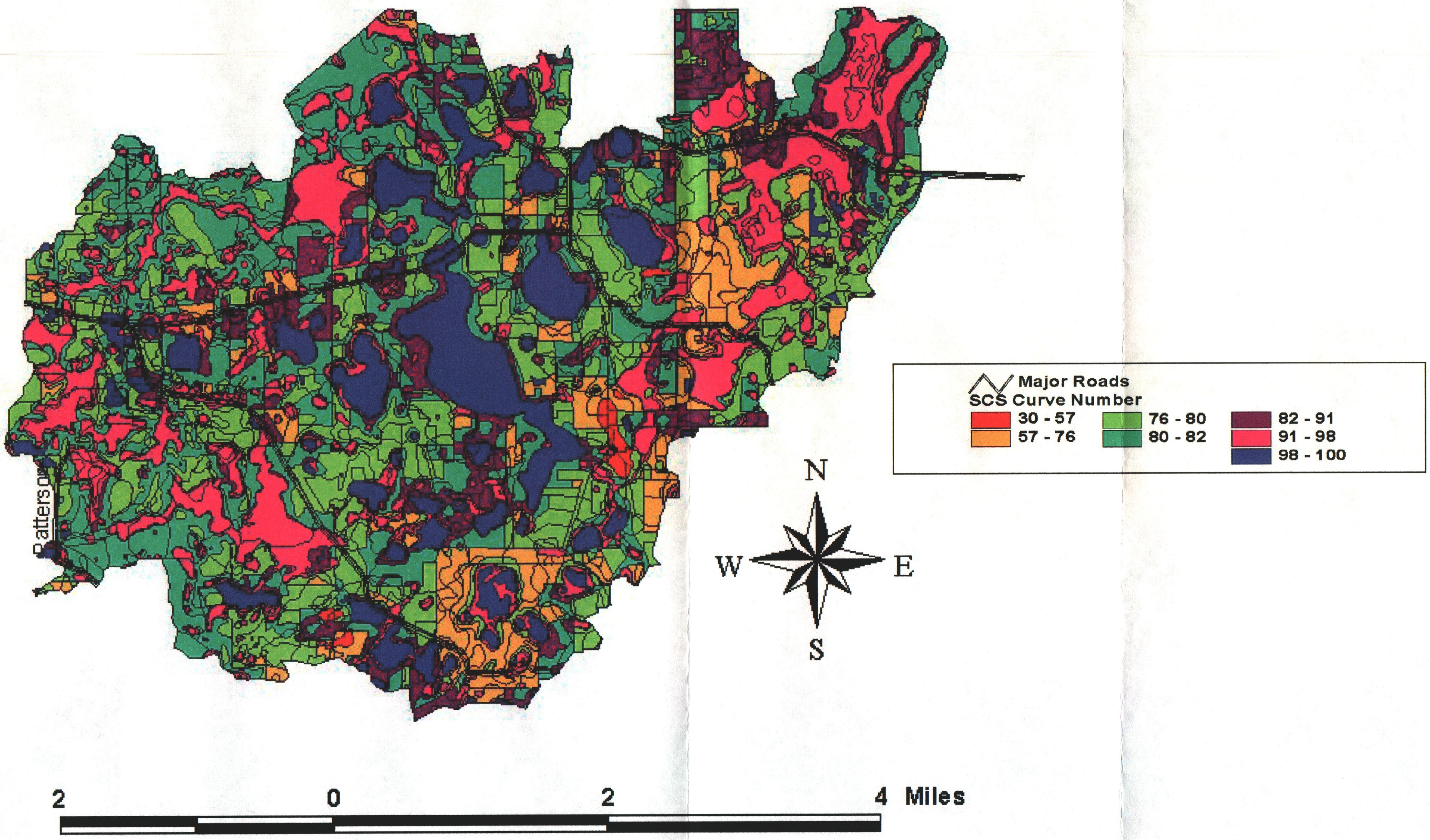
4.1.7 Shape Factor

The Hillsborough County Storm Water Management Technical Manual indicates that a value of 256 with a corresponding dimensionless unit hydrograph is appropriate for the County. Therefore the program was modified to use the "256" shape factor and the recommended dimensionless unit hydrograph.

Table 4-1 GIS Lookup Tables for Soil and Land Data

GIS Lookup Tables for Soil and Land Use Data

OBS	Description	FLUCS ID	Hydrologic Soil Groups					
			A	B	C	D	B_D	W
1	Residential Low Density	1100	50	68	79	84	81.5	100
2	Residential Medium Density	1200	57	72	81	86	83.5	100
3.	Residential High Density	1300	77	85	90	92	91.0	100
4	Commercial And Services	1400	89	92	94	95	94.5	100
5	Industrial	1500	81	88	91	93	92.0	100
6	Extractive	1600	77	86	91	94	92.5	100
7	Institutional	1700	69	81	87	90	88.5	100
8	Recreational	1800	49	69	79	84	81.5	100
9	Open Land	1900	39	61	74	80	77.0	100
10	Cropland And Pasture	2100	49	69	79	84	81.5	100
11	Tree Crops	2200	44	65	77	82	79.5	100
12	Feeding Operations	2300	73	83	89	92	90.5	100
13	Nurseries And Vineyards	2400	57	73	82	86	84.0	100
14	Specialty Farms	2500	59	74	82	86	84.0	100
15	Other Open Lands (Rural)	2600	30	58	71	78	74.5	100
16	Herbaceous Rangeland	3100	63	71	81	89	85.0	100
17	Shrub And Brush Land	3200	35	56	70	77	73.5	100
18	Mixed Rangeland	3300	49	69	79	84	81.5	100
19	Upland Coniferous Forests	4100	45	66	77	83	80.0	100
20	Pine Flatwoods	4110	57	73	82	86	84.0	100
21	Longleaf Pine - Xeric Oak	4120	43	65	76	82	79.0	100
22	Upland Hardwood Forest	4200	36	60	73	79	76.0	100
23	Hardwood Conifer Mixed	4340	36	60	73	79	76.0	100
24	Water	5000	100	100	100	100	100	100
25	Wetlands	6000	98	98	98	98	98.0	98
26	Barren Land	7000	77	86	91	94	92.5	100
27	Transportation Communication and Utilities	8000	81	88	91	93	92.0	100



Brooker Creek
Storm Water Management Plan
Advantage Engineering, Inc.

SCS Curve Numbers

Figure
4-1

4.2 Hydraulics

4.2.1 Hydraulic Model

A modification of the U.S. EPA SWMM 4.31 model was used to compute water surface elevations and discharges at links and nodes shown on the reach/junction schematic diagram. The SWMM EXTRAN block was used for hydraulic routing. The most significant modifications to EPA SWMM 4.31 included directly integrating the SCS method to generate runoff hydrographs, entrance and exit headloss coefficient, and conduit stretch factor.

Other minor changes included the increase of dimensions of a number of key parameters, enhancements to the inputs and the outputs and error trapping. Input enhancements included a provision for specifying reach numbers for orifices and weirs and another for using elevations rather than depths above invert for weir data. Several output enhancements have been provided including a provision for printing a summary file showing computed peak discharge values and computed peak water surface elevations.

4.2.2 Natural Channels

Natural channels are represented in EXTRAN as conduits with irregular cross section data. The cross section data is input as ground shots (elevations, and stations across the channel) in a format similar to that of HEC-2 (U.S. Army Corps of Engineers) cross section data. EXTRAN uses the cross section data only to obtain the shape geometry. It uses invert elevations input on the conduit records to determine the channel slope. Therefore, a natural channel is treated as a prismatic conduit with an irregular shape.

Roughness Coefficients

The roughness coefficients for the right, left, and center portion of channel sections were evaluated separately. In many cases, overbank areas were considered to be storage elements and not considered to have conveyance capability. Manning coefficients for channel sections were established by Hillsborough County staff engineers on the basis of photographs, site visits, and general knowledge of the area. The roughness coefficients may be adjusted in the future as more reliable field information becomes available. Higher roughness values sometimes result in smaller computed discharge values in downstream locations and larger computed water surface elevations in upstream locations.

This phenomena has been demonstrated in this basin near Patterson Road. Prior to the removal of excessive overgrowth in the downstream channel, this area was prone to flooding. The roughness values in this area would need to be adjusted as part of any calibration efforts for storm events occurring before the improvements.

For some conduits, roughness coefficients were adjusted internally by providing the entrance and exit losses coefficient externally. Pipe lengths and roughness values were also adjusted externally to achieve numerical stability. This procedure is explained in the SWMM User's Manual Version 4; Extran Addendum, Feb. 1989.

The equivalent pipe formula used to calculate the adjustments is as follows:

$$n_e = n_p L_p^{1/2} \; / \; L_e^{1/2}$$

where

n_e	=	Manning roughness of equivalent pipe
L_e	=	Computed equivalent length
n_p	=	Actual Manning roughness of the pipe
L_p	=	Actual length of the pipe

Additional storage was added at some junctions. This was done to achieve numerical stability at these junctions.

4.2.3 Conduits

Elliptical and arch pipes are included in the County's current version of the SWMM model.

4.2.4 Storage Facilities

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4.2.5 Weirs

At some roadway crossings, weirs were used to simulate the overtopping of the road. Broad crested weirs were also used to simulate overland flow connections. In some cases, overland flow weirs were used to convey overbank flow, which was modeled as re-entering the channel at a downstream junction point.

4.2.6 Orifices

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4.2.7 Initial Water Surface Elevations

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4.2.8 Dummy Junctions and Conduits

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4.2.9 Boundary Conditions

Where conduits contained in the EXTRAN block of the SWMM model discharge out of the Brooker Creek basin, boundary conditions are required to simulate the affects of tailwater. The boundary conditions in the BCA basin were modeled by two different methods. The northern part of the basin outfalls into a wetland while the southern part of the basin outfalls into a drainage ditch. The practices used to model these conditions are established in the Hillsborough County Stormwater Technical Manual. The computed water surface profiles and discharge values that are herein reported are based on the risk of a rainstorm only.

4.2.10 Numerical Instability

The EXTRAN model is based on an explicit solution algorithm used to solve the St. Vennant equations that describe unsteady flow in channels. Explicit solution algorithms are subject to numerical instability caused by accumulated round-off error. It is difficult to predict the conditions that cause numerical instability; however, short conduit lengths (less than 100 feet), steep bottom slopes for conduits, and low storage at nodes are frequently associated with numerical instability. Achieving numerical stability requires numerous adjustments to the model input data. Such adjustments include the use of equivalent pipes with longer lengths and lower roughness than the actual pipe dimensions, and the addition of storage at the junctions.

4.2.11 Link-Node Diagram

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CHAPTER 5: HYDROLOGIC/HYDRAULIC MODEL CALIBRATION & VERIFICATION

5.1 Existing Conditions Data Collection

This chapter contains the calibration procedure and data used for the BCA existing conditions model. The goal of the calibration effort was to develop a hydraulic model that reflects observed conditions in the watershed and that can be used to predict system performance for future events. Once calibrated, the model can be used to determine the benefits and impacts of proposed improvements.

The northern and southern systems within the Brooker Creek watershed each have their own outfall. The outfall for the northern system was modeled where the creek flows through a wetland into Pinellas County. To control the creek's tailwater a weir at elevation 27.6' NGVD was modeled in the last basin upstream of the outfall. This elevation was based on SWFWMD aerials. The discharge over this weir flows into a very large storage node set to a low elevation. This is done to eliminate any possibility of the water re-entering the system. Model simulation of the southern system outfall used a constant water surface elevation of 20.5' NGVD based on survey. The constant water surface at the outfall node was used to control the tailwater elevation of water in the drainage ditch. Additional information can bee seen in the discussion of Boundary Conditions in Chapter 4 (Methodology) of this report.

5.1.1 Selection

The original event of record used in the calibration of the BCA model occurred in June of 1995, as part of this update addition events were obtained for September and December 1997, which occurred during El Nino.

5.1.2 Antecedent Moisture Condition (AMC)

The SCS has assigned dual hydrologic soil classifications to many soils within the basin. One value represents drained conditions and the other value represents un-drained conditions for the same soil. The runoff characteristics for these and other soils are known only within a range of values depending on antecedent moisture conditions and the extent of surface development.

The available rainfall data indicated that conditions in the basin preceding the calibration events were very dry in some cases and very wet in others. The curve numbers were thus adjusted from an AMC II to an AMC I or to an AMC III respectively. This was done based on the following table taken from the SCS National Engineering Handbook, Section 4: Hydrology.

Table 5-1 AMC Curve Number Conversion Table

AMC-2	AMC-1	AMC-3	AMC-2	AMC-1	AMC-3
0	0	0	60	40	78
5	2	13	62	42	79
10	4	122	64	44	81
15	6	30	66	46	82
20	9	37	68	48	84
25	12	43	70	51	85
30	15	50	72	53	86
32	16	52	74	55	88
34	18	54	76	58	89
36	19	56	78	60	90
38	21	58	80	63	91
40	22	60	82	66	92
42	24	62	84	68	93
44	25	64	86	72	94
46	27	66	88	75	95
48	29	68	90	78	96
50	31	70	92	81	97
52	32	71	94	85	98
54	34	73	96	89	99
56	36	75	98	94	99
58	38	76	100	100	100

5.1.3 Precipitation Data

A fair amount of rainfall and stage data is available for calibrating the BCA model. To be useful for calibration purposes, rainfall data, and stream stage records must be available for the same time period. The original event of record used in the calibration of the BCA model occurred in June of 1995, as part of this update addition events were obtained for September and December 1997, which occurred during El Nino. Rainfall data was obtained for two SWFWMD rain gages from the agency's SCADA database. The hourly information from the Island Ford and Crescent Lake gages was used to set the event rainfall depth. The SCADA data was also used to verify the similarity of temporal distribution with data from USGS Gage No. 280340082383800. Data from this 15-minute interval gage was used to generate a rainfall distribution for the calibration event. For both the June 1995 and September 1997 storm event were considered dry (no significant rainfall 5 days prior to event) therefore a starting AMC condition of I was used for these events. For the December 10th and 25th storms AMC's of II and III were used respectively.

5.1.4 Surface Water Data

Stage data for eleven lakes located within the basin was obtained from SWFWMD. The intermittent stage data primarily consisted of post event points. Pre event data points were available for less than one quarter of the lakes. Starting lake surface elevations were estimated for these basins. The starting water surfaces in adjacent basins were evaluated and adjusted for continuity for the calibration run. Also daily stages were only available for 3 lakes, including Crescent, Island Ford, and Keystone. All other lake stages were manually read from staff gages by staff periodically from the SWFWMD, these elevations did not always coincide with the given event.

5.2 Calibration Parameters and Methodology

Following the assembly of the hydrologic and hydraulic components of the BCA model, several checks were performed on the model hydrology and hydraulic components to confirm compliance with collected data.

5.2.1 Hydrologic Parameters

Two hydrologic reviews were performed to determine the likelihood that runoff contributions from all areas of the BCA watershed were being properly evaluated in the models.

- Basin area summations were calculated to ensure that the entire watershed area was included in the hydrologic model. The overall watershed area was compared to the summation of the individual basin areas.

- Runoff depths for several basins were computed by the SCS runoff formula. Runoff volumes were then computed by multiplying runoff depth by subbasin area. The mass balance of select Junctions was then examined. The inflows, the computed runoff volume, and outflows associated with these Junctions were compared to ensure no loss of continuity was occurring.

5.2.2 Hydraulic Parameters

A hydraulic model review is an evaluation of the computed water surface elevations and flows at each junction and reach, respectively, for the 100-year design storm event. The purpose of this analysis is to assess the reasonableness and consistency of the variations and magnitudes of flows and elevations throughout the hydraulic network. Discharge continuity checks are performed at select junctions to determine the extent to which continuity of flow is maintained. Computed water surface elevations at specific junctions are compared to nearby or adjacent subbasin boundary elevations to determine if additional reaches are needed to further distribute flows, and to determine the need for additional stormwater storage areas.

5.2.3 Calibration Methods

After the fundamental hydrologic and hydraulic checks were completed, a calibration process was conducted to compare results computed by the model to some known hydrologic observations and/or measurements within the watershed.

Adjustment of Model Input Parameters
Physical calibration data, including measured rainfall depths and distributions, and measured water surface elevations was collected for a given rainfall event. The objective of this task was to simulate a recorded event and to compare computed water surface elevations to the measured values. The hydrologic and/or hydraulic model can then be corrected and/or adjusted so that computed and measured values would more closely match.

Where computed results are found to be different from field observation, the model is first examined for possible errors in input parameters or modeling assumptions. Then certain input coefficients and parameters are adjusted and/or reevaluated. Manning roughness coefficients are largely based on professional judgment and are known only within a range of values; adjustment within that range is deemed an appropriate measure for model calibration.

5.3 Existing Conditions Model Calibration

5.3.1 Calibration Results

As of the date of this report, the completed calibration activities include the subbasin area summations and the comparison of computed peak stage for the calibration event with values recorded for various lakes located in the basin.

The result of the summation of model subbasin areas revealed an approximate area of 22.27 square miles. This value differs by only 0.5 percent from the area of the overall BCA watershed contained in the AutoCad file. Tables 5-2 through 5-4 illustrate how the predicted lake surface elevations from the calibration run compare with the recorded stage values for the September and December storm events.

There are several possible explanations for the computed value being larger/smaller than the recorded observation:

- The use of the SCS method for computing rainfall excess is considered by some hydrologists to be conservative. The methodology was probably intended by SCS as a design tool and may have been calibrated to give conservative (larger than actually expected) results.

- The computed peak water surface elevations were found in most cases to be higher than the SWFWMD lake surface data. Some of the lake surface data points were recorded between three and five days after the rainfall event. Historical records indicate this is a sufficient amount of time for the peak to have been reached and for the surface to have started to recede. Records for June from other years suggest the water surface may decrease by as much as 0.3 ft in four days. Both the June 1995 and the September storm events were considered AMC I conditions, however for the 1997 event calibration required an additional 20% reduction in the CN. For the December 10th and 25th storm events AMC II and AMC III were used respectively. A summary of the actual elevation versus the calibrated elevations is presented in the table below for the four storm events.

Table 5-2 Calibrated Lake Surface Elevations (September 24, 1997)

Junction No.	Lake Name	Starting WSEL	Starting Date	Final WSEL	Final Date	Calibrated WSEL	Diff Between Final & Calib
490650	Lake James	41.92	7/29/97	N/A[4]	N/A[4]	43.47	N/A[4]
490590	Lake Calm	45.14	9/24/97	N/A[4]	N/A[4]	45.88	N/A[4]
490580	Keystone Lake	38.6	9/24/97	40.775	9/29/97	40.76	0.015
490565	Mound Lake	49.2	9/24/97	49.4	10/8/97	48.18	1.22
490500	Lake Fern	41.78	9/24/97	42.33	10/8/97	44.49	-2.16
490470	Crescent Lake	37.96	9/24/97	39.115	9/29/97	39.79	-0.675
490430	Islands Ford Lake	38.12	9/16/97	38.24	9/29/97	39.32	-1.08
490230	Lake Alice	35.88	9/24/97	N/A[4]	N/A[4]	38.69	N/A[4]
490210	Taylor Lake	34.58	9/24/97	35.62	10/8/97	37.4	-1.78
490160	Sunset Lake	30.8	9/24/97	N/A[4]	N/A[4]	32.44	N/A[4]
491340	Buck Lake	29.3	9/25/97	N/A[4]	N/A[4]	31.88	N/A[4]

Notes:

1. Dated starting and final water surface elevations obtained from SWFWMD
2. AMC-1 < 20% w/ Only Islands Ford Gates Open
3. Significant groundwater percolation is not accounted for in program which will have a significant impact on results
4. Not Available (N/A), staff readings taken well beyond storm (~30 days out)

Table 5-3 Calibrated Lake Surface Elevations (December 10, 1997)

Junction No.	Lake Name	Starting WSEL	Starting Date	Final WSEL	Final Date	Calibrated WSEL	Diff Between Final & Calib
490650	Lake James	46.71	11/21/97	45.00	12/17/97	45.49	-0.49
490590	Lake Calm	46.5	11/25/97	47.44	12/17/97	47.43	0.01
490580	Keystone Lake	41.57	12/8/97	42.43	12/14/97	42.21	0.22
490565	Mound Lake	50.04	11/19/97	50.70	12/17/97	50.04	0.66
490500	Lake Fern	42.72	11/19/97	44.26	12/17/97	44.78	-0.52
490470	Crescent Lake	41.79	12/10/97	41.92	12/14/97	42.69	-0.77
490430	Islands Ford Lake	41.35	12/9/97	41.50	12/14/97	41.59	-0.09
490230	Lake Alice	37.34	12/1/97	38.38	12/17/97	39.92	-1.54
490210	Taylor Lake	35.36	11/24/97	37.90	12/17/97	38.71	-0.81
490160	Sunset Lake	32.3	11/19/97	33.74	12/17/97	34.2	-0.46
491340	Buck Lake	32.32	11/19/97	33.82	12/17/97	34.18	-0.36

Notes:

1. Dated starting and final water surface elevations obtained from SWFWMD
2. AMC-II, w/ Keystone weirs closed and Islands Ford weirs open
3. Significant groundwater percolation is not accounted for in program which will have a significant impact on results

Table 5-4 Calibrated Lake Surface Elevations (December 25, 1997)

Junction No.	Lake Name	Starting WSEL	Starting Date	Final WSEL	Final Date	Calibrated WSEL	Diff Between Final & Calib WSEL
490650	Lake James	45	12/17/97	N/A[4]	N/A[4]	45.45	N/A[4]
490590	Lake Calm	47.44	12/17/97	47.98	1/6/98	48.4	-0.42
490580	Keystone Lake	41.99	12/25/97	42.39	12/28/97	42	0.39
490565	Mound Lake	50.7	12/17/97	N/A[4]	N/A[4]	50.7	N/A[4]
490500	Lake Fern	44.26	12/17/97	43.64	1/1/98	44.63	-0.99
490470	Crescent Lake	41.87	12/25/97	42.10	12/28/97	42.01	0.09
490430	Islands Ford Lake	41.05	12/25/97	41.27	12/28/97	41.46	-0.19
490230	Lake Alice	38.38	12/17/97	39.00	1/6/98	39.95	-0.95
490210	Taylor Lake	37.9	12/17/97	38.74	12/28/97	39.28	-0.54
490160	Sunset Lake	33.74	12/17/97	33.38	1/6/98	34.54	-1.16
491340	Buck Lake	33.82	12/17/97	N/A[4]	N/A[4]	34.82	N/A[4]

Notes:

1. Dated starting and final water surface elevations obtained from SWFWMD
2. AMC-3 w/ Only Islands Ford Gates Open
3. Significant groundwater percolation is not accounted for in program which will have a significant impact on results
4. Not Available (N/A), staff readings taken well beyond storm (~30 days out)

Table 5-5 Actual & Calibrated Comparison for Lakes with Daily Readings

Lake	Calibrated Versus Actual El. Diff.				Remarks
	June 28, 1995	**Sept. 24, 1997**	**Dec 10, 1997**	**Dec. 25, 1997**	
Keystone	.07	.01	.22	.39	Daily Gage
Islands Ford	N/A	-1.08	-0.09	-.19	Daily started 8/95
Crescent	N/A	-0.67	-0.77	.09	Daily started 8/95

Note:
1. Gage readings in 1995 for these locations were only staff readings.
2. A negative difference indicated the calibrated elevation was higher than the actual elevation.
3. Daily readings were not available (N/A) for June 1995 event.

The historical records indicate that some lake surfaces in the BCA basin were 2 to 4 ft lower than current levels at the time of the calibration event. However, these records only exist for a small portion of the basins within the watershed. The SWMM model starting water surface elevations were evaluated and adjusted for all basins based on this limited information.

Brooker Creek's storage volume per square mile is one of the largest in the County with the numerous lakes located in the watershed. This can greatly influence the results when comparing smaller lake level calibration versus actual events.

As an upper limit verification, the 100-Year FEMA study compares very well with the 100-Year Design event. See exhibits for plots of the comparison.

Recommendations for Further Study

- To further enhance the BCA model results the following future tasks should be performed as additional resources and information becomes available.

- The BCA stormwater model should continue to be updated as new projects are planned, designed and constructed.

- Manning roughness values should be evaluated in the field and adjusted in the model where appropriate. Computed water surface elevations are sensitive to the values used for the Manning roughness coefficients. Larger roughness coefficients will usually result in larger peak water surface elevations particularly in the upper reaches of the stream.

- The model would also benefit from additional channel cross-sections. Only a portion of Brooker Creek upstream of Keystone Lake to Van Dyke Road is currently modeled as a natural channel. Field reviews conducted as part of the current modeling effort revealed Brooker Creek is well defined for this entire section. Some of the pop off elevations for some of the smaller lakes could also be further investigated and verified for specific purposes.

CHAPTER 6: EXISTING CONDITIONS LEVEL OF SERVICE

6.1 Standard Design Storm Events

A computer model of the major physical characteristics of the watershed has been developed to determine the existing conditions for the 2.33-year, 5-year, 10-year, 25-year, 50-year, and 100-year design storm events.

6.2 Existing Conditions Model Simulation Results

The existing conditions model was used to generate water surface profiles, predict lake surface elevations, and establish level of service ratings for the basins. The methodologies used in creating these figures are described below. A brief description of the control structures located in the watershed has also been included. These variable features can affect the existing conditions and resulting level of service ratings.

The Brooker Creek watershed was divided into two separate systems as described in Chapter 2 Major Conveyance Systems. The water surface profiles displayed in Exhibits 1 and 2 are contained in the northern system. The computed water surface profiles are for existing conditions along the Brooker Creek main channel. The profiles represent the computed instantaneous peak elevation at modeled nodes. The nodes are comprised of control points along the channel and water bodies the creek passes through.

The groundline shown on the computed water surface profiles (Exhibits 1 and 2) represents the conduits used in the SWMM model and select inverts from survey cross sections. The conduit elevations do not necessarily represent the actual bottom profile. Channels are represented as conduits with irregular geometry and have linear bottoms. The methodology used to represent natural channels in the modified SWMM model is explained in Chapter 3.

The Brooker Creek watershed has several lakes that are not directly contained in the creek profiles. Exhibits 3-7 contain bar graphs of the predicted lake surface elevations for the 10, 25, and 100-year storm events. The computed water surfaces are for existing conditions in the lake basins and represent a peak elevation. The starting water surface elevations for each lake basin are also included in these exhibits. These values can be seen as the inflection points of the line overlay on the bar graph.

The instantaneous peak elevations contained in the surface profiles and bar graphs may occur at different times at different locations. The computed water surfaces cannot be used to estimate flood levels at sites that are not directly adjacent to the referenced channel or lake. There can be a significant hydraulic gradient between a remote or off-line site and the main channel that drains it. The off-line laterals of this basin have not been studied in detail.

A Registered Professional Engineer should carefully check and field-verify the data before it is used for design or construction purposes.

The SWFWMD operates three control structures within the Brooker Creek Basin. These structures are located on Keystone, Island Ford, and Crescent lakes. The Keystone structure controls the discharge of water out of this lake into Island Ford Lake. The two 12 ft wide adjustable weir gates are located at the head of the box culverts under Tarpon Springs Road. Crescent Lake also outfalls to Island Ford Lake through a control structure. This adjustable gate is at the end of an arch pipe that runs under Crescent Road. The Island Ford control structure consists of three 6 ft wide adjustable weir gates and a 50 ft wide spillway. The Structures Operations Division of SWFWMD verified that these structures are still used to regulate the water surface in the three lakes. This department also established that the control structures were not opened during the time period of the calibration event. The established operational control procedure is to leave the weirs closed until the Maximum Desirable Elevation is reached in the lakes. These control structures limit adverse level of service ratings in these basins. During the modeling of the design storm events, the weirs were modeled as closed. Therefore, the values used to generate the water profiles and lake surface elevations may be conservative.

6.3 Level of Service (LOS) Analysis

The Hillsborough County Comprehensive Plan, Stormwater Management Element contains definitions for level of service flood protection designations. According to these definitions, a storm return period and duration (i.e., 25-year/24-hour) and letter designation (i.e., B) are needed to define the level of flood protection (i.e., 25-year/24-hour level B). The flood level designations contained in the Comprehensive Plan are A, B, C and D, A being the highest level and D being the lowest. However, these criteria are somewhat subjective. Therefore, it is necessary to establish quantitative criteria by which to assign LOS designations. An allowable tolerance that is demographically representative for Hillsborough County before flooding can be classified was assigned to LOS designations A-D as shown in Table 6-1 below. This table contains the interpretation of the Comprehensive Plan definitions used in the LOS analysis herein.

The level of service ratings A through D were assigned to the basins based on the criteria found in Table 6-1.

Table 6-1 Level of Service Definition Interpretations

LEVEL	HC COMPREHENSIVE PLAN DEFINITIONS	WATERSHED PLAN INTERPRETATIONS
A	No significant street flooding	No flooding
B	No major residential yard flooding	Street flooding is 3” or more above the crown
C	No significant structure flooding	Site flooding is 6” or more
D	No limitation on flooding	Structure flooding

Those basins and junctions that did not represent an area of consideration were not assigned a level of service. The basins that were not evaluated consisted of wetland storage areas, which did not contain a structure of concern.

6.4 Level of Service (LOS) Determinations

Model Predicted Problem Areas: The investigation of the level of service within the BCA watershed revealed four subbasins (junctions) where problems might occur. The potential problem areas were identified based on the peak water surface elevations obtained from the existing conditions SWMM model. The results of this analysis are thus dependent on how accurately the model represents actual conditions in the areas where overtopping or flooding was predicted. The comparisons of predicted flooding to historical records are also only accurate to the level of information available.

6.4.1 Spencer Road south of Tarpon Springs Road

This basin (Junction 490220) located east of Spencer Road was predicted to flood the roadway during a 25-yr storm. The predicted elevation was 43.90 ft, versus a roadway elevation of 43.8 ft. The basin is comprised of an orange grove with two cypress head depressional areas. An existing 18 in. culvert at the location of predicted roadway overtopping connects one of these wetlands to Lake Taylor. A second 18 in. pipe exists as a sidedrain along Tarpon Springs Road at the northern basin boundary. A review of the historical records did not suggest any evidence of past roadway flooding in this area.

6.4.2 Echo View Road

This is a small basin (Junction 491520) located between Echo and Buck Lakes. The water surface was predicted to overtop the roadway for the 10-yr event. The water surface elevation for this event was predicted to be 41.61 ft, versus a roadway elevation at 41.2 ft. This basin is connected to Echo Lake by an existing 24 in. culvert that discharges into a canal on the western part of the lake. The small amount of storage modeled for this basin is contained in ditches that cut across the basin. There is no historical record of flooding for this roadway.

6.4.3 Boy Scout Road at Rodriguez Road

This basin (Junction 491223) is located between Boy Scout Road and Rodriguez Road. This basin is one of several that were subdivided from a larger basin based on culverts found in the field. The land cover of these basins is predominately orange groves and wetlands with a few trailers and houses. The predicted flooding problem is at an approximately 18 in. culvert under Boy Scout Road. This culvert is located in a section of the roadway that has a visible dip in elevation. The existing conditions model predicted a water surface elevation of 37.23 ft for a 5-year event. The roadway above this culvert will flood at an approximate elevation 36.98 ft. The pipe under Boy Scout Road has not been formerly surveyed. Discussions with several local homeowners indicated that this area does in fact experience flooding.

As part of the Hillsborough County CIP program the alternative developed for this location was designed, permitted and constructed (CIP No. 47129, Boy Scout Road Culvert Upgrade). The design included a control structure for providing relief to the roadway and a bleed down pipe to maintain the hydroperiod of the upstream area (see Photo 1). The model update predicted a water surface elevation of 36.77 ft for a 25-year event. The roadway above the structure will flood at an approximate elevation 36.98 ft. As a result of the improvements, the roadway now has a level of service of "A".

Photo 1: New Control Structure at Rodriguez and Boy Scout Roads (August 2001)

6.4.4 Tyler Road

This is a small basin (Junction 490300) located in the northwest corner of the basin which discharges under Tyler Road via a 24 inch pipe. The water surface was predicted to overtop the roadway for the 25-yr event. The water surface elevation for this event was predicted to be 35.04 ft, versus a roadway elevation at 34.9 ft. This basin is also located just upstream of the main Brooker Creek channel in this area.

6.4.5 Historical Problem Areas

A review of flooding records for the Brooker Creek basin revealed very few problem areas. This is likely a result of excess storage capacity in the large number of lake and wetland systems located within the watershed. A review of recorded complaints to the county (See Appendix memorandum dated May 18, 1998) and discussions with long-term residents of the area revealed only a few problem areas that are directly related to the model in addition to Boy Scout Road. All other identified problems were considered localized (e.g., undersized driveway culverts, depressional areas, etc.) These problems were considered independent of this study. The following historical problem areas were not predicted by the current SWMM model but warrant being addressed as part of this report.

6.4.6 Patterson Road at the Sand Dollar Resort

The southern part of the watershed drains to the west and crosses under Patterson Road in the vicinity of the Sand Dollar Resort. During a field review on June 26, 1997, a discussion with the manager of this resort revealed the road has flooded in the past. The manager indicated the flooding seemed to occur when the drainage ditches downstream of the culverts were not maintained and overgrown with vegetation. Follow up discussions with the Hillsborough County Northwest Maintenance Unit (HCNWMU) about this area revealed that major improvements were made to the ditches downstream of this area after the floods of 1989 and no additional reports had been received. The culverts under Patterson Road appear to be adequate to handle the contributing runoff during storm events. As long as the ditches downstream of this culvert are maintained there should be no further flooding at this crossing. The model currently predicts potential flooding in this area (nodes 491040 @ Patterson Road and 491010 inside Silver Dollar MHP), this may be associated with conservatively high structure elevations which should be further verified in the field.

6.4.7 Lake Breckenridge

Photo 2: Submerged dock at Lake Breckenridge (August 1998)

Photo 3: Submerged dock and sea wall at Lake Breckenridge

This potential problem area is located immediately south of Tarpon Springs Road between Boy Scout Road and Patterson Road. The homes surrounding Lake Breckenridge are individually platted and not part of a formal subdivision. This lake is a former borrow pit that receives a significant amount of runoff from the surrounding homes. The runoff is impounded by the lake as there is no natural outfall or formally designed control structure, only an 8 in. PVC pipe acting as a bleeder pipe. This pipe runs under the driveway of one of the homes to a small wetland located to the east. The record of complaints for this area indicated the water surface in the basin has flooded yards and submerged docks (Refer to Photo 2). The docks were reported to previously have been 5 to 6 feet above the water surface.

The increased water surface has also submerged sea walls. The dramatic increase in water surface elevation appears to be a direct result of runoff from the heavy rains that fell during 1997 and 1998. This runoff was impounded by the lake. The owners report that the lake level has remained elevated and fluctuates by approximately 2.5 ft during dry and rainy periods.

If the lake surface remains elevated, future heavy rainy seasons may cause the lake to flood some of the surrounding homes. Should this occur, the possibility of adding a control structure to the lake to limit the water surface elevation could be investigated. A control structure located on the western side of the lake could discharge under Patterson Road to the wetlands surrounding Brooker Creek. This scenario was not investigated as an alternative at this time due to the lack of structural flooding.

Table 6-2
Brooker Creek Level of Service Summary

Junction	Max. Water Surface Elevation			Lowest Str.	S-T-R	Type Str.	Level of Service for 24-hr Storms			Remarks
	5-Yr	10-Yr	25-Yr				5-Yr	10-Yr	25-Yr	
490800	56.12	56.49	56.71	59.25	6-27-18	Road	A	A	A	Lutz Lake Fern Road
490780	56.92	57.33	57.57	57.5	1-27-17	House	A	A	A	Lutz Lake Fern Road
490790	55.79	56.06	56.22	57.8	6-27-18	Road	A	A	A	Lutz Lake Fern Road
490770	55.54	55.81	55.98	Wetland	1-27-17	Storage	A	A	A	
490760	55.46	55.72	55.88	56.4	13-27-17	Road	A	A	A	Ramblewood Road
490750	54.4	54.87	55.11	56.4	13-27-17	Road	A	A	A	Ramblewood Road
490710	53.24	53.55	53.71	55.6	13-27-17	Road	A	A	A	Van Dyke Road
490740	55.13	55.48	55.68	Wetland	12-27-17	Storage	A	A	A	
490730	54.04	54.18	54.25	Wetland	13-27-17	Storage	A	A	A	
490720	53.23	53.51	53.66	55.6	14-27-17	Road	A	A	A	Van Dyke Road
490700	56.35	56.88	57.22	58.2	14-27-17	Road	A	A	A	Gunn Hwy
490690	48.98	50.14	50.83	55.6	14-27-17	Road	A	A	A	Van Dyke Road
490680	50.02	50.34	50.55	55.2	23-27-17	House	A	A	A	Van Dyke Road
490670	48.58	49.77	50.46	52.2	23-27-17	House	A	A	A	Van Dyke Road
490660	45.41	47.11	48.38	50.9	23-27-17	House	A	A	A	
490650	45.55	45.9	46.12	47.63	23-27-17	House	A	A	A	Little Lake
490640	41.58	42.29	42.58	45.2	23-27-17	House	A	A	A	Gunn Hwy
490600	45.1	45.51	45.61	52.2	22-27-17	Road	A	A	A	N. Mobley Road
490590	49.44	49.75	49.96	52	11-27-17	House	A	A	A	Lake Calm
490560	50.54	50.67	50.77	55.9	15-27-17	Road	A	A	A	Wayne Road
490555	47.2	47.2	47.2	49.5	15-27-17	Road	A	A	A	Wayne Road
490580	41.49	42.25	42.52	45.53	15-27-17	House	A	A	A	Keystone Lake
490565	49.3	49.3	49.3	53.62	11-27-17	House	A	A	A	Mound Lake
490550	49.34	49.47	49.64	56.5	11-27-17	House	A	A	A	Lake Fave
490540	58.94	59.31	59.55	60.2	11-27-17	House	A	A	A	
490530	52.92	53.06	53.14	54.05	11-27-17	House	A	A	A	Lake Elizabeth
490520	47.61	48.83	48.99	49.5	11-27-17	House	A	A	A	Lake Wood
490510	52.17	52.67	52.99	54.4	10-27-17	Road	A	A	A	Tarpon Springs Road
490500	44.51	44.69	44.82	47.62	10-27-17	House	A	A	A	Lake Fern
490490	42.93	43.35	43.78	45.5	3-27-17	House	A	A	A	Artillery Lake
490480	42.66	43.34	43.78	44	3-27-17	House	A	A	A	Lake Wastena
490470	42.22	43.35	43.78	44.63	3-27-17	House	A	A	A	Crescent Lake
490440	42.17	42.63	42.92	45.5	10-27-17	Road	A	A	A	Crescent Road
490570	44.59	45.17	45.68	46.6	10-27-17	Road	A	A	A	Tarpon Springs Road
490430	41.45	42.12	42.34	42.64	9-27-17	House	A	A	A	Islands Ford Lake
490450	40.92	41.15	41.29	45.5	4-27-17	House	A	A	A	Lake Francis
490410	37.42	37.71	37.9	39.5	9-27-17	Road	A	A	A	Dirt Road
490420	37.95	38.67	39.11	39.8	9-27-17	House	A	A	A	
490260	35.4	35.66	35.81	37.3	8-27-17	Road	A	A	A	Tarpon Springs Road
490390	36.97	37.13	37.21	Wetland	8-27-17	Storage	A	A	A	
490280	35.02	35.53	35.64	36	7-27-17	House	A	A	A	
490350	38.6	39.04	39.3	39.9	7-27-17	House	A	A	A	
490340	38.73	38.79	38.83	39.5	7-27-17	Road	A	A	A	
490330	39.15	39.51	39.52	39.7	7-27-17	Road	A	A	A	

CHAPTER 7: EXISTING WATER QUALITY CONDITIONS

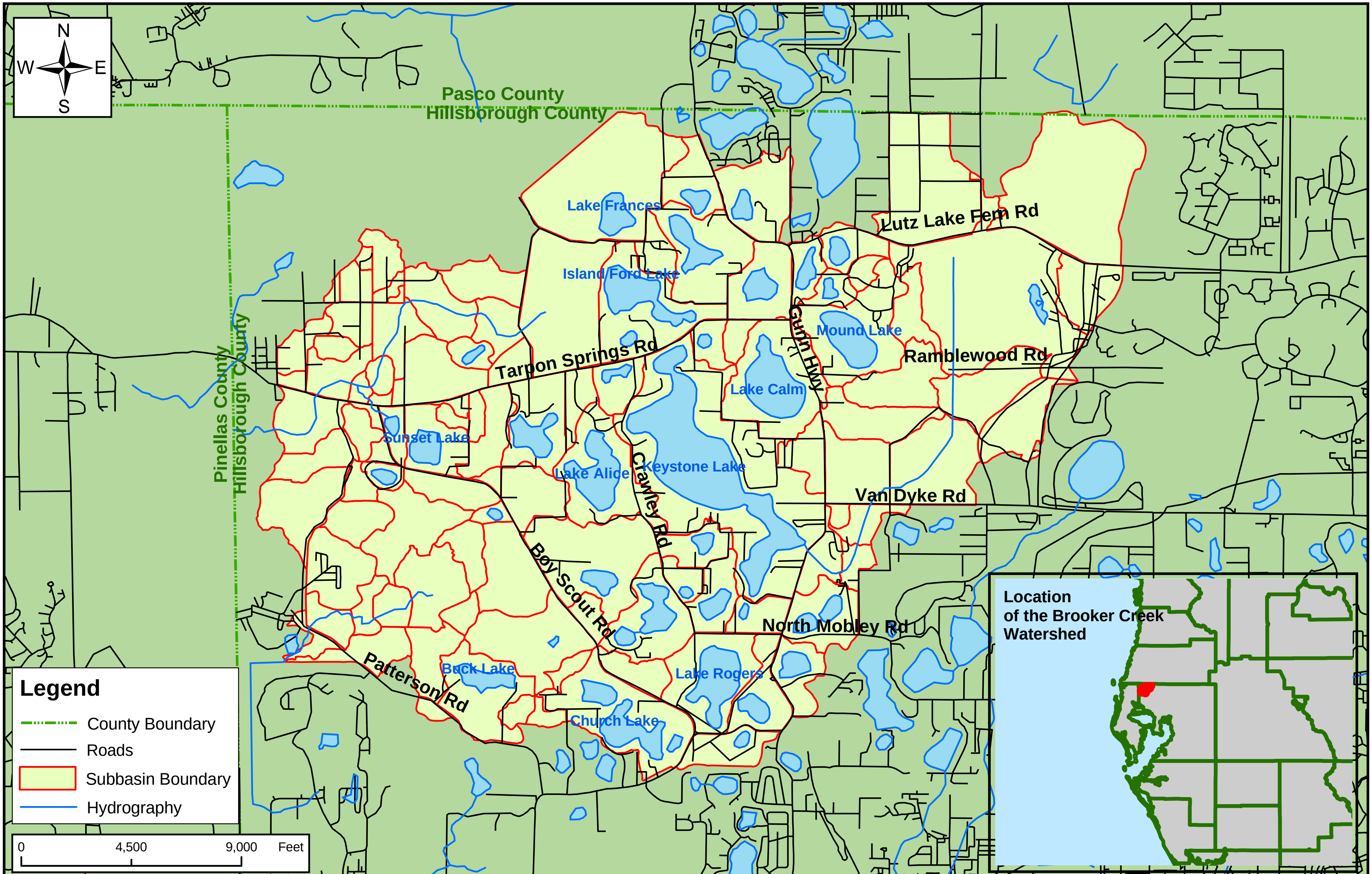
7.1 Overview

In the last several years, Hillsborough County has experienced significant population growth, which affected both water quantity and water quality throughout the County jurisdictional area. This chapter describes the existing water quality conditions within the waterbodies of the Brooker Creek watershed (Figure 7-1). Maintaining the quality of surface and groundwater is a high priority in Hillsborough County since a number of users depend on these resources as their primary water use source. Water quality can affect drinking water supplies, local economies, recreational users, and the health of the local aquatic ecosystem. This chapter describes historical and existing trends in water quality for the streams, lakes, and groundwater within the Brooker Creek watershed for the purposes of identifying significant problem areas/issues and potential sources of contamination. Additional, detailed analyses of water quality conditions are addressed later in this chapter.

The Brooker Creek watershed is comprised of several important water resources. The protection and conservation of these resources is an important component of a number of ongoing planning activities for this area including:

- Florida Department of Environmental Protection (FDEP) Impaired Waters and Total Maximum Daily Load (TMDL) Program
- Hillsborough County's Comprehensive Plan (Stormwater Management, Conservation and Aquifer Recharge, and Coastal Management Elements)
- Southwest Florida Water Management District (SWFWMD) Tampa Bay/Anclote River Comprehensive Watershed Management Plans (CWM)
- SWFWMD Surface Water Improvement and Management (SWIM) Plan for Tampa Bay and Lake Tarpon SWIMP
- SWFWMD Minimum Flows and Levels Program
- Tampa Bay Estuary Program's Comprehensive Conservation Management Plan

Both Federal (Clean Water Act [CWA]) and state (Chapter 62-302, Chapter 62-303, and Chapter 62-304 Florida Administrative Code [F.A.C.]) initiatives have been developed to protect, restore, and maintain surface waters. During the 1997 session, the Florida Legislature amended the Water Resources Act (Chapter 373.036, Florida Statute) and clarified responsible agency role relating to water supply planning. The primary goals of these initiatives have been to provide water supply assessment and water quality conditions that protect human health and are capable of supporting viable fish and wildlife populations. A classification system has been developed by the FDEP that designates a waterbody based on one of five classes related to a particular waterbody's designated use (Table 7-1).



Brooker Creek Watershed

Figure 7-1

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Each classification has specific water quality criteria necessary for the protection and preservation of surface waters which are also consistent with minimum federal standards set by the U.S. Environmental Protection Agency (US EPA) (Appendix 7-1)[1].

Discharges to surface waters may be regulated by the FDEP, SWFWMD, Hillsborough County Environmental Protection Commission (HCEPC), or the US EPA, depending on the type and magnitude of a particular discharge. Comprehensive stormwater regulation is also required under Section 402(p) of the CWA; cities/municipalities with a population greater than 100,000 are required to develop and implement stormwater plans under Phase I of the National Pollutant Discharge Elimination System (NPDES) stormwater regulations. Phase II of the NPDES program, which was implemented in 2004, required smaller communities to obtain a permit and develop a program for water quality improvement.

Brooker Creek and other minor streams located within the watershed are generally classified as Class III waterbodies. Chapter 62-302, Florida Administrative Code defines Class III water as suitable for recreation, propagation, and maintenance of a healthy, well-balanced population of fish and wildlife (Table 7-1).

Table 7-1 Surface Water Classifications developed under Chapter 62-302, F.A.C.

SURFACE WATER CLASSIFICATION	DESIGNATED USE	WATER QUALITY CRITERIA
CLASS 1	Potable Water Supplies	Very stringent
CLASS 2	Shellfish Propagation or Harvesting	Stringent
CLASS 3	Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife	Moderately stringent
CLASS 4	Agricultural Water Supplies	Less stringent
CLASS 5	Navigation, Utility and Industrial Use	Less stringent

The following section provides a brief discussion of the Federal and Florida rules and regulations in regard to water quality protection.

7.1.1 Regulatory Background

The Total Maximum Daily Load (TMDL) requirements were originally promulgated as a part of the Federal Water Pollution Control Act of 1972 and were later expanded by the Clean Water Act (CWA) of 1977 and the Water Quality Act (WQA) of 1987. The law requires states to define state-specific water quality standards for various designated uses and to identify water bodies that do not meet established water quality standards (Subsection 303(d)). Water bodies that do not meet such water quality standards as a result of human-induced conditions are to be considered

[1] Appendix 7-1 – FDEP Surface water classification chart

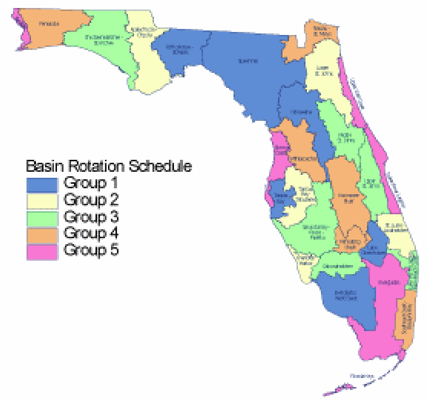
impaired. An updated list of impaired water bodies must be presented by the state to the Environmental Protection Agency (EPA) every two years and must designate which of the listed impaired water bodies will require implementation of the TMDL process. State of Florida issued a full 303(d) planning list in 2002 and has been producing basin-specific 303(d) impaired waters lists recently in accordance with the Florida Watershed Restoration Act (FWRA, Chapter 403.067, Florida Statute).

In Florida, the TMDL process is multi-phased and includes identification, verification, and listing of impaired waters, followed by the development and implementation of constituent specific TMDL (e.g., DO, TN, etc.). As a first step, FDEP develops a planning list of impaired waters based on existing data. FDEP then prepares a verified list following the collection of additional corroborating water quality, biological, or other data. The verified list is then adopted by the FDEP Secretary as the basin specific 303(d) list to be sent to EPA in compliance with the CWA. Once a water body is placed on the verified list of impaired waters, the next phase of the TMDL process is to develop a TMDL, including the initial allocation of allowable loads. The next step in the TMDL process is the development of the Basin Management Action Plan (BMAP), or the TMDL implementation plan, in which detailed allocations of allowable loadings for point and non-point sources (NPS) for a specific water quality constituent is done and load reduction strategies are evaluated. Florida's TMDL development and implementation process includes the following phases:

Phase 1: Data Compilation and Assessment
Phase 2: Collection and Assessment of Additional Data
Phase 3: Determination of Total Maximum Daily Load
Phase 4: Development of Allocation and Basin Management Action Plan (BMAP)
Phase 5: Implementation of the TMDL and BMAP

The process for the determination of impaired waters is described in the Impaired Water Rule, 62-303 FAC. In Phase 3, the TMDL is estimated, generally with the use of mathematical models associated with water quantity and quality data and watershed information. Details of the applicable models and input requirements are discussed in the FDEP, TMDL Protocol version 6.0 (2006). This section is adopted from the FDEP, TMDL protocol for completeness.

Once the TMDL is established in Phase 3, the allowable loads are allocated in Phase 4 to both the point and non-point sources for each specific water quality constituent. Point sources would include domestic and industrial wastewater and National Pollutant Discharge Elimination System (NPDES), industrial and municipal separate storm sewer systems (MS4s), and stormwater discharges. Non-point sources would include septic tanks, agricultural, silvicultural, atmospheric, and natural flora and fauna discharges, as well as legacy sediment effects. One or more implementation plans are then developed to define how each source will be controlled to achieve the allocated load. For contributing pollutant sources under NPDES permits, the allocation will be achieved through permit-specified effluent limitations and load reductions. For other sources, such as agricultural areas that are not regulated by NPDES permits, load allocations will be achieved through non-regulatory programs based on the implementation of Best Management Practices (BMPs) associated with each crop type. Lastly, in Phase 5 of the TMDL process, the implementation of the BMAPs are initiated. FDEP uses the concept of watershed approach to implement the TMDL program that is briefly described here.



To implement the watershed approach for all water bodies in Florida, FDEP has divided each of the six FDEP Districts into five geographically based groups of watersheds. A map of the groups is shown in the inset and a table that lists the groups by basin and district is provided below (Table 7.1a). As illustrated in Table 7.1b, the five phases of the State's TMDL program for each group are completed in annual cycles, starting with Group 1.

FDEP Basin Rotation Schedule (Source: FDEP, 2007)

For each TMDL completed under the phased watershed management approach outlined above, a technical analysis of the assimilative capacity of the subject water segment in question may be conducted. The assimilative capacity is the total amount of a pollutant that can be discharged into a water segment without causing use impairment. Thus, the assimilative capacity, as a result, is numerically equivalent to that segment's TMDL with a Margin of Safety (MOS). To determine the assimilative capacity, the fate of the total loading to a water segment may be compared to water quality criteria and other environmental targets to test for use impairment. Such comparisons are usually done using water quality data and hydraulic-hydrologic-water quality modeling tools.

Table 7-1a Watersheds Listed by Group and FDEP District

YEAR*	00 01	01 02	02 03	03 04	04 05	05 06	06 07	07 08	08 09	09 10
Group 1	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Group 2		Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 1	Phase 2	Phase 3	Phase 4
Group 3			Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 1	Phase 2	Phase 3
Group 4				Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 1	Phase 2
Group 5					Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 1
	1st Five-Year Cycle – High Priority Waters					**2nd Five-Year Cycle – Medium Priority Waters**				

Table 7-1b Schedule of Phases for Each Group

DEP District	Group 1 Basins	Group 2 Basins	Group 3 Basins	Group 4 Basins	Group 5 Basins
NW	Ochlockonee-St. Marks	Apalachicola-Chipola	Choctawhatchee-St. Andrews Bay	Pensacola Bay	Perdido Bay
NE	Suwannee	Lower St. Johns		Nassau-St. Marys	Upper East Coast
Central	Ocklawaha	Middle St. Johns	Upper St. Johns	Kissimmee	Indian River Lagoon
SW	**Tampa Bay**	**Tampa Bay Tributaries**	Sarasota Bay-Peace-Myakka	Withlacoochee	Springs Coast
S	Everglades West Coast	Charlotte Harbor	Caloosahatchee	Fisheating Creek	Florida Keys
SE	Lake Okeechobee	St. Lucie-Loxahatchee	Lake Worth Lagoon-Palm Beach Coast	Southeast Coast - Biscayne Bay	Everglades

7.1.2 Existing Literature

The following reports and data sources were reviewed to determine existing water quality conditions, historical trends, existing models, areas of concern, relevant issues, and ongoing management activities in the Brooker Creek watershed:

- Florida Department of Environmental Protection (FDEP) 2002 Update to Florida's List of Impaired Waters, as amended March 2003
- Tampa Bay Estuary Program (TBEP) Comprehensive Conservation Management Plan (CCMP) and related technical reports
- Hillsborough County Watershed Atlas
- Southwest Florida Water Management District (SWFWMD) Hillsborough River Comprehensive Watershed Management (CWM) Plan
- SWFWMD's Save Our Rivers Five Year Plan, Preservation 2000
- FDEP's IWR Master List for the Tampa Bay Group 1 Basin, September 2002
- SWFWMD's Lake Thonotosassa Surface Water Improvement and Management (SWIM) Plan
- SWFWMD's Tampa Bay Surface Water Improvement and Management (SWIM) Plan
- Hillsborough County Environmental Protection Commission (HCEPC) Annual Water Quality Report
- Hillsborough County Comprehensive Plan

- Hillsborough River Greenways Task Force Ecosystem Protection Plan
- SWFWMD's Groundwater Quality of the Southwest Florida Water Management District, Central Region
- FDEP's 305(b) Report and 303(d) List (2003-2004)

Water quality data was obtained from the Hillsborough County Watershed Atlas for all parameters and all stations lying within the Brooker Creek watershed boundary. The majority of data obtained from the Hillsborough County Watershed Atlas originated from the USGS, SWFWMD, or HCEPC.

7.1.3 Potential Contaminants

Despite relatively stringent regulatory criteria (e.g., Chapter 62-302, F.A.C.), potential contaminants are found in streams, which sometimes exceed allowable limits set by rules. This is primarily due to the fact that streams and groundwater in basins within significant agricultural and/or urban development almost always contain complex mixture of nutrients (i.e., nitrogen and phosphorus compounds) and pesticides. These mixtures are composed of chemicals in current use and the byproducts of those chemicals as they break down. Some developments within the watershed preceded a number of regulations implemented in the 1970s and 1980s to protect water quality. Although there are a number of stormwater treatment projects underway within the watershed, a number of water quality contaminants still occur in the surface waters of the Brooker Creek watershed. These are described below:

- **Excess nutrients**, primarily nitrogen and phosphorus, can cause an overabundance of nuisance aquatic weeds and blooms of algae in quiescent waters. An overabundance of aquatic weeds reduces the capacity of a stream course to provide drainage during flooding events and can impede navigation. Algal blooms can depress oxygen concentrations and may cause taste and odor problems in drinking water. Some blue-green algae can produce harmful toxins.

  The Class III water bodies criterion for DO, as established by Subsection 62-302.530(31), F.A.C., states that DO shall not on average be less than 5.0 mg/L in a 24-hour period, and shall not be less than 4 mg/L at any time, and that normal daily and seasonal fluctuations above these levels shall be maintained. In Florida waters due to warm temperatures (subtropical climate), nitrogen and phosphorus are most often the limiting nutrients, and nitrogen is typically the limiting nutrient in most Florida estuaries. There is a general understanding in the scientific community that nitrogen is the principal cause of nutrient over-enrichment in urban water courses and coastal systems. Determining the limiting nutrient in a water body can be accomplished by calculating the ratio of nitrogen to phosphorus. When the ratios of total nitrogen (TN) to total phosphorus (TP) in a water body is less than 10 then it is classified as nitrogen limited. If nitrogen is the limiting nutrient, reductions in TN loadings would be expected to result in decreases in algal growth, and are measured as decreases in chlorophyll *a* levels. Reductions in TN loading are also expected to result in additional benefits for other water quality parameters of concern, including DO and biochemical oxygen demand (BOD). Reductions in nitrogen will result in lower algal biomass levels in the water column; lower algal biomass levels will result in smaller diurnal fluctuations in DO, fewer algal-based total suspended solids, and reduced BOD. The expectation that reductions in nitrogen loading will provide improvements in other water quality parameters is supported by a statistical evaluation of water quality data through a simple linear regression of chlorophyll *a* versus BOD**.**

Processes that consume oxygen from the water column, such as the microbial breakdown of organic material and sediment oxygen demand (SOD), are fairly constant over the short term. Algal populations, however, can increase rapidly, and the production of oxygen as a result of photosynthesis during daylight hours and the respiration or consumption of water from the water column at night can result in large diurnal fluctuations of DO in the water column. Portions of increased algal biomass will also become part of the organic material that will be broken down by microbes or settle to the bottom. Therefore, management of nutrients in the watershed to maintain the assimilative capacity of receiving waters will improve the water quality by preventing algal growth and maintaining required DO levels for the aquatic life.

- **Total suspended solids (TSS)** may cause high biological or chemical oxygen demand that can reduce the availability of oxygen in the water for aquatic life. Heavy metals and pesticides are often bound to TSS and can be found in sediments of receiving waters. Excessive TSS concentrations can also reduce water clarity which can affect aquatic plant communities (which require light for photosynthesis and growth) and may interfere with the feeding efficiency of filter-feeding aquatic insects and shellfish.

- **Metals**, including mercury, lead, and copper, can reach levels that are toxic to many aquatic insects and other aquatic life. In some cases, metals such as mercury may accumulate in fish, posing a threat to human health if consumed regularly.

- **Toxicants**, organic contaminants, and pesticides (which include insecticides, herbicides, and fungicides) can be found in residential, commercial, industrial, and agricultural areas, which can potentially be transported to surface waters via stormwater runoff. Though often undetectable in the water column, some compounds (e.g., pesticides) and their derivatives may accumulate in sediments to concentrations that are harmful to aquatic life.

- **Pathogens**, which may include bacteria, viruses, and protozoa, can cause a number of human diseases including respiratory and gastrointestinal ailments, skin rashes, and eye and ear infections. Transport of pathogens can occur via stormwater runoff or groundwater (from inadequately constructed septic tank systems) to surface waters. Illnesses may occur if pathogens are ingested either through accidental contact by recreational users of lakes and streams or through ingestion of inadequately treated drinking water. Pathogenic organisms are not routinely monitored by most water sampling agencies, except for potable water supplies. Indicators of pathogen contamination include total and fecal coliform bacteria that are tested by some agencies (e.g., health departments) at public bathing beaches and in ambient water quality monitoring programs. Efforts are currently underway by the US EPA to adopt standards for two new indicators (*E. coli* and enterococci) to better protect human health from recreational contact.

- **Litter, trash,** and other discarded solid objects originate from humans around shopping and commercial areas, industrial sites, landfills, automobiles, and overflowing trash cans. Litter poses a health and safety risk to humans and aquatic animals and reduces the aesthetic value of neighborhoods, streams, and lakes.

7.1.4 Pollution Sources and Transport

Excess nutrients, pathogens, and toxic contaminants can follow several different pathways to the streams, lakes, and groundwater in the Brooker Creek watershed including:

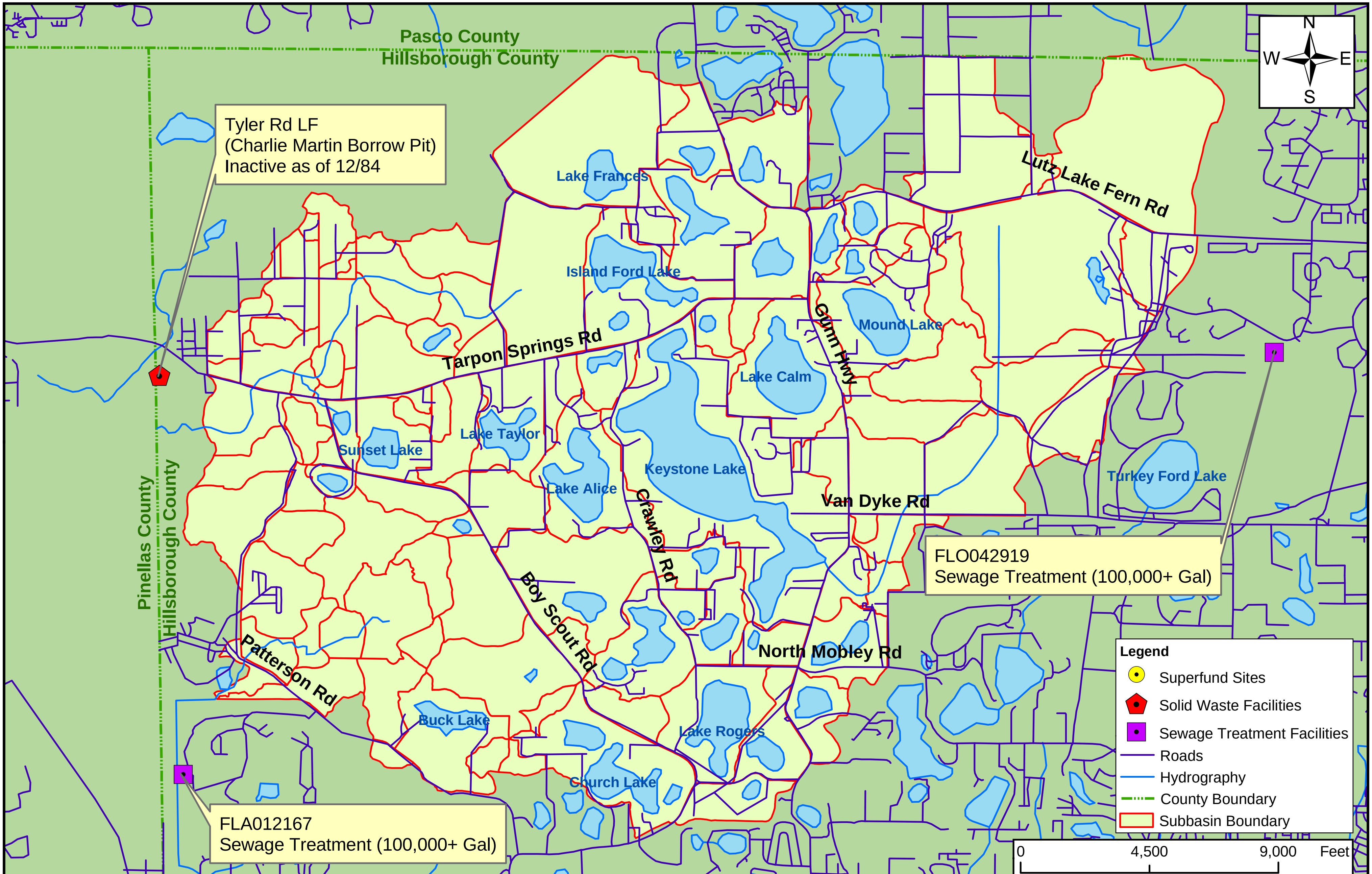
- Stormwater runoff from urban, residential, commercial, and agricultural land uses
- On-site wastewater treatment and disposal systems (i.e., septic tanks), which may contribute significantly to nitrogen and pathogen loading
- Untreated domestic wastewater (which may occur as accidental discharges during heavy rainfall events from lift station overflows)
- Leachate from landfills or illicit dumping may migrate to groundwater and/or surface water
- Contaminated sediments which may be resuspended during high flow or wind events in streams and lakes/bays, respectively
- Atmospheric deposition (primarily nitrogen oxides and certain heavy metals like mercury which can be transported to the creeks and lakes in rainfall and dryfall)

7.1.5 Superfund/Landfills/Point Sources

A survey of excessively contaminated sites was performed by evaluating federal Superfund information. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress in 1980. The law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment.

Compared to other areas of the state, Hillsborough County (and Dade County) had the greatest number of sites listed under the National Priority List (NPL). Although no such sites or permitted point source discharges were found to exist within the project boundary, a few were found in very close proximity to the Brooker Creek watershed (Figure 7-2).

Type	Description
Solid Waste Facility	Tyler Road LF (Charlie Martin Borrow Pit) inactive as of 12/84
Sewage Treatment Facility	FLA012167 (100,000+ Gal)
Sewage Treatment Facility	FLO042919 (100,000+ Gal)



Location of the Superfund Sites, Solid Waste Facilities, and Sewage Treatment Facilities in the Brooker Creek Watershed

Figure 7-2

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7.1.6 Other Issues

A number of other issues related to existing water quality conditions in the Brooker Creek watershed include:

- **Atmospheric deposition**, which has recently been identified as a major contributor of pollutants in the Tampa Bay area. Recent reports by the TBEP and other investigators estimate that more than 25% of the Bay's total nitrogen burden can be attributed to atmospheric sources. The pollution originates from power plant emissions, industrial smokestacks and vehicle exhaust. All of these sources carry nitrogen oxides, or NOx, which can fall on both land and water surfaces with rainfall or as particulate matter. Research performed for the TBEP indicates that as much as 7,000 tons of nitrogen per year may fall on the land surface area within the Tampa Bay watershed. A portion of this load can be transported to the receiving waters (streams and lakes) and the Bay through stormwater. Stationary sources such as coal-fired power plants or garbage incinerators are believed to contribute about 66 percent of the nitrogen oxides released to the air in the Tampa Bay watershed, while vehicles and boats account for about 34 percent. Ongoing efforts by Tampa Electric Company (TECO) are underway to significantly reduce NOx emissions. Mercury contamination resulting in fish consumption advisories is also believed to occur through atmospheric deposition. Control of mercury emissions is relatively complex since sources of mercury may be originating in other countries which have less strict air quality regulations than the U.S.

- **Contaminated sediments** – Although we have no specific data on sediments in the Brooker Creek watershed to indicate specific issues, it is helpful to indicate that recent studies in the Tampa Bay area have identified the presence of contaminated sediments in several areas of the Bay (Long et al., 1991 and 1994; Long and Greening, 1999, Grabbe and Barron, 2002). Of the areas sampled, northern Hillsborough Bay, which is the primary receiving waterbody of the Hillsborough River and the Tampa Bypass Canal, had consistently higher levels of heavy metals, Polycyclic Aromatic Hydrocarbons (PAHs), and Polychlorinated Biphenyls (PCBs) than other segments of the Bay. These concentrations often exceeded national standards for sediment quality. Few, if any, samples have been taken within the Brooker Creek watershed to evaluate sediment quality, but since contaminated sediments have been detected within the Bay, it is recommended that all contributing areas be sampled for potential contaminated sediment flux to the Bay. A number of management activities have been proposed to reduce contaminant loading to Hillsborough Bay, including source reductions and stormwater treatment. Such activities may be needed for all sources of inflow to the Bay. A sediment sampling plan may be needed to determine whether a sediment TMDL is warranted for this watershed.

- **Pathogens** – Although we have no specific data to indicate that pathogens are a contaminant of concern in this watershed, since there have been pathogens issues in the surrounding water bodies of the greater Tampa Bay Region, it may be prudent to do sampling for this parameter in order to establish the presence or lack of it within the watershed. The City of Tampa has conducted routine sampling of source waters to the Hillsborough River Reservoir which serves as one of the county's primary drinking water supplies. The pathogenic protozoa *Cryptosporidium parvum* has never been detected within the reservoir; however, several sites located upstream of the reservoir and in the Tampa Bypass Canal have tested positive. Sources of this contamination are suspected to originate from cattle operations located within the Central Tributaries and Blackwater Creek. Interestingly, no human viruses have been detected at any of the stations sampled by the City. The identification of pathogenic microorganisms and also their sources has been enigmatic due to relatively high die-off rates of target organisms, high sampling costs, and lack of adequate analytical techniques.

7.1.6 Total Maximum Daily Loads (TMDLs)

Recent federal and state initiatives to improve water quality in waterbodies have led to the development of a process which identifies and allocates pollutant loads to various dischargers. According to EPA, "a TMDL or Total Maximum Daily Load is the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards for that water quality constituent, and therefore it is an allocation of that pollutant for the receiving water body. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the waterbody can be used for the purposes the State has designated. The calculation must also account for seasonal variation in water quality." Nationally, the constituents that cause the most impairments to water bodies or segments of particular water bodies include sediments, nutrients, pathogens, low dissolved oxygen (due to oxygen demands by the inflow pollutants), and metals.

According to EPA, TMDLs will contain several key elements including:

- Waterbody name and location; identification of the pollutant and the water quality standard for the waterbody
- Amount of pollutant allowable to meet standards; load reduction needed to meet standards; sources of the pollutant; wasteload allocation for point sources; load allocation for runoff and other sources of pollution; and an implementation plan
- Margin of safety; consideration of seasonal variation; and allowance for reasonably foreseeable increases in pollutant loads
- There is a transitional period so States can phase in new TMDL elements over time
- The public will have the opportunity to comment on the methodology, lists of contaminants, prioritized schedules, and TMDLs prior to submission to EPA
- EPA will back-stop State efforts to develop TMDLs

In February 2004, FDEP issued a report titled, "Physical, Chemical, and Biological Assessment of Selected TMDL Waterbodies in the Hillsborough, Tampa Bay, Alafia, Caloosahatchee, and Apalachicola Basins." This report was developed pursuant to Chapter 99-223 (Laws of Florida). The assessment was conducted to determine whether these waterbodies should remain on the

303(d) list or if additional habitat, biological, and chemical data would provide scientifically defensible reasons for their removal from that list. In the 303(d) list, Brooker Creek was given a “High” priority for DO, Coliforms, and nutrients (page 52 of the FDEP Assessment report). Based on the Stream Condition Index (SCI), it was recommended that Brooker Creek (WBID 1474 in the Peninsula bioregion) be sampled in the future using SCI methods to establish biological community health. Brooker Creek was sampled downstream of Highway 593/77 (McMullen Booth Road) in Pinellas County.

The current plan is to evaluate watersheds using the following phased approach:

- Phase 1 - Initial Basin Assessment
- Phase 2 - Coordinated Monitoring
- Phase 3 - Data Analysis and TMDL Development
- Phase 4 - Basin Management Action Plan (BMAP) Development
- Phase 5 - Begin Implementation of BMAP
- Linkage to TMDL Implementation

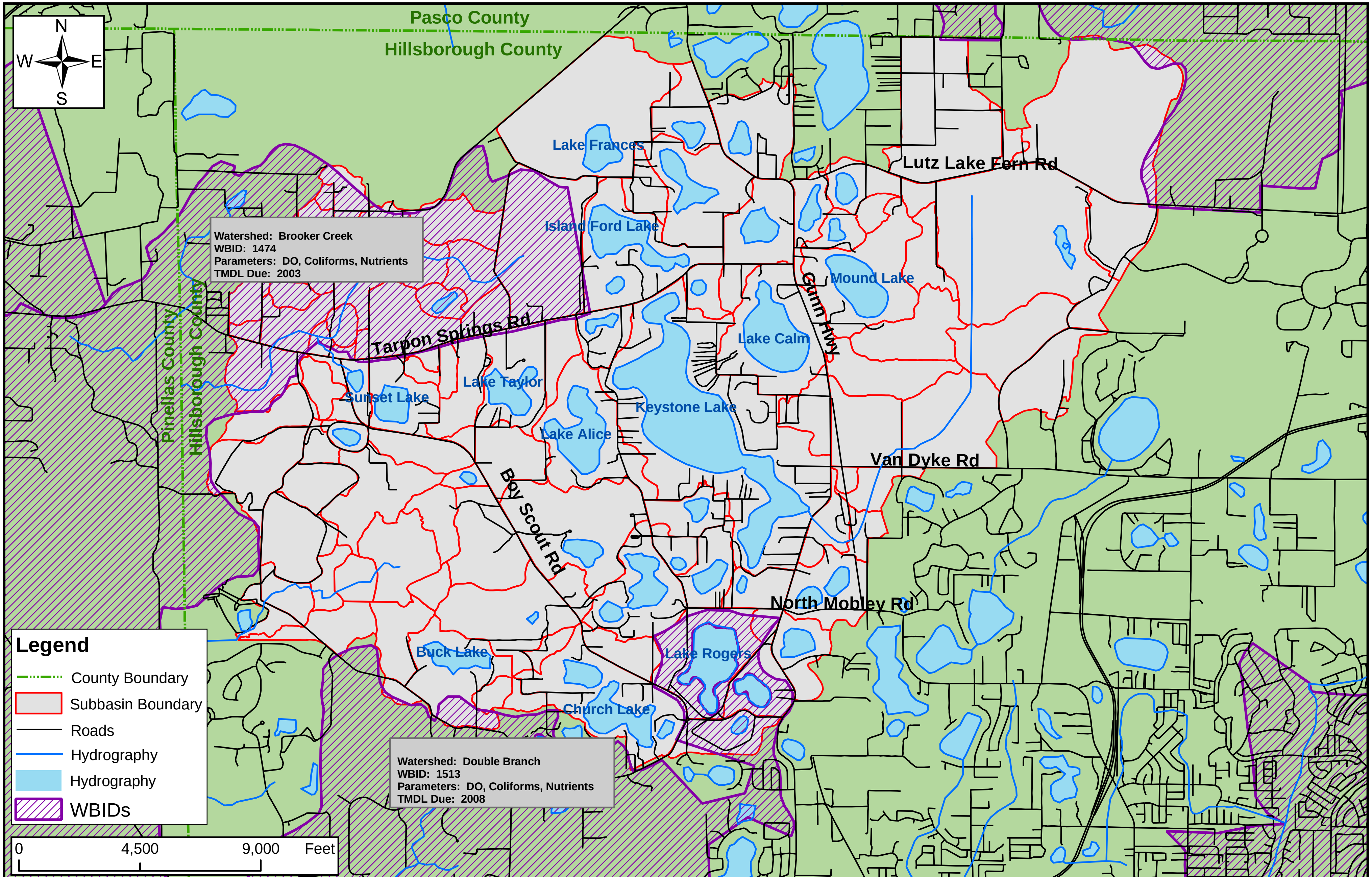
Figure 7-3 displays the location of watersheds scheduled for TMDL development as of 2002 in the US EPA 303(d) report for Florida and their WBIDs. The Brooker Creek watershed WBID relating to TMDLs is 1474. This WBID has been delisted by FDEP for coliforms and nutrients, but US EPA proposed a TMDL for DO and has approved a TMDL for Fecal Coliforms.

Double Branch TMDL development (as well as development of TMDLs for numerous lakes located within the Brooker Creek watershed) have been scheduled for 2008 (Table 7-2). Refer to Appendix 7-2 for a complete list of waterbodies and their corresponding TMDL schedule.

Table 7-2 List of 303(d) Waterbodies and their Schedules - Brooker Creek Watershed

		FDEP[1]		US EPA[2]	
Name	**WBID**	**Parameters**	**Schedule**	**Proposed TMDL**	**Approved TMDL**
Brooker Creek	1474	Coliforms, Nutrients	Delisted	DO, 2003	Fecal Coliform, 2005
Double Branch	1513	DO, Coliforms (Total Coliform)	2008	Coliforms, DO, Nutrients, 2008	None
Buck Lake	1493E	Nutrients (TSI)	2008	Nutrients	None
Calm Lake	1473Y	Nutrients (Historic TSI)	2008	Nutrients	None
Crescent	1474V	Nutrients (TSI)	2008	Nutrients	None
Dead Lady Lake	1474W	Nutrients (TSI)	2008	Nutrients	None
Lake Juanita	1473W	Nutrients (Historic TSI)	2008	Nutrients	None
Mound Lake	1473X	Nutrients (Historic TSI)	2008	Nutrients	None

1-FDEP parameters and schedule based on FDEP Verified List of Impaired Waters for the Group 1 Basins (including amended order – March 2003) G1CompositeVerifiedList_2-7-05.xls
2-US EPA TMDLs based on information downloaded on Nov 2007 APPROVED/DISAPPROVED by EPA on JUN-11-2003, Section 303(d) List Fact Sheet for Watershed TAMPA BAY



Location of WBIDs as they pertain to the Brooker Creek Watershed (1998)

Figure 7-3

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The FDEP has been evaluating various areas of the state based on a “rotating watershed” approach (Livingston, 2000). As noted above, the assessment study for the Tampa Bay area, which includes Brooker Creek, has already been performed and the report was issued in February 2004.

7.1.7 Overall Data Assessment Methodology

Station Selection

Locations of all surface water and groundwater quality sampling stations evaluated in this chapter are shown in Figures 7-4 and 7-5. Data sets from HCEPC, FDEP, SWFWMD, USGS, LAKEWATCH, or STREAM WATERWATCH were examined for this report. Data were available over the past 40 years. However, the most extensive database existed for Brooker Creek watershed at Dead Lady Lake and Keystone Lake. The Hillsborough County Watershed Atlas had provided water quality data for 77 stations. However, many of those stations contained only a few data points. See Appendix 7-4 for a summary of sampling stations containing water quality data for Brooker Creek and a corresponding number of sampling events per station. A list of sampling locations with more than 20 samples is shown in Table 7-3.

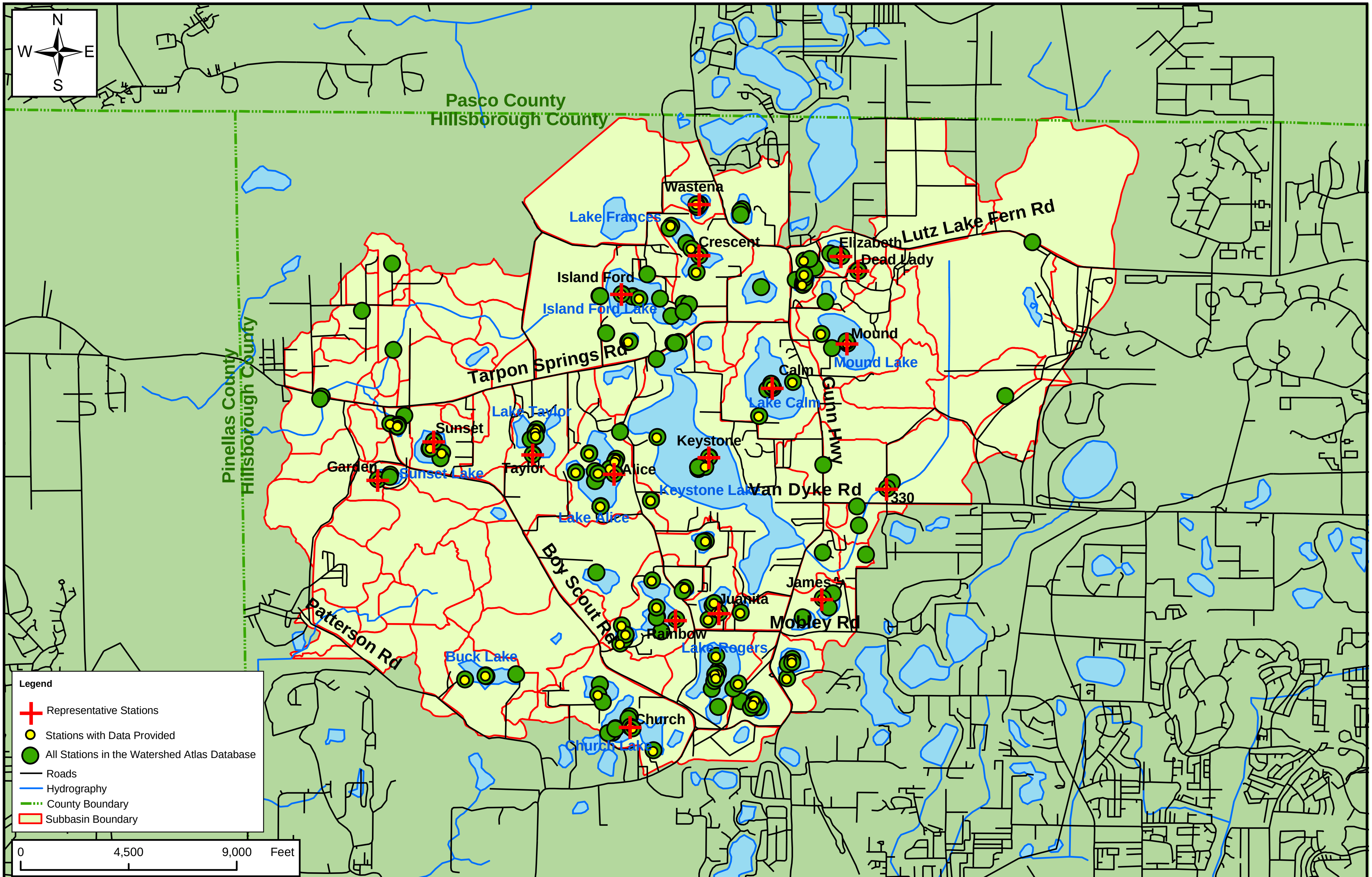
Samples were not analyzed for all parameters. Water quality data from stations with more than 20 samples are discussed in next section of this report. Data are available for several other stations in the watershed, but the data are not extensive. It is important to note that the data sets used for this evaluation were the most current available at the time at the start of the project. More recent sample data is available, but not included in this analysis.

In order to analyze the water quality data in Brooker Creek watershed, stations containing more than 20 data points were selected. Table 7-3 contains a list of such “representative” stations selected for the water quality analyses.

Table 7-3 List of Water Quality Sampling Stations in the Brooker Creek Watershed containing at least 20 data points per parameter

Sampling Station ID	CHL A	DO	PH	TN	TP
330		40	37	36	36
Alice-Hillsborough	51			51	51
Calm-Hillsborough	113			113	113
Church-Hillsborough	52			52	52
Crescent-Hillsborough	87			87	87
Dead Lady-Hillsborough	168			168	168
Elizabeth-Hillsborough	50			50	50
Garden-Hillsborough	77			81	81
Island Ford-Hillsborough	23			24	24
James-Hillsborough	89			89	89
Juanita-Hillsborough	100			100	100
Keystone-Hillsborough	122			122	122
Mound-Hillsborough	59			62	62
Rainbow-Hillsborough	58			59	59
Sunset-Hillsborough	121			122	122
Taylor-Hillsborough	23			23	23
Wastena-Hillsborough	39			40	40

Note: Figures in columns indicate the number of samples analyzed for each parameter



Location of the Water Quality Sampling Stations in the Brooker Creek Watershed

Figure 7-4

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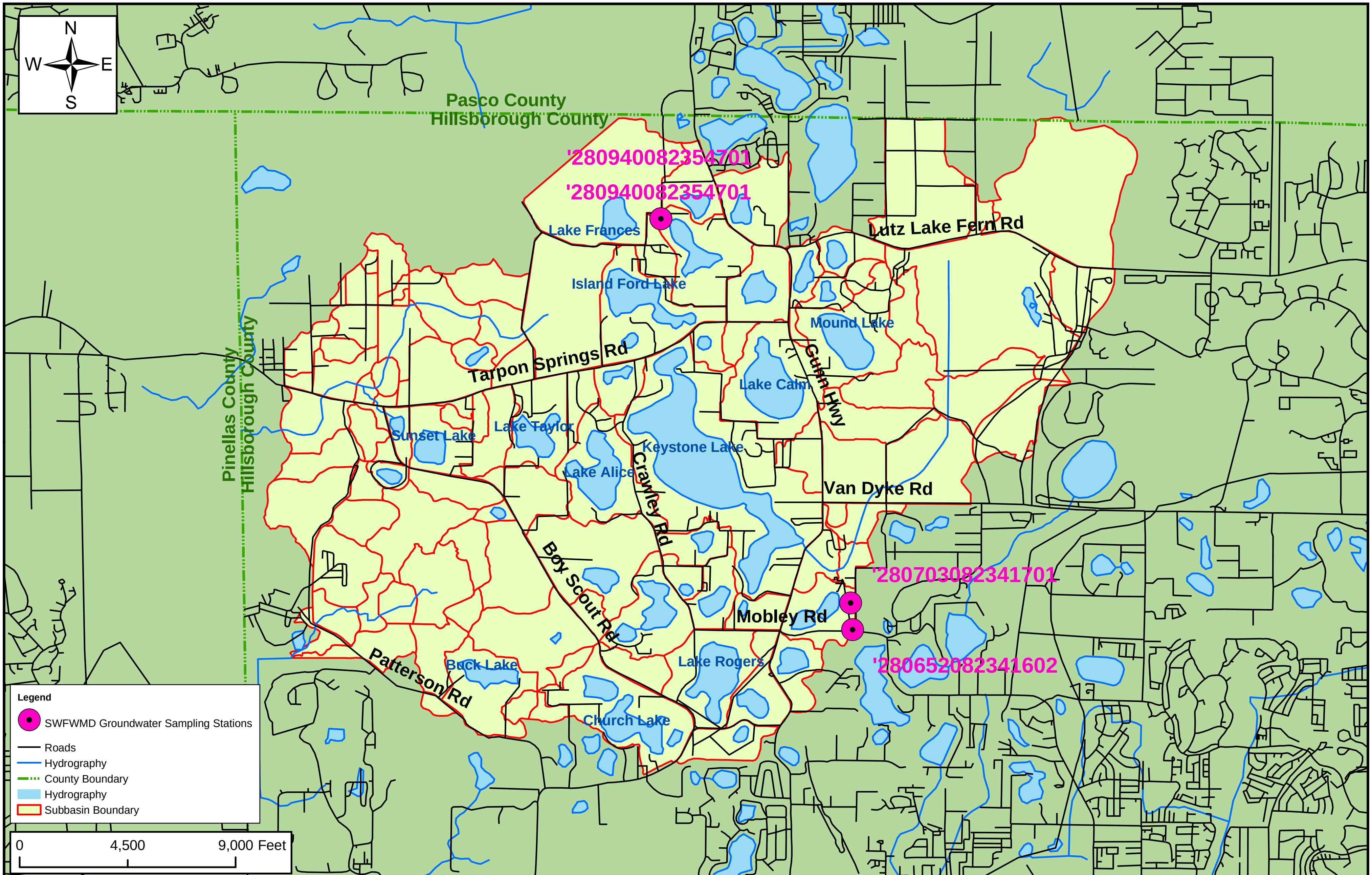


Location of the Water Quality Sampling Stations in the Brooker Creek Watershed

Figure 7-5

AYRES ASSOCIATES

Streams

Stream water quality was assessed using the data obtained from the Hillsborough County Watershed Atlas. The Atlas contains water quality data provided by HCEPC, USGS, SWFWMD, Stream WATERWATCH, STORET, and other organizations. Summary statistics of all data extracted from the Hillsborough County Watershed Atlas for the watershed can be found at the end of this chapter (Appendix 7-3). Locations of all surface water quality sampling stations evaluated in this chapter are shown in Figure 7-4. Since many stations contained insufficient water quality data, only stations with at least 20 data points per parameter were used in the analyses. The next section of this chapter will discuss the methodology used for selection of these “representative” stations.

Usually, to assess and compare water quality within watersheds, the Florida Water Quality Index (WQI) developed by Hand et al. (1992) is used. However, in the case of Brooker Creek watershed, the collected water quality data was insufficient for calculating WQI. Therefore, the existing water quality analyses were conducted on the basis of individual water quality parameters.

Lakes

Many natural and man-made lakes exist in the Brooker Creek watershed study area. Many lakes (for example, Keystone Lake, Calm Lake, Lake Alice, Lake Rogers, or Dead Lady Lake) exist in the areas dominantly used for agricultural purposes, therefore such lakes tend to contain elevated levels of nutrients.

Elevated levels of nutrients (phosphorus and nitrogen) in lake systems can produce algae blooms which often result in the following:

- Elevated productivity (as measured by chlorophyll a values)
- Periodic anoxic (low oxygen) conditions
- Fish kills
- Decreased light penetration (lower Secchi depth values) through the water column
- Aquatic plant die-off
- Increases in sedimentation rates (i.e., lake aging)

Due to the highly developed nature of the basin, maintaining and enhancing water quality in the existing lakes and man-made reservoirs is an important issue since they eventually discharge to Lake Tarpon and tributaries of the Old Tampa Bay. The SWFWMD, HCEPC, University of Florida LAKEWATCH, United States Geological Survey (USGS), and FDEP collect data in a number of lakes and streams in Hillsborough County. These agencies monitor such parameters as lake levels, water quality, and habitat value for a select number of lakes in the county. Sufficient nutrient data has been collected by these agencies for lakes in the Brooker Creek watershed.

In order to evaluate and compare lake water quality throughout Florida, the FDEP has recommended the use of a Trophic State Index (TSI). The index was initially developed by Carlson (1977) and involves the use of three water quality indicators (total phosphorus concentration, chlorophyll a concentration, and Secchi depth). Carlson's index was subsequently modified by the FDEP to include total nitrogen concentrations and exclude the Secchi depth measurement due to the common occurrence of tannic lakes that have naturally colored waters that reduce water clarity. A TSI between 0 and 59 is "**good**" while a value between 60 and 69 is "**fair**" and 70 to 100 is "**poor**."

Groundwater

Groundwater water quality data was obtained from the STORET database. Although four groundwater sampling stations exist within the Brooker Creek watershed (Figure 7-5), the water quality data is insufficient to make conclusions regarding the state of the aquifers. The groundwater data collection process lasted between June of 1984 and February of 1991, and no more than two sampling events were conducted per pollutant per well (refer to Appendix 7-6 for summary of groundwater sampling events and groundwater water quality data).

7.2 Water Quality

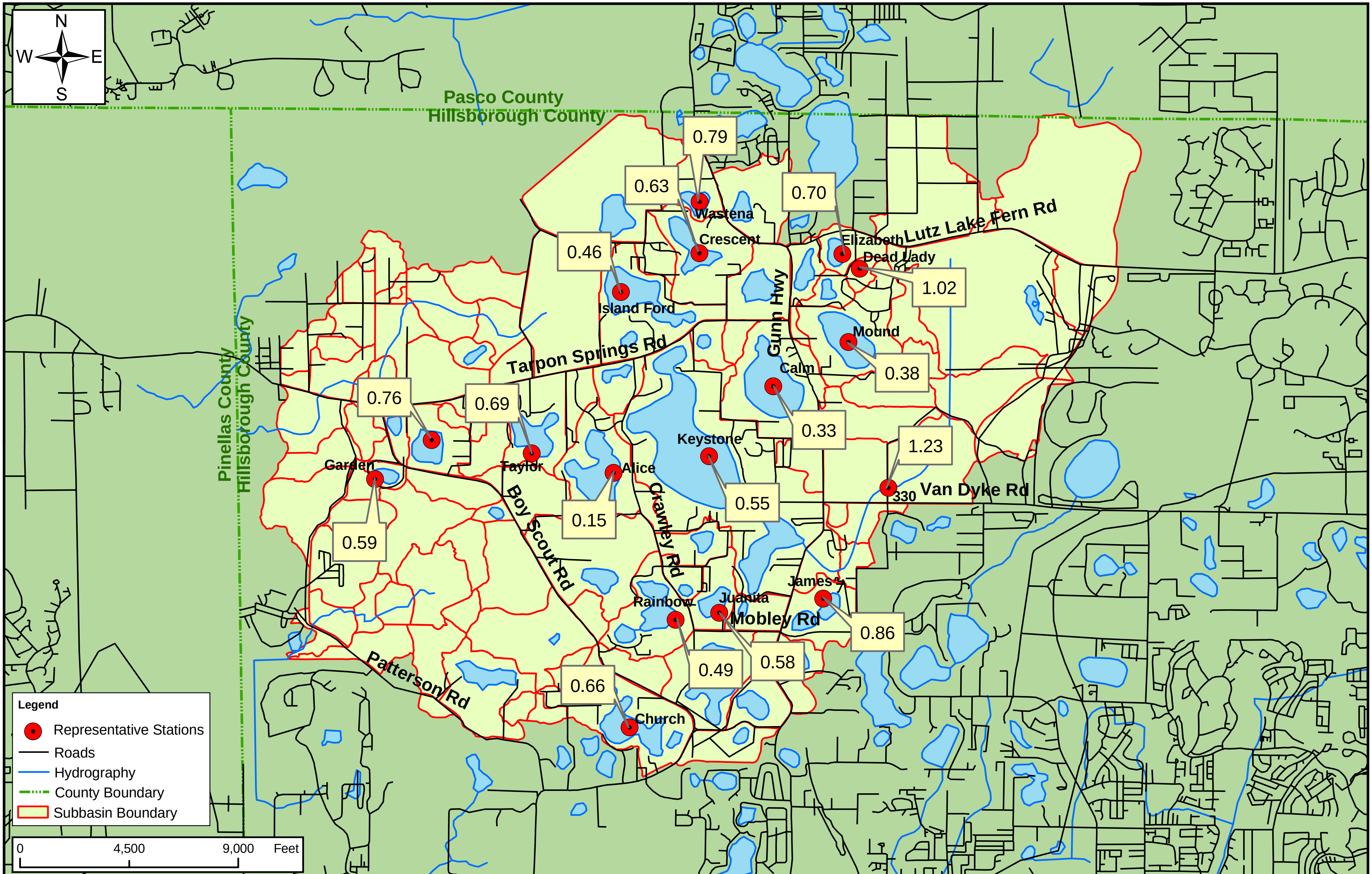
7.2.1 Historic Trend (1990-2005)

Data for a historical comparison analysis for certain sampling stations are available for chlorophyll a (chl a), total nitrogen (TN), and total phosphorus (TP). Land use in this area is mostly agricultural, mostly pasture and cropland. Significant area is also designated as low and medium density residential and disturbed land. Due to such land use, the surface water contains nutrients. Table 7-3 provides the mean historic (1990-2005) concentrations for various pollutants in the streams and lakes within the Brooker Creek. Figures 7-6, 7-7, and 7-8 illustrate these mean values of total nitrogen (TN), total phosphorus (TP), and chlorophyll a (chl a), respectively.

For TP, with the exception of three stations (Alice, Calm, and Mound), all stations reported average concentrations exceeding the EPA standard of 0.01 milligram per liter (mg/L) (Table 7-3). Most of the stream stations had consistently higher average concentrations than the lake stations.

Table 7-3 Mean Historical Concentrations for Various Pollutants in the Brooker Creek Watershed

Sampling Station ID	Historical Means				
	DO mg/L	PH	TN mg/L	TP mg/L	chl a µg/L
330	2.23	4.76	1.23	0.023	
Alice-Hillsborough			0.15	0.004	1.39
Calm-Hillsborough			0.33	0.009	3.18
Church-Hillsborough			0.66	0.016	4.86
Crescent-Hillsborough			0.63	0.018	10.17
Dead Lady-Hillsborough			1.02	0.04	29.55
Elizabeth-Hillsborough			0.7	0.016	5.98
Garden-Hillsborough			0.59	0.017	6.76
Island Ford-Hillsborough			0.46	0.012	5.08
James-Hillsborough			0.86	0.025	15.88
Juanita-Hillsborough			0.58	0.014	4.63
Keystone-Hillsborough			0.55	0.011	4.83
Mound-Hillsborough			0.38	0.008	2.61
Rainbow-Hillsborough			0.49	0.012	4.24
Sunset-Hillsborough			0.76	0.017	12.81
Taylor-Hillsborough			0.69	0.02	8.34
Wastena-Hillsborough			0.79	0.02	9.24



Mean Total Nitrogen (mg/L) Concentrations in the Brooker Creek Watershed (1990 - 2005)

Figure 7-6

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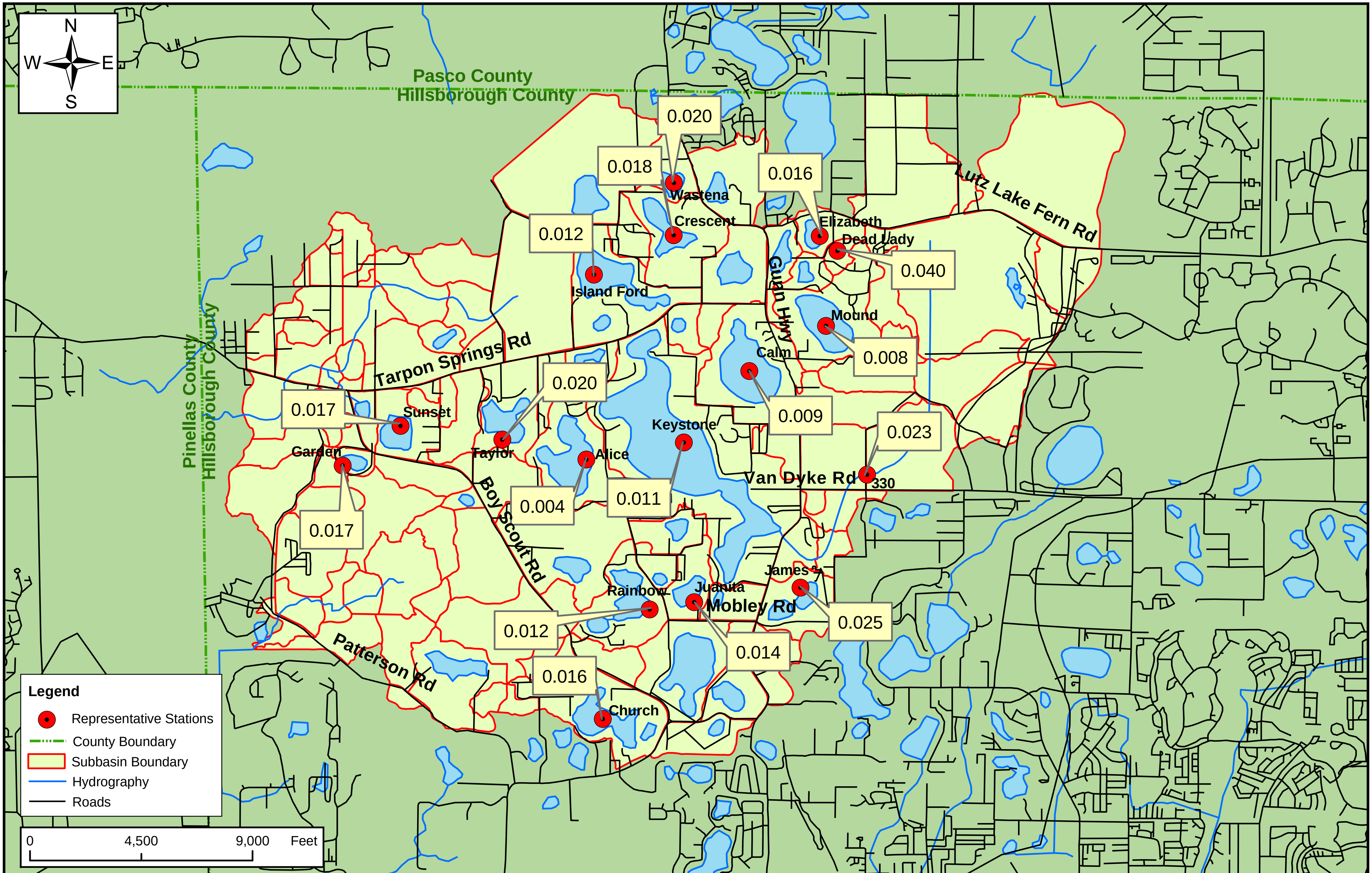
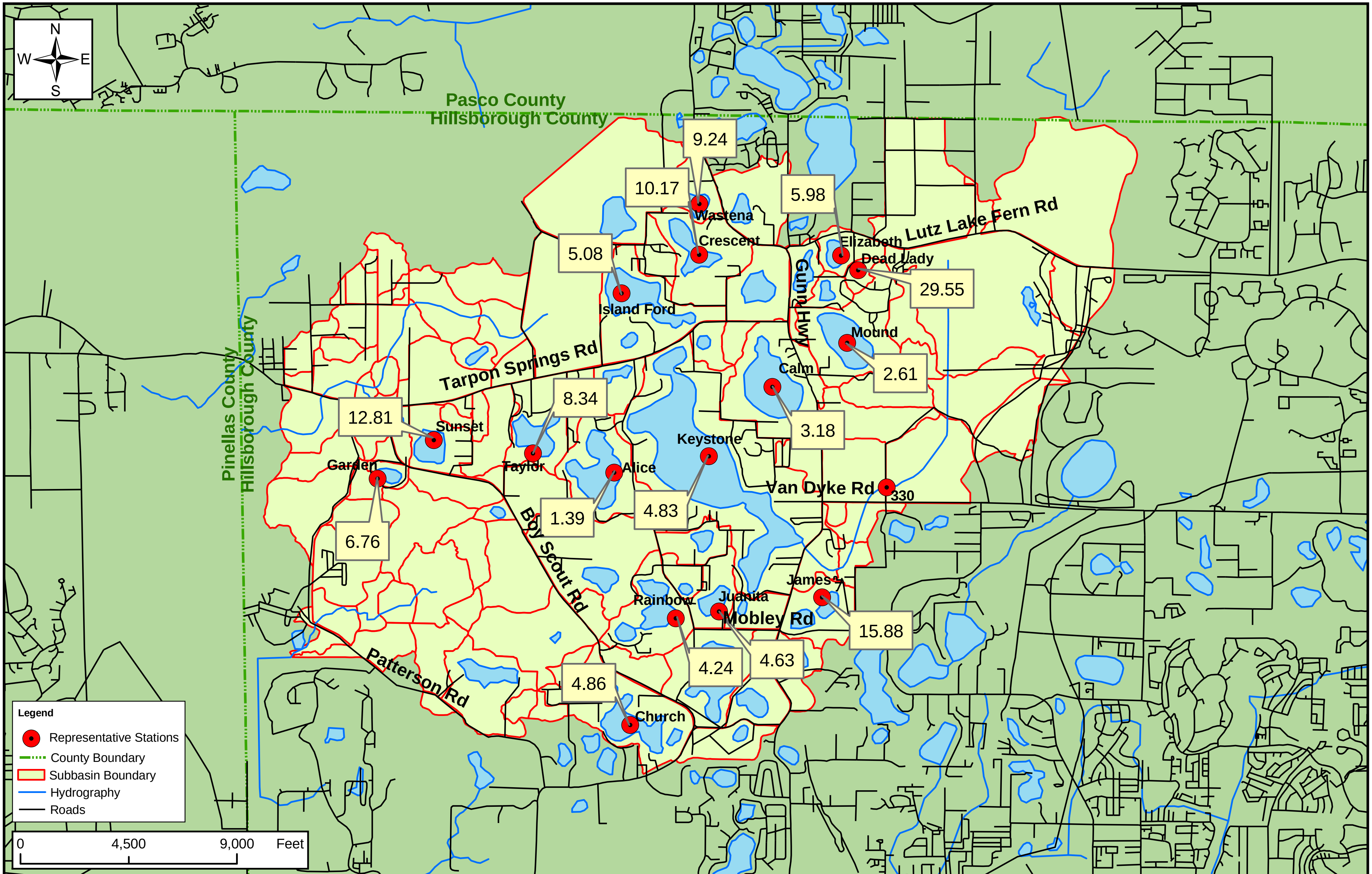


Mean Total Phosphorus (mg/L) Concentrations in the Brooker Creek Watershed (1990 - 2005)

Figure 7-7

AYRES ASSOCIATES



Mean Chlorophyl A (micro-g/L) Concentrations in the Brooker Creek Watershed (1990 - 2005)

Figure 7-8

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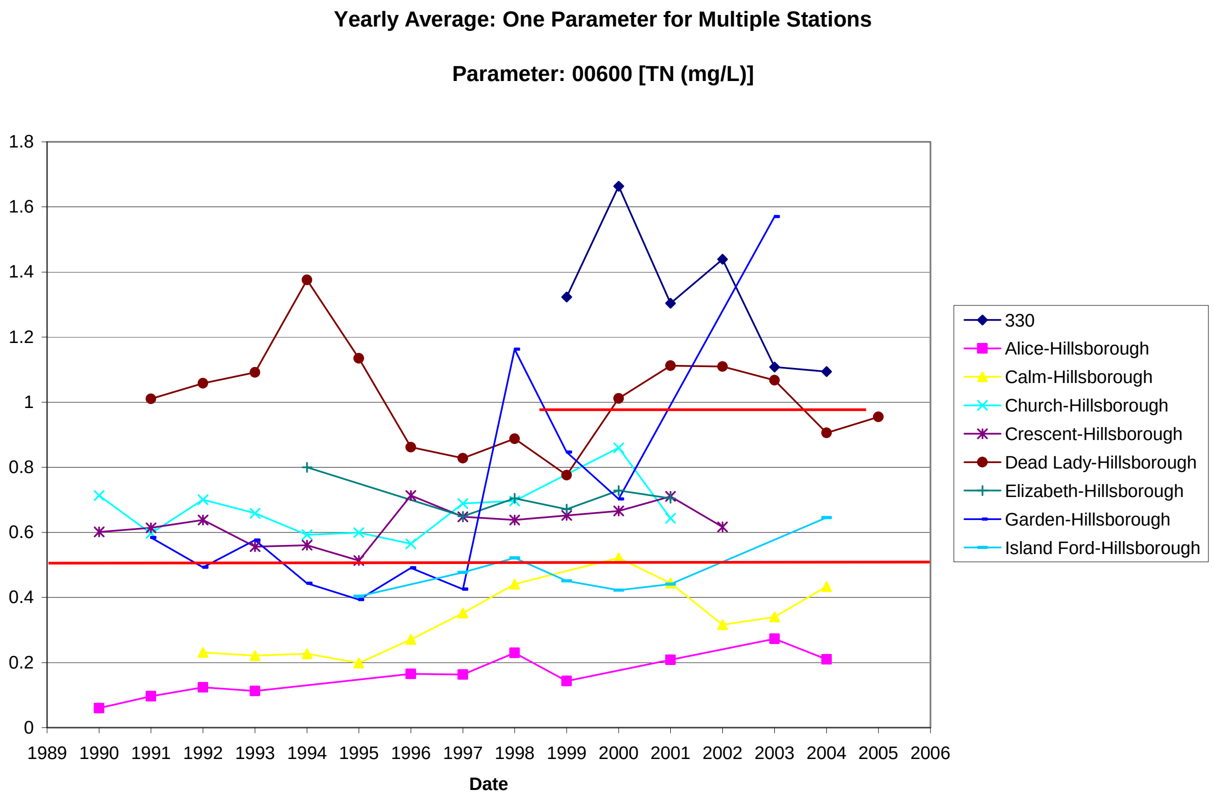
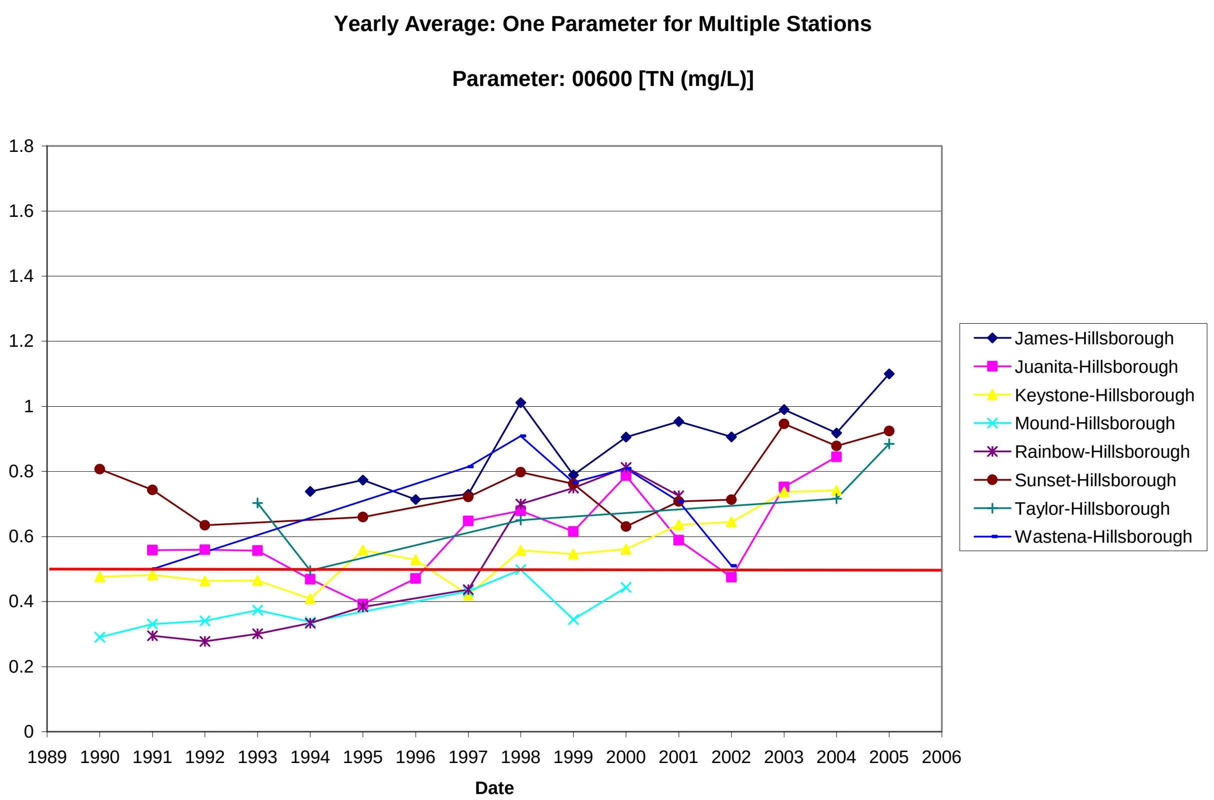
For TN, all but five of the stations (Alice, Calm, Island Ford, Mound, and Rainbow) reported concentrations exceeding the EPA standard of 0.52 mg/L. The reported average concentration for chl a in all but one station (Alice) exceeded the EPA standard of 2.6 micrograms per liter (µg/L). Concentrations ranged from a low of 1.39 µg/L (Alice) to a high of 29.55 µg/L (Dead Lady Lake). Dissolved oxygen (DO) and pH values were available only for Station 330. The average reported DO for Station 330 is shown to be low (2.23 mg/L) and water was slightly acidic (pH = 4.76).

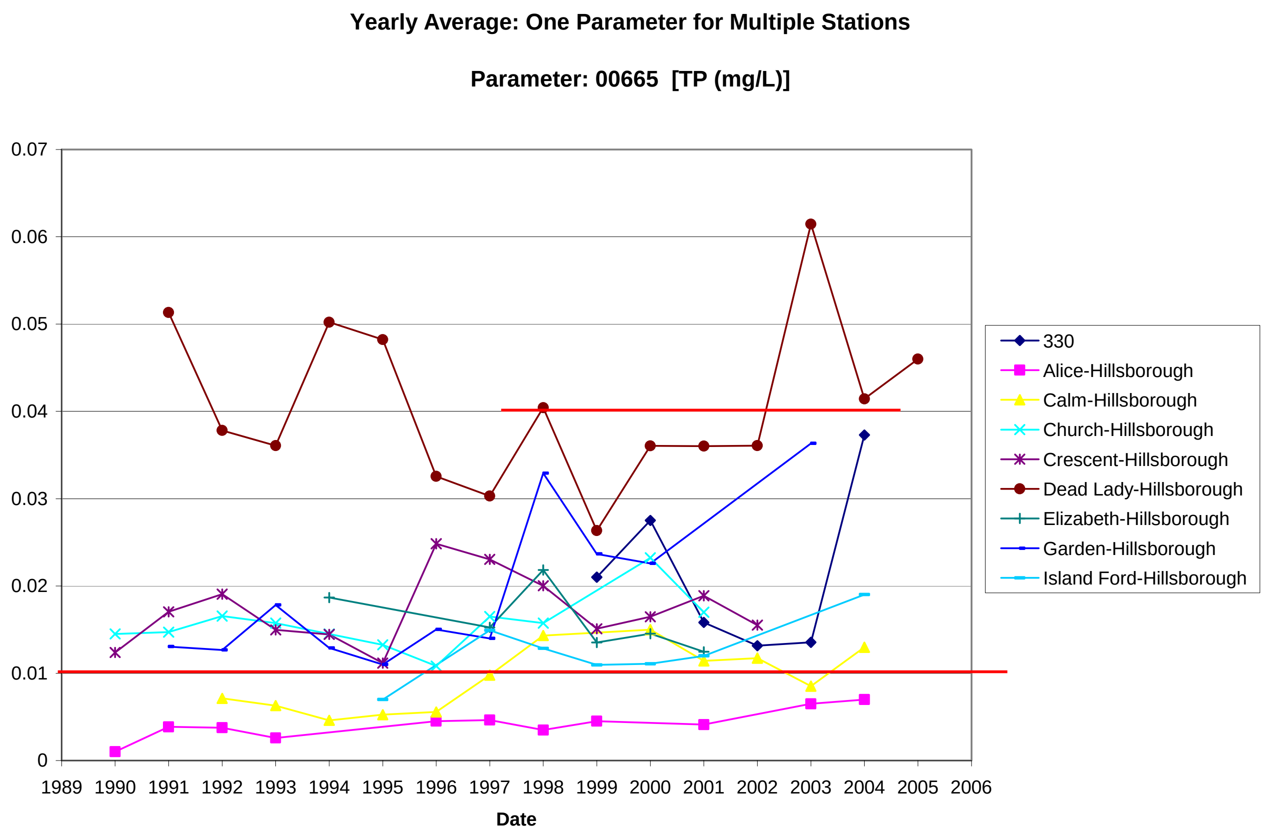
The following graphs present graphical representation of the different pollutants over the historic period. Due to the high number of stations, two separate graphs have been generated for each parameter.

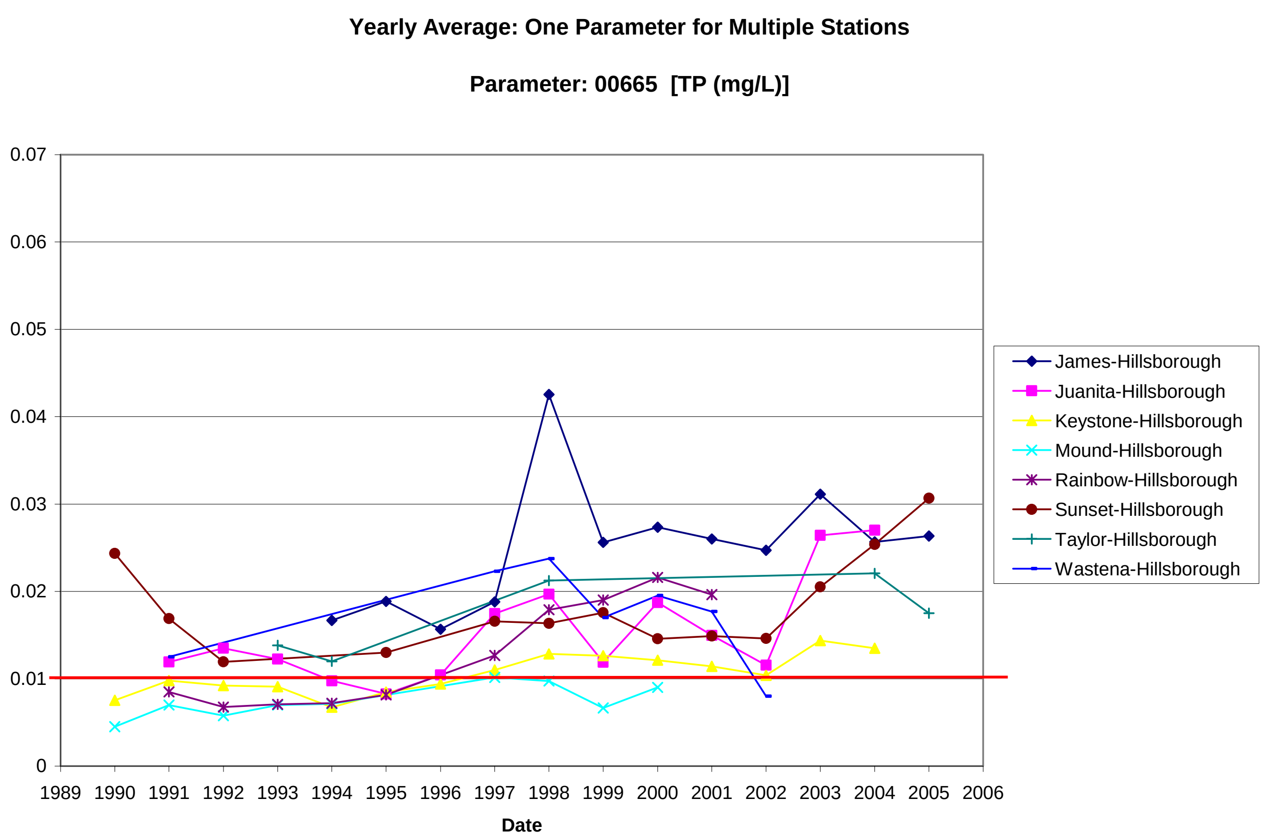
As shown by the following graphs, concentrations for each constituent varies by location and over time. Comparatively, it seems that in certain cases, the overall trend of concentration is upward for most or all of the locations.

Nutrients

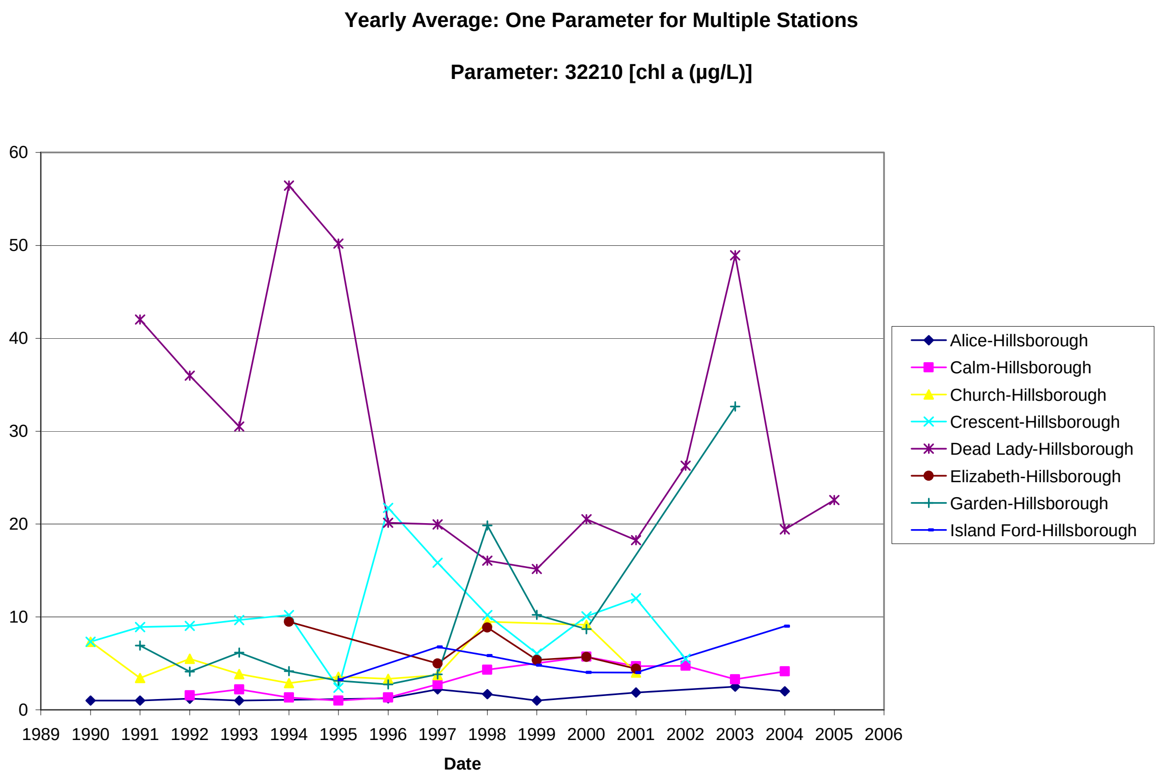

Yearly Average: One Parameter for Multiple Stations
Parameter: 00600 [TN (mg/L)]
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Date
330
Alice-Hillsborough
Calm-Hillsborough
Church-Hillsborough
Crescent-Hillsborough
Dead Lady-Hillsborough
Elizabeth-Hillsborough
Garden-Hillsborough
Island Ford-Hillsborough

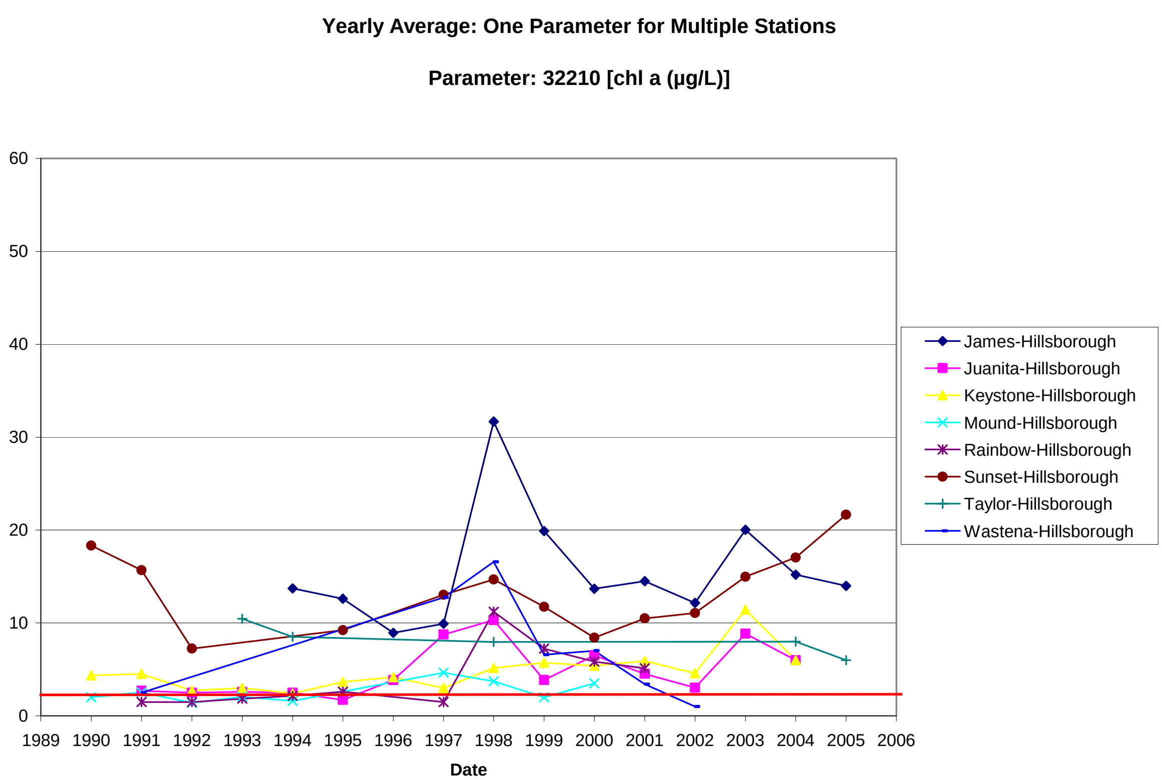

Yearly Average: One Parameter for Multiple Stations
Parameter: 00600 [TN (mg/L)]
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Date
James-Hillsborough
Juanita-Hillsborough
Keystone-Hillsborough
Mound-Hillsborough
Rainbow-Hillsborough
Sunset-Hillsborough
Taylor-Hillsborough
Wastena-Hillsborough


Yearly Average: One Parameter for Multiple Stations
Parameter: 00665 [TP (mg/L)]
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Date
330
Alice-Hillsborough
Calm-Hillsborough
Church-Hillsborough
Crescent-Hillsborough
Dead Lady-Hillsborough
Elizabeth-Hillsborough
Garden-Hillsborough
Island Ford-Hillsborough

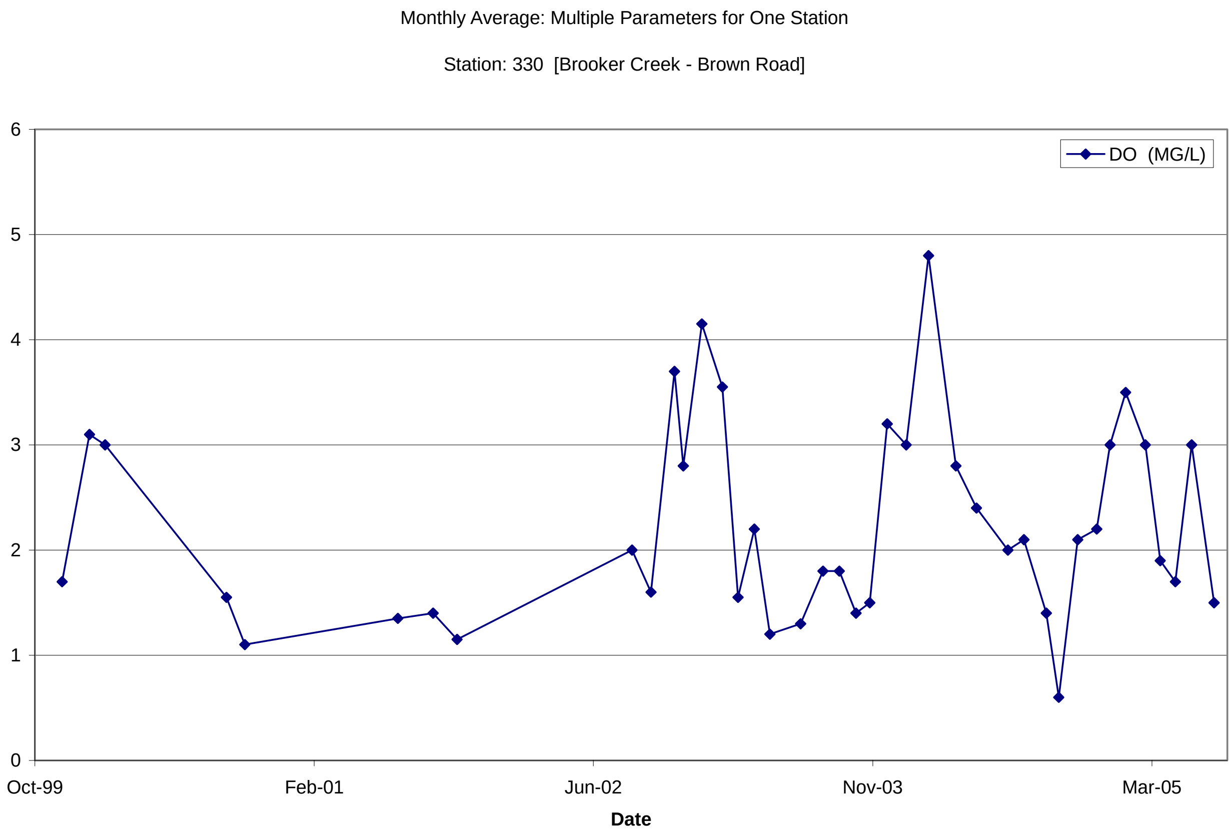

Yearly Average: One Parameter for Multiple Stations
Parameter: 00665 [TP (mg/L)]
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006
Date
James-Hillsborough
Juanita-Hillsborough
Keystone-Hillsborough
Mound-Hillsborough
Rainbow-Hillsborough
Sunset-Hillsborough
Taylor-Hillsborough
Wastena-Hillsborough

Chlorophyll A





Oxygen



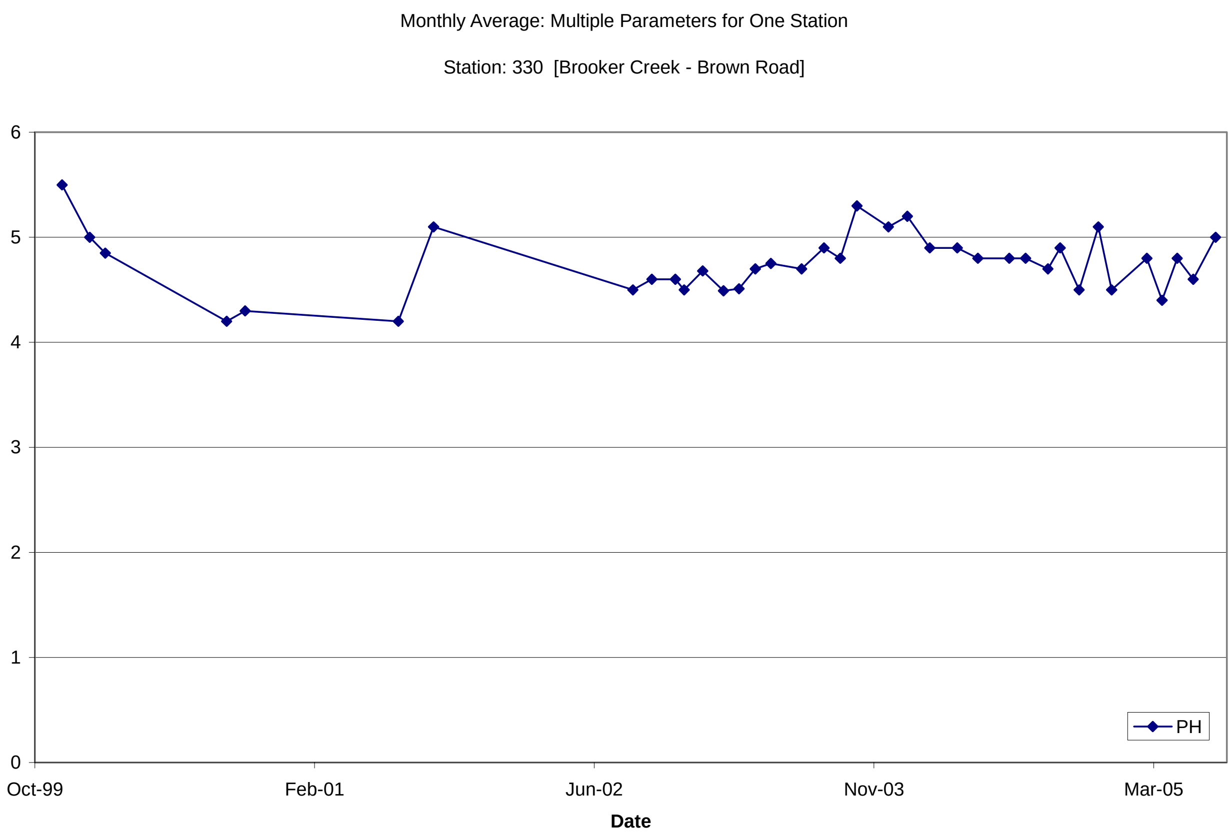
Metals

No sufficient metal data measurements were collected in the Brooker Creek watershed.

Bacteria

No sufficient fecal or total coliform data measurements were collected in the Brooker Creek watershed.

pH


Monthly Average: Multiple Parameters for One Station
Station: 330 [Brooker Creek - Brown Road]
6
5
4
3
2
1
0
PH
Oct-99
Feb-01
Jun-02
Nov-03
Mar-05
Date

7.2.2 Recent Trends (2004-2005)

Data for a recent (2004-2005) comparison analysis among sampling stations are available for Chl a, TN, and TP (Table 7-4). However, the data is not available for all stations. For TP, all but one of the stations (Alice) reported average concentrations exceeding the EPA standard of 0.01 milligram per liter (mg/L). However, the information for the Lake Alice station is based on only one sample. Chl a concentration for all but the Lake Alice station was exceeding the EPA standard of 2.6 µg/L.

For TN, all but two of the stations reported concentrations exceeding the EPA standard of 0.52 mg/L. Further, Station 330 reported an average concentration exceeding 1.0 mg/L. The TP concentration for the Lake Alice station was shown to be below the EPA standard of 10 µg/L. However, all remaining stations reported concentrations exceeding the EPA standard.

Similar to the historic case, samples from only one station (330) were analyzed for DO and pH. Results for these parameters are very similar to the historic levels, which indicate low DO and acidic water at Station 330.

Table 7-4 Mean Recent Concentrations for Various Pollutants in the Brooker Creek Watershed

Sampling Station ID	Recent Means				
	DO mg/L	pH	TN mg/L	TP mg/L	Chl a µg/L
330	2.41	4.79	1.09	0.037	
Alice-Hillsborough			0.21*	0.007*	2*
Calm-Hillsborough			0.43	0.013	4.14
Church-Hillsborough					
Crescent-Hillsborough					
Dead Lady-Hillsborough			0.91	0.042	19.88
Elizabeth-Hillsborough					
Garden-Hillsborough					
Island Ford-Hillsborough			0.65*	0.019*	9*
James-Hillsborough			0.95	0.026	15
Juanita-Hillsborough			0.85*	0.027*	6*
Keystone-Hillsborough			0.74**	0.014**	6**
Mound-Hillsborough					
Rainbow-Hillsborough					
Sunset-Hillsborough			0.88	0.026	17.7
Taylor-Hillsborough			0.74	0.022	7.78
Wastena-Hillsborough					

* - based on only one sampling event

** - based on two sampling events

Figures 7-9, 7-10, and 7-11 present a layout of the stations and concentrations for TN, TP, and chl a for the 2004-2005 period, respectively. Similar to the historic case, the water quality data indicate that areas to the north (e.g., Dead Lady Lake), east (e.g., Van Dyke Road), and west (e.g., Sunset station near Tarpon Springs Road) are areas that may need more focus.

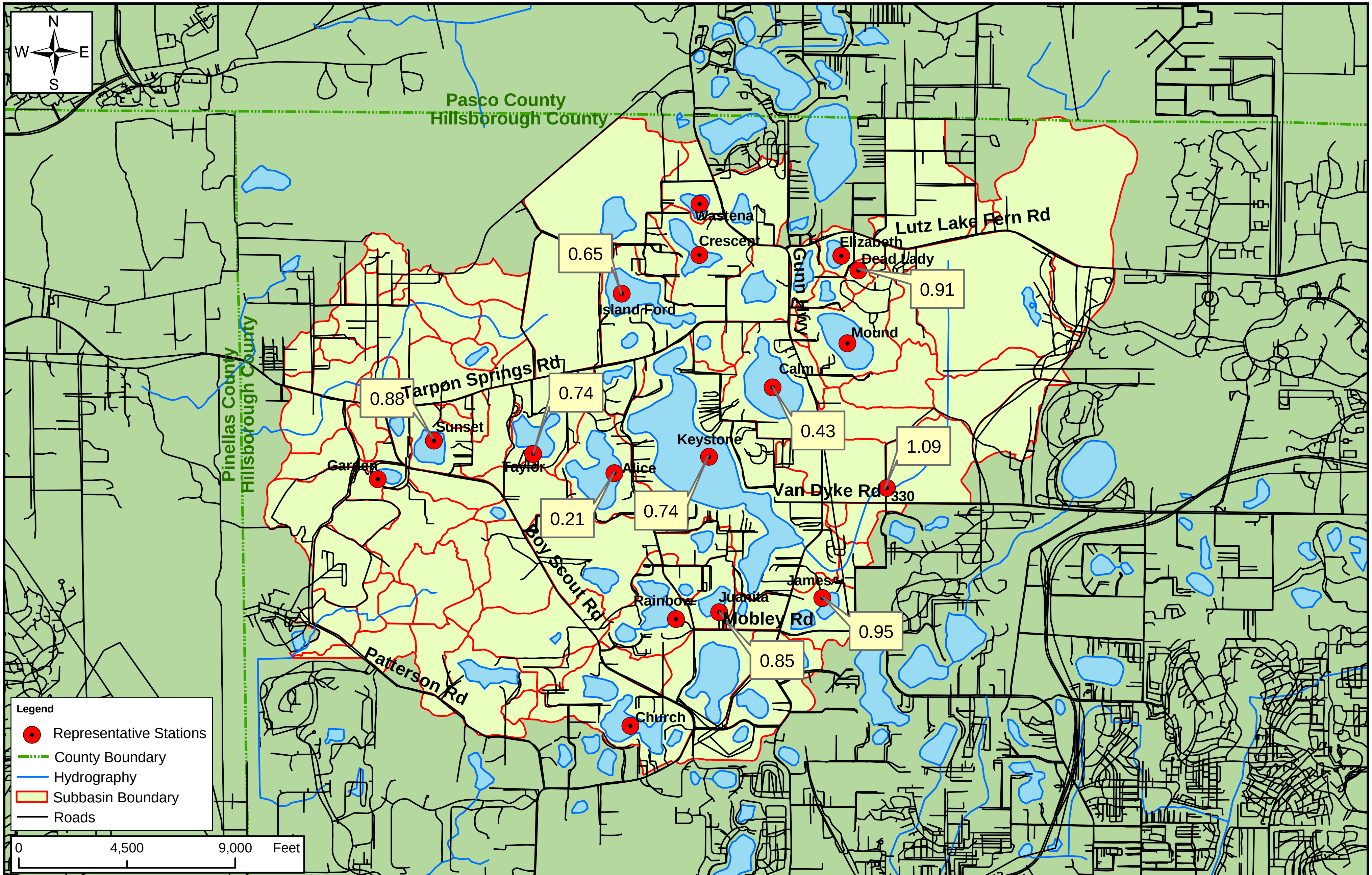
Water Quality Criteria

The following water quality criteria have been specified by EPA.

Parameter	Comment	Concentration
TP	Agg. Ecoregion XII	0.01 mg/L
TN	Agg. Ecoregion XII	0.52 mg/L
Chlorophyll A	Agg. Ecoregion XII	2.6 µg/L
DO	Class III Waterbodies	No less than 5.0 mg/L
pH	Class III Waterbodies	Normal between 6.0 and 8.5

mg/L = milligrams per liter *µg/L = micrograms per liter*

See Appendix 7-5 for surface water quality criteria information.



Mean Total Nitrogen (mg/L) Concentrations in the Brooker Creek Watershed (2004 - 2005)

Figure 7-9

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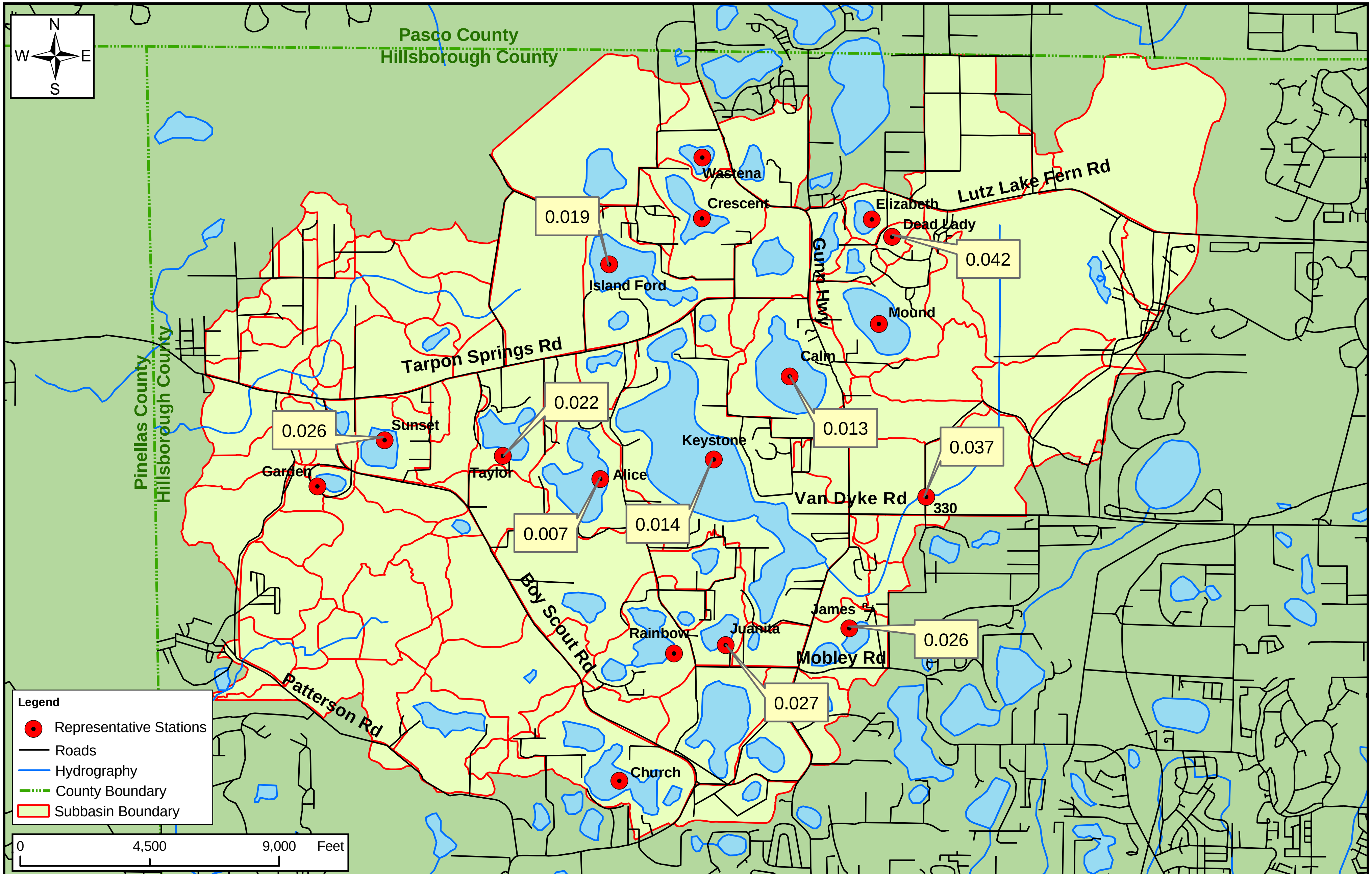
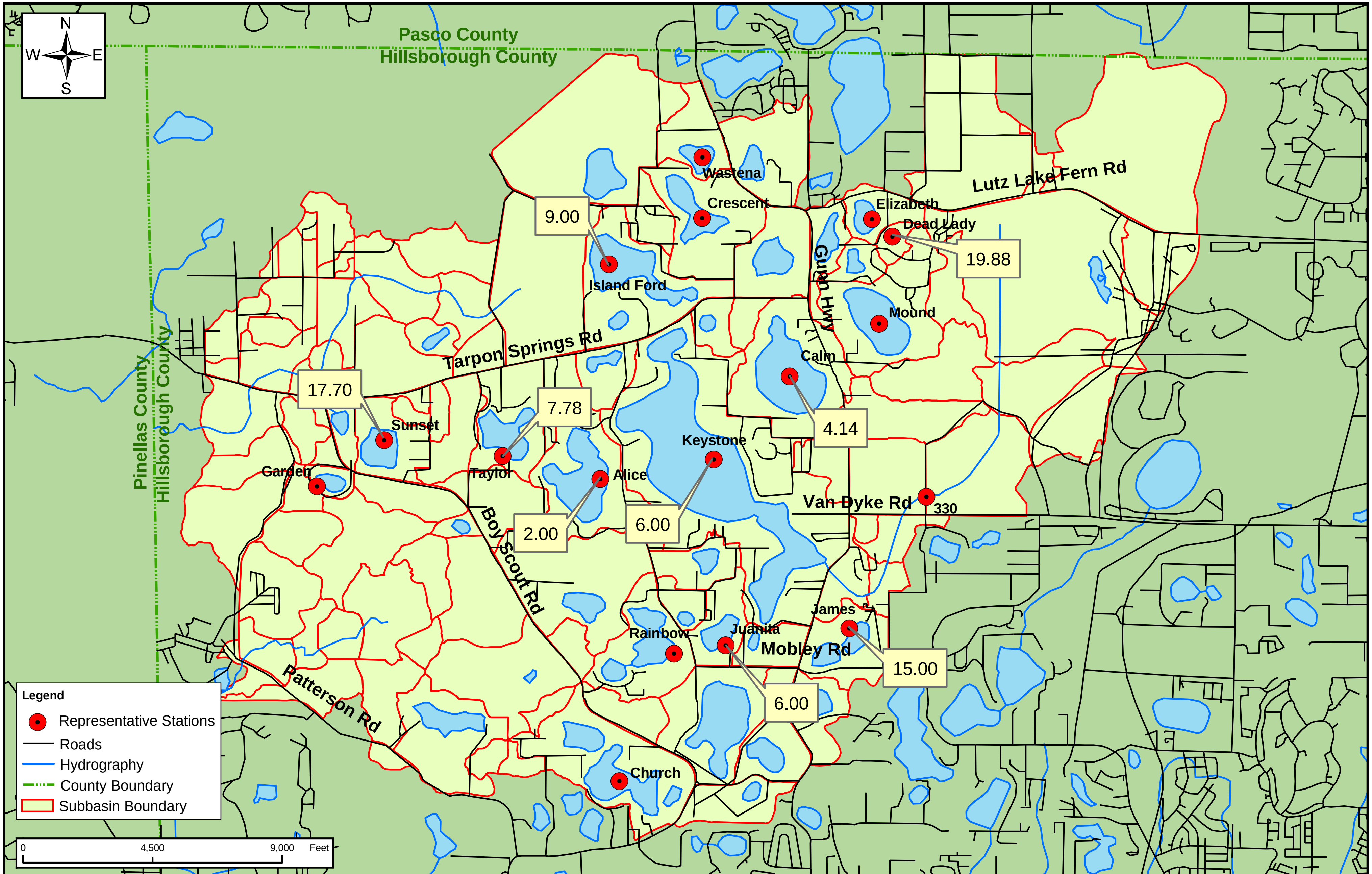


Mean Total Phosphorus (mg/L) Concentrations in the Brooker Creek Watershed (2004 - 2005)

Figure 7-10

AYRES ASSOCIATES



Mean Chlorophyl A (micro-g/L) Concentrations in the Brooker Creek Watershed (2004 - 2005)

Figure 7-11

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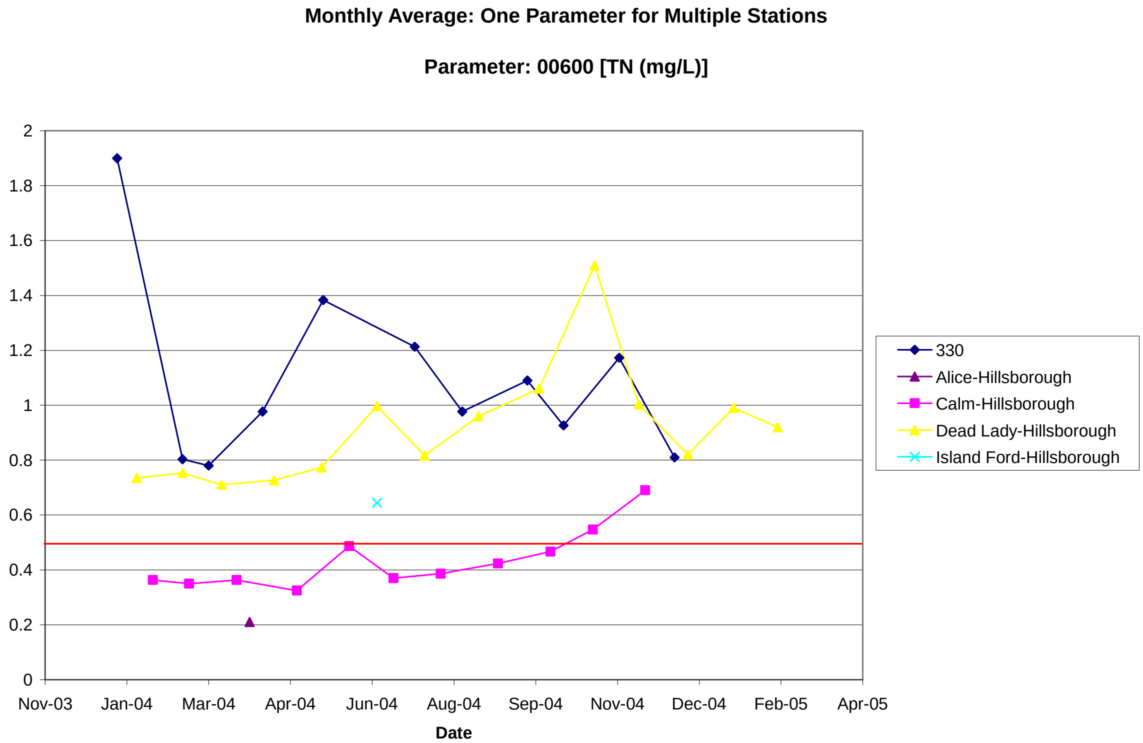
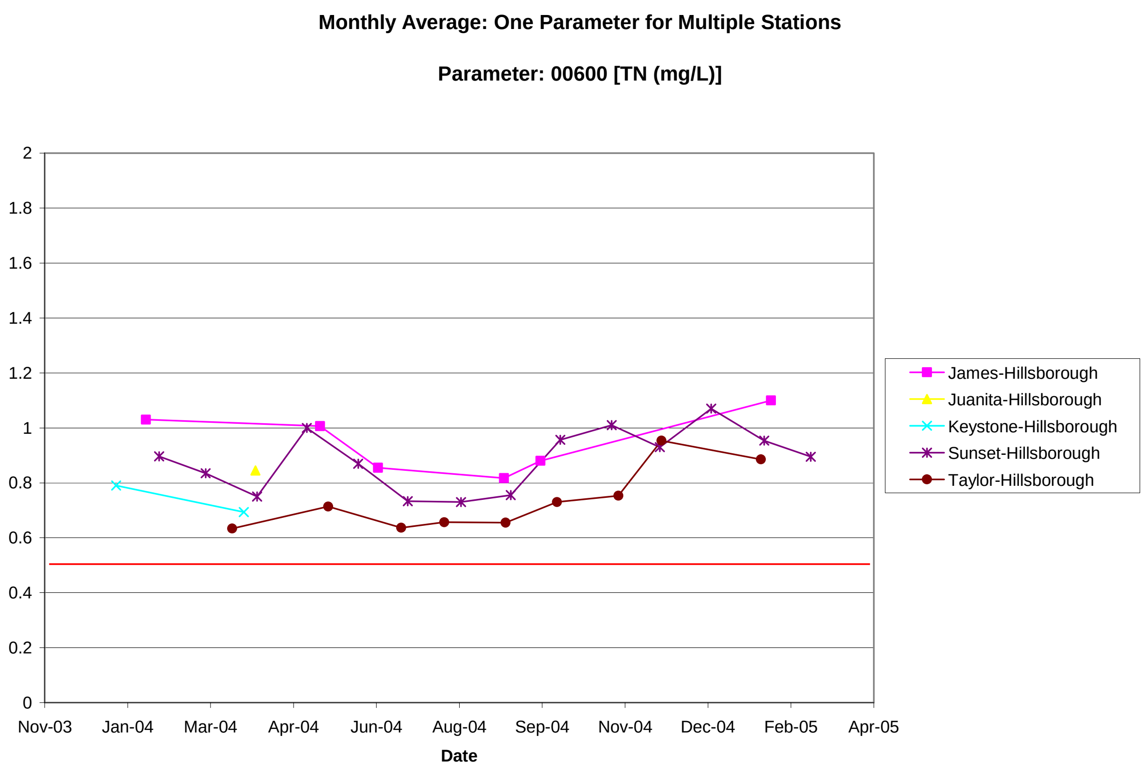
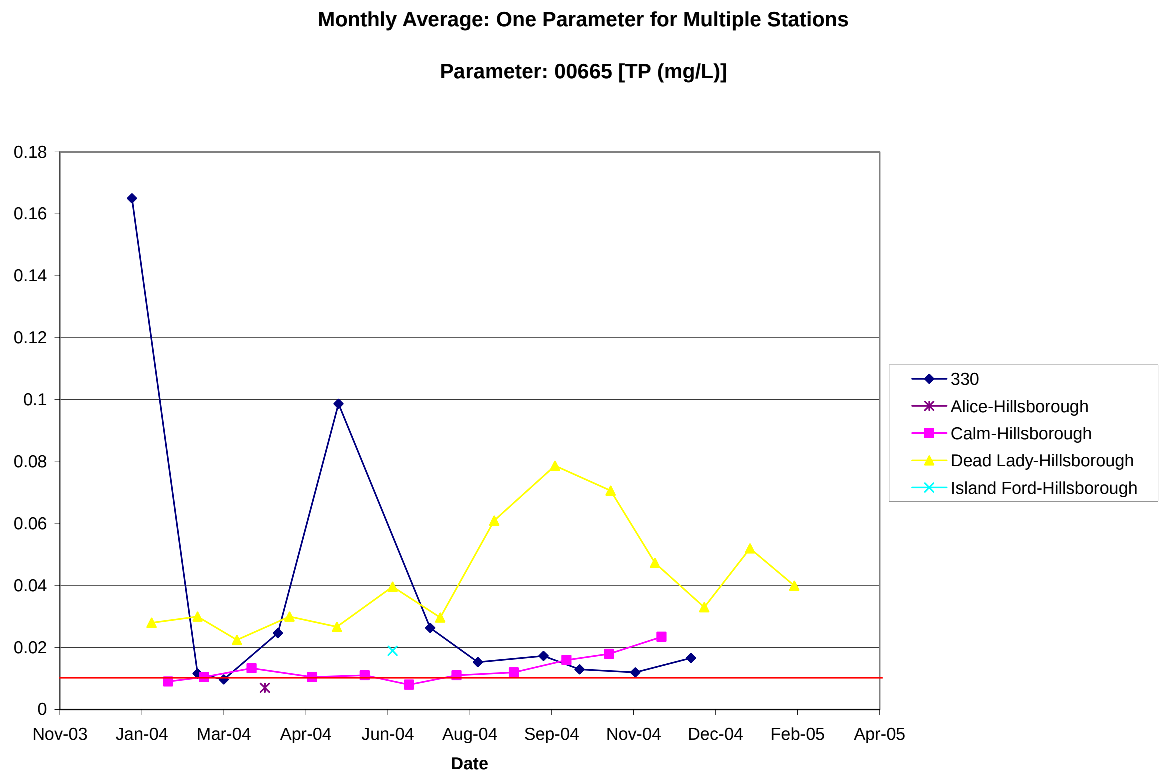
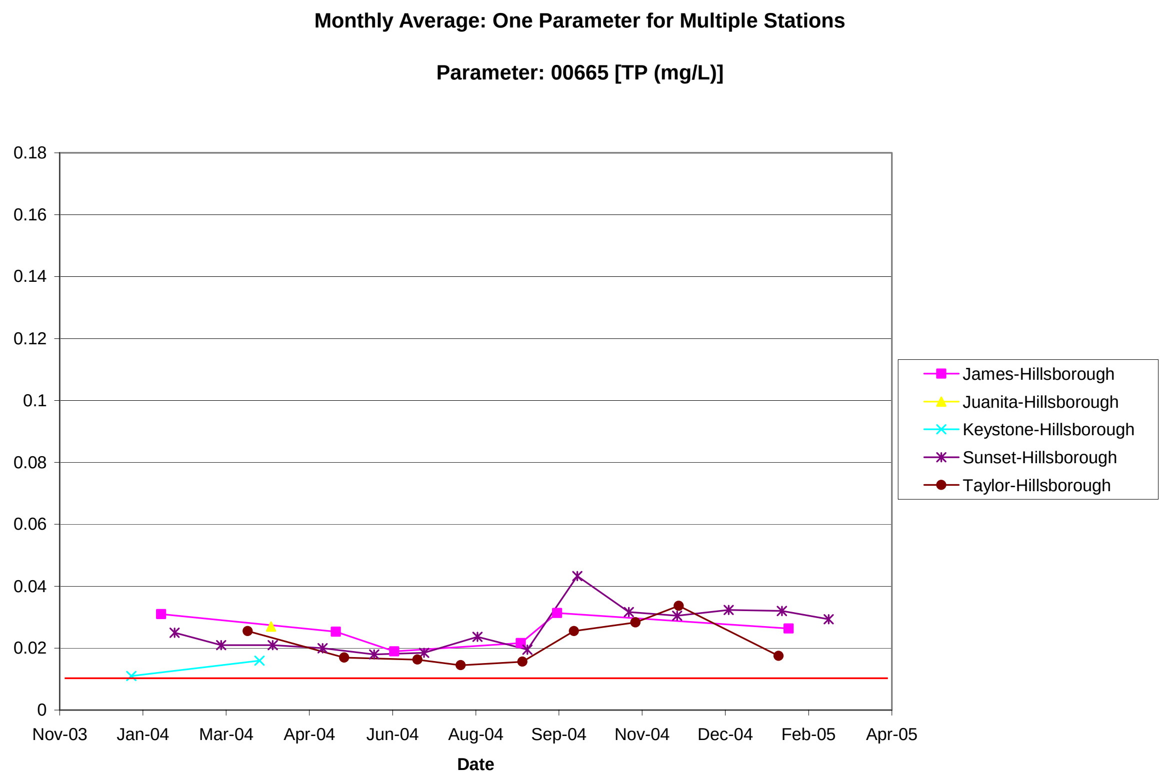
The following graphs present the sampling results for different parameters over the period of 2004-2005. To make graphs readable and prevent over-crowding, two graphs were prepared for each parameter (the number of stations was divided in half and one graph was made for each set).

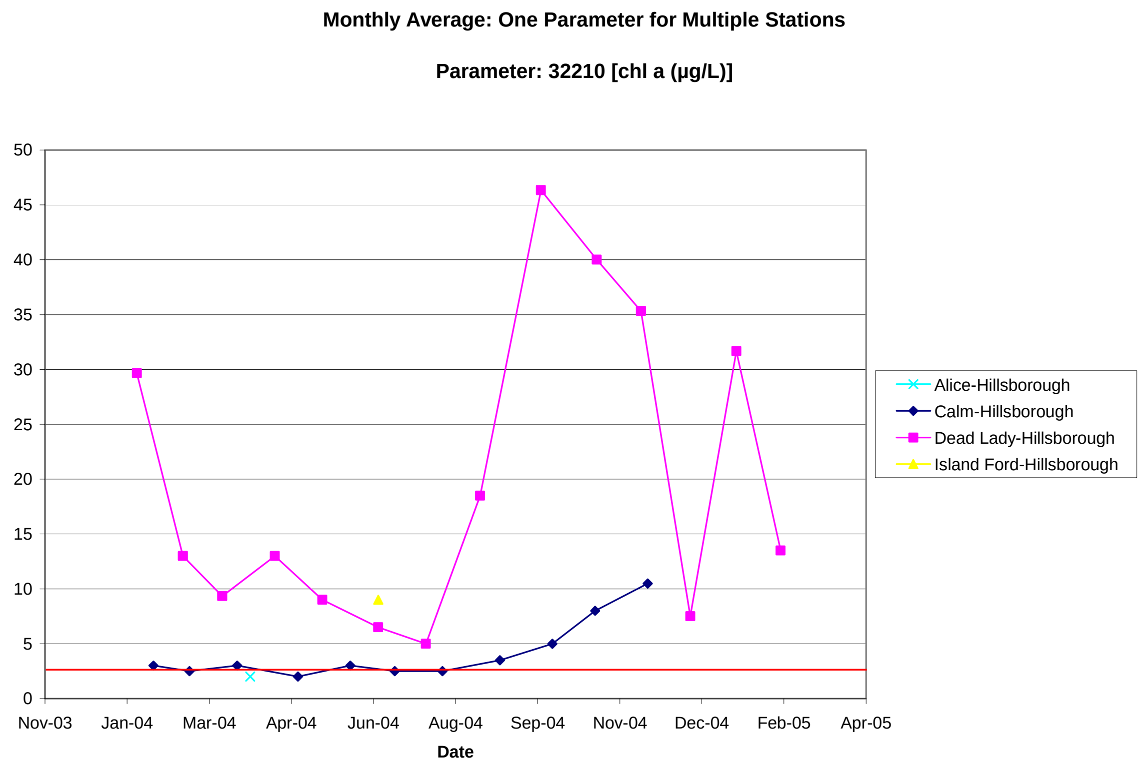


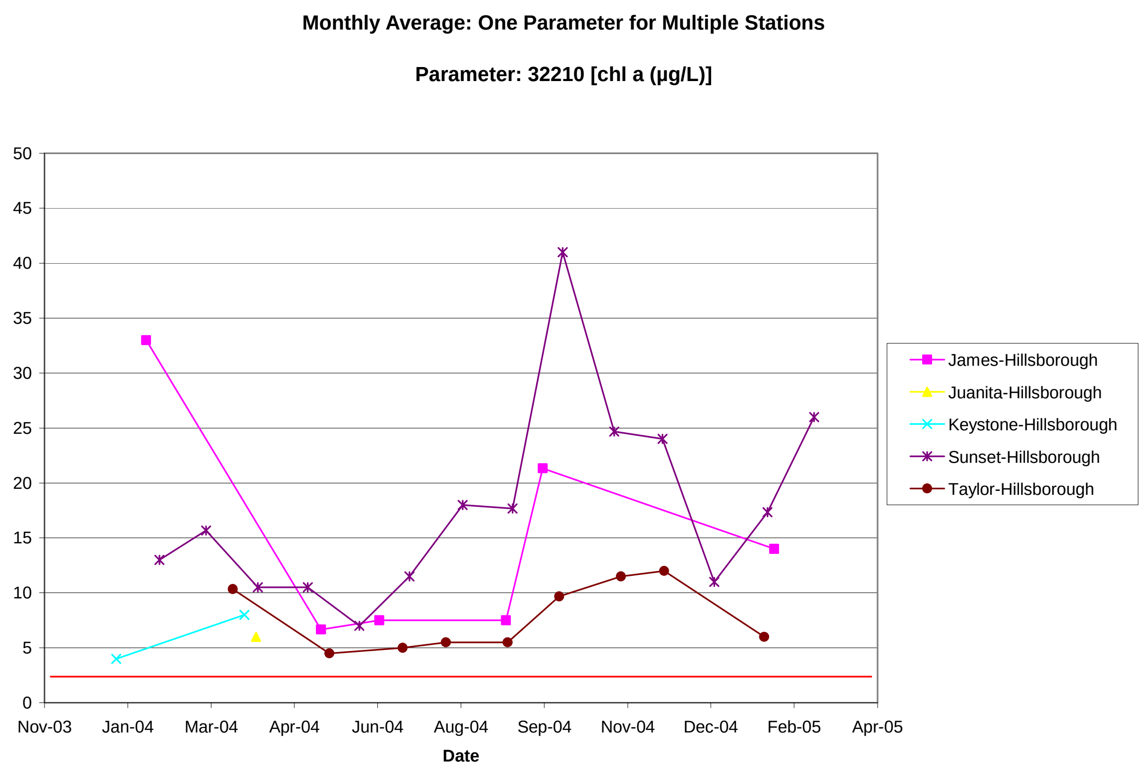



Monthly Average: One Parameter for Multiple Stations
Parameter: 00665 [TP (mg/L)]
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Nov-03
Jan-04
Mar-04
Apr-04
Jun-04
Aug-04
Sep-04
Nov-04
Dec-04
Feb-05
Apr-05
Date
330
Alice-Hillsborough
Calm-Hillsborough
Dead Lady-Hillsborough
Island Ford-Hillsborough

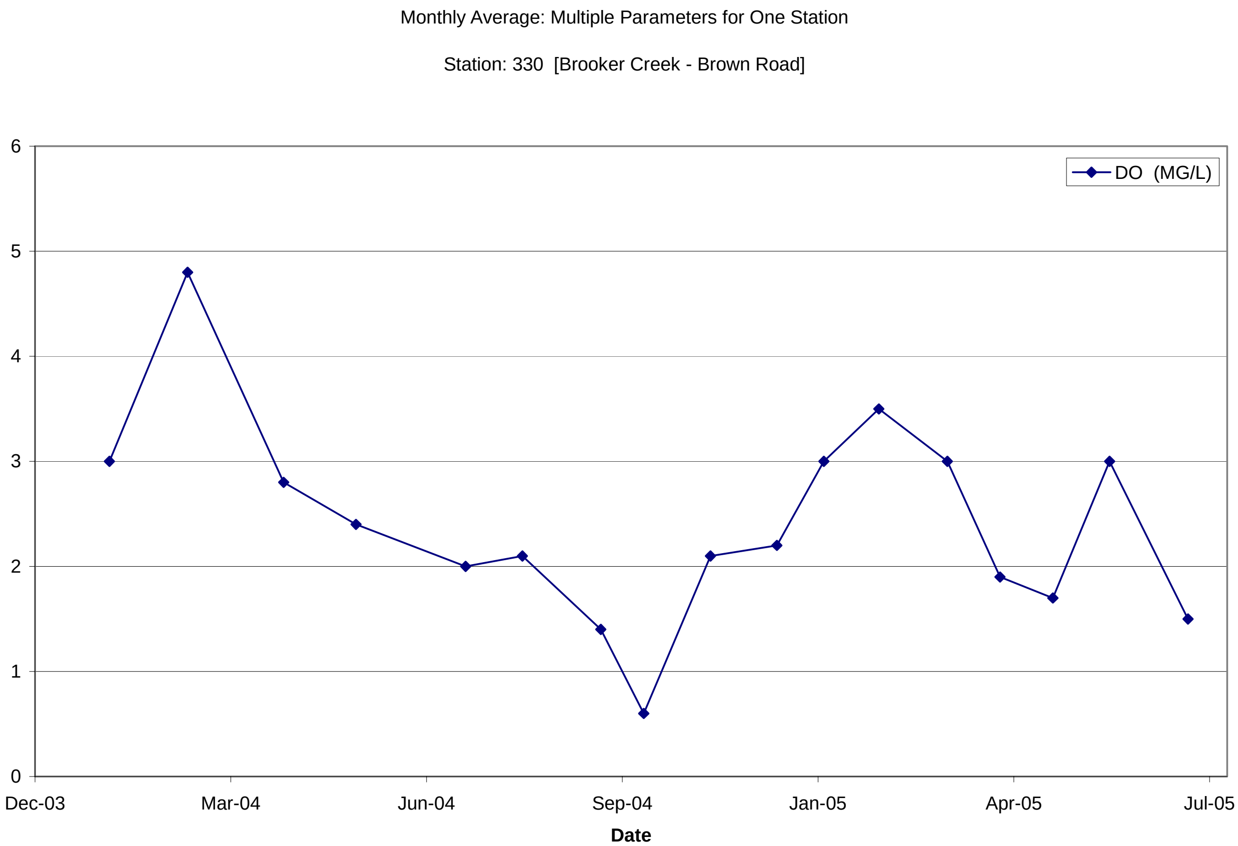

Monthly Average: One Parameter for Multiple Stations
Parameter: 00665 [TP (mg/L)]
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Nov-03
Jan-04
Mar-04
Apr-04
Jun-04
Aug-04
Sep-04
Nov-04
Dec-04
Feb-05
Apr-05
Date
James-Hillsborough
Juanita-Hillsborough
Keystone-Hillsborough
Sunset-Hillsborough
Taylor-Hillsborough

Chlorophyll A





Oxygen



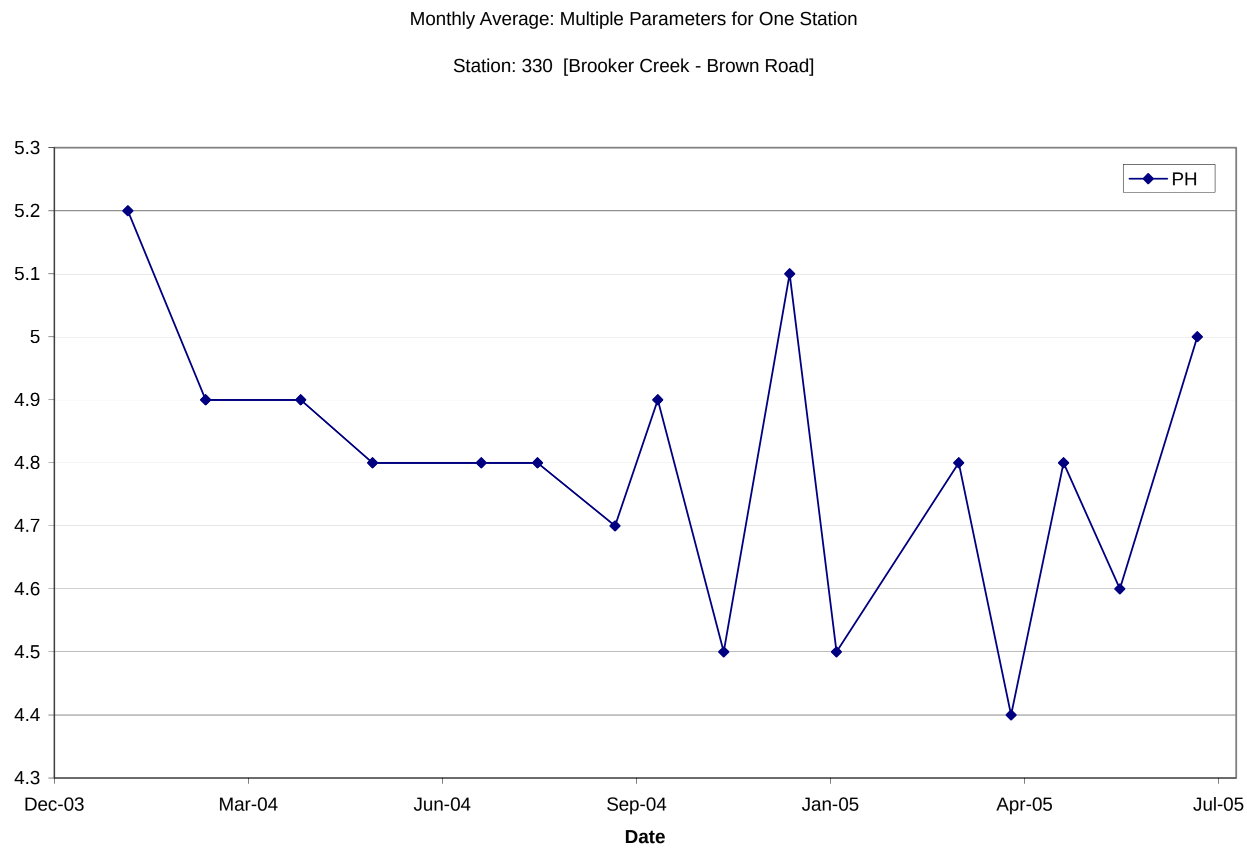
Metals

No sufficient metal data measurements were collected in the Brooker Creek watershed.

Bacteria

No sufficient fecal or total coliform data measurements were collected in the Brooker Creek watershed.

pH

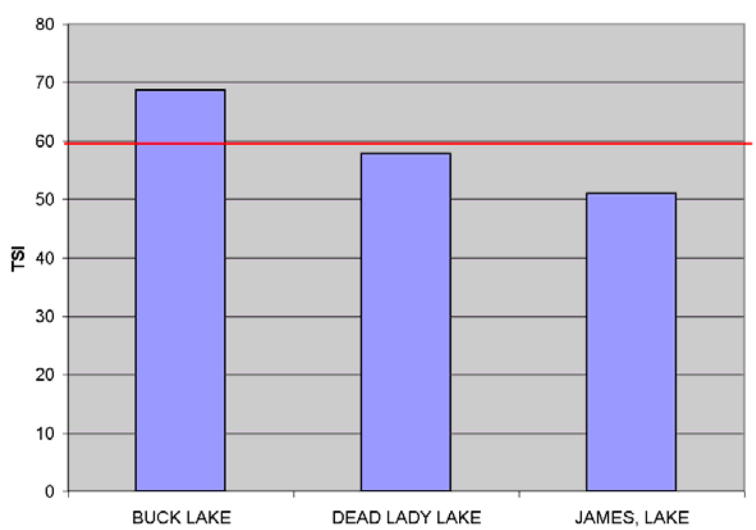

Monthly Average: Multiple Parameters for One Station
Station: 330 [Brooker Creek - Brown Road]
PH
5.3
5.2
5.1
5
4.9
4.8
4.7
4.6
4.5
4.4
4.3
Dec-03
Mar-04
Jun-04
Sep-04
Jan-05
Apr-05
Jul-05
Date

7.3 Lakes

The Brooker Creek watershed contains a high number of natural and man-made lakes. The largest include Keystone Lake, Lake Alice, Island Ford Lake, Rainbow Lake, Church Lake, Lake Rogers, Mound Lake, and Calm Lake. Throughout previous decades, consistent TSI data has been collected for most of those lakes. Only three lakes had indicated instances of TSI rising above 59 (Buck Lake, Dead Lady Lake, and James Lake). The detailed information on these occurrences is provided in the table below.

Waterbody	Date	TSI
BUCK LAKE	4/1/1997	74.0
BUCK LAKE	6/3/1997	79.4
BUCK LAKE	7/31/1997	70.5
DEAD LADY LAKE	8/10/1991	71.5
DEAD LADY LAKE	1/10/1993	71.6
DEAD LADY LAKE	2/13/1994	76.3
DEAD LADY LAKE	10/10/1994	82.0
DEAD LADY LAKE	8/13/1995	76.7
DEAD LADY LAKE	5/18/2003	70.2
DEAD LADY LAKE	6/26/2003	75.9
DEAD LADY LAKE	8/21/2003	73.7
JAMES LAKE	2/21/1998	82.1

When historical TSI averages for these lakes were calculated, only one lake, Buck Lake, was shown to have an average above 59 (“fair” category of TSI).



Issues/Areas of Concern

Sinkholes are naturally occurring geological features in Florida. The development of sinkholes occurs when limestone below the unconsolidated porous media is dissolved and the cavity is collapsed. When these underground cavities are formed and gradually expand, it is just a matter of time before they cave in. The excessive reduction in groundwater levels accelerates the caving process and development of sinkholes. This is due to reduction of buoyancy and effective stresses, which results in larger load imposed upon the cavity from the overlying material.

Sinkholes pose hazard to roads, houses, properties, and the environment. In west-central Florida, it seems that their increasing frequency corresponds to the acceleration of groundwater withdrawal and land development (USGS, 1999). Where sinkholes are developed, surface water can become in direct contact with underlying groundwater. In some areas, storm runoff is directly discharged into sinkholes, potentially introducing contaminants to groundwater.

No water quality data could be found for areas of sinkholes. Additional data should be collected in these areas to assess the potential impacts of stormwater runoff on these small systems both as surface water bodies and as potential recharge areas to groundwater. The sinkholes may contribute to the baseflow of the Brooker Creek watershed and impact the water quality of both surface water bodies and aquifers. Development in the watershed potentially increases the nonpoint sources (NPS) of pollution loads especially nutrients to the receiving waters. To address the increase in NPS loads, development of basin management action plans for TMDL is recommended to address potential water quality impairments.

Water quality and natural systems conditions in receiving water bodies may decline over time due to recent urban development around the shorelines. Water sampling plan for the area may be necessary to identify corrective measures, should the water quality conditions decline significantly.

7.4 Groundwater

The Tarpon/Brooker Creek watershed is located within the Tampa Bay/Anclote River (TB/A) watershed. The aquifer system within this area consists of the Surficial Aquifer System (SAS), Intermediate Aquifer System (IAS), and Upper Floridan Aquifer (UFA). Groundwater within this area (from the UFA) provides a dependable potable water supply and is available through much of the TB/A watershed. In addition to agricultural, residential, mining, and industrial users, Tampa Bay Water and municipalities within the area withdraw groundwater (mostly from the Floridan Aquifer) for consumptive use. The Water Management District has recognized groundwater as a limited resource, therefore, intending to reduce stress on groundwater by assisting large water users in developing alternative resources (e.g., sea water desalination, surface water reservoirs). Groundwater in the Tarpon/Brooker Creek watershed interacts with surface water at wetlands, streams and lakes. The direct and indirect hydraulic connections between the surface water and groundwater around wellfields may cause negative impacts on wetlands and other surface water bodies.

In the upper Brooker Creek watershed groundwater provides a major source of inflow for surface water streams. It is also an important source of high quality potable drinking water for both public and private wells. A number of agricultural, industrial, mining, and electric power generation users are also supplied by groundwater resources. Ongoing management activities for the region’s water supplies are discussed in more detail in Chapter 9.

To protect this important resource, in 1983, the Florida Legislature passed the Water Quality Assurance Act, which required FDEP to “Establish a ground-water quality monitoring network designed to detect or predict contamination of the state’s water resources” (403.063 F.S.). In agreement and cooperation with the SWFWMD, the Ambient Ground-Water Quality Monitoring Program (AGWQMP) was implemented to satisfy the statutory requirements. The FDEP has also implemented a sophisticated groundwater protection program based on groundwater classifications, water quality standards, and monitoring regulations. The state also administers the federally-delegated Underground Injection Control (UIC) Program, which protects the quality of underground sources of drinking water, and prevents degradation of other aquifers adjacent to injection zones. The FDEP exercises regulatory authority over groundwater quality under Chapter 62-520, F.A.C., which is augmented by monitoring and permitting activities (for withdrawals) through each of the state’s water management districts. In Florida, groundwater standards are equivalent to drinking water standards.

The FDEP classification system for groundwater is as follows (Chapter 62-520.410, F.A.C.):

- Class F-I Potable water use, groundwater in a single source aquifer described in Rule 62-520.460, F.A.C. which has a total dissolved solids content of less than 3,000 mg/l and was specifically reclassified as Class F-I by the Environmental Regulation Commission.
- Class G-I Potable water use, groundwater in single source aquifers which has a total dissolved solids content of less than 3,000 mg/l.
- Class G-II Potable water use, groundwater in aquifers which has a total dissolved solids content of less than 10,000 mg/l, unless otherwise classified by the Commission.
- Class G-III Non-potable water use, groundwater in unconfined aquifers which has a total dissolved solids content of 10,000 mg/l or greater; or which has total dissolved solids of 3,000-10,000 mg/l and either has been reclassified by the Commission as having no reasonable potential as a future source of drinking water, or has been designated by the Department as an exempted aquifer pursuant to Rule 62-28.130(3), F.A.C.
- Class G-IV Non-potable water use, groundwater in confined aquifers which has a total dissolved solids content of 10,000 mg/l or greater.

In addition to the regulatory activities described above, the FDEP has developed specific rules under 62-521.200, F.A.C. for wellhead protection to protect potable water wells from contamination, and subsequent replacement or restoration due to contamination. This statewide wellhead protection program includes criteria for delineating wellhead protection areas, and FDEP imposed permitting and monitoring requirements within these wellhead protection areas. Hillsborough County has also developed a Wellhead Protection Program similar to the FDEP program.

Groundwater Quality

The quality of groundwater has a direct relationship with the quality of the recharged water, type of porous media, and the resident time for groundwater in the media. Surface and underground chemical spills and saltwater intrusion can also impact the quality of groundwater, locally or regionally. Water quality within the Northern Tampa Bay area is generally good in the aquifers above the middle confining unit of the Floridan Aquifer system (SWFWMD, 1996). The Upper Floridan aquifer is poorly confined over most of the area, resulting in relatively high recharge rate. The groundwater quality is typically a calcium bicarbonate water of relatively low total dissolved solids (TDS). Groundwater near the coastal areas is generally higher in TDS. There are limited groundwater data available for this area (Appendix 7-6).

As part of the Northern Tampa Bay Water Resources Assessment (WRAP), SWFWMD monitored a number of wells within this area (e.g., wells James #10 and James #11). Groundwater for well James Deep #11 (southeast corner of the Brooker Creek watershed) was reported to contain (units are in mg/L) 153 TDS, bicarbonate of 108, calcium of 30, Nitrate+Nitrite (dissolved as N) (not available), and Phosphorus (dissolved as P) 0.2. Nitrate and nitrite concentrations were typically greater in surficial samples than in Floridan samples for all stations evaluated. Elevated nitrate concentrations in the surficial aquifer can result from the presence of cattle/dairy operations, application of fertilizers, and the presence of septic systems and leaking underground sewer pipes.

Issues/Areas of Concern

The available groundwater quality information from the Brooker Creek is not sufficient to draw statistically significant conclusions. Based on available information, it could be concluded that groundwater in both surficial and Floridan aquifers was of relatively good quality. Continuation of large-scale groundwater withdrawal, especially during dry conditions, will most certainly impact the overall groundwater quality. Saltwater intrusion and direct recharge through agricultural and urbanized areas will reduce water quality by increased TDS and potential contaminants in the groundwater. Sinkholes could become potential hazards to water quality, if they provide a direct hydraulic connection between the surface runoff and groundwater within the Floridan Aquifer. This area has been of concern to the SWFWMD recently as a significant source of nitrate loading. To control the impact of groundwater pumping within this area, it has been designated as the Northern Tampa Bay Water Use Caution Area (WUCA).

7.5 Overall Trends and Summary

Limited water quality data for the area is available. In order to evaluate the water quality within the watershed, WQI values would be helpful if adequate data were available. Due to lack of data for certain parameters, WQI's could not be calculated. Nevertheless, it is possible to draw conclusions based on available information and the TMDL developed by EPA in 2002.

As discussed in Chapter 7 and shown in Figure 7-3, the location of impaired waterbodies within the Brooker Creek Watershed scheduled for TMDL development as of 1998 were delineated. The Brooker Creek TMDL was originally scheduled for completion in 2003 with the parameters on concern being DO, Nutrient, and pathogens. After a review by DEP it was removed from the list based on the TMDL development by EPA in 2002. This schedule was updated in August of 2002. Refer to Appendix 7-2 for a complete list of waterbodies and their corresponding TMDL schedule.

The existing information presented herein indicates that nutrients (TN and TP) in majority of surface water bodies within the Brooker Creek watershed have increased in concentration over the past couple of decades. Where sufficient information is available, the water quality is shown to vary from season to season and from year to year. In addition, the information presented in previous sections indicates that water quality for each measured parameter is subject to spatial variation. The historic trend (1990 – 2004) indicates that TN and TP levels in most lakes are generally increasing. However, in some cases, data suggests a reduction in nutrient concentration in streams and lakes during the period between 1990 and 2004 (e.g., Station 330 (Brooker Creek – Brown Road), Dead Lady Lake).

Dissolved Oxygen measurements for the Brooker Creek watershed was recorded for the period between November 1999 and June 2005. The DO information indicate recorded level in Brooker Creek at Station 330 (Brown Road) varied between 0.6 mg/L (10/17/04) to 4.8 mg/L (02/17/04) during the reporting period. As discussed before, the average DO concentration for this location is below the threshold of 5 mg/L.

Areas of Concern

Despite recent developments and high withdrawal of groundwater within the Brooker Creek watershed, there is only one lake (Buck Lake) with a historic average TSI level above 60. Increased groundwater withdrawal and diversion of surface water due to land development, may have affected water level in some lakes (e.g., Lake Rogers, Lake Raleigh), resulting in water quality concerns. Although the overall trend of pollutant loading originating from developed areas is upward, the general water quality condition in most water bodies seem to be fair to good. A TMDL determination/assessment was done in 2003 and 2005 for DO and fecal coliforms, respectively by EPA and currently it is delisted by FDEP.

Due to the lack of sufficient temporal data, a comprehensive description of existing water quality conditions could not be made for this watershed. Additional data will need to be collected to adequately assess current and future trends and to determine whether water quality conditions in this area continue to meet Class 3 standards.

7.5.1 Overall Water Quality Issues/Areas of Concern

The primary water quality issues/areas of concern for water resources in the Brooker Creek watershed are related to both the highly developed nature of the landscape in the areas, high concentration of wellfields, as well as the potential for future growth in the area. Intense urbanization and commercial development in the watershed have resulted in the following adverse impacts:

- Increased impervious surface area (construction of roads, buildings, etc.);
- Diversion of surface runoff and natural flow from their historic path and away from receiving water bodies;
- Increased potential for sinkhole development due to the excess drawdown at wellfields;
- Excessive impact on groundwater quality through introduction of pollutants via sinkholes;
- Decreased stormwater infiltration to replenish and maintain groundwater levels in the aquifer;
- Increases in peak flows which can cause stream bank erosion, sedimentation, and increased pollutant loading;
- Extreme losses of riparian and upland buffer areas which can protect streams and lakes from water quality degradation;
- Increases in surface water pollution from stormwater runoff, residual applications (septage and sludge spreading), and atmospheric deposition;
- Consistently elevated mercury concentrations throughout the watershed which have the potential to bioaccumulate in fish and other wildlife; and
- Potential contamination of groundwater from stormwater runoff.

Based on the County's future land use plan for the area, these activities are anticipated to occur at various locations in the watershed and are anticipated to cause similar negative trends in water quality. Existing agricultural and waste management activities in these areas already contribute occasional high levels of nutrients (primarily nitrogen). A recent study by Ayres Associates (1995) indicated that land application of residuals (septage and sludge) in the Tampa Bypass Canal, New River, and Holloman's Branch areas could contribute significant nitrogen loading. Development of both non-structural and structural best management practices (BMPs) will be necessary to reduce pollutant loading to the tributaries in these subwatersheds in order to comply with TMDL requirements. Brooker Creek is currently delisted by FDEP since the 2005 TMDL approval by US EPA.

Estimates of pollutant loading are developed in Chapter 10 of this report, followed by an evaluation of water quality treatment level of service for this watershed (Chapter 11). A list of recommended management activities along with specific, strategically-located alternatives to alleviate water quality problems and pollutant loading will be developed in subsequent chapters of this report.

7.6 Bibliography

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VERIFIED LIST OF IMPAIRED WATERS FOR THE GROUP 1 BASINS (INCLUDING AMENDED ORDER - MARCH 2003)

TAMPA BAY BASIN

BASIN	WBID[1]	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
TAMPA BAY	1473W	LAKE JUANITA	NUTRIENTS (HISTORIC TSI)	MEDIAN TN = 0.60 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1473X	MOUND LAKE	NUTRIENTS (HISTORIC TSI)	MEDIAN TN = 0.45 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1473Y	CALM LAKE	NUTRIENTS (HISTORIC TSI)	MEDIAN TN = 0.33 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1474V	CRESCENT	NUTRIENTS (TSI)	MEDIAN TN = 0.65 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1474W	DEAD LADY LAKE	NUTRIENTS (TSI)	MEDIAN TN = 0.88 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1478H	LAKE REINHEIMER - OPEN	NUTRIENTS (TSI)	MEDIAN TN = 1.03 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1486	LAKE TARPON	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1486	LAKE TARPON	NUTRIENTS (TSI)	MEDIAN TN = 1.13 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS. NUTRIENTS BEING ADDRESSED BY SWFWMD THROUGH PLRGS.
TAMPA BAY	1486A	LAKE TARPON	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2008	THIS WBID WAS PREVIOUSLY INCLUDED ON THE VERIFIED LIST AS WBID 1486, BUT SHOULD HAVE BEEN LISTED AS 1486A. LINKED TO NUTRIENTS.
TAMPA BAY	1493	BUCK LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.18 MG/L; MEDIAN TP = 0.14 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1494B	BRANT LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.03 MG/L; MEDIAN TP = 0.04 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1496	SUNSET LAKE	NUTRIENTS (TSI)	MEDIAN TN = 0.72 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1502A	LAKE ESTES	NUTRIENTS (TSI)	MEDIAN TN = 0.82 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1502C	CHAPMAN LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.07 MG/L; MEDIAN TP = 0.04 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1507A	ROCKY CREEK	NUTRIENTS (CHL A)	TN = 1.35 MG/L	HIGH	2003	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS THE LIMITING NUTRIENT.
TAMPA BAY	1507A	ROCKY CREEK	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	HIGH	2003	LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1507A	ROCKY CREEK	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 1.35 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1513	DOUBLE BRANCH	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1513	DOUBLE BRANCH	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1516	SWEETWATER CREEK – UPPER	NUTRIENTS (CHL A)	TN = 0.67 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS THE LIMITING NUTRIENT.
TAMPA BAY	1516	SWEETWATER CREEK - UPPER	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1516	SWEETWATER CREEK - UPPER	DISSOLVED OXYGEN	< 5.0 MG/L	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1516	SWEETWATER CREEK - UPPER	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 0.67 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT.

TAMPA BAY	1516A	LAKE CARROLL	NUTRIENTS (TSI)	MEDIAN TN = 0.44 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1516B	LAKE MADELENE	NUTRIENTS (TSI)	MEDIAN TN = 0.67 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1516E	LAKE ELLEN - OPEN WATER	NUTRIENTS (TSI)	MEDIAN TN = 0.72 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1530	MOCCASIN CREEK	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 0.94 MG/L	LOW	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1536C	TAMPA BYPASS CANAL	COLIFORMS (TOTAL)	> 2400 PER 100 ML	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. 13 EXCEEDANCES/72 SAMPLES.
TAMPA BAY	1536C	TAMPA BYPASS CANAL	NUTRIENTS (CHL A)	TN = 0.89 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1536C	TAMPA BYPASS CANAL	DISSOLVED OXYGEN	< 5.0 MG/L	LOW	2008	LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1536E	PALM RIVER	NUTRIENTS (CHL A)	TN = 1.02 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1536E	PALM RIVER	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1536E	PALM RIVER	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 1.0 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1536F	SIXMILE CREEK	NUTRIENTS (CHL A)	TN = 0.74 MG/L	MEDIUM	2008	THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT. IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS SEGMENT WAS INCORRECTLY REFERRED TO AS WBID 1536B.
TAMPA BAY	1536F	SIXMILE CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2008	THIS WATER IS BEING ADDED BECAUSE DATA FOR THIS WATER WERE INCORRECTLY ATTRIBUTED TO WBID 1536B IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY. LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1558A	TAMPA BAY LOWER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558A	TAMPA BAY LOWER	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558B	TAMPA BAY MID	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558B	TAMPA BAY MID	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558C	TAMPA BAY UPPER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558D	HILLSBOROUGH BAY LOWER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.

TAMPA BAY	1558E	HILLSBOROUGH BAY UPPER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	HIGH	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558F	OLD TAMPA BAY LOWER	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558F	OLD TAMPA BAY LOWER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558G	OLD TAMPA BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558G	OLD TAMPA BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558H	OLD TAMPA BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558H	OLD TAMPA BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558I	OLD TAMPA BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558I	OLD TAMPA BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1563	CHANNEL G	NUTRIENTS (CHL A)	TN = 1.13 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1563	CHANNEL G	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1569	BISHOP CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1569	BISHOP CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	HIGH	2003	FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601. LOW DO LINKED TO NUTRIENTS.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 1.21 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT. FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 1.21 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT. FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1574	ALLIGATOR CREEK	NUTRIENTS (CHL A)	TN = 1.03 MG/L TP = 0.14 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.

TAMPA BAY	1574A	ALLIGATOR LAKE	NUTRIENTS (HIST. CHL A)	TN = 0.67 MG/L TP = 0.14 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1574A	ALLIGATOR LAKE	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1574A	ALLIGATOR LAKE	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 0.67 MG/L; MEDIAN TP = 0.14 MG/L	LOW	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1575	MULLET CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1575	MULLET CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1584B	MCKAY BAY	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2003	LINKED TO NUTRIENTS.
TAMPA BAY	1584B	MCKAY BAY	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 0.80 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1584B	MCKAY BAY	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 0.80 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1584B	MCKAY BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	HIGH	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1603C	BECKETT LAKE - OPEN WATER	NUTRIENTS (TSI)	MEDIAN TN = 0.87 MG/L; MEDIAN TP = 0.06 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1604	ALLEN CREEK	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 1.05 MG/L			NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1605	DELANEY CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	
TAMPA BAY	1605	DELANEY CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	
TAMPA BAY	1605	DELANEY CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2003	LINKED TO NUTRIENTS.
TAMPA BAY	1605	DELANEY CREEK	LEAD	> E(1.273[LNH]-4.705)	HIGH	2003	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	LEAD	> 5.6 UG/L	MEDIUM	2008	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	MEDIUM	2008	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	MEDIUM	2008	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	MEDIUM	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1605D	DELANEY CREEK TIDAL	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 2.33 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1624	DIRECT RUNOFF TO BAY	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	
TAMPA BAY	1624	DIRECT RUNOFF TO BAY	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	
TAMPA BAY	1624	DIRECT RUNOFF TO BAY	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	HIGH	2003	LINKED TO NUTRIENTS.
TAMPA BAY	1625	CROSS CANAL (NORTH)	NUTRIENTS (CHL A)	TN = 1.06 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1625	CROSS CANAL (NORTH)	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	

TAMPA BAY	1625	CROSS CANAL (NORTH)	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1627	LONG BRANCH	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	
TAMPA BAY	1627	LONG BRANCH	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	
TAMPA BAY	1627	LONG BRANCH	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2003	LINKED TO NUTRIENTS AND BOD.
TAMPA BAY	1637	BLACK POINT CHANNEL	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	THIS SEGMENT WAS LISTED ON THE 1998 303(D) LIST; HOWEVER, IT WAS NOT ASSESSED IN THE 1996 305(B) REPORT. LINKED TO NUTRIENTS.
TAMPA BAY	1666	BULLFROG CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	MEDIUM	2008	
TAMPA BAY	1666	BULLFROG CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	MEDIUM	2008	
TAMPA BAY	1666A	BULLFROG CREEK	NUTRIENTS (CHL A)	TN = 1.28 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1666A	BULLFROG CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1666A	BULLFROG CREEK	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1683	SMACKS BAYOU	NUTRIENTS (CHL A)	TN = 0.76 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1683	SMACKS BAYOU	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1700	COFFEEPOT BAYOU	NUTRIENTS (CHL A)	TN = 1.00 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITRGEN IS LIMITING NUTRIENT.
TAMPA BAY	1700	COFFEEPOT BAYOU	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1709D	LITTLE BAYOU - BASIN Q	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	MEDIUM	2008	
TAMPA BAY	1709D	LITTLE BAYOU - BASIN Q	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	MEDIUM	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1709D	LITTLE BAYOU - BASIN Q	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 1.11 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1778	COCKROACH BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	HAS CONTAMINATED SEDIMENTS - ONGOING RESTORATION EFFORT. AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1778	COCKROACH BAY	NUTRIENTS (CHL A)	TN = 1.16 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1778	COCKROACH BAY	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS AND BOD.
TAMPA BAY	1778	COCKROACH BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS			LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1797B	BISHOPS HARBOR	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1797B	BISHOPS HARBOR	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS			LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.

TAMPA BAY	8999	FLORIDA GULF COAST	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	CONFIRMED RECENT DATA FOR COASTAL FISH ADVISORY FOR MACKEREL. INCLUDES NEARSHORE AREAS IN 8049.

SUWANNEE RIVER BASIN

BASIN	WBID	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
SUWANNEE RIVER	3422A	SUWANNEE RIVER (LOWER)	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.012 MG/L)	LOW	2011	MERCURY CONCENTRATIONS FOR 1995, 1996, 1998, 1999, 2000, 2001, 2002 EXCEEDED 0.5 MG/KG. AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVLES FOR CONSUMPTION.
SUWANNEE RIVER	3422B	SUWANNEE RIVER (LOWER)	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.012 MG/L)	LOW	2011	MERCURY CONCENTRATIONS FOR 1995-2002 EXCEEDED 0.5MG/KG. AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
SUWANNEE RIVER	3422D	SUWANNEE ESTUARY	COLIFORMS (SHELLFISH)	EXCEEDS SEAS THRESHOLDS	MEDIUM	2007	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
SUWANNEE RIVER	3473A	FENHOLLOWAY AT MOUTH	TOTAL COLIFORMS	>2400/100 ML	HIGH	2002	
SUWANNEE RIVER	3473A	FENHOLLOWAY AT MOUTH	DISSOLVED OXYGEN	<5.0 MG/L	HIGH	2002	WILL BE ADDRESSED BY BUCKEYE NPDES PERMIT, BUT CURRENTLY INSUFFICIENT CERTAINTY TO PROVIDE REASONABLE ASSURANCE GIVEN ONGOING DELIBERATIONS. LINKED TO BOD AND NITROGEN.
SUWANNEE RIVER	3473A	FENHOLLOWAY AT MOUTH	BOD	1995 MEDIAN VALUE =5.1 MG/L	HIGH	2002	IMPAIRMENT LINKED TO DISSOLVED OXYGEN
SUWANNEE RIVER	3473B	FENHOLLOWAY BL PULP	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2002	GIVEN ONGOING DELIBERATIONS, CURRENTLY INSUFFICIENT CERTAINTY TO PROVIDE REASONABLE ASSURANCE. LINKED TO BOD AND NITROGEN.
SUWANNEE RIVER	3473B	FENHOLLOWAY BL PULP	UN-IONIZED NH3	>0.02 MG/L	MEDIUM	2002	GIVEN ONGOING DELIBERATIONS, CURRENTLY INSUFFICIENT CERTAINTY TO PROVIDE REASONABLE ASSURANCE.
SUWANNEE RIVER	3473B	FENHOLLOWAY BL PULP	BOD	1995 MEDIAN VALUE =11.2 MG/L	MEDIUM	2002	LINKED TO DISSOLVED OXYGEN
SUWANNEE RIVER	3473B	FENHOLLOWAY BL PULP	CONDUCTIVITY	>1275 µMHOS/CM	MEDIUM	2007	BACKGROUND BASED ON ECONFINA DATA
SUWANNEE RIVER	3516	ALLIGATOR LAKE OUTLET	NUTRIENTS (TSI)	MEDIAN TP VALUE FOR 1998 = 2.02MG/L	LOW MEDIUM	2007	LINKED TO NUTRIENTS AND BOD. NITROGEN LIMITED.
SUWANNEE RIVER	3516	ALLIGATOR LAKE OUTLET	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS. NITROGEN LIMITED
SUWANNEE RIVER	3516A	ALLIGATOR LAKE	NUTRIENTS (TSI)	MEDIAN TP VALUE FOR 1996 = 2.45MG/L; MEDIAN TN VALUE FOR 1996 = 1.61 MG/L	LOW MEDIUM	2007	LINKED TO NUTRIENTS AND BOD. NITROGEN LIMITED.
SUWANNEE RIVER	3516A	ALLIGATOR LAKE	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS. NITROGEN LIMITED
SUWANNEE RIVER	3520	CANNON CREEK	FECAL COLIFORMS	>800/100 ML	MEDIUM	2007	
SUWANNEE RIVER	3605A	SANTA FE RIVER	NUTRIENTS (ALGAL MATS AND HISTORICAL CHLOROPHYLL)	MEDIAN TP VALUE FOR 1998 = 0.086G/L; MEDIAN TN VALUE FOR 1998 = 0.995 MG/L	MEDIUM	2007	TN IS LIMITING NUTRIENT.
SUWANNEE RIVER	3605C	SANTA FE RIVER	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS
SUWANNEE RIVER	3626	PARENERS BRANCH	FECAL COLIFORMS	>800/100 ML	MEDIUM	2007	
SUWANNEE RIVER	3699	WACCASASSA RIVER	TOTAL COLIFORMS	>2400/100 ML	MEDIUM	2007	
SUWANNEE RIVER	3729	BLACK POINT SWAMP (ESTUARY)	NUTRIENTS (CHLOROPHYLL)	MEDIAN TP VALUE 1995-2001 = 0.900MG/L; MEDIAN TN VALUE 1995-2001 = 1.050 MG/L	MEDIUM	2007	NITROGEN LIMITATION, WITH SOME CO-LIMITATION.
SUWANNEE RIVER	8032A	DEKLE BEACH	COLIFORMS (BEACH ADVISORY)	GREATER THAN DOH THRESHOLDS	MEDIUM	2007	HAS ADVISORIES FOR MORE THAN 21 DAYS IN 2001. VERIFICATION PENDING REVIEW OF DOH DATA.
SUWANNEE RIVER	8032B	KEATON BEACH	COLIFORMS (BEACH ADVISORY)	GREATER THAN DOH THRESHOLDS	MEDIUM	2007	HAS ADVISORIES FOR MORE THAN 21 DAYS IN 2001. VERIFICATION PENDING REVIEW OF DOH DATA.

SUWANNEE RIVER	8032C	CEDAR BEACH	COLIFORMS (BEACH ADVISORY)	GREATER THAN DOH THRESHOLDS	MEDIUM	2007	HAS ADVISORIES FOR MORE THAN 21 DAYS IN 2001. VERIFICATION PENDING REVIEW OF DOH DATA.
SUWANNEE RIVER	8035	SUWANNEE GULF 7	COLIFORMS (SHELLFISH)	EXCEEDS SEAS THRESHOLDS	MEDIUM	2007	LISTED BASED ON CHANGE IN SHELLFISH HARVESTING CLASSIFICATION (DOWNGRADED FROM APPROVED TO CONDITIONAL).
SUWANNEE RIVER	8037	WACCASASSA RIVER GULF 1	COLIFORMS (SHELLFISH)	EXCEEDS SEAS THRESHOLDS	MEDIUM	2007	LISTED BASED ON CHANGE IN SHELLFISH HARVESTING CLASSIFICATION (DOWNGRADED FROM APPROVED TO CONDITIONAL).
SUWANNEE RIVER	8038	WACCASASSA RIVER GULF 2	COLIFORMS (SHELLFISH)	EXCEEDS SEAS THRESHOLDS	MEDIUM	2007	LISTED BASED ON CHANGE IN SHELLFISH HARVESTING CLASSIFICATION (DOWNGRADED FROM APPROVED TO CONDITIONAL).
SUWANNEE RIVER	8999	FLORIDA GULF COAST	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 MG/L)	LOW	2011	CONFIRMED RECENT DATA FOR COASTAL FISH ADVISORY FOR MACKEREL. INCLUDES NEARSHORE AREAS IN WBID'S 3422D, 8029, 8030, 8031, 8032, 8033, 8034, 8035, 8037, AND 8038 SERIES.

OCKLAWAHA RIVER BASIN

BASIN	WBID	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
OCKLAWAHA	2688	HATCHET CREEK	IRON	> 1.0 MG/L	MEDIUM	2002	
OCKLAWAHA	2688	HATCHET CREEK	TOTAL COLIFORMS	> 2400 PER 100 ML	MEDIUM	2002	
OCKLAWAHA	2695	LITTLE HATCHET CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2007	FLOWS FROM GUM ROOT SWAMP. ELEVATED NUTRIENTS BELIEVED TO CONTRIBUTE.
OCKLAWAHA	2698	HOGTOWN CREEK	FECAL COLIFORMS	> 800 PER 100 ML	MEDIUM	2007	ON 1998 LIST, WAS LISTED FOR "COLIFORMS". INSUFFICIENT DATA TO ASSESS TOTAL COLIFORMS.
OCKLAWAHA	2698	HOGTOWN CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS. ELEVATED NUTRIENTS BELIEVED TO CONTRIBUTE.
OCKLAWAHA	2705	NEWNANS LAKE OUTLET	NUTRIENTS (TSI)	MEDIAN TN = 3.37 MG/L; MEDIAN TP = 0.12 MG/L	MEDIUM	2007	BOTH N AND P ARE FACTORS.
OCKLAWAHA	2705B	NEWNANS LAKE	NUTRIENTS (TSI)	MEDIAN TN = 3.96 MG/L; MEDIAN TP = 0.13 MG/L	HIGH	2002	PREVIOUSLY LISTED AS WBID 2705. PHOSPHORUS LIMITING WITH SOME COLIMITATION OF N AND P.
OCKLAWAHA	2711	SWEETWATER BRANCH	FECAL COLIFORMS	> 800 PER 100 ML	MEDIUM	2002	
OCKLAWAHA	2713B	REDWATER LAKE	NUTRIENTS (TSI)	MEDIAN TN = 0.69 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2007	NITROGEN LIMITING WITH SOME COLIMITATION OF N AND P.
OCKLAWAHA	2718A	TUMBLING CREEK	FECAL COLIFORMS	> 800 PER 100 ML	MEDIUM	2002	
OCKLAWAHA	2718A	TUMBLING CREEK	TOTAL COLIFORMS	> 2400 PER 100 ML	MEDIUM	2007 (2002)	
OCKLAWAHA	2718C	BEVENS CREEK	NUTRIENTS (CHL A)	TN = 1.68 MG/L TP = 0.13 MG/L	MEDIUM	2007	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY. FOLLOWING ADOPTION OF THE ORIGINAL ORDER HOWEVER, NITROGEN AND PHOSPHORUS WERE DETERMINED TO BE COLIMITING NUTRI
OCKLAWAHA	2720A	ALACHUA SINK LAKE	NUTRIENTS (TSI)	MEDIAN TN = 3.88 MG/L; MEDIAN TP = 1.26 MG/L	HIGH	2002	PREVIOUSLY LISTED AS WBID 2720. NITROGEN LIMITED.
OCKLAWAHA	2738	LOCHLOOSA LAKE	NUTRIENTS (TSI)	MEDIAN TN = 2.15 MG/L; MEDIAN TP = 0.06 MG/L	HIGH	2002	PHOSPHORUS LIMITING WITH SOME COLIMITATION OF N AND P.
OCKLAWAHA	2740C	OCKLAWAHA RIV AB LK OK	NUTRIENTS (CHLA)	MEDIAN TN = 1.21 MG/L; MEDIAN TP = 0.04 MG/L	HIGH	2002	PHOSPHORUS LIMITING WITH SOME COLIMATION OF N AND P.
OCKLAWAHA	2740C	OCKLAWAHA RIV AB LK OK	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2002	BELIEVED RELATED TO ELEVATED NUTRIENTS.
OCKLAWAHA	2740D	OCKLAWAHA RIV AB DAISY	NUTRIENTS (CHLA)	MEDIAN TN = 3.06 MG/L; MEDIAN TP = 0.12 MG/L	MEDIUM	2002	PHOSPHORUS LIMITING.
OCKLAWAHA	2740D	OCKLAWAHA RIV AB DAISY	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2002	LINKED TO NUTRIENTS. ELEVATED BOD AND NUTRIENTS BELIEVED TO CONTRIBUTE.
OCKLAWAHA	2740D	OCKLAWAHA RIV AB DAISY	IRON	> 1.0 MG/L	MEDIUM	2007	
OCKLAWAHA	2740D	OCKLAWAHA RIV AB DAISY	TOTAL COLIFORMS	> 2400 PER 100 ML	MEDIUM	2002	
OCKLAWAHA	2740F	OCKLAWAHA R/SUNNYHILL	DISSOLVED OXYGEN	> 5.0 MG/L	HIGH	2002	RELATED TO NUTRIENTS BASED ON ELEVATED NUTRIENT LEVELS.
OCKLAWAHA	2741	WAUBERG LAKE OUTLET	NUTRIENTS (TSI)	MEDIAN TN = 1.51 MG/L; MEDIAN TP = 0.10 MG/L	HIGH	2002	COLIMITATION OF N AND P.
OCKLAWAHA	2749	ORANGE LAKE REACH	NUTRIENTS (TSI)	MEDIAN TN = 1.47 MG/L; MEDIAN TP = 0.04 MG/L	MEDIUM	2002	PHOSPHORUS LIMITING WITH SOME COLIMATION OF N AND P.
OCKLAWAHA	2754	CROSS CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2007	BASED ON RECENT ORANGE CREEK PARTNERSHIP DATA. LINKED TO NUTRIENTS (N AND P) AND ELEVATED BOD.
OCKLAWAHA	2754	CROSS CREEK	NUTRIENTS	MEDIAN TN = 1.62 MG/L; MEDIAN TP = 0.065 MG/L	MEDIUM	2007	BASED ON RECENT ORANGE CREEK PARTNERSHIP DATA CO-LIMITING.
OCKLAWAHA	2782	LAKE BRYANT	NUTRIENTS (TSI)	MEDIAN TN = 1.01 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2007	PHOSPHORUS LIMITING.

OCKLAWAHA	2790	LAKE WEIR OUTLET	NUTRIENT (TSI)	MEDIAN TN = 0.87 MG/L; MEDIAN TP = 0.010 MG/L	MEDIUM	2007	PHOSPHORUS LIMITED.
OCKLAWAHA	2790A	LAKE WEIR	NUTRIENTS (TSI)	MEDIAN TN = 0.75 MG/L; MEDIAN TP = 0.010 MG/L	MEDIUM	2007	PHOSPHORUS LIMITED.
OCKLAWAHA	2807	LAKE YALE CANAL	NUTRIENTS (TSI)	MEDIAN TN = 1.57 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2007	PHOSPHORUS LIMITING. COMBINED PREVIOUS LISTING FOR TSI WITH CHLA
OCKLAWAHA	2807A	LAKE YALE	NUTRIENTS (TSI)	MEDIAN TN = 1.56 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2007	PHOSPHORUS LIMITING.
OCKLAWAHA	2814A	LAKE GRIFFIN	NUTRIENTS (TSI)	MEDIAN TN = 3.88 MG/L; MEDIAN TP = 0.09 MG/L	HIGH	2003	PREVIOUSLY LISTED AS WBID 2814. PHOSPHORUS LIMITING.
OCKLAWAHA	2814A	LAKE GRIFFIN	UN-IONIZED NH3	> 0.02 MG/.	HIGH	2003	
OCKLAWAHA	2817A	HAYNES CREEK REACH	NUTRIENTS (CHLA)	MEDIAN TN = 2.58 MG/L; MEDIAN TP = 0.06 MG/L	MEDIUM	2002	WILL BE PART OF PLRG FOR LAKE GRIFFIN. PHOSPHORUS LIMITED.
OCKLAWAHA	2817A	HAYNES CREEK REACH	DISSOLVED OXYGEN	> 5.0 MG/L	MEDIUM	2002	LINKED TO NUTRIENTS. BELIEVED RELATED TO ELEVATED NUTRIENTS AND BOD.
OCKLAWAHA	2817B	LAKE EUSTIS	NUTRIENTS (TSI)	MEDIAN TN = 2.30 MG/L; MEDIAN TP = 0.04 MG/L	HIGH	2002	PHOSPHORUS LIMITING.
OCKLAWAHA	2817B	LAKE EUSTIS	UN-IONIZED NH3	> 0.02 MG/.	HIGH	2002	
OCKLAWAHA	2817C	DEAD RIVER	NUTRIENTS (CHL A)	TP = 0.04 MG/L.	MEDIUM	2007	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY. FOLLOWING ADOPTION OF THE ORIGINAL ORDER, PHOSPHORUS WAS DETERMINED TO BE THE LIMITING NUTRIENT.
OCKLAWAHA	2819A	TROUT LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.65 MG/L; MEDIAN TP = 0.17 MG/L	HIGH	2002	NITROGEN LIMITING AND SOME COLIMITATION OF N AND P. DATA PREVIOUSLY ASSOCIATED WITH WBID 2819 IS INCLUDED IN THIS WBID.
OCKLAWAHA	2829	LAKE LORRAINE	NUTRIENTS (TSI)	MEDIAN TN = 1.83 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2007	PHOSPHORUS LIMITED.
OCKLAWAHA	2831A	DORA CANAL (EXTENSION DITCH)	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2007	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY. FOLLOWING ADOPTION OF THE ORIGINAL ORDER, NITROGEN WAS DETERMINED TO BE THE CAUSATIVE POLLUTANT. TN MEDIAN = 4.54 mg/L.
OCKLAWAHA	2831A	DORA CANAL	NUTRIENTS (CHLA)	MEDIAN TN = 4.54 MG/L; MEDIAN TP = 0.07 MG/L	MEDIUM	2002	SUFFICIENT DATA, VERY HIGH CHL A READINGS. PHOSPHORUS LIMITING.
OCKLAWAHA	2831B	LAKE DORA	NUTRIENTS (TSI)	MEDIAN TN = 3.72 MG/L; MEDIAN TP = 0.08 MG/L	MEDIUM	2002	PHOSPHORUS LIMITING. DATA PREVIOUSLY ASSOCIATED WITH WBID 2831 IS INCLUDED IN THIS WBID.
OCKLAWAHA	2831B	LAKE DORA	UN-IONIZED NH3	> 0.02 MG/.	MEDIUM	2002	DATA PREVIOUSLY ASSOCIATED WITH WBID 2831 IS INCLUDED IN THIS WBID.
OCKLAWAHA	2832	HELENA RUN	NUTRIENTS (CHL A)	TN = 2.15 MG/L TP = 0.09 MG/L	MEDIUM	2007	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY. FOLLOWING ADOPTION OF THE ORIGINAL ORDER, PHOSPHORUS WAS DETERMINED TO BE MAIN LIMITING NUTRIENT WITH SOME COLIMITATION BY NITROGEN AND PHOSPHORUS.
OCKLAWAHA	2832A	LAKE DENHAM	NUTRIENTS (TSI)	MEDIAN TN = 3.59 MG/L; MEDIAN TP = 0.10 MG/L	MEDIUM	2007	PHOSPHORUS LIMITING.
OCKLAWAHA	2834C	LAKE BEAUCLAIR	NUTRIENTS (TSI)	MEDIAN TN = 4.00 MG/L; MEDIAN TP = 0.15 MG/L	HIGH	2003	PHOSPHORUS LIMITING WITH SOME COLIMITATION OF N AND P. DATA PREVIOUSLY ASSOCIATED WITH WBID 2834B IS INCLUDED IN THIS WBID.
OCKLAWAHA	2835A	LAKE APOPKA OUTLET	NUTRIENTS (CHLA)	MEDIAN TN = 2.28 MG/L; MEDIAN TP = 0.20 MG/L	HIGH	2002	NITROGEN LIMITING AND SOME COLIMITATION OF N AND P.
OCKLAWAHA	2835A	LAKE APOPKA OUTLET	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2002	LINKED TO NUTRIENTS. ELEVATED BOD AND NUTRIENTS BELIEVED TO CONTRIBUTE.
OCKLAWAHA	2835B	LAKE APOPKA	NUTRIENTS (TSI)	MEDIAN TN = 3.82 MG/L; MEDIAN TP = 0.12 MG/L	HIGH	2002	TMDL WILL BE BASED ON PLRG FOR PHOSPHORUS DEVELOPED BY ST. JOHNS RIVER WMD.
OCKLAWAHA	2835B	LAKE APOPKA	PEST-FISH	EXCEEDS DOH THRESHOLDS	LOW	2011	ADVISORY ISSUED IN 1999 FOR BROWN BULLHEAD CATFISH BASED ON SAMPLES COLLECTED IN MARCH, 1999. ADVISORY BASED ON SEVERAL PESTICIDES.

OCKLAWAHA	2835C	GOURD NECK SPRING	NUTRIENTS (CHL A)	TP = 0.03 MG/L.	MEDIUM	2007	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY, BUT WAS INADVERTENTLY LEFT OFF THE LIST. PHOSPHORUS LIMITED. TMDL WILL BE BASED ON PLRG FOR PHOSPHORUS DEVELOPED BY THE ST. JOHNS RIVER WMD.
OCKLAWAHA	2837	LAKE CARLTON OUTLET	NUTRIENTS (TSI)	MEDIAN TN = 3.43 MG/L; MEDIAN TP = 0.07 MG/L	HIGH	2002	PHOSPHORUS LIMITING.
OCKLAWAHA	2838A	LAKE HARRIS	NUTRIENTS (TSI)	MEDIAN TN = 1.88 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2002	PLRG UNDER DEVELOPMENT. PHOSPHORUS LIMITED.
OCKLAWAHA	2838B	LITTLE LAKE HARRIS	NUTRIENTS (TSI)	MEDIAN TN = 1.98 MG/L; MEDIAN TP = 0.04 MG/L	HIGH	2002	PHOSPHORUS LIMITED.
OCKLAWAHA	2839	PALATKALAHA RIVER	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2002	BELIEVED RELATED TO ELEVATED NUTRIENTS.
OCKLAWAHA	2839	PALATKALAHA RIVER	NUTRIENTS (CHLA)	MEDIAN TN = 0.81 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2002	PRIMARILY PHOSPHORUS LIMITED WITH SOME COLIMITATION OF N AND P.

LAKE OKEECHOBEE BASIN

BASIN	WBID	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
LAKE OKEECHOBEE	3199B	CHANDLER HAMMOCK SLOUGH	NUTRIENTS (CHLOROPHYLL)	TN = 2.51 MG/L TP = 0.72 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2001. STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3203A	NUBBIN SLOUGH	DO	< 5.0 MG/L	LOW	2007	DO MET VERIFICATION THRESHOLD PER IWR. NITROGEN AND PHOSPHORUS ARE THE CAUSATIVE POLLUTANTS.
LAKE OKEECHOBEE	3203A	NUBBIN SLOUGH	NUTRIENTS (CHLOROPHYLL)	TN = 1.65 MG/L TP = 0.49 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2001, AND ATTEMPTED A SURVEY IN MAY, 2002, HOWEVER WATER LEVELS WERE NEGLIGIBLE PROHIBITING SAMPLE COLLECTION. INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3203B	MOSQUITO CREEK	NUTRIENTS (CHLOROPHYLL)	TN = 2.12 MG/L TP = 0.56 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2002. STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3205	TAYLOR CREEK	NUTRIENTS (CHLOROPHYLL)	TN = 2.56 MG/L TP = 0.38 MG/L	HIGH	2002	INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3205D	OTTER CREEK	DO	< 5.0 MG/L	HIGH	2002	DO MET VERIFICATION THRESHOLD PER IWR. NITROGEN AND PHOSPHORUS ARE THE CAUSATIVE POLLUTANTS.
LAKE OKEECHOBEE	3205D	OTTER CREEK	NUTRIENTS (CHLOROPHYLL)	TN = 2.27 MG/L TP = 0.55 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2001, .STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3213A	LETTUCE CREEK	NUTRIENTS (CHLOROPHYLL)	TN = 1.99 MG/L TP = 0.22 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2001 AND 2002. STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3213B	HENRY CREEK	NUTRIENTS (CHLOROPHYLL)	TN = 1.74 MG/L TP = 0.10 MG/L	HIGH	2002	STATION WITH MAJORITY OF AVAILABLE DATA HAD BEEN PREVIOUSLY ASSIGNED TO THIS UNIT IN ERROR. FDEP COLLECTED ADDITIONAL DATA IN 2001. STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. BOTH TN AND TP ELEVATED.
LAKE OKEECHOBEE	3213C	S-135	DO	< 5.0 MG/L	HIGH	2002	DO MET VERIFICATION THRESHOLD PER IWR. NITROGEN IS THE CAUSATIVE POLLUTANT.
LAKE OKEECHOBEE	3213C	S-135	NUTRIENTS (CHLOROPHYLL)	TN = 1.72 MG/L TP = 0.1 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2001. STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC. TN ELEVATED.

LAKE OKEECHOBEE	3213D	MYRTLE SLOUGH	NUTRIENTS (CHLOROPHYLL)	TN = 1.91 MG/L TP = 0.44 MG/L	HIGH	2002	FDEP COLLECTED ADDITIONAL DATA IN 2002. STILL INSUFFICIENT CHLOROPHYLL DATA AVAILABLE FOR CALCULATION OF AN ANNUAL MEAN, HOWEVER AVAILABLE CHLOROPHYLL DATA AND OTHER INFORMATION SUBSTANTIATE AN IMBALANCE IN FLORA OR FAUNA, PER 62-303.350(1) AND 62-303.450(2), FAC.

EVERGLADES WEST COAST BASIN

BASIN	WBID	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
EVERGLADES WEST COAST	3258B	HENDRY CREEK	DO	< 4.0 MG/L MINIMUM, AND 5.0 AS DAILY AVERAGE	LOW	2007	DO MET VERIFICATION THRESHOLD PER IWR. BOD IS THE CAUSATIVE POLLUTANT.
EVERGLADES WEST COAST	3258B	HENDRY CREEK (FRESH)	NUTRIENTS (CHL A)	TN = 0.825 MG/L TP = 0.06 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RESPONSIBLE GROWTH MANAGEMENT COALITION (RGMC), WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL TRIBUTARY WAS DIVIDED INTO A FRESHWATER SECTION (THIS WBID) AND A MARINE SECTION (WBID 3258B1), AND THE RE-ASSESSMENT INDICATES THAT CHOLORPHYLL MET THE VERIFICATION THRESHOLD PER THE IWR INDICATING A NUTRIENT IMPAIRMENT. BOTH NITROGEN AND PHOSPHORUS ARE IDENTIFIED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258B1	HENDRY CREEK MARINE	NUTRIENTS (CHL A)	TN = 0.82 MG/L TP = 0.07 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL TRIBUTARY WAS DIVIDED INTO A FRESHWATER SECTION (WBID 3258B) AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT CHOLORPHYLL MET THE VERIFICATION THRESHOLD PER THE IWR INDICATING A NUTRIENT IMPAIRMENT. BOTH NITROGEN AND PHOSPHORUS ARE IDENTIFIED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258B1	HENDRY CREEK MARINE	DO	< 5.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL TRIBUTARY WAS DIVIDED INTO A FRESHWATER SECTION (WBID 3258B) AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. NUTRIENTS ARE INDICATED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258B1	HENDRY CREEK MARINE	FECAL COLIFORMS	> 800 PER 100 ML	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL TRIBUTARY WAS DIVIDED INTO A FRESHWATER SECTION (WBID 3258B) AND THISAND THE RE-ASSESSMENT INDICATES THAT FECAL COLIFORM SAMPLES ARE ABOVE THE LISTING THRESHOLD. 11 OF 69 SAMPLES EXCEED THE CRITERION.
EVERGLADES WEST COAST	3258C	ESTERO BAY DRAINAGE (MULLOCK CREEK)	DO	< 5.0 MG/L	MEDIUM	2007	DO MET VERIFICATION THRESHOLD PER IWR. BOD IS THE CAUSATIVE POLLUTANT.
EVERGLADES WEST COAST	3258C	ESTERO BAY DRAINAGE (MULLOCK CREEK)	NUTRIENTS (CHL A)	TN = 0.88 MG/L TP = 0.05 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL TRIBUTARY WAS DIVIDED INTO A FRESHWATER SECTION (THIS WBID) AND A MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT CHOLORPHYLL MET THE VERIFICATION THRESHOLD PER THE IWR INDICATING A NUTRIENT IMPAIRMENT. BOTH NITROGEN AND PHOSPHORUS ARE IDENTIFIED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258D1	ESTERO RIVER MARINE	NUTRIENTS (CHL A)	TN = 0.65 MG/L TP = 0.05 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO A FRESHWATER SECTION AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT CHOLORPHYLL MET THE VERIFICATION THRESHOLD PER THE IWR INDICATING A NUTRIENT IMPAIRMENT. BOTH NITROGEN AND PHOSPHORUS ARE IDENTIFIED AS CAUSATIVE POLLUTANTS.

EVERGLADES WEST COAST	3258D1	ESTERO RIVER MARINE	COPPER	> 2.9 UG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO A FRESHWATER SECTION AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES COPPER SAMPLES ARE ABOVE THE LISTING THRESHOLD. 8 OF 23 SAMPLES EXCEED THE CRITERION.
EVERGLADES WEST COAST	3258D1	ESTERO RIVER MARINE	DO	< 4.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO A FRESHWATER SECTION AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. NUTRIENTS ARE INDICATED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258E	IMPERIAL RIVER (FRESH)	DO	< 5.0 MG/L	LOW	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO THIS FRESHWATER SECTION AND A MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. NUTRIENTS ARE INDICATED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258E	IMPERIAL RIVER (FRESH)	NUTRIENTS (CHL A)	TN = 0.77 MG/L TP = 0.07 MG/L	LOW	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO THIS FRESHWATER SECTION AND A MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT CHOLORPHYLL MET THE VERIFICATION THRESHOLD PER THE IWR INDICATING A NUTRIENT IMPAIRMENT. BOTH NITROGEN AND PHOSPHORUS ARE IDENTIFIED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258E1	IMPERIAL RIVER (MARINE)	COPPER	>2.9 UG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO THIS FRESHWATER SECTION AND A MARINE SECTION, AND THE RE-ASSESSMENT INDICATES COPPER SAMPLES ARE ABOVE THE LISTING THRESHOLD. 10 OF 25 SAMPLES EXCEED THE CRITERION.
EVERGLADES WEST COAST	3258H1	SPRING CREEK MARINE	NUTRIENTS (CHL A)	TN = 0.675 MG/L TP = 0.05 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL CREEK WAS DIVIDED INTO A FRESHWATER SECTION AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT CHOLORPHYLL MET THE VERIFICATION THRESHOLD PER THE IWR INDICATING A NUTRIENT IMPAIRMENT. BOTH NITROGEN AND PHOSPHORUS ARE IDENTIFIED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3258H1	SPRING CREEK MARINE	COPPER	> 2.9 UG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL RIVER WAS DIVIDED INTO A FRESHWATER SECTION AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES COPPER SAMPLES ARE ABOVE THE LISTING THRESHOLD. 29 OF 60 SAMPLES EXCEED THE CRITERION.
EVERGLADES WEST COAST	3258H1	SPRING CREEK MARINE	DO	< 4.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE RGMC, WHO FILED A PETITION CHALLENGING THE AUGUST 28, 2002, SECRETARIAL ORDER ADOPTING THE INITIAL GROUP 1 LIST. THIS TIDAL CREEK WAS DIVIDED INTO A FRESHWATER SECTION AND THIS MARINE SECTION, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. NUTRIENTS ARE INDICATED AS CAUSATIVE POLLUTANTS.
EVERGLADES WEST COAST	3259A	COCOHATCHEE RIVER	DO	DO	LOW	2007	DO MET VERIFICATION THRESHOLD PER IWR AND NITROGEN IS THE CAUSATIVE POLLUTANT.

EVERGLADES WEST COAST	3259B	COCOHATCHEE RIVER CANAL	DO	< 5.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE CONSERVANCY OF SOUTHWEST FLORIDA, WHO REQUESTED AND RECEIVED AN EXTENSION FOR THE FILING OF A PETITION CHALLENGING THE AUGUST 28, 2002 ADOPTED LIST. THE DEPARTMENT RE-ASSESSED THIS WBID USING ADDITIONAL HISTORICAL DATA COLLECTED BY COLLIER COUNTY, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. BOD IS INDICATED AS THE CAUSATIVE POLLUTANT.
EVERGLADES WEST COAST	3259B	COCOHATCHEE RIVER CANAL	IRON	> 1.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE CONSERVANCY OF SOUTHWEST FLORIDA, WHO REQUESTED AND RECEIVED AN EXTENSION FOR THE FILING OF A PETITION CHALLENGING THE AUGUST 28, 2002 ADOPTED LIST. THE DEPARTMENT RE-ASSESSED THIS WBID USING ADDITIONAL HISTORICAL DATA COLLECTED BY COLLIER COUNTY, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR.
EVERGLADES WEST COAST	3259D	GORDON RIVER CANAL	DO	< 5.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE CONSERVANCY OF SOUTHWEST FLORIDA, WHO REQUESTED AND RECEIVED AN EXTENSION FOR THE FILING OF A PETITION CHALLENGING THE AUGUST 28, 2002 ADOPTED LIST. THE DEPARTMENT RE-ASSESSED THIS WBID USING ADDITIONAL HISTORICAL DATA COLLECTED BY COLLIER COUNTY, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. BOD IS INDICATED AS THE CAUSATIVE POLLUTANT.
EVERGLADES WEST COAST	3259E	HENDERSON CREEK CANAL	DO	< 5.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE CONSERVANCY OF SOUTHWEST FLORIDA, WHO REQUESTED AND RECEIVED AN EXTENSION FOR THE FILING OF A PETITION CHALLENGING THE AUGUST 28, 2002 ADOPTED LIST. THE DEPARTMENT RE-ASSESSED THIS WBID USING ADDITIONAL HISTORICAL DATA COLLECTED BY COLLIER COUNTY, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. BOD IS INDICATED AS THE CAUSATIVE POLLUTANT.
EVERGLADES WEST COAST	3259L	BLACKWATER RIVER	DO	< 5.0 MG/L	MEDIUM	2007	THIS WBID IS BEING ADDED AS A RESULT OF DISCUSSIONS WITH THE CONSERVANCY OF SOUTHWEST FLORIDA, WHO REQUESTED AND RECEIVED AN EXTENSION FOR THE FILING OF A PETITION CHALLENGING THE AUGUST 28, 2002 ADOPTED LIST. THE DEPARTMENT RE-ASSESSED THIS WBID USING ADDITIONAL HISTORICAL DATA COLLECTED BY COLLIER COUNTY, AND THE RE-ASSESSMENT INDICATES THAT DO MET THE VERIFICATION THRESHOLD PER THE IWR. PHOSPHORUS IS INDICATED AS THE CAUSATIVE POLLUTANT.
EVERGLADES WEST COAST	3259W	LAKE TRAFFORD	NUTRIENTS (TSI)	TN = 2.65 MG/L TP = 0.18 MG/L	LOW	2007	TSI MET VERIFICATION THRESHOLD PER IWR. NITROGEN AND PHOSPHORUS ARE BOTH CAUSATIVE AND LIMITING POLLUTANTS.
EVERGLADES WEST COAST	8065	SOUTHWEST COAST GULF 5	BACTERIA (SHELLFISH)	EXCEEDS SEAS THRESHOLDS	MEDIUM	2007	LISTED BASED ON CHANGE IN SHELLFISH HARVESTING CLASSIFICATION (DOWNGRADED FROM APPROVED TO CONDITIONAL).
EVERGLADES WEST COAST	8999	FLORIDA GULF COAST	MERCURY (IN FISH TISSUE)	LESS THAN CURRENT CRITERION (0.025 MG/L)	MEDIUM	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION. CONFIRMED RECENT DATA FOR COASTAL FISH ADVISORY FOR MACKEREL. INCLUDES NEARSHORE AREAS IN WBIDS 8060, 8061, 8062, 8063, 8064, AND 8065.

ST. MARKS/OCHLOCKONEE RIVER BASIN

BASIN	WBID	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
ST. MARKS & OCHLOCKONEE	1006	WAKULLA RIVER	BIOLOGY	MEDIAN TN = 0.56 MG/L; MEDIAN TP = 0.025 MG/L	MEDIUM	2007	FAILED 5 SCI STUDIES; LINKED TO NUTRIENTS. CO-LIMITATION.
ST. MARKS & OCHLOCKONEE	1297F	OCHLOCKONEE RIVER	TOTAL COLIFORMS	>2400 PER 100 ML	MEDIUM	2007	LISTED BASED UPON NEW DATA.
ST. MARKS & OCHLOCKONEE	1300	TELOGIA CREEK	FECAL COLIFORMS	>800 PER 100 ML	MEDIUM	2007	
ST. MARKS & OCHLOCKONEE	1300	TELOGIA CREEK	TOTAL COLIFORMS	>2400 PER 100 ML	MEDIUM	2007	
ST. MARKS & OCHLOCKONEE	424	LITTLE RIVER	TOTAL COLIFORMS	>2400 PER 100 ML	MEDIUM	2007	LISTED BASED UPON NEW DATA.
ST. MARKS & OCHLOCKONEE	540A	TALLAVANA LAKE	NUTRIENTS (TSI)	MEDIAN TN = 0.70 MG/L; MEDIAN TP = 0.061 MG/L	MEDIUM	2007	NUTRIENTS CO-LIMITING. POSSIBLE SOURCES INCLUDE RESIDENTIAL AREA AND NURSERY RUNOFF.
ST. MARKS & OCHLOCKONEE	582B	LAKE JACKSON	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	NITROGEN LIMITED. PREVIOUSLY LISTED AS WBID 582. LAKE JACKSON DRAINAGE AREA.
ST. MARKS & OCHLOCKONEE	582B	LAKE JACKSON	NUTRIENTS (TSI)	MEDIAN TN = 0.49 MG/L; MEDIAN TP = 0.05 MG/L	MEDIUM	2007	LINKED TO DO. NITROGEN, PHOSPHORUS AND CO-LIMITATION.
ST. MARKS & OCHLOCKONEE	628	BLACK CREEK	DISSOLVED OXYGEN	<5.0 MG/L	LOW	2007	HIGH PHOSPHORUS VALUE (0.29 MG/L); NITROGEN AND CO-LIMITED.
ST. MARKS & OCHLOCKONEE	647	ALFORD ARM	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	RESIDENTIAL RUNOFF AND MINIMAL FLOW. LINKED TO BOD.
ST. MARKS & OCHLOCKONEE	756	LAKE LAFAYETTE DRAIN	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	URBAN RUNOFF. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C. LINKED TO HIGH BOD.
ST. MARKS & OCHLOCKONEE	756	LAKE LAFAYETTE DRAIN	FECAL COLIFORMS	>800 PER 100 ML	HIGH	2002	URBAN RUNOFF. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C.
ST. MARKS & OCHLOCKONEE	756	LAKE LAFAYETTE DRAIN	TOTAL COLIFORMS	>2400 PER 100 ML	HIGH	2002	URBAN RUNOFF. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C.
ST. MARKS & OCHLOCKONEE	756A	LAKE LAFAYETTE - UPPER	DISSOLVED OXYGEN	<5.0 MG/L	HIGH	2002	URBAN RUNOFF. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C. LINKED TO NUTRIENTS, HIGH PHOSPHORUS.
ST. MARKS & OCHLOCKONEE	756A	LAKE LAFAYETTE - UPPER	NUTRIENTS (TSI)	MEDIAN TP = 0.1 MG/L	HIGH	2002	URBAN RUNOFF. LINKED TO PHOSPHORUS. HIGH PRIORITY BECAUSE PREVIOUSLY LISTED UNDER WBID 756 WITH HIGH PRIORITY.
ST. MARKS & OCHLOCKONEE	756B	LAKE PINEY Z	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS, CO-LIMITING. COT DATA INDICATE OVER ABUNDANCE OF VEGETATION. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C.
ST. MARKS & OCHLOCKONEE	756B	LAKE PINEY Z	NUTRIENTS (TSI)	MEDIAN TN = 0.53 MG/L; MEDIAN TP = 0.06 MG/L	MEDIUM	2007	URBAN RUNOFF. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C. CO-LIMITATION OF NITROGEN AND PHOSPHORUS.
ST. MARKS & OCHLOCKONEE	756C	LAKE LAFAYETTE - LOWER	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C. POSSIBLE SOURCES INCLUDE URBAN RUNOFF AND LANDFILL.
ST. MARKS & OCHLOCKONEE	756C	LAKE LAFAYETTE - LOWER	NUTRIENTS (TSI)	MEDIAN TP = 0.05 MG/L	MEDIUM	2007	LINKED TO PHOSPHORUS. ORIGINAL WBID 756 INCLUDED 756A, 756B, AND 756C. POSSIBLE SOURCE INCLUDE URBAN RUNOFF.
ST. MARKS & OCHLOCKONEE	791L	LAKE MICCOSUKEE	TOTAL COLIFORMS	>2400 PER 100 ML	MEDIUM	2007	AGRICULTURE AND RESIDENTIAL RUNOFF. CO-LIMITATION.
ST. MARKS & OCHLOCKONEE	8025B	MASHES ISLAND	BEACH ADVISORY - BACTERIA	GREATER THAN DOH THRESHOLD	HIGH	2007	MASHES SANDS BEACH HAD ADVISORIES FOR AT LEAST 21 DAYS IN 2001.
ST. MARKS & OCHLOCKONEE	8026	APALACHEE BAY - WEST	BACTERIA (SHELLFISH)	EXCEEDS SEAS THRESHOLD	MEDIUM	2007	LISTED BASED ON DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
ST. MARKS & OCHLOCKONEE	8026B	SHELL POINT	BEACH ADVISORY - FECAL COLIFORMS	GREATER THAN DOH THRESHOLD	HIGH	2007	SHELL POINT BEACH HAD ADVISORIES FOR AT LEAST 21 DAYS IN 2001.
ST. MARKS & OCHLOCKONEE	807C	LAKE MUNSON	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS; HIGH BOD.
ST. MARKS & OCHLOCKONEE	807C	LAKE MUNSON	NUTRIENTS (TSI)	MEDIAN TP = 0.158 MG/L	MEDIUM	2007	LINKED TO PHOSPHORUS LIMITATION.

ST. MARKS & OCHLOCKONEE	807D	MUNSON SLOUGH (ABOVE LAKE)	DISSOLVED OXYGEN	<5.0 MG/L	MEDIUM	2007	LINKED TO NUTRIENTS. NITROGEN LIMITED. URBAN RUNOFF.
ST. MARKS & OCHLOCKONEE	889	MOORE LAKE	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.012 UG/L)	LOW	2011	2001 DATA INDICATES IMPAIRMENT; HG AVERAGE = 0.5975 MG/KG IN TISSUE.
ST. MARKS & OCHLOCKONEE	8999	FLORIDA GULF COAST	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	CONFIRMED RECENT DATA FOR COASTAL FISH ADVISORY FOR MACKEREL. INCLUDES NEARSHORE AREAS IN WBIDS 8025 AND 8026 SERIES.
ST. MARKS & OCHLOCKONEE	971B	LAKE WEEKS	DISSOLVED OXYGEN	MEDIAN TN=0.797 MG/L; MEDIAN TP=0.019 MG/L	MEDIUM	2007	DO RELATED TO NUTRIENTS.

1 WBID = **W**ater**B**ody **ID**entification Number

2 FOR NUTRIENTS, THESE ARE MEDIAN CONCENTRATIONS CALCULATED FROM DATA GENERATED FROM 1995 THROUGH JUNE, 2002. THE SPECIFIC CONCENTRATION OF NUTRIENTS CAUSING THE IMPAIRMENT IS UNKNOWN.

3 PRIORITIES WERE RETAINED FROM THE 1998 303(D) LIST (I.E., HIGH OR LOW), BUT HIGH, MEDIUM AND LOW ARE USED FOR NEWLY LISTED WATERS IDENTIFIED UNDER THE IWR.

Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1474

Waterbody Name: BROOKER CREEK

State Basin Name: TAMPA BAY

Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information
The most current report available for this water body is 2002.
Data are also available for these years: 1998

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
DISSOLVED OXYGEN	OXYGEN DEPLETION	HIGH		N	DEC-31-2003
FECAL COLIFORM	PATHOGENS	LOW			
TOTAL COLIFORM	PATHOGENS	LOW			

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

Note: Click on the underlined TMDL Document Name for a detailed TMDL Document Report.

TMDL Document Name	Status	Actual TMDL Establishment Date	TMDL Pollutant Description	TMDL Pollutant Test	Cycles Listed	State Impairment
TMDL FOR FECAL COLIFORM IN BROOKER CREEK AND TOTAL COLIFORM IN ROOSEVELT	APPROVED/ESTABLISHED	APR-01-2005	FECAL	NONPOINT SOURCE	2002, 1998	FECAL COLIFORM

BASIN: CHANNEL 2						

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

Water | Wetlands, Oceans ; Watersheds | Watershed Protection

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Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1493E

Waterbody Name: BUCK LAKE

State Basin Name: TAMPA BAY BASIN

Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information
The most current report available for this water body is 2002.

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
NUTRIENTS	NUTRIENTS	MEDIUM			

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1473Y

Waterbody Name: CALM LAKE

State Basin Name: TAMPA BAY BASIN

Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information

The most current report available for this water body is 2002.

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
NUTRIENTS	NUTRIENTS	MEDIUM			

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

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U.S. Environmental Protection Agency

Total Maximum Daily Loads

Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1474V
Waterbody Name: CRESCENT
State Basin Name: TAMPA BAY BASIN
Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information
The most current report available for this water body is 2002.

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
NUTRIENTS	NUTRIENTS	MEDIUM			

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

Last updated on Thursday, November 15th, 2007
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Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1513

Waterbody Name: DOUBLE BRANCH

State Basin Name: TAMPA BAY

Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information
The most current report available for this water body is 2002.
Data are also available for these years: 1998

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
COLIFORMS	PATHOGENS	LOW		N	DEC-31-2008
DISSOLVED OXYGEN	OXYGEN DEPLETION	LOW		N	DEC-31-2008
FECAL COLIFORM	PATHOGENS	LOW			
NUTRIENTS	NUTRIENTS	LOW		N	DEC-31-2008

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

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Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1473W

Waterbody Name: LAKE JUANITA

State Basin Name: TAMPA BAY BASIN

Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information
The most current report available for this water body is 2002.

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
NUTRIENTS	NUTRIENTS	MEDIUM			

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

U.S. Environmental Protection Agency

Total Maximum Daily Loads

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Listed Water Information

CYCLE : 2002

Click here to see metadata for this report.

Cycle: 2002 **State:** FL **List ID:** FL-1473X

Waterbody Name: MOUND LAKE

State Basin Name: TAMPA BAY BASIN

Listed Water Map Link: MAP 303(d)

Other Impaired Water 303(d) List Information
The most current report available for this water body is 2002.

State Impairments:

State Impairment	Parent Impairment	Priority	Rank	Targeted Flag	Anticipated TMDL Submittal
NUTRIENTS	NUTRIENTS	MEDIUM			

Potential Sources of Impairment:

There were no potential sources reported to EPA by the state.

Total Maximum Daily Load (TMDL) Information:

There were no TMDLs reported to EPA by the state.

Watershed Information:

Watershed Name	Watershed States
TAMPA BAY	FLORIDA

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Watershed Management

Surface Water Quality Classifications

The Clean Water Act requires that the surface waters of each state be classified according to designated uses. Florida has five classes with associated designated uses, which are arranged in order of degree of protection required:

Class I - Potable Water Supplies
Fourteen general areas throughout the state including: impoundments and associated tributaries, certain lakes, rivers, or portions of rivers, used as a drinking water supply.

Class II - Shellfish Propagation or Harvesting
Generally coastal waters where shellfish harvesting occurs.

Class III - Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife
The surface waters of the state are Class III unless described in rule 62-302.400 F.A.C.

Class IV - Agricultural Water Supplies
Generally located in agriculture areas around Lake Okeechobee.

Class V - Navigation, Utility and Industrial Use.
Currently, there are not any designated Class V bodies of water. The Fenholloway River was reclassified as Class III in 1998

For a more detailed description of classes and specific waterbody designations, see 62-302.400.

Criteria for Surface Water Quality Classifications

To protect present and future most beneficial uses of the waters, water quality criteria have been established for each classification. While some criteria are intended to protect aquatic life, others are designed to protect human health. The criteria are located in rules 62-302.500 and 62-302.530 F.A.C. Water quality standards also include narrative criteria for pollutants and other conditions not specifically listed.

Anti-degradation Policy

The anti-degradation policy (found in 62-302.300 and 62-4.242 F.A.C.) allows for protection of water quality above the minimum required for a classification.

For more information please contact: Eric Shaw at (850) 245-8429 or Janet Klemm at (850) 245-8427.

VERIFIED LIST OF IMPAIRED WATERS FOR THE GROUP 1 BASINS (INCLUDING AMENDED ORDER - MARCH 2003)

BASIN	WBID[1]	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
TAMPA BAY	1473W	LAKE JUANITA	NUTRIENTS (HISTORIC TSI)	MEDIAN TN = 0.60 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1473X	MOUND LAKE	NUTRIENTS (HISTORIC TSI)	MEDIAN TN = 0.45 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1473Y	CALM LAKE	NUTRIENTS (HISTORIC TSI)	MEDIAN TN = 0.33 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1474V	CRESCENT	NUTRIENTS (TSI)	MEDIAN TN = 0.65 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1474W	DEAD LADY LAKE	NUTRIENTS (TSI)	MEDIAN TN = 0.88 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1478H	LAKE REINHEIMER - OPEN	NUTRIENTS (TSI)	MEDIAN TN = 1.03 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1486	LAKE TARPON	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1486	LAKE TARPON	NUTRIENTS (TSI)	MEDIAN TN = 1.13 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS. NUTRIENTS BEING ADDRESSED BY SWFWMD THROUGH PLRGS.
TAMPA BAY	1486A	LAKE TARPON	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2008	THIS WBID WAS PREVIOUSLY INCLUDED ON THE VERIFIED LIST AS WBID 1486, BUT SHOULD HAVE BEEN LISTED AS 1486A. LINKED TO NUTRIENTS.
TAMPA BAY	1493	BUCK LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.18 MG/L; MEDIAN TP = 0.14 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1494B	BRANT LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.03 MG/L; MEDIAN TP = 0.04 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1496	SUNSET LAKE	NUTRIENTS (TSI)	MEDIAN TN = 0.72 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1502A	LAKE ESTES	NUTRIENTS (TSI)	MEDIAN TN = 0.82 MG/L; MEDIAN TP = 0.03 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1502C	CHAPMAN LAKE	NUTRIENTS (TSI)	MEDIAN TN = 1.07 MG/L; MEDIAN TP = 0.04 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1507A	ROCKY CREEK	NUTRIENTS (CHL A)	TN = 1.35 MG/L	HIGH	2003	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS THE LIMITING NUTRIENT.
TAMPA BAY	1507A	ROCKY CREEK	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	HIGH	2003	LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1507A	ROCKY CREEK	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 1.35 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1513	DOUBLE BRANCH	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1513	DOUBLE BRANCH	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1516	SWEETWATER CREEK – UPPER	NUTRIENTS (CHL A)	TN = 0.67 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS THE LIMITING NUTRIENT.
TAMPA BAY	1516	SWEETWATER CREEK - UPPER	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1516	SWEETWATER CREEK - UPPER	DISSOLVED OXYGEN	< 5.0 MG/L	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1516	SWEETWATER CREEK - UPPER	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 0.67 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1516A	LAKE CARROLL	NUTRIENTS (TSI)	MEDIAN TN = 0.44 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1516B	LAKE MADELENE	NUTRIENTS (TSI)	MEDIAN TN = 0.67 MG/L; MEDIAN TP = 0.01 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1516E	LAKE ELLEN - OPEN WATER	NUTRIENTS (TSI)	MEDIAN TN = 0.72 MG/L; MEDIAN TP = 0.02 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.

BASIN	WBID[1]	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
TAMPA BAY	1530	MOCCASIN CREEK	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 0.94 MG/L	LOW	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1536C	TAMPA BYPASS CANAL	COLIFORMS (TOTAL)	> 2400 PER 100 ML	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. 13 EXCEEDANCES/72 SAMPLES.
TAMPA BAY	1536C	TAMPA BYPASS CANAL	NUTRIENTS (CHL A)	TN = 0.89 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1536C	TAMPA BYPASS CANAL	DISSOLVED OXYGEN	< 5.0 MG/L	LOW	2008	LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1536E	PALM RIVER	NUTRIENTS (CHL A)	TN = 1.02 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1536E	PALM RIVER	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1536E	PALM RIVER	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 1.0 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1536F	SIXMILE CREEK	NUTRIENTS (CHL A)	TN = 0.74 MG/L	MEDIUM	2008	THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT. IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS SEGMENT WAS INCORRECTLY REFERRED TO AS WBID 1536B.
TAMPA BAY	1536F	SIXMILE CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	MEDIUM	2008	THIS WATER IS BEING ADDED BECAUSE DATA FOR THIS WATER WERE INCORRECTLY ATTRIBUTED TO WBID 1536B IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY. LINKED TO NUTRIENTS AND BOD. FLOW DISRUPTED BY CONTROL STRUCTURES. ALGAL BLOOMS OBSERVED.
TAMPA BAY	1558A	TAMPA BAY LOWER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558A	TAMPA BAY LOWER	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558B	TAMPA BAY MID	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558B	TAMPA BAY MID	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558C	TAMPA BAY UPPER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558D	HILLSBOROUGH BAY LOWER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558E	HILLSBOROUGH BAY UPPER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	HIGH	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558F	OLD TAMPA BAY LOWER	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.

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TAMPA BAY	1558F	OLD TAMPA BAY LOWER	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558G	OLD TAMPA BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558G	OLD TAMPA BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558H	OLD TAMPA BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558H	OLD TAMPA BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1558I	OLD TAMPA BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS	MEDIUM	2008	LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1558I	OLD TAMPA BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1563	CHANNEL G	NUTRIENTS (CHL A)	TN = 1.13 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1563	CHANNEL G	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1569	BISHOP CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1569	BISHOP CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	HIGH	2003	FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601. LOW DO LINKED TO NUTRIENTS.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 1.21 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT. FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1570A	SWEETWATER CREEK TIDAL - LOWER	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 1.21 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT. FOR THE 1998 303(D) ANALYSIS THE STATION DATA WERE INCORRECTLY ASSIGNED TO WBID 1601.
TAMPA BAY	1574	ALLIGATOR CREEK	NUTRIENTS (CHL A)	TN = 1.03 MG/L TP = 0.14 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1574A	ALLIGATOR LAKE	NUTRIENTS (HIST. CHL A)	TN = 0.67 MG/L TP = 0.14 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1574A	ALLIGATOR LAKE	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.

BASIN	WBID[1]	WATER SEGMENT NAME	PARAMETERS IDENTIFIED USING THE IMPAIRED WATERS RULE	CONCENTRATIONS CAUSING IMPAIRMENT[2]	PRIORITY FOR TMDL DEVELOPMENT[3]	PROJECTED YEAR FOR TMDL DEVELOPMENT	COMMENTS
TAMPA BAY	1574A	ALLIGATOR LAKE	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 0.67 MG/L; MEDIAN TP = 0.14 MG/L	LOW	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1575	MULLET CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1575	MULLET CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1584B	MCKAY BAY	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2003	LINKED TO NUTRIENTS.
TAMPA BAY	1584B	MCKAY BAY	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 0.80 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1584B	MCKAY BAY	NUTRIENTS (HISTORIC CHLOROPHYLL)	MEDIAN TN = 0.80 MG/L	HIGH	2003	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1584B	MCKAY BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	HIGH	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1603C	BECKETT LAKE - OPEN WATER	NUTRIENTS (TSI)	MEDIAN TN = 0.87 MG/L; MEDIAN TP = 0.06 MG/L	MEDIUM	2008	NITROGEN AND PHOSPHORUS ARE LIMITING NUTRIENTS.
TAMPA BAY	1604	ALLEN CREEK	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 1.05 MG/L			NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1605	DELANEY CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	
TAMPA BAY	1605	DELANEY CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	
TAMPA BAY	1605	DELANEY CREEK	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2003	LINKED TO NUTRIENTS.
TAMPA BAY	1605	DELANEY CREEK	LEAD	> E(1.273[LNH]-4.705)	HIGH	2003	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	LEAD	> 5.6 UG/L	MEDIUM	2008	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	MEDIUM	2008	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	MEDIUM	2008	
TAMPA BAY	1605D	DELANEY CREEK TIDAL	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	MEDIUM	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1605D	DELANEY CREEK TIDAL	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 2.33 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1624	DIRECT RUNOFF TO BAY	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	
TAMPA BAY	1624	DIRECT RUNOFF TO BAY	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	
TAMPA BAY	1624	DIRECT RUNOFF TO BAY	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	HIGH	2003	LINKED TO NUTRIENTS.
TAMPA BAY	1625	CROSS CANAL (NORTH)	NUTRIENTS (CHL A)	TN = 1.06 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1625	CROSS CANAL (NORTH)	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1625	CROSS CANAL (NORTH)	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1627	LONG BRANCH	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	HIGH	2003	
TAMPA BAY	1627	LONG BRANCH	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	HIGH	2003	
TAMPA BAY	1627	LONG BRANCH	DISSOLVED OXYGEN	< 5.0 MG/L	HIGH	2003	LINKED TO NUTRIENTS AND BOD.

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TAMPA BAY	1637	BLACK POINT CHANNEL	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	THIS SEGMENT WAS LISTED ON THE 1998 303(D) LIST; HOWEVER, IT WAS NOT ASSESSED IN THE 1996 305(B) REPORT. LINKED TO NUTRIENTS.
TAMPA BAY	1666	BULLFROG CREEK	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	MEDIUM	2008	
TAMPA BAY	1666	BULLFROG CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	MEDIUM	2008	
TAMPA BAY	1666A	BULLFROG CREEK	NUTRIENTS (CHL A)	TN = 1.28 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1666A	BULLFROG CREEK	COLIFORMS (TOTAL COLIFORM)	> 2400 PER ML	LOW	2008	
TAMPA BAY	1666A	BULLFROG CREEK	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1683	SMACKS BAYOU	NUTRIENTS (CHL A)	TN = 0.76 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1683	SMACKS BAYOU	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1700	COFFEEPOT BAYOU	NUTRIENTS (CHL A)	TN = 1.00 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITRGEN IS LIMITING NUTRIENT.
TAMPA BAY	1700	COFFEEPOT BAYOU	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	LOW	2008	
TAMPA BAY	1709D	LITTLE BAYOU - BASIN Q	COLIFORMS (FECAL COLIFORM)	> 800 PER 100 ML	MEDIUM	2008	
TAMPA BAY	1709D	LITTLE BAYOU - BASIN Q	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	MEDIUM	2008	LINKED TO NUTRIENTS.
TAMPA BAY	1709D	LITTLE BAYOU - BASIN Q	NUTRIENTS (CHLOROPHYLL)	MEDIAN TN = 1.11 MG/L	MEDIUM	2008	NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1778	COCKROACH BAY	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	HAS CONTAMINATED SEDIMENTS - ONGOING RESTORATION EFFORT. AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1778	COCKROACH BAY	NUTRIENTS (CHL A)	TN = 1.16 MG/L	MEDIUM	2008	AS NOTED IN THE DEPARTMENT'S OCTOBER 1 SUBMITTAL TO EPA, THIS WATER SHOULD HAVE BEEN INCLUDED IN THE ORIGINAL ORDER ADOPTED BY THE SECRETARY BUT WAS INADVERTENTLY LEFT OFF THE LIST. NITROGEN IS LIMITING NUTRIENT.
TAMPA BAY	1778	COCKROACH BAY	DISSOLVED OXYGEN	< 4.0 MG/L, AND LESS THAN 5.0 MG/L AS DAILY AVERAGE	LOW	2008	LINKED TO NUTRIENTS AND BOD.
TAMPA BAY	1778	COCKROACH BAY	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS			LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	1797B	BISHOPS HARBOR	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	AGE OF DATA VERIFIED TO BE WITHIN LAST 7.5 YEARS. NUMERIC CRITERION IS INADEQUATE BECAUSE MERCURY IS ACCUMULATING IN THE FOOD CHAIN SUCH THAT FISH TISSUE MERCURY LEVELS EXCEED RECOMMENDED LEVELS FOR CONSUMPTION.
TAMPA BAY	1797B	BISHOPS HARBOR	COLIFORMS - SHELLFISH	EXCEEDS SEAS THRESHOLDS			LISTED DUE TO DOWNGRADE IN SHELLFISH HARVESTING CLASSIFICATION.
TAMPA BAY	8999	FLORIDA GULF COAST	MERCURY-FISH	LESS THAN CURRENT CRITERION (0.025 UG/L)	LOW	2011	CONFIRMED RECENT DATA FOR COASTAL FISH ADVISORY FOR MACKEREL. INCLUDES NEARSHORE AREAS IN 8049.

1 WBID = **W**ater**B**ody **ID**entification Number

2 FOR NUTRIENTS, THESE ARE MEDIAN CONCENTRATIONS CALCULATED FROM DATA GENERATED FROM 1995 THROUGH JUNE, 2002. THE SPECIFIC CONCENTRATION OF NUTRIENTS CAUSING THE IMPAIRMENT IS UNKNOWN.

3 PRIORITIES WERE RETAINED FROM THE 1998 303(D) LIST (I.E., HIGH OR LOW), BUT HIGH, MEDIUM AND LOW ARE USED FOR NEWLY LISTED WATERS IDENTIFIED UNDER THE IWR.

						310	1027	32210	1042	299	31616	71900	1051	403	31501	600	665	1092
WBODYID	**WATERBODYNAME**	**STATIONID**	**DATASOURCE**	**SAMPLE_DATE**	**TSI**	**BOD5_MGL**	**CD_UGL**	**CHLA_UGL**	**CU_UGL**	**DO_MGL**	**FCOLI_100ML**	**HG_UGL**	**PB_UGL**	**PH**	**TCOLI_100ML**	**TN_UGL**	**TP_UGL**	**ZN_UGL**
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_SUPP	7/13/1998	15.77762224			1.5						4.5		200	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_SUPP	7/16/1991				1						4.55		120	0	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_SUPP	3/19/1991	15.89314237			1						4.6		150	5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	3/29/2004	24.11393554			2								210	7	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	12/21/2003	25.18455896			2.5								280	6.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	11/13/2003	25.18455896			2.5								266.6666667	6.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	9/6/2001	18.41071615			1.5								176.6666667	5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	8/8/2001	7.31223064			1								235	2.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	6/30/2001	21.87816683			3.5								196.6666667	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	5/23/2001	18.41071615			1.5								226.6666667	5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	4/15/1999	12.85827346			1								130	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	2/1/1999	15.49136737			1								156.6666667	5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	8/2/1998	25.63592086			3.5								255	5.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	6/1/1998	1.28448828			1								175	1.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	3/10/1998	17.16746206			1.5								286.6666667	4.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	2/4/1998	4.67913673			1								233.3333333	2	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	12/3/1997	16.27326273			2								130	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	11/9/1997	21.27079971			2								136.6666667	6	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	10/10/1997	16.72212618			1.5								216.6666667	4.33333333	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	9/3/1997	23.40137585			3								166.6666667	5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	8/3/1997	20.40007067			2.5								165	4.33333333	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	7/8/1996	12.85827346			1								216.6666667	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	3/5/1996	17.42499642			1.5								113.3333333	5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	7/30/1993	1.28448828			1								93.33333333	1.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	4/30/1993	1.28448828			1								126.6666667	1.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	3/31/1993	12.85827346			1								150	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	2/28/1993	11.28260303			1								106.6666667	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	1/31/1993	7.31223064			1								85	2.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	12/31/1992	11.12299101			1								80	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	10/20/1992	12.14012339			1								86.66666666	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	9/24/1992	9.46362501			1								220	3	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	7/31/1992	12.38297378			1.5								103.3333333	3	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	6/30/1992	16.06091828			2.5								170	3	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	5/25/1992	10.23157941			1.5								90	2.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	4/30/1992	17.00189556			1								146.6666667	6.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	3/30/1992	14.15920955			1								116.6666667	4.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	2/29/1992	13.61151843			1								116.6666667	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	1/31/1992	6.29194333			0.5								110	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	11/30/1991	8.6470153			0.5								105	4.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	10/27/1991	13.32025796			1								110	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	9/30/1991	12.87462913			1								90	4.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	9/12/1991	15.77200195			1								123.3333333	6	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	7/16/1991	16.72709664			1.5								90	5.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	6/30/1991	16.72212618			1.5								133.3333333	4.33333333	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	5/30/1991	11.14743285			1.5								46.66666666	3.33333333	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	5/21/1991	6.13233131			0.5								80	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	4/30/1991	6.12731657			1								40	2.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	3/19/1991	11.70601704			1								90	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	2/10/1991	11.97364979			1								95	3.5	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	1/15/1991	6.43378661			0.5								75	4	
5075	ALICE, LAKE	Alice-Hillsborough	LAKEWATCH_V	12/18/1990				1								60	1	
5075	ALICE, LAKE	STA-33	LEGACY_SWFWMD_WQ	2/14/2002				1.47		8.96							10	
5075	ALICE, LAKE	STA-33	LEGACY_SWFWMD_WQ	8/8/2001				0.803		7.65	0				2		7	
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	7/22/1997				1			26				50			
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	6/4/1997				1			40				360			
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	2/18/1997				1			10				20			
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	8/5/1996				10										
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	4/2/1996				0.5			4				4			
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	1/3/1996				0.5			20				60			
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	10/3/1995							20				200			
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	7/18/1994				2.35										
5075	ALICE, LAKE	24040018	LEGACYSTORET_21FLA	7/18/1994				2.62										
5075	ALICE, LAKE	24040016	LEGACYSTORET_21FLA	7/18/1994				5.15										
5075	ALICE, LAKE	24040017	LEGACYSTORET_21FLA	7/18/1994				6.36										
5075	ALICE, LAKE	24040018	LEGACYSTORET_21FLA	3/30/1994				0.64										
5075	ALICE, LAKE	24040017	LEGACYSTORET_21FLA	3/30/1994				0.64										
5075	ALICE, LAKE	24040019	LEGACYSTORET_21FLA	3/30/1994				0.44										
5075	ALICE, LAKE	24040016	LEGACYSTORET_21FLA	3/30/1994				2.25										
5075	ALICE, LAKE	24040019	STORET_21FLTPA	10/23/2002						8.13				4.77				
5075	ALICE, LAKE	24040019	STORET_21FLTPA	2/10/1998						9.63	20			4.32	80			
5075	ALICE, LAKE	Lake Alice	SWFWMD_KenRomie_WQ	8/27/1998				2.26						4.6		40	0	
5075	ALICE, LAKE	Lake Alice	SWFWMD_KenRomie_WQ	1/25/1996	22.42725001			1						4.6		340	9	

5075	ALICE, LAKE	Lake Alice	SWFWMD_KenRomie_WQ	7/19/1995	33.28251178			3.8						4.5		1500	10	
5075	ALICE, LAKE	02307328	USGS_NWIS	7/13/2000														
5075	ALICE, LAKE	02307328	USGS_NWIS	1/18/2000														
5075	ALICE, LAKE	02307328	USGS_NWIS	7/1/1999														
15	BROOKER CREEK	159	HCEPC_WQ	4/6/2005		1				2.18				5		841		
15	BROOKER CREEK	159	HCEPC_WQ	3/1/2005		1		21.3		1.6				5.6		944		
15	BROOKER CREEK	159	HCEPC_WQ	2/2/2005		2				3.25				5.7		610	10	
15	BROOKER CREEK	159	HCEPC_WQ	1/4/2005	42.1104112	2		2.8			200					770	50	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	7/12/2005						1.5				5				
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	6/2/2005						3				4.6				
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	5/4/2005						1.7				4.8				
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	4/7/2005						1.9				4.4				
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	3/11/2005						3				4.8				
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	2/4/2005						3.5								
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	1/7/2005						3				4.5				
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	12/14/2004						2.2				5.1		810	16.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	11/10/2004						2.1				4.5		1173.333333	12	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	10/7/2004						0.6				4.9		926.6666667	13	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	9/15/2004						1.4				4.7		1090	17.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	8/6/2004						2.1				4.8		976.6666667	15.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	7/8/2004						2				4.8		1213.333333	26.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	5/13/2004						2.4				4.8		1383.333333	98.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	4/6/2004						2.8				4.9		976.6666667	24.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	3/4/2004												780	9.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	2/17/2004						4.8				4.9		803.3333333	11.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	1/8/2004						3				5.2		1900	165	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	12/5/2003						3.2				5.1		1183.333333	25.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	11/4/2003						1.5						1366.666667	22	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	10/10/2003						1.4				5.3		1000	10.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	9/10/2003						1.8				4.8		950	11.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	8/12/2003						1.8				4.9		976.6666667	13.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	7/3/2003						1.3				4.7		1213.333333	13.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	6/13/2003												1493.333333	16.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	5/9/2003						1.2				4.75		1186.666667	15.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	4/11/2003						2.2				4.7		1130	10.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	3/13/2003						1.55				4.51		1056.666667	9.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	2/13/2003						3.55				4.49		876.6666667	7.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	1/7/2003						4.15				4.68		866.6666667	7.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	12/5/2002						2.8				4.5		1073.333333	9.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	11/19/2002						3.7				4.6		1150	8.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	10/8/2002						1.6				4.6		1503.333333	14.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	9/4/2002						2				4.5		2030	20.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	10/26/2001						1.15						1283.333333	14.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	9/13/2001						1.4				5.1		1220	11.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	8/16/2001												1623.333333	14.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	7/12/2001						1.35				4.2		1090	22.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	10/11/2000						1.1				4.3		2260	12	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	9/8/2000						1.55				4.2		2500	20.33333333	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	2/4/2000						3				4.85		903.3333333	32.66666666	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	1/7/2000						3.1				5		990	45	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	12/9/1999												1323.333333	21	
15	BROOKER CREEK	330	STREAMWATER_WATCH_WQ	11/19/1999						1.7				5.5				
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_SUPP	5/19/1997	64.65917301			31.6						6.6		1160	158	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	10/3/1997	69.63448611			61.33333333								1190	98.33333333	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	9/7/1997	61.83681219			34.33333333								1123.333333	48	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	7/31/1997	70.50592123			76.66666666								1513.333333	65	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	6/3/1997	79.39200535			156								1616.666667	136.3333333	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	5/6/1997	67.03341057			48.66666666								1083.333333	187.3333333	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	4/1/1997	73.97326915			95								1320	191.6666667	
5129	BUCK LAKE	Buck-Hillsborough	LAKEWATCH_V	2/27/1997	61.92606054			27.66666666								983.3333333	194.6666667	
5129	BUCK LAKE	02307388	USGS_NWIS	1/12/1993														
5129	BUCK LAKE	02307388	USGS_NWIS	12/1/1992														
5129	BUCK LAKE	02307388	USGS_NWIS	10/14/1992														
5129	BUCK LAKE	02307388	USGS_NWIS	7/23/1992														
5129	BUCK LAKE	02307388	USGS_NWIS	3/24/1992														
5129	BUCK LAKE	02307388	USGS_NWIS	1/14/1992														
5129	BUCK LAKE	02307388	USGS_NWIS	12/12/1991														
5129	BUCK LAKE	02307388	USGS_NWIS	7/22/1991														
5129	BUCK LAKE	02307388	USGS_NWIS	6/6/1991														
5129	BUCK LAKE	02307388	USGS_NWIS	5/2/1991														
5129	BUCK LAKE	02307388	USGS_NWIS	1/29/1991														
5129	BUCK LAKE	02307388	USGS_NWIS	12/11/1990														
5129	BUCK LAKE	02307388	USGS_NWIS	11/6/1990														
5129	BUCK LAKE	02307388	USGS_NWIS	8/16/1990														

5129	BUCK LAKE	02307388	USGS_NWIS	7/11/1990														
5129	BUCK LAKE	02307388	USGS_NWIS	5/11/1990														
5129	BUCK LAKE	02307388	USGS_NWIS	4/4/1990														
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_SUPP	3/10/2000	39.28434963			4.5						6.6		500	15	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/26/2004	47.57318859			10.5								690	23.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/25/2004	45.57836584			8								546.6666667	18	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/29/2004	38.50789727			5								466.6666667	16	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/28/2004	34.84179184			3.5								423.3333333	12	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/24/2004	31.39245749			2.5								386.6666667	11	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/25/2004	27.63470346			2.5								370	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/29/2004	32.7051727			3								486.6666667	11	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/27/2004	29.23688773			2								325	10.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/21/2004	32.74319956			3								363.3333333	13.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/21/2004	30.8435213			2.5								350	10.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/30/2004	30.33725849			3								363.3333333	9	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/16/2003	35.834181			5								430	10.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/27/2003	32.58213799			4.5								416.6666667	8.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/29/2003	37.14689621			6								386.6666667	10.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/25/2003	28.94741867			3								420	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/25/2003	32.34846698			4.5								413.3333333	8.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/27/2003	26.18981456			1.5								310	9.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/23/2003	33.25660727			4.5								350	9	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/26/2003	27.63470346			2.5								310	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/21/2003	28.5277946			2.33333333								293.3333333	9	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/30/2003	26.49727417			3								230	6.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/18/2003	29.86775905			2.5								323.3333333	9.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/27/2003	16.61602749			1								306.6666667	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/22/2003	26.87314891			2.5								235	7.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/12/2002	24.73485651			2								210	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/19/2002	26.87314891			2.5								240	7.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/23/2002	25.29162253			2								235	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/22/2002	29.02454328			2.5								305	9	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/21/2002	34.01520298			5								286.6666667	9	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/20/2002	37.89678807			6								343.3333333	14.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/25/2002	44.1178472			11								373.3333333	20	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/27/2002	38.9330802			7.66666666								316.6666667	13.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/20/2002	37.73315933			5								376.6666667	12.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/9/2002	37.62571691			5.33333333								370	15.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/17/2002	37.21165985			5.5								380	13	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/18/2002	30.65471727			2.5								360	10.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/12/2001	29.66253649			2.5								320	9.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/9/2001	34.49986135			4.5								323.3333333	10	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/22/2001	34.65344891			6								385	8.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/16/2001	32.0851366			3.5								343.3333333	9.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/25/2001	32.69039747			3.5								330	10	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/27/2001	38.27213989			6.5								490	11	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/15/2001	36.31883937			4.5								433.3333333	11.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/29/2001	35.80321787			4								380	12	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/24/2001	35.12174677			3								620	13.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/14/2001	31.2942577			2								543.3333333	12.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/19/2001	46.29924212			11.5								670	15.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/22/2001	38.79969126			5								493.3333333	13.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/14/2000	33.26612141			3.5								565	10.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/27/2000	35.05228564			2.5								553.3333333	15	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/25/2000	37.13295526			4.5								606.6666667	12.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/8/2000	41.15811959			7.5								460	15.33333333	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/7/2000	39.6670706			6								410	13	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/10/2000	37.20970604			3.5								493.3333333	14.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/19/2000	33.73190695			3								480	12	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/21/2000	47.77797061			11.33333333								656.6666667	23	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/12/2000	46.4264037			9								566.6666667	18	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/10/2000	41.35016649			7.66666666								445	16	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/7/1998	37.59575967			4.5								480	13	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/30/1998	37.89155097			5								446.6666667	12.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/16/1998	35.55206551			3.5								396.6666667	17.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/30/1997	44.21964681			6.33333333								610	18.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/23/1997	26.02806989			2								340	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/5/1997	23.87242423			2								200	7	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/10/1997	22.42725001			1								280	9	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/10/1997	25.18455896			2.5								330	6.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/31/1996	26.02806989			2								435	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/11/1996	23.57792539			2								310	6.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/6/1996	17.16746206			1.5								246.6666667	4.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/29/1996	17.16746206			1.5								196.6666667	4.5	

5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/24/1996	12.85827346			1								283.3333333	4	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/31/1996	14.24811328			1								270	4.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/30/1996	18.58726569			1								243.3333333	6.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/5/1996	14.24811328			1								250	4.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/14/1996	19.00399296			1								205	7	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/22/1995	14.24811328			1								193.3333333	4.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/30/1995	19.74880426			1								223.3333333	7.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/31/1995	16.61602749			1								173.3333333	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/21/1995	16.55158601			1								156.6666667	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/9/1995	11.28260303			1								183.3333333	3.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/23/1995	15.49136737			1								220	5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/28/1995	17.64276174			1								233.3333333	6	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/31/1995	14.24811328			1								206.6666667	4.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/24/1994	14.45428471			2								190	3	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/5/1994	17.8798963			2.5								323.3333333	3.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/2/1994	16.61602749			1								330	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/1/1994	14.24811328			1								196.6666667	4.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/8/1994	12.85827346			1								153.3333333	4	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/31/1994	9.46362501			1								185	3	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/20/1994	15.49136737			1								200	5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/14/1994	19.46173976			1								223.3333333	7	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/6/1994	20.56211052			1.5								243.3333333	6	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/15/1993	20.30096283			1								235	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/2/1993	20.56211052			1.5								246.6666667	6	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/5/1993	23.57792539			2								263.3333333	6.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/3/1993	22.63342144			2								183.3333333	6	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	8/3/1993	29.99866911			7.5								243.3333333	5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/14/1993	20.48202707			2								213.3333333	5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	6/1/1993	25.18455896			2.5								275	6.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/4/1993	23.21332076			2.5								240	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/5/1993	23.32349633			1.5								226.6666667	8.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/5/1993	16.96829244			1								223.3333333	5.66666666	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	2/5/1993	18.79488589			1.5								136.6666667	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	1/12/1993	21.31746146			1.5								170	7.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	12/17/1992	18.94867957			1								190	7.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	11/18/1992	19.46173976			1								213.3333333	7	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	10/6/1992	26.87314891			2.5								255	7.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	9/4/1992	27.63470346			2.5								303.3333333	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	7/16/1992	23.21332076			2.5								223.3333333	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	5/30/1992	16.61602749			1								180	5.5	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	4/30/1992	21.03741019			1								266.6666667	8	
5064	CALM LAKE	Calm-Hillsborough	LAKEWATCH_V	3/29/1992	19.89889691			1								216.6666667	8	
5064	CALM LAKE	STA-460	LEGACY_SWFWMD_WQ	8/15/2002				5.06		7.14							10	
5064	CALM LAKE	STA-460	LEGACY_SWFWMD_WQ	1/27/2000				5.52		9.25							10	
5064	CALM LAKE	STA-460	LEGACY_SWFWMD_WQ	8/24/1999				3.9		6.88	10				70		10	
5064	CALM LAKE	Calm Lake	SWFWMD_KenRomie_WQ	2/11/1997	23.68837673			2.5								110	9	
5064	CALM LAKE	Calm Lake	SWFWMD_KenRomie_WQ	8/20/1996	30.26779737			2.5						6.8		500	10	
5064	CALM LAKE	02307227	USGS_NWIS	1/27/2000														
5064	CALM LAKE	02307227	USGS_NWIS	8/24/1999														
5137	CHURCH LAKE	5137	HCEPC_WQ_REPORTS	9/4/2001							10				160			
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_SUPP	8/6/1991	32.69039747			3.5						6.85		590	10	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_SUPP	3/4/1991	36.36500085			3						6.8		663.3333333	15	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	2/20/2001	39.91323686			4								643.3333333	17	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	7/12/2000	53.00224797			14								765	24	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	6/5/2000	43.72378878			5.5								853.3333333	19.33333333	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	4/23/2000	50.06783875			8								960	26.33333333	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	11/30/1998	49.39733001			13								776.6666667	18.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	9/28/1998	47.86061778			9.5								750	19.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	8/31/1998	38.04109555			4.5								623.3333333	13.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	5/31/1998	42.41227514			11								636.6666667	11.33333333	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	11/30/1997	38.43631177			4								650	15	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	10/31/1997	39.62628012			3.5								726.6666667	18	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	6/30/1996	32.69039747			3.5								575	10	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	5/31/1996	28.05590292			2								593.3333333	9.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	3/31/1996	37.59575967			4.5								526.6666667	13	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	11/30/1995	34.33958839			3.5								553.3333333	11.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	9/30/1995	39.78170904			5								526.6666667	18.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	8/31/1995	33.39949059			3								606.6666667	11.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	7/24/1995	36.23163166			3.5								686.6666667	13.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	5/30/1995	33.2297035			3								613.3333333	11.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	3/20/1995	34.6764109			3								626.6666667	13	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	2/27/1995	37.36986299			3								620	16.33333333	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	1/10/1995	34.49986135			4.5								563.3333333	10	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	10/31/1994	34.50937549			3.5								530	11.66666666	

5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	4/29/1994	37.84192594			3								616.6666667	17	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	3/30/1994	33.95877639			2								585	15.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	1/31/1994	35.26653385			3								640	13.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	11/18/1993	39.6670706			6								650	13	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	8/31/1993	38.79969126			5								860	13.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	7/30/1993	40.54154467			6								630	14	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	5/30/1993	39.15438843			3								696.6666667	19	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	3/30/1993	34.92257716			2								563.3333333	17	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	2/28/1993	34.68890615			2								583.3333333	16.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	1/28/1993	37.84192594			3								625	17	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	12/31/1992	43.2271			7								645	16	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	11/30/1992	46.44400132			8.5								816.6666667	18.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	10/30/1992	44.51250061			6.5								776.6666667	18.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	9/30/1992	38.69566287			4								786.6666667	15.33333333	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	8/28/1992	46.48327134			9.5								776.6666667	17.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	7/31/1992	44.43921921			7.5								780	17	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	6/30/1992	44.72135563			6.5								703.3333333	19	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	5/31/1992	43.82507696			5.5								650	19.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	3/31/1992	33.44565207			2								633.3333333	15	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	2/28/1992	33.66244582			2.5								573.3333333	13.33333333	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	1/31/1992	25.82189847			1								566.6666667	12	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	12/30/1991	31.2942577			2								566.6666667	12.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	8/6/1991	33.73190695			3								543.3333333	12	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	5/23/1991	43.28648775			6								576.6666667	17.66666666	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	4/16/1991	41.16090703			3.5								660	20.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	3/4/1991	37.86180566			3.5								590	15.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	1/2/1991	35.96496254			3								585	14.5	
5137	CHURCH LAKE	Church-Hillsborough	LAKEWATCH_V	11/17/1990	42.40045125			7.33333333								713.3333333	14.5	
5137	CHURCH LAKE	STA-477	LEGACY_SWFWMD_WQ	1/29/2001				2.425		8.81	0				10		18	
5137	CHURCH LAKE	STA-477	LEGACY_SWFWMD_WQ	8/2/2000				11.05		7.61	20				40		22	
5137	CHURCH LAKE	Church Lake	SWFWMD_KenRomie_WQ	1/29/1998	34.14091291			3.16						6.9		400	15	
5137	CHURCH LAKE	Church Lake	SWFWMD_KenRomie_WQ	7/23/1997	25.26947418			1.8						7.6		480	8	
5137	CHURCH LAKE	Church Lake	SWFWMD_KenRomie_WQ	1/24/1995	36.60108758			3.1						6.7		950	15	
5137	CHURCH LAKE	Church Lake	SWFWMD_KenRomie_WQ	7/28/1994	32.58635622			4.1						7		2730	9	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_SUPP	4/22/1997	37.26843058			4.3						6.3		500	13	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_SUPP	4/13/1995	27.77871302			1.63333333						5.1		500	10.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_SUPP	7/13/1993	41.52228614			5.16666666						5.35		590	16.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/10/2002	41.11609855			5.5								616.6666667	15.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	11/9/2001	59.22872504			32.5								856.6666667	24.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/30/2001	44.5711093			10								510	18.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/11/2001	40.04294534			5								625	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/30/2001	48.49771462			12								743.3333333	18	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/2/2001	44.92657819			6.5								725	19.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/11/2001	43.72357476			6								803.3333333	18.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	11/10/2000	47.30954766			13								680	15.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	9/29/2000	46.72470047			11								743.3333333	16.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	8/18/2000	42.6935226			6.5								526.6666667	16	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/9/2000	49.39733001			13								673.3333333	18.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/5/2000	44.98812887			8.5								680	16.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/31/2000	45.2459495			8								760	17.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/4/2000	45.38489422			10.5								600	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/31/1999	41.11785216			6.5								576.6666667	14	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/12/1999	38.09608473			5.5								520	12	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	11/5/1999	40.54154467			6								643.3333333	14	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/1/1999	37.89450981			4.5								720	13.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	9/3/1999	40.54154467			6								770	14	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	8/7/1999	37.89450981			4.5								576.6666667	13.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/27/1999	40.95562224			6								753.3333333	14.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/28/1999	36.36500085			3								660	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/2/1999	44.08336242			6.5								660	18	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/27/1999	37.47488575			3.5								610	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/27/1999	43.51856622			5.5								683.3333333	19	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/30/1999	50.90058953			15.33333333								650	19	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/30/1998	52.37406261			12								753.3333333	25	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/6/1998	47.01666569			8								743.3333333	20.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/31/1998	46.44400132			8.5								563.3333333	18.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/2/1998	55.53468231			31								673.3333333	25	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	9/6/1998	46.84449846			11								530	16.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	7/26/1998	43.94247053			7								666.6666667	17	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/30/1998	42.6935226			6.5								583.3333333	16	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/31/1998	40.77695549			7								646.6666667	13	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/2/1998	42.83258564			6								643.3333333	17	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/28/1998	49.79093294			13.5								615	29	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/20/1998	44.79364545			7								653.3333333	25.66666666	

5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/13/1998	41.51987043			5								585	17	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	11/15/1997	47.54949003			8.5								683.3333333	20.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/11/1997	46.03989103			11.5								663.3333333	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	9/13/1997	50.67735123			13.66666666								693.3333333	20	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	8/9/1997	42.96229412			7.5								630	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	7/12/1997	49.11448679			11								750	20	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/7/1997	44.17814937			8								526.6666667	23	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/10/1997	40.28522365			4.5								603.3333333	21	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	4/12/1997	49.38230545			14.33333333								620	24	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/15/1997	46.11388164			8.33333333								610	28	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/8/1997	63.3485292			59.66666666								756.6666667	43	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/11/1997	59.02294713			38.66666666								740	34	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/14/1996	53.75959424			17.5								676.6666667	22.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/7/1996	55.21696617			26								750	27.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/12/1995	33.36369569			2.5								476.6666667	13	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/9/1995	31.58051258			3								563.3333333	10	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	11/25/1994	53.81981572			23.5								686.6666667	26	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/23/1994	37.76366838			5.5								616.6666667	11.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	9/11/1994	33.5184543			4.66666666								440	9	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	8/12/1994	41.2755771			8								586.6666667	12.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	7/5/1994	40.15575943			7								475	12.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/15/1994	37.07743508			5								493.3333333	11.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	4/10/1994	34.21360648			3								530	12.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/9/1994	55.02554677			25								656.6666667	20	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/12/1993	53.68564693			24.66666666								560	18	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	7/13/1993	41.28619942			5								590	16.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/31/1993	33.04656262			4								533.3333333	9.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/24/1993	43.85017744			9.5								506.6666667	14	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/4/1992	50.28907061			18.66666666								580	16	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	7/20/1992	42.1172151			6								580	16	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/28/1992	44.08695424			7.5								546.6666667	16.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	4/19/1992	44.29988225			6.5								706.6666667	18.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/2/1992	46.90504448			11.66666666								526.6666667	16	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/16/1992	43.00987806			5								743.3333333	25.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/12/1992	49.45471383			8								783.3333333	25	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/1/1991	47.53628859			10.5								640	18	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/20/1991	48.85345494			13								626.6666667	17.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	9/10/1991	47.01155863			9.33333333								616.6666667	18.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	7/18/1991	42.6935226			6.5								630	16	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	6/11/1991	40.25719355			6								540	13.66666666	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	5/7/1991	41.93196805			6.5								660	15	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	3/31/1991	48.54653857			13								655	22	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	2/24/1991	42.19433971			5								586.6666667	18	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	1/20/1991	44.86965345			10.33333333								570	14.5	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	12/16/1990	39.62218203			6.5								570	12.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	11/4/1990	40.65250811			7.5								596.6666667	12.33333333	
5041	CRESCENT LAKE	Crescent-Hillsborough	LAKEWATCH_V	10/8/1990	41.2755771			8								636.6666667	12.5	
5041	CRESCENT LAKE	STA-229	LEGACY_SWFWMD_WQ	2/14/2002				17.795		8.02							20	
5041	CRESCENT LAKE	STA-229	LEGACY_SWFWMD_WQ	8/8/2001				8.44		7.47	14				26		28	
5041	CRESCENT LAKE	Crescent Lake	SWFWMD_KenRomie_WQ	8/27/1998	25.38962992			5.7						6.1		300	4	
5041	CRESCENT LAKE	Crescent Lake	SWFWMD_KenRomie_WQ	1/25/1996	31.23843312			3.4						6.1		1590	9	
5041	CRESCENT LAKE	Crescent Lake	SWFWMD_KenRomie_WQ	7/25/1995	37.36637519			7.8						5.6		220	14	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_SUPP	9/12/1996	52.54390478			15.15						6.85		770	22	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_SUPP	7/28/1993	57.19623411			20.66666666						6.9		936.6666667	27	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/15/2005	53.27991623			13.5								920	40	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/19/2005	61.00143927			31.66666666								990	52	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/22/2004	47.58372976			7.5								820	33	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/22/2004	61.41927423			35.33333333								1003.333333	47.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/26/2004	66.19945388			40								1510	70.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/22/2004	66.00490569			46.33333333								1060	78.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/16/2004	57.72144387			18.5								960	61	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/14/2004	44.14906984			5								816.6666667	29.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/15/2004	48.37482521			6.5								996.6666667	39.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/12/2004	47.6155204			9								773.3333333	26.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/13/2004	50.50273051			13								726.6666667	30	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/12/2004	49.32134464			9.33333333								710	22.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/17/2004	50.6811282			13								753.3333333	30	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/20/2004	56.17889469			29.66666666								735	28	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/21/2003	53.00662989			14.33333333								786.6666667	23.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/18/2003	57.28315696			25.33333333								833.3333333	39.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/20/2003	60.9272476			33								1000	47.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/17/2003	60.37809942			28.33333333								1020	52.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/21/2003	73.71629966			119.3333333								1090	92.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/27/2003	61.1419486			34								996.6666667	47.66666666	

5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/26/2003	75.86811686			116.6666667								1326.666667	123.6666667	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/18/2003	70.15711737			67.33333333								1380	81.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/16/2003	61.53978644			29.66666666								1113.333333	57	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/20/2003	62.93370768			37								1070	57	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/25/2003	56.44059977			19.66666666								970	41.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/22/2003	68.5370818			62.33333333								1226.666667	73.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/26/2002	59.09642996			27								980	44.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/26/2002	51.70711602			13								1090	22.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/21/2002	64.65321975			36.33333333								1126.666667	36	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/19/2002	62.99978825			37.5								1173.333333	51.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/17/2002	57.18127429			24.66666666								990	33.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/14/2002	52.55687501			11.5								1053.333333	38	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/15/2002	55.48868439			13								1096.666667	31	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/12/2002	62.61235829			28								1113.333333	35.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/21/2002	52.42958903			12.5								1040	24.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/17/2002	56.5967679			16								1093.333333	30	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/16/2002	67.73722784			68.33333333								1316.666667	49.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/20/2002	62.69116737			27.66666666								1236.666667	36	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/11/2001	57.80872197			11.5								1283.333333	40.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/24/2001	53.51953057			8.5								1140	34	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/15/2001	62.18600029			35								1220	46	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/16/2001	57.82630377			18								1230	50	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/12/2001	56.16443928			15.5								1215	44.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/15/2001	57.95159448			23.66666666								963.3333333	26.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/17/2001	55.23530357			14								1095	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/20/2001	51.875441			10.5								1040	26	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/22/2001	47.83386766			7.5								913.3333333	22.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/11/2001	49.95503255			8.33333333								1046.666667	36	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/17/2001	57.70806494			25								996.6666667	36.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/20/2001	62.7096316			41.66666666								1200	40	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/14/2000	65.20476669			46.33333333								1346.666667	51.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/14/2000	62.03125303			31								1346.666667	48.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/19/2000	64.19231949			42.66666666								1245	51	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/17/2000	61.70137586			30.5								1290	48.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/13/2000	54.07478781			18								876.6666667	32	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/9/2000	52.81270346			10								930	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/18/2000	52.59256252			14								853.3333333	35.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/14/2000	49.61100751			8								803.3333333	25.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/17/2000	46.97580742			6.5								920	23	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/12/2000	44.06883791			4.5								913.3333333	22.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/20/2000	43.9823546			4								766.6666667	24	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/15/2000	59.0483909			30.66666666								845	42.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/15/1999	50.12788861			12								760	20.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/16/1999	55.91307672			26.66666666								800	28.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/17/1999	61.77084806			54								865	31	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/12/1999	52.88579607			15.5								710	22.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/15/1999	42.62021467			8.5								640	13.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/24/1999	48.1912854			11.5								605	18	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/20/1999	49.12902627			10.66666666								796.6666667	27.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/16/1999	40.33537324			3								720	21	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/11/1999	46.07364654			4.5								810	26.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/20/1999	52.12035015			12.5								906.6666667	35.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/20/1999	52.63846735			13.66666666								840	37.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/17/1999	49.72048812			9.66666666								856.6666667	33.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/12/1998	51.9402843			10								933.3333333	47	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/8/1998	56.28109891			16.33333333								1050	49.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/18/1998	57.91414475			27.66666666								936.6666667	35	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/12/1998	55.12229509			18.33333333								793.3333333	43.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/16/1998	57.50140237			20.5								953.3333333	50	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/12/1998	54.55329633			19.66666666								836.6666667	32.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/14/1998	51.99363607			15								823.3333333	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/17/1998	49.12941163			9.5								830	31.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/19/1998	50.1609039			11.33333333								655	38.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/14/1998	57.48323426			21.33333333								950	47	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/15/1998	52.37850717			13								926.6666667	34.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/18/1998	52.1297502			10								963.3333333	47.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/12/1997	59.06556123			40.66666666								713.3333333	33	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/22/1997	63.83460447			39.33333333								1010	32	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/25/1997	55.29681024			13								1020	30.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/21/1997	47.02182595			8.5								763.3333333	26	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/26/1997	57.62107495			19.5								930	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/20/1997	58.40383422			26								823.3333333	26	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/20/1997	47.24482589			9.5								785	18.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/18/1997	49.90686386			11.5								746.6666667	31	

5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/13/1997	50.27992786			11.5								813.3333333	30.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/23/1997	49.91890051			10.66666666								780	33.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/16/1997	44.59151477			6								685	29.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/11/1997	61.81664999			43.5								866.6666667	43.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/8/1996	49.62092427			8								1003.333333	37.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/19/1996	51.21158331			12								886.6666667	32	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/15/1996	56.11659001			23								830	36	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/15/1996	49.95619512			12								780	28	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/17/1996	57.33027421			29.33333333								796.6666667	33.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/14/1996	61.15917923			33.33333333								996.6666667	49.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/15/1996	53.48350737			18								853.3333333	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/18/1996	56.53070747			25.33333333								893.3333333	31.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/20/1996	53.44320256			13.33333333								823.3333333	25.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/23/1996	50.74459271			11.33333333								903.3333333	31	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/24/1996	50.48009026			11								820	34	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/14/1996	61.5206968			50								843.3333333	34	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/10/1995	56.80798171			22.66666666								890	39.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/14/1995	56.51754662			19.33333333								926.6666667	45.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/15/1995	65.55126954			52.66666666								946.6666667	66	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/16/1995	66.82232054			58								1116.666667	62.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/13/1995	76.74821271			182.3333333								1346.666667	73.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/17/1995	65.38273465			37.33333333								1146.666667	37.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/21/1995	62.66094405			31								1170	33.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/13/1995	63.22519515			27.66666666								1220	37.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/15/1995	69.90498218			79								1383.333333	60	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/19/1995	61.49684086			33.66666666								1223.333333	42	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/11/1995	61.55459159			25.33333333								1110	34.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/21/1995	61.45067604			33.33333333								1136.666667	45.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/10/1994	69.00620667			66								1376.666667	65.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/14/1994	62.50461789			34								1330	47	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/10/1994	82.03619614			223.6666667								1926.666667	114.3333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/10/1994	65.41650461			41.33333333								1280	35.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/20/1994	62.5458751			32.33333333								1336.666667	32.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/17/1994	62.9472241			25.5								1286.666667	38.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/12/1994	57.43405144			19								1123.333333	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/14/1994	58.33779789			23.5								1103.333333	27.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/16/1994	54.46993681			13.33333333								1040	28	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/13/1994	65.24373211			55.66666666								1136.666667	46.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/13/1994	76.28649747			101.3333333								2156.666667	100.3333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/15/1994	66.17340168			41.66666666								1416.666667	37.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/10/1993	61.78729506			22.33333333								1226.666667	38	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/15/1993	59.26502372			20.5								1070	32.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/10/1993	65.7683876			38								1180	38.5	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/11/1993	60.58150119			22.66666666								1116.666667	34	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/14/1993	53.49893676			11								1016.666667	29	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/28/1993	57.19623411			20.66666666								936.6666667	27	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/11/1993	59.10012506			28.66666666								1055	37.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/19/1993	60.62600158			28								1090	30	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/17/1993	52.96727038			9								1096.666667	31.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/17/1993	64.92525369			40								1326.666667	61.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/20/1993	56.74964744			21								1015	38.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/14/1993	56.18110462			22.66666666								923.3333333	33.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/10/1993	71.56539105			122								1293.333333	47	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/13/1992	58.8416474			24								966.6666667	28.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/11/1992	64.50242602			44.66666666								1263.333333	50	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/10/1992	68.05635751			74								1266.666667	49	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/12/1992	69.93989975			50.66666666								1445	46	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/15/1992	66.29362083			62								1170	48	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/11/1992	58.43010682			22.66666666								945	28.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/13/1992	57.29261628			17								980	30.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	5/10/1992	60.30863437			30								920	28	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	4/11/1992	52.42532645			11.33333333								803.3333333	26	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	3/15/1992	54.1035958			17.33333333								905	33	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	2/15/1992	64.74470113			49.33333333								1100	52.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	1/12/1992	57.99964356			28.66666666								930	34	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	12/18/1991	57.84379851			27.33333333								870	38	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	11/13/1991	59.92015319			38								893.3333333	34.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	10/13/1991	61.54718982			35.33333333								996.6666667	49	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	9/14/1991	69.13851546			71.33333333								1200	69.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	8/10/1991	71.49842822			77.33333333								1300	93.33333333	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	7/14/1991	58.68072703			25.33333333								930	47.66666666	
5642	DEAD LADY LAKE	Dead Lady-Hillsborough	LAKEWATCH_V	6/16/1991	56.92264626			19.5								883.3333333	27.33333333	
5133	ECHO LAKE	Echo-Hillsborough	LAKEWATCH_V	4/16/1991	45.02786637			6.5								596.6666667	19.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	12/28/2001	38.65310552			5								733.3333333	13.33333333	

5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	11/24/2001	37.59575967			4.5								720	13	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	9/29/2001	41.10332765			4.5								713.3333333	17.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	8/25/2001	33.25660727			4.5								756.6666667	9	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	7/26/2001	42.19131914			6.5								793.3333333	15.33333333	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	6/26/2001	38.27213989			6.5								720	11	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	5/19/2001	28.6611638			2								570	10	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	4/28/2001	31.39245749			2.5								613.3333333	11	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	3/31/2001	33.73190695			3								726.6666667	12	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	1/28/2001	38.35622832			5.33333333								700	12.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	12/17/2000	41.65142956			7								760	14	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	10/28/2000	44.43921921			7.5								800	17	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	9/27/2000	47.4536809			9.5								893.3333333	19	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	7/25/2000	46.14121841			9.5								856.6666667	17	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	6/25/2000	44.57077834			10.5								666.6666667	14	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	5/29/2000	35.47978505			3.5								733.3333333	12.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	4/22/2000	34.33958839			3.5								666.6666667	11.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	3/26/2000	27.16557681			1.5								620	10.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	2/27/2000	30.48014181			2								603.3333333	11.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	1/23/2000	37.20368001			2.5								683.3333333	18	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	12/19/1999	42.93683018			6.5								665	16.33333333	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	11/28/1999	42.48032067			6								636.6666667	16.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	10/23/1999	40.47044475			7								730	12.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	9/18/1999	42.58641937			9								926.6666667	13	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	8/28/1999	34.01520298			5								726.6666667	9	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	7/15/1999	38.72256665			6								770	12	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	6/15/1999	39.50003519			7								543.3333333	11.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	5/28/1999	35.80321787			4								606.6666667	12	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	4/25/1999	31.2942577			2								590	12.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	3/28/1999	34.23816976			2.5								653.3333333	14	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	2/28/1999	40.80449989			5								536.6666667	16	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	1/30/1999	40.40900975			4.5								666.6666667	16.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	12/21/1998	42.44509236			6.5								796.6666667	15.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	11/29/1998	45.56952725			8.5								690	17.33333333	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	10/31/1998	49.05952678			15								590	22	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	9/6/1998	47.03220753			9.5								575	18.33333333	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	7/31/1998	43.72384867			7.5								673.3333333	16	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	6/26/1998	46.23296265			11								796.6666667	15.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	5/31/1998	46.15826516			10								765	16.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	4/26/1998	48.9730143			8								846.6666667	24	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	3/15/1998	45.59335689			7								636.6666667	31.33333333	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	1/16/1998	45.65580388			5.66666666								673.3333333	41.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	11/27/1997	44.51250061			6.5								720	18.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	10/25/1997	45.90167374			8								733.3333333	18.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	8/30/1997	34.65344891			6								630	8.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	7/12/1997	37.59575967			4.5								603.3333333	13	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	6/29/1997	41.63263623			4								626.6666667	19.66666666	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	5/18/1997	33.04561376			2								593.3333333	14.5	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	4/13/1997	37.62219589			4								640	14	
5045	ELIZABETH, LAKE	Elizabeth-Hillsborough	LAKEWATCH_V	10/5/1994	47.24482589			9.5								800	18.66666666	
5109	EVA, LAKE	STA-876	LEGACY_SWFWMD_WQ	3/11/2002				3.75		9.44							10	
5109	EVA, LAKE	STA-876	LEGACY_SWFWMD_WQ	8/16/2001				15.1		5.02							9	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/13/2003	63.99603737			32.66666666								1570	36.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	12/25/2000	47.21032638			7.5								686.6666667	21.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/30/2000	45.43699639			7.5								635	18.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/30/2000	43.02693316			8								630	14.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/28/2000	42.48032067			6								606.6666667	16.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	3/26/2000	47.92801981			8.5								743.3333333	32.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/30/2000	52.80308971			14.66666666								913.3333333	32	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/28/1999	54.68753039			12.5								983.3333333	29.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/31/1999	49.90517858			10								800	22.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/26/1999	50.89300014			13								763.3333333	21	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/29/1999	42.83258564			6								723.3333333	17	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	3/29/1999	52.15453471			9.66666666								963.3333333	28	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/30/1998	55.490684			18.5								1153.333333	25	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/25/1998	55.48868439			13								1256.666667	31	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/30/1998	52.89810769			19								736.6666667	27.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/28/1998	58.78778576			13								1450	41	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	5/31/1998	57.67125839			17								1186.666667	31.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	4/27/1998	62.29651807			38.66666666								1193.333333	41.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/23/1997	38.16019677			5								426.6666667	16.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/28/1997	40.57913992			8.33333333								370	14.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/28/1997	41.35566055			6								526.6666667	15	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/27/1997												336.6666667	13	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/30/1997	33.80903156			2.5								416.6666667	13.5	

5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	4/27/1997	30.76425878			2								393.3333333	15	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	3/30/1997	30.13108707			1.5								456.6666667	13.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/26/1997	27.714513			1.5								480	11	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/27/1996	39.62628012			3.5								566.6666667	18	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/29/1996	37.1265554			3								543.3333333	16	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/28/1996	33.81505759			3.5								533.3333333	11	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/30/1996	39.40571294			3.5								546.6666667	17.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	2/25/1996	28.93845271			1.5								413.3333333	15	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/28/1996	27.17217222			1.5								343.3333333	12.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/23/1995	34.12479007			3								430	15	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/30/1995												360	8	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/28/1995	36.38311719			5								400	11	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/24/1995	37.40985144			5								406.6666667	12	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	5/29/1995	35.52326292			4.66666666								436.6666667	10.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	4/30/1995	27.41790971			2								370	9	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	3/27/1995	32.75835837			2.5								416.6666667	15.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	2/27/1995	24.90126291			1.5								343.3333333	8.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/30/1995	25.77573699			1.5								380	9.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	12/31/1994	30.08324279			1.5								446.6666667	17.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/27/1994	35.96496254			3								443.3333333	14.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/30/1994	41.73404077			5.5								576.6666667	16.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/31/1994	46.9291784			13.5								546.6666667	14.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/27/1994	31.37036822			2.5								376.6666667	12.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	5/30/1994	31.91698829			2.5								386.6666667	11.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	4/30/1994	30.8435213			2.5								356.6666667	10.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	2/28/1994	34.88678126			4.5								410	10.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/31/1994	26.02806989			2								446.6666667	8	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	12/27/1993	27.16557681			1.5								550	10.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/29/1993												560	15.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/25/1993												613.3333333	20.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/27/1993	48.71962633			10								743.3333333	20.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/17/1993	45.95690426			7.5								665	19.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/11/1993	50.19687382			15.66666666								696.6666667	17.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/7/1993	53.42698999			12								875	27.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	5/10/1993	41.16760546			5								610	16.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	4/12/1993	31.10916145			1.5								473.3333333	14.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	3/15/1993	31.55169106			2								410	17	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	2/14/1993	36.67659539			4								353.3333333	20.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/10/1993	31.65735862			2.5								363.3333333	14	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	12/13/1992	34.77648362			4								360	11	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/4/1992	34.0387434			4								493.3333333	10.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/13/1992	35.78629579			3.5								406.6666667	13	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/7/1992	34.21360648			3								456.6666667	12.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/9/1992	45.27987147			9								530	16.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/13/1992	32.15623651			3								440	10.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/7/1992	39.01916993			4.5								483.3333333	14.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	5/10/1992	37.62219589			4								580	14	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	4/12/1992	36.30948067			3.33333333								543.3333333	14	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	3/9/1992	34.36990015			3								543.3333333	12.66666666	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	2/9/1992	34.6764109			3								536.6666667	13	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	1/5/1992	35.25845707			5								540	10	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	12/8/1991	30.9752517			3								500	9.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	11/11/1991	27.41790971			2								536.6666667	9	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	10/5/1991	44.66429332			9.5								603.3333333	15	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	9/8/1991	42.06550714			7								663.3333333	14.5	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	8/3/1991	42.72381903			10								616.6666667	12.33333333	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	7/7/1991	45.03360504			10								646.6666667	15	
5079	GARDEN LAKE	Garden-Hillsborough	LAKEWATCH_V	6/2/1991	43.2271			7								523.3333333	16	
5094	GIBSON, LAKE	Gibson-Hillsborough	LAKEWATCH_V	11/30/1998	35.47978505			3.5								583.3333333	12.66666666	
5094	GIBSON, LAKE	Gibson-Hillsborough	LAKEWATCH_V	9/7/1998	39.65473093			7.5								505	11.33333333	
5127	HORSE LAKE	Horse-Hillsborough	LAKEWATCH_V	12/5/1999	39.44117391			4								1006.666667	16.33333333	
5127	HORSE LAKE	STA-422	LEGACY_SWFWMD_WQ	1/29/2001				4.305		11.31	10				15		16	
5127	HORSE LAKE	STA-422	LEGACY_SWFWMD_WQ	8/2/2000				6.975		8.4	20				160		17	
5127	HORSE LAKE	Horse Lake	SWFWMD_KenRomie_WQ	7/23/1997	15.48370388			1.44						7.7		580	4	
5127	HORSE LAKE	Horse Lake	SWFWMD_KenRomie_WQ	1/24/1995	33.39140599			3.3						6.3		750	11	
5127	HORSE LAKE	Horse Lake	SWFWMD_KenRomie_WQ	7/28/1994	36.43780309			7						6.9		3610	9	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_SUPP	2/19/1997										6.4		565	15	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_SUPP	4/13/1995	27.91103765			3.23333333						6.3		403.3333333	7	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	6/15/2004	47.06439691			9								645	19	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	12/1/2001	36.2849174			4								480	12.5	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	10/13/2001	35.32349138			3.5								476.6666667	12.5	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	2/11/2001	35.62452148			4.5								365	11	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	8/28/2000	41.61283765			9.5								365	15	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	4/2/2000	32.74249963			2.5								500	12.33333333	

5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	2/19/2000	22.93002472			1.5								400	7.33333333	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	1/9/2000	30.33243638			2.66666666								423.3333333	9.66666666	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	12/12/1999	25.52586643			2								413.3333333	7.66666666	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	11/7/1999	31.1052129			4.5								366.6666667	7.5	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	10/3/1999	41.11718546			8								510	12.33333333	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	9/11/1999	36.65125572			4.5								480	12	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	7/11/1999	32.40856941			4								366.6666667	9	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	5/22/1999	40.40900975			4.5								513.3333333	16.5	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	3/6/1999	38.04784464			5								540	12.66666666	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	1/18/1999	36.57117228			6								415	10	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	12/20/1998	39.78057368			6.5								503.3333333	12.5	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	11/22/1998	41.27370417			7.5								503.3333333	13	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	1/1/1998	35.78629579			3.5								556.6666667	13	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	4/5/1997	39.75217089			6.5								380	17.33333333	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	3/1/1997	41.39551203			6.5								456.6666667	14.33333333	
5049	ISLAND FORD LAKE	Island Ford-Hillsborough	LAKEWATCH_V	2/5/1997	41.1118996			7.33333333								506.6666667	13	
5049	ISLAND FORD LAKE	Island Ford Lake	SWFWMD_KenRomie_WQ	1/29/1998	38.83411044			3.74						5.9		500	25	
5049	ISLAND FORD LAKE	Island Ford Lake	SWFWMD_KenRomie_WQ	7/23/1997	32.56357139			6.17						6.2		400	7	
5049	ISLAND FORD LAKE	Island Ford Lake	SWFWMD_KenRomie_WQ	1/24/1995	40.6590404			4.9						5.8		1340	16	
5049	ISLAND FORD LAKE	Island Ford Lake	SWFWMD_KenRomie_WQ	7/28/1994	30.80193584			3.2						7.1		2700	9	
5073	JACKSON, LAKE	Jackson-Hillsborough	LAKEWATCH_V	4/9/1993												593.3333333	12.33333333	
5073	JACKSON, LAKE	Jackson-Hillsborough	LAKEWATCH_V	3/8/1993	31.44714339			3.5								543.3333333	9	
5073	JACKSON, LAKE	Jackson-Hillsborough	LAKEWATCH_V	2/7/1993	40.54212822			6.5								553.3333333	13.33333333	
5073	JACKSON, LAKE	Jackson-Hillsborough	LAKEWATCH_V	3/4/1991	29.89192261			3								573.3333333	8.66666666	
5073	JACKSON, LAKE	STA-103	LEGACY_SWFWMD_WQ	2/21/2002				9.27		8.67							20	
5073	JACKSON, LAKE	STA-103	LEGACY_SWFWMD_WQ	8/14/2001				9.67		6.51	20				34		1	
5073	JACKSON, LAKE	Lake Jackson	SWFWMD_KenRomie_WQ	8/27/1998	35.75876619			6.37						6.9		530	9	
5073	JACKSON, LAKE	Lake Jackson	SWFWMD_KenRomie_WQ	1/25/1996	41.37684966			13.9						7.1		2520	9	
5073	JACKSON, LAKE	Lake Jackson	SWFWMD_KenRomie_WQ	7/25/1995	36.88246423			2.9						6.8		1330	16	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/5/2005	54.09707242			14								1100	26.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/19/2004	55.21894813			21.33333333								880	31.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/28/2004	47.30144652			7.5								816.6666667	21.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	6/13/2004	45.7516817			7.5								855	19	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/9/2004	48.29829229			6.66666666								1006.666667	25.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/25/2004	62.19590346			33								1030	31	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/30/2003	58.03812732			17								1020	32.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/27/2003	61.54119351			36								1136.666667	41.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/12/2003	57.44480576			18								910	30	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	6/29/2003	54.16092611			17								960	32.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/29/2003	50.8243793			11.5								950	22.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/23/2003	57.62537231			20.66666666								963.3333333	28	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/24/2002	50.8508536			14								783.3333333	20	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/14/2002	52.9915068			13.66666666								943.3333333	24.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/31/2002	54.68753039			12.5								916.6666667	29.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/20/2002	46.15861858			7.5								843.3333333	19.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/27/2002	51.74496306			9.5								1086.666667	27.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/30/2002	50.30275169			9								985	25	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/16/2002	53.12734785			19								785	27	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/31/2001	56.91736703			20.5								966.6666667	26.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/3/2001	52.50958933			12.5								886.6666667	24.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/30/2001	50.18356491			14.5								875	18.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/19/2001	51.85386509			12.5								833.3333333	23.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/22/2001	49.63292649			10.5								850	21.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/21/2001	50.83972794			7								986.6666667	30.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/24/2001	55.45762127			15								1076.666667	28.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/30/2001	61.07059063			23.5								1153.333333	34.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/23/2000	56.84193714			17.5								1025	29	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/26/2000	53.13129731			16								895	30.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/28/2000	52.98370852			13.5								815	24.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/29/2000	56.3325233			19.5								790	26	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/19/2000	47.86470355			9								870	20.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/8/2000	51.74869505			11.5								890	24.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	6/11/2000	53.94675192			14								1083.333333	26	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/19/2000	52.02931417			9.5								1056.666667	28	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/15/2000	50.97587411			11								890	34.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	3/6/2000	50.84832936			9.5								800	25.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/29/2000	54.43960683			19.5								840	32	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/31/1999	57.8832636			29.33333333								930	32	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/26/1999	54.27409728			22								760	28.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/31/1999	61.98995225			51								876.6666667	35	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/26/1999	59.2845857			30.33333333								866.6666667	25.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/21/1999	51.35056111			13.5								723.3333333	21.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/18/1999	52.70834912			15.5								683.3333333	22	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	6/27/1999	52.98277549			15.33333333								780	22.66666666	

5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/31/1999	53.46673881			13.66666666								820	25.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/30/1999	46.9316108			9.5								630	26.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	3/28/1999	44.49797611			4.5								823.3333333	23.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/14/1999	53.71761851			14								810	25.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/9/1999	53.4189132			20								765	20	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/29/1998	50.66199101			11								866.6666667	33.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/4/1998	51.69868568			17								743.3333333	25	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/23/1998	57.27105733			28.5								853.3333333	22.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/31/1998	51.00257992			9.5								1060	25.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	6/7/1998	50.76367771			11								740	23	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/9/1998	52.25239689			12.33333333								893.3333333	24.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/5/1998	59.3419025			32.66666666								886.6666667	39	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/21/1998	82.09145396			150.6666667								2406.666667	168.3333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/31/1998	48.22621821			12.5								650	22	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/24/1997	50.49956442			13.33333333								673.3333333	20	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/28/1997	43.86346875			8.5								660	15	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/26/1997	38.17780585			7.5								760	10	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/20/1997	42.26403354			7.33333333								783.3333333	14.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/17/1997	38.88431132			4.5								635	14.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/11/1997	44.90389656			8								606.6666667	17	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/3/1997	48.02051795			12.33333333								625	17	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	3/9/1997	55.23045607			16.66666666								1036.666667	38.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/25/1997	50.59141188			11								783.3333333	22.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/22/1996	43.3097112			5.5								773.3333333	18.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/25/1996	36.08504592			3.5								630	13.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/2/1996	51.84859879			18.33333333								713.3333333	24	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/3/1996	40.42986525			5								720	15.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/4/1996	35.78629579			3.5								743.3333333	13	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/19/1996	39.50648933			5								753.3333333	14.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	3/2/1996	49.65495302			19								780	15	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/20/1996	43.00819258			11.66666666								593.3333333	11.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/8/1995	43.80365821			4.5								780	22	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/3/1995	44.79620746			9.33333333								746.6666667	15.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	9/30/1995	47.39792742			8.66666666								796.6666667	20	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	8/26/1995	51.84382632			21.66666666								833.3333333	16.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	7/23/1995	49.97878857			17								753.3333333	16.5	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	5/24/1995	44.78813365			9								770	15.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	4/23/1995	39.04058868			5.5								625	13	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	3/19/1995	56.92497413			24.33333333								950	34	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	2/20/1995	47.51681611			11.5								733.3333333	17	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	1/22/1995	50.15906346			14.66666666								750	18.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	12/18/1994	49.34093039			12								735	19.33333333	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	11/19/1994	46.55301534			11.5								716.6666667	15.66666666	
5112	JAMES, LAKE	James-Hillsborough	LAKEWATCH_V	10/14/1994	49.13108567			17.66666666								763.3333333	15	
5113	JEWEL, LAKE	Little Jewel-Hillsborough	LAKEWATCH_V	10/20/1997	45.45804697			11.33333333								500	18.66666666	
5113	JEWEL, LAKE	Little Jewel-Hillsborough	LAKEWATCH_V	6/16/1997	41.5724543			7.5								520	13.33333333	
5113	JEWEL, LAKE	Little Jewel-Hillsborough	LAKEWATCH_V	4/6/1997	50.23274049			14								706.6666667	26	
5113	JEWEL, LAKE	Little Jewel-Hillsborough	LAKEWATCH_V	3/9/1997	54.73306891			26.33333333								683.3333333	26.66666666	
5113	JEWEL, LAKE	Little Jewel-Hillsborough	LAKEWATCH_V	2/10/1997	54.33433632			24.5								590	32	
5113	JEWEL, LAKE	Little Jewel-Hillsborough	LAKEWATCH_V	3/1/1995	13.637675			1								105	4.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/31/2004	48.2915432			6								845	27	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	12/30/2003	48.65643204			7								1046.666667	35.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/28/2003	55.21204774			19								840	39.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/31/2003	47.66965778			9								806.6666667	20	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/30/2003	46.71125527			7.66666666								760	28.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/31/2003	50.46483985			10.33333333								820	37.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/27/2003	47.4334443			10.66666666								660	23.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/14/2003	40.13000408			5.66666666								626.6666667	14	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/31/2003	29.6857512			1.5								456.6666667	13	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/30/2002	24.4384585			1.5								416.6666667	8.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/30/2002	30.65471727			2.5								346.6666667	10.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/31/2002	34.81381054			3.33333333								406.6666667	12.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/23/2002	34.97516103			3								463.3333333	13.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/31/2002	40.24244299			5.33333333								643.3333333	14.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/13/2002	30.65471727			2.5								570	10.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/30/2001	26.18981456			1.5								423.3333333	9.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/30/2001	31.39245749			2.5								346.6666667	11	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/19/2001	43.19160787			6.66666666								595	21.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/19/2001	35.96496254			3								706.6666667	14.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/31/2001	42.44509236			6.5								633.3333333	15.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/18/2001	44.17160394			7								825	17.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/28/2000	42.54815666			5.5								823.3333333	17.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/24/2000	48.62042359			11.5								853.3333333	18.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/28/2000	49.89121111			8.5								880	25	

5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/26/2000	39.91323686			4								746.6666667	17	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/21/2000	36.75192076			3								630	15.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	12/19/1999	42.19433971			5								755	18	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/31/1999	42.88057301			5.5								616.6666667	18	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/29/1999	29.22294678			1.5								600	12.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/31/1999	30.47396878			5								576.6666667	6.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/27/1999	33.3407337			5								605	8.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/16/1999	26.02806989			2								596.6666667	8	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/27/1999	33.2297035			3								556.6666667	11.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/31/1998	42.96229412			7.5								745	15	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/30/1998	40.05635459			6.33333333								570	13	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/30/1998	37.89985576			4								586.6666667	14.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/31/1998	53.96242456			18								736.6666667	22.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/25/1998	51.68329646			15.5								775	27.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/6/1998	47.82324931			10.5								660	26	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	12/31/1997	47.19676342			11								726.6666667	17	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/23/1997	44.98485591			10.5								713.3333333	14.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/31/1997	44.6250233			8.5								716.6666667	16	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/28/1997	44.14504813			6								605	19	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/24/1997	41.86878487			6								556.6666667	15.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/30/1997	41.74900384			5								556.6666667	17.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/18/1997	41.43092192			4								656.6666667	19.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/22/1997	42.54815666			5.5								556.6666667	17.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/28/1997	51.18579771			14.66666666								636.6666667	20	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/12/1997	51.00710132			16.5								750	18.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/24/1996	46.23296265			11								626.6666667	15.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/20/1996	36.5422189			6.5								483.3333333	9.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/31/1996	35.12174677			3								426.6666667	13.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/26/1996	26.60796921			2.5								485	7.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/9/1996	25.00133564			2								503.3333333	7.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/20/1996	22.85638821			1								435	9.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/24/1996	24.057424			1								336.6666667	10.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/30/1995	22.85638821			1								480	9.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/22/1995	33.45195201			3.5								426.6666667	10.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/27/1995	26.87314891			2.5								363.3333333	7.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/31/1995	25.26651534			2								336.6666667	7.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/5/1995	21.03741019			1								323.3333333	8	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/30/1995	18.58726569			1								426.6666667	6.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/31/1995	27.714513			1.5								430	11	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/27/1995	24.4384585			1.5								406.6666667	8.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/22/1995	19.53537627			1.5								335	5.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/20/1994	21.60668719			2								343.3333333	5.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/10/1994	25.26651534			2								460	7.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/29/1994	33.73190695			3								420	12	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/20/1994	34.77648362			4								496.6666667	11	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/31/1994	28.6611638			2								483.3333333	10	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/30/1994	31.18047426			3								490	9.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/26/1994	30.31035472			2								480	11.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/22/1994	29.78582392			2								573.3333333	11	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	12/12/1993	39.63071164			5.5								590	13.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/11/1993	31.74472245			2.5								836.6666667	11.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/21/1993	33.66244582			2.5								736.6666667	13.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/16/1993	31.96323353			4								440	8.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/11/1993	26.45989167			1								480	12.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/13/1993	29.78582392			2								466.6666667	11	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/24/1993	25.48948211			1								513.3333333	11.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	4/25/1993	25.14742918			1								460	11.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/28/1993	29.42271834			2								480	10.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/7/1993	35.12174677			3								540	13.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/10/1993	39.91323686			4								575	17	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	12/26/1992	30.31035472			2								536.6666667	11.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/22/1992	34.23816976			2.5								540	14	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/11/1992	37.04647195			4								466.6666667	13.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/14/1992	36.2849174			4								536.6666667	12.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	8/23/1992	34.6764109			3								566.6666667	13	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/13/1992	33.95877639			2								610	15.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	6/8/1992	32.34718508			2								620	13.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	5/11/1992	32.1358957			1.5								610	16	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	3/16/1992	32.90089127			2.5								560	12.5	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	2/23/1992	30.81255817			2								510	12	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	1/12/1992	32.90919606			2								593.3333333	14.33333333	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	12/9/1991	31.39245749			2.5								566.6666667	11	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	11/11/1991	31.58051258			3								536.6666667	10	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	10/14/1991	33.2297035			3								505	11.5	

5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	9/8/1991	34.36990015			3								590	12.66666666	
5110	JUANITA LAKE	Juanita-Hillsborough	LAKEWATCH_V	7/7/1991	32.90919606			2								590	14.33333333	
5110	JUANITA LAKE	STA-73	LEGACY_SWFWMD_WQ	2/14/2002				2.79		8.33							10	
5110	JUANITA LAKE	STA-73	LEGACY_SWFWMD_WQ	8/14/2001				9.335		6.97	26				30		10	
5110	JUANITA LAKE	Juanita Lake	SWFWMD_KenRomie_WQ	8/27/1998	23.89371422			7.42						6.9		390	3	
5110	JUANITA LAKE	Juanita Lake	SWFWMD_KenRomie_WQ	1/25/1996	29.30693242			2.6						7		710	9	
5110	JUANITA LAKE	Juanita Lake	SWFWMD_KenRomie_WQ	7/19/1995	25.5595268			1.3						7		610	10	
5110	JUANITA LAKE	02307366	USGS_NWIS	7/13/2000														
5110	JUANITA LAKE	02307366	USGS_NWIS	1/18/2000														
5110	JUANITA LAKE	02307366	USGS_NWIS	7/1/1999														
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_SUPP	5/30/2000	33.91781518			2.7						6.2		590	13	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_SUPP	8/21/1991	44.78951387			9.66666666						6.15		473.3333333	15	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_SUPP	2/20/1991	32.69039747			3.5						6.35		503.3333333	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/24/2004	44.18852602			8								693.3333333	16	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/7/2004	34.77648362			4								790	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/29/2003	43.81389138			8								870	15.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/27/2003	50.90811562			19.66666666								773.3333333	16.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/21/2003	50.63490502			21								740	15.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/19/2003	48.98876127			13.66666666								666.6666667	17.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/13/2003	38.72256665			6								650	12	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/21/2003	40.46146121			8								680	11.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/21/2003	35.65843548			3.66666666								776.6666667	12.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/12/2002	36.14905227			4.5								770	11.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/26/2002	34.98968553			4.33333333								835	10.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/23/2002	40.24337809			6.5								840	13	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/28/2002	46.99495534			12.66666666								830	15.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/27/2002	32.33910828			3.33333333								453.3333333	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/26/2002	28.08245872			2.33333333								460	8.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/10/2002	30.76639669			3								470	9.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/27/2002	31.58051258			3								560	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/25/2002	27.07264654			2.66666666								523.3333333	7.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/27/2002	30.05730356			3.5								700	8	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/17/2001	32.40856941			4								653.3333333	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/26/2001	40.2036406			8.5								690	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/30/2001	33.45195201			3.5								676.6666667	10.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/22/2001	49.54229129			16								716.6666667	16.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/16/2001	34.70143628			5.5								440	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/27/2001	40.77695549			7								553.3333333	13	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/18/2001	30.26779737			2.5								566.6666667	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/25/2001	36.74772182			4								676.6666667	13	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/30/2001	38.94447834			5								643.3333333	13.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/25/2001	34.22813099			4.33333333								693.3333333	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/19/2001	34.09982304			4.5								683.3333333	9.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/21/2000	34.65319619			5								670	9.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/18/2000	38.43738135			6.33333333								693.3333333	11.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/17/2000	40.49070354			7.33333333								586.6666667	12.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/1/2000	43.08674443			11								495	12	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/23/2000	41.07570562			7								456.6666667	13.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/18/2000	42.47763575			8.33333333								520	13.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/30/2000	34.50937549			3.5								605	11.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/5/2000	35.82854483			3								610	14.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/26/2000	29.78582392			2								486.6666667	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/13/2000	33.05743766			3								460	11.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/16/1999	30.33725849			3								510	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/16/1999	30.9752517			3								656.6666667	9.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/12/1999	32.62536316			5								406.6666667	8	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/16/1999	37.06935048			5.5								443.3333333	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/17/1999	44.39911362			9.5								480	14.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/13/1999	45.55106841			9.66666666								526.6666667	16	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/15/1999	50.32529846			12.66666666								670	20.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/13/1999	44.08336242			6.5								590	18	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/13/1999	41.53192974			6.5								560	14.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/16/1999	31.02935191			2.5								566.6666667	10.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/16/1999	30.31035472			2								600	11.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/12/1999	29.66278921			3								543.3333333	8.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/17/1998	29.66253649			2.5								606.6666667	9.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/17/1998	31.1052129			4.5								543.3333333	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/15/1998	38.80571729			7								560	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/15/1998	38.01600128			7.33333333								506.6666667	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/18/1998	35.94469036			5.5								506.6666667	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/16/1998	41.2755771			8								510	12.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/21/1998	38.79969126			5								615	13.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/21/1998	38.2364403			3.5								596.6666667	16	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/23/1998	37.95834229			3								566.6666667	25.5	

5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/6/1997	32.7051727			3								420	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/30/1996	30.9752517			3								565	9.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/31/1996	40.41332664			8.33333333								555	11.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/30/1996	30.05730356			3.5								425	8	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/31/1996	28.94445983			3.33333333								470	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/30/1996	35.25845707			5								530	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/12/1996	29.02454328			2.5								556.6666667	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/18/1996	33.26612141			3.5								600	10.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/23/1995	35.16509973			3.5								610	12.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/11/1995	30.84003319			4.5								460	7.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/3/1995	20.48202707			2								513.3333333	5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/29/1995	35.2614159			4.5								510	10.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/17/1995	36.5204143			5.5								606.6666667	10.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/15/1995	25.18455896			2.5								616.6666667	6.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/4/1995	27.37174824			3								586.6666667	7	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/30/1994	32.55004191			5.5								593.3333333	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/4/1994	29.44305916			4								380	7	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/8/1994	21.24358161			2								390	5.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/11/1994	21.75278073			1								373.3333333	8.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/6/1994	18.58726569			1								335	6.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/12/1994	16.61602749			1								380	5.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/19/1993	17.64276174			1								403.3333333	6	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/7/1993	24.45239946			2								360	7	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/10/1993	30.05730356			3.5								480	8	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/1/1993	31.50042912			4								470	8.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/31/1993	31.44714339			3.5								530	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/25/1993	35.32349138			3.5								540	12.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/28/1993	33.26612141			3.5								470	10.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/28/1993	32.15623651			3								470	10.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/28/1993	31.58051258			3								460	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/31/1992	29.66278921			3								420	8.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/31/1992	27.63470346			2.5								426.6666667	8	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/26/1992	30.76639669			3								443.3333333	9.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/31/1992	29.02454328			2.5								413.3333333	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/25/1992	32.40856941			4								460	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/2/1992	28.94741867			3								465	8	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/31/1992	28.18586412			3								483.3333333	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/26/1992	31.39245749			2.5								466.6666667	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/31/1992	32.41919174			2.5								530	12	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/29/1992	29.23688773			2								483.3333333	10.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/31/1992	26.74344043			2								506.6666667	8.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/27/1991	25.26651534			2								570	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/29/1991	25.26651534			2								483.3333333	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/29/1991	32.69039747			3.5								550	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	9/23/1991	35.75705639			6								505	9.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/21/1991	41.24675803			10.33333333								490	10.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/19/1991	37.28101885			7								496.6666667	9.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	7/21/1991	33.6518235			4								420	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	6/10/1991	30.7726741			3.5								445	8.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	5/22/1991	36.33161027			5.5								446.6666667	10.33333333	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	4/19/1991	29.78582392			2								525	11	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	3/19/1991	30.26779737			2.5								390	10	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	2/20/1991	31.44714339			3.5								486.6666667	9	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	1/11/1991	29.66278921			3								445	8.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	12/9/1990	26.97257383			2								463.3333333	8.66666666	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	11/4/1990	29.29574902			3.5								506.6666667	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	10/8/1990	31.86380861			5								500	7.5	
5066	KEYSTONE LAKE	Keystone-Hillsborough	LAKEWATCH_V	8/31/1990	32.59781876			7								433.3333333	6.5	
5066	KEYSTONE LAKE	STA-224	LEGACY_SWFWMD_WQ	1/30/2001				2.735		9.88	6				34		16	
5066	KEYSTONE LAKE	STA-224	LEGACY_SWFWMD_WQ	8/2/2000				3.845		7.59	10				35		14	
5066	KEYSTONE LAKE	24040059	LEGACYSTORET_21FLA	9/9/1996				1										
5066	KEYSTONE LAKE	Keystone Lake	SWFWMD_KenRomie_WQ	1/29/1998	40.32164615			5.49						4.7		500	19	
5066	KEYSTONE LAKE	Keystone Lake	SWFWMD_KenRomie_WQ	7/23/1997	28.76402227			3.64						6.7		420	7	
5066	KEYSTONE LAKE	Keystone Lake	SWFWMD_KenRomie_WQ	1/24/1995	24.79516422			1						5.7		1350	11	
5066	KEYSTONE LAKE	Keystone Lake	SWFWMD_KenRomie_WQ	7/28/1994	38.0031758			8.7						6.5		800	9	
5118	LITTLE MOON LAKE	5118	HCEPC_WQ_REPORTS	1/29/1997	10.50070767			0.5						6.7		510	5	
5118	LITTLE MOON LAKE	5118	HCEPC_WQ_REPORTS	7/19/1995	29.97387901			2.4						7.2		560	10	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	5/24/2000	45.24848721			5.5								860	22	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	1/19/1999	39.56097189			4								636.6666667	16.5	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	5/8/1994	11.83153919			1								403.3333333	3.66666666	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	4/10/1994	18.58726569			1								350	6.5	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	3/12/1994	14.47108006			0.5								355	7	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	2/7/1993	17.64276174			1								340	6	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	4/12/1992	23.6705041			1								470	10	

5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	3/14/1992	23.6705041			1								420	10	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	1/12/1992	21.03741019			1								400	8	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	10/20/1991	25.80770389			1								413.3333333	14.33333333	
5118	LITTLE MOON LAKE	Little Moon-Hillsborough	LAKEWATCH_V	9/8/1991	33.2297035			3								363.3333333	11.5	
5118	LITTLE MOON LAKE	STA-369	LEGACY_SWFWMD_WQ	2/14/2002				1.36		8.42							10	
5118	LITTLE MOON LAKE	STA-369	LEGACY_SWFWMD_WQ	8/14/2001				2.6005		6.54	172				198		9	
5118	LITTLE MOON LAKE	Little Moon Lake	SWFWMD_KenRomie_WQ	8/27/1998	39.53836176			9.06						7.5		500	10	
5118	LITTLE MOON LAKE	Little Moon Lake	SWFWMD_KenRomie_WQ	1/29/1997	22.42725001			1								510	9	
5118	LITTLE MOON LAKE	Little Moon Lake	SWFWMD_KenRomie_WQ	8/29/1996	34.54388435			2.8						6.8		460	17	
5118	LITTLE MOON LAKE	Little Moon Lake	SWFWMD_KenRomie_WQ	1/25/1996	22.42725001			1						6.9		960	9	
5118	LITTLE MOON LAKE	Little Moon Lake	SWFWMD_KenRomie_WQ	7/19/1995	29.97387901			2.4						7.2		560	10	
5059	MARTHA, LAKE	Martha-Hillsborough	LAKEWATCH_SUPP	12/2/1996										7.15		806.6666667	6	
5059	MARTHA, LAKE	Martha-Hillsborough	LAKEWATCH_V	1/25/1997	36.97456362			4.5								943.3333333	12.33333333	
5059	MARTHA, LAKE	Martha-Hillsborough	LAKEWATCH_V	1/12/1997	43.18916308			8.66666666								870	14	
5059	MARTHA, LAKE	Martha-Hillsborough	LAKEWATCH_V	11/11/1996	31.87628158			3.5								783.3333333	9.33333333	
5059	MARTHA, LAKE	Martha-Hillsborough	LAKEWATCH_V	10/10/1996	32.0851366			3.5								785	9.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/23/2000	31.44714339			3.5								443.3333333	9	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	1/29/1999	23.87667551			2								345	6.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	12/22/1998	28.48163313			3.5								413.3333333	7	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	10/7/1998	35.834181			5								406.6666667	10.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	8/30/1998												455	7.33333333	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	7/30/1998	25.26651534			2								766.6666667	7.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/28/1998	32.0851366			3.5								446.6666667	9.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	5/29/1998	30.9752517			3								466.6666667	9.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	4/17/1998	35.78629579			3.5								460	13	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	1/6/1998	39.48592455			5.5								570	13.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	12/2/1997	37.6958324			6								450	11	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	11/1/1997	36.26008248			7.5								493.3333333	8.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	9/25/1997	38.96645779			6.5								466.6666667	11.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	8/28/1997	35.834181			5								490	10.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	7/30/1997	37.80882261			5.66666666								406.6666667	11.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/26/1997	32.40856941			4								426.6666667	9	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	5/28/1997	26.02806989			2								410	8	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	4/30/1997	29.13050955			3								253.3333333	9	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	3/20/1997	32.69039747			3.5								456.6666667	10	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	2/26/1997	33.26612141			3.5								435	10.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	1/23/1997												455	12	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	9/18/1994	24.24005501			2.5								440	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	8/20/1994	21.80536459			1.5								340	6.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	7/19/1994	24.45239946			2								320	7	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/14/1994	20.48202707			2								310	5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	5/17/1994	21.50661447			1.5								283.3333333	6.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	4/22/1994	26.47680894			1.5								310	12	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	3/20/1994	18.58726569			1								380	6.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	2/28/1994	21.75278073			1								313.3333333	8.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	1/23/1994	20.56211052			1.5								340	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	12/22/1993												416.6666667	8.33333333	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	11/16/1993	25.34659879			1.5								345	9	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	10/28/1993	29.66278921			3								365	8.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	9/30/1993	24.45239946			2								566.6666667	7	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	8/29/1993	28.48163313			3.5								400	7	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	7/25/1993	23.21332076			2.5								360	5.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/29/1993	23.87667551			2								363.3333333	6.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	5/31/1993	21.60668719			2								345	5.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	4/5/1993	16.61602749			1								316.6666667	5.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	2/25/1993	19.46173976			1								253.3333333	7	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	12/21/1992	14.24811328			1								290	4.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	11/30/1992	18.41071615			1.5								343.3333333	5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	10/29/1992	22.63342144			2								343.3333333	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	9/30/1992	22.63342144			2								356.6666667	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	8/21/1992	21.24358161			2								293.3333333	5.33333333	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/30/1992	19.46173976			1								376.6666667	7	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	5/29/1992	18.88601581			1								356.6666667	6.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	4/30/1992	20.56211052			1.5								343.3333333	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	3/27/1992	16.96829244			1								375	5.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	2/14/1992	19.17227069			1.5								350	5.33333333	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	1/7/1992	17.64276174			1								320	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	12/9/1991	18.58726569			1								313.3333333	6.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	10/31/1991	26.87314891			2.5								343.3333333	7.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	9/27/1991	28.94741867			3								350	8	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	8/30/1991	21.60668719			2								366.6666667	5.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	7/16/1991	22.15812176			3								295	4.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	6/21/1991	34.97212232			4								346.6666667	14.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	5/24/1991	28.11640299			2.5								293.3333333	8.33333333	

5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	4/29/1991	20.56211052			1.5								335	6	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	3/19/1991	27.90590918			3.5								373.3333333	6.66666666	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	2/6/1991	13.90952391			2.5								293.3333333	2.5	
5057	MOUND LAKE	Mound-Hillsborough	LAKEWATCH_V	12/3/1990	19.23877298			2								290	4.5	
5057	MOUND LAKE	02307197	USGS_NWIS	1/18/2000														
5057	MOUND LAKE	02307197	USGS_NWIS	7/6/1999														
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	8/12/2001	39.67126954			4.5								606.6666667	15.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	6/30/2001	41.97377254			5								773.3333333	17.66666666	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	5/20/2001	46.756921			5.5								790	25	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	2/23/2001	44.31887285			5.5								730	20.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	5/14/2000	42.87404385			4.5								756.6666667	20.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	3/26/2000	48.25489586			7								793.3333333	24.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	2/27/2000	44.75030901			6								886.6666667	20	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	12/24/1999	45.38977295			5.5								890	30.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/29/1999	45.43699639			7.5								773.3333333	18.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	10/30/1999	49.9678706			11								803.3333333	21.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	9/18/1999	49.44221857			12								783.3333333	19.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	8/29/1999	42.06550714			7								763.3333333	14.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	7/25/1999	37.6958324			6								650	11	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	6/27/1999	44.83345965			7								773.3333333	18.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	5/23/1999	43.51856622			5.5								716.6666667	19	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	4/30/1999	48.82049633			9.5								686.6666667	21.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	3/21/1999	43.63263956			5								656.6666667	20.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	2/14/1999	43.3097112			5.5								785	18.66666666	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	1/9/1999	40.72917864			5.5								706.6666667	15	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	12/12/1998	48.27714745			12								793.3333333	17.66666666	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/14/1998	50.10434819			15								736.6666667	18	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	10/10/1998	54.272297			20								866.6666667	21.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	7/25/1998	45.25493303			7								653.3333333	19	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	1/31/1998	32.05581225			2								446.6666667	13.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	7/31/1997												406.6666667	12	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	6/20/1997	29.98450133			1.5								466.6666667	13.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/5/1995				2										
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	4/30/1995	31.59503708			4.33333333								422.5	8	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	3/26/1995	24.4384585			1.5								345	8.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	12/26/1994	32.59399509			3								342.5	13.75	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/20/1994	28.18586412			3								343.3333333	7.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	10/9/1994												347.5	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	9/11/1994	20.48202707			2								435	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	8/14/1994	25.34659879			1.5								393.3333333	9	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	7/4/1994	31.01872959			4								360	8	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	5/22/1994	27.44269982			6.25								350	4.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	4/17/1994	20.56211052			1.5								302.5	6	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	3/27/1994	16.88747547			0.5								275	9.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	2/27/1994	14.47108006			0.5								260	7	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	1/30/1994	15.49136737			1								310	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	1/2/1994	12.65210204			0.5								280	6	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/6/1993	15.49136737			1								305	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	10/2/1993	40.88498805			5.5								532.5	20	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	8/29/1993	24.45239946			2								333.3333333	7	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	7/25/1993	24.51126074			3.5								297.5	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	6/20/1993	16.61602749			1								316.6666667	5.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	5/31/1993	18.88601581			1								330	6.66666666	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	4/25/1993	15.49136737			1								273.3333333	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	3/28/1993	20.56211052			1.5								257.5	6	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	2/21/1993	16.80812009			1								165	5.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	1/31/1993	15.49136737			1								200	5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	12/27/1992	21.20010372			1.5								270	6.33333333	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/29/1992	21.04381005			1.5								265	6.25	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	11/1/1992	20.56211052			1.5								226.6666667	6	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	9/27/1992	26.02806989			2								297.5	8	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	8/31/1992	19.46173976			1								266.6666667	7	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	7/19/1992	20.56211052			1.5								290	6	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	6/28/1992	25.26651534			2								300	7.5	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	5/25/1992	19.46173976			1								302.5	7	
5107	RAINBOW LAKE	Rainbow-Hillsborough	LAKEWATCH_V	6/2/1991	24.67212951			1.5								295	8.5	
5107	RAINBOW LAKE	STA-425	LEGACY_SWFWMD_WQ	2/21/2002				7.65		8.11							10	
5107	RAINBOW LAKE	STA-425	LEGACY_SWFWMD_WQ	8/14/2001				5.465		6.63	26				38		3	
5107	RAINBOW LAKE	Rainbow Lake	SWFWMD_KenRomie_WQ	1/25/1996	22.42725001			1						7.4		2170	9	
5107	RAINBOW LAKE	Rainbow Lake	SWFWMD_KenRomie_WQ	7/25/1995	39.29775888			5.7						6.3		490	13	
5135	RALEIGH, LAKE	STA-281	LEGACY_SWFWMD_WQ	1/30/2001				6.79		10.31	0				0		21	
5135	RALEIGH, LAKE	STA-281	LEGACY_SWFWMD_WQ	8/2/2000				4.87		6.97	0				0		18	
5135	RALEIGH, LAKE	Lake Raleigh	SWFWMD_KenRomie_WQ	7/23/1997	20.64727069			2.95						4.3		210	4	
5135	RALEIGH, LAKE	Lake Raleigh	SWFWMD_KenRomie_WQ	1/24/1995	28.07911763			1.2						5.6		1150	13	

5135	RALEIGH, LAKE	Lake Raleigh	SWFWMD_KenRomie_WQ	7/28/1994	31.6499737			3.6						5.6		390	9	
5135	RALEIGH, LAKE	280623082350100	USGS_NWIS	1/18/2000														
5135	RALEIGH, LAKE	280623082350100	USGS_NWIS	7/1/1999														
5124	ROGERS LAKE	Rogers-Hillsborough	LAKEWATCH_V	7/25/1998	31.44714339			3.5								415	9	
5124	ROGERS LAKE	Rogers-Hillsborough	LAKEWATCH_V	6/27/1998												480	7.33333333	
5124	ROGERS LAKE	Rogers-Hillsborough	LAKEWATCH_V	5/16/1998	30.76639669			3								433.3333333	9.33333333	
5124	ROGERS LAKE	Rogers-Hillsborough	LAKEWATCH_V	4/11/1998	36.74744145			6.5								403.3333333	9.66666666	
5124	ROGERS LAKE	STA-410	LEGACY_SWFWMD_WQ	3/11/2002				3.91		8.19							10	
5124	ROGERS LAKE	STA-410	LEGACY_SWFWMD_WQ	8/16/2001				6.045		6.95							0	
5124	ROGERS LAKE	28063378235197	STORET_21FLTPA	10/11/2000						8.24	1			6.97	1			
5124	ROGERS LAKE	Rogers Lake	SWFWMD_KenRomie_WQ	7/13/1998				5.11						6.3		100	0	
5124	ROGERS LAKE	Rogers Lake	SWFWMD_KenRomie_WQ	1/31/1996	22.42725001			1						7.5		1740	9	
5124	ROGERS LAKE	Rogers Lake	SWFWMD_KenRomie_WQ	7/19/1995				1						4.9			11	
5124	ROGERS LAKE	280630082350900	USGS_NWIS	7/13/2000														
5124	ROGERS LAKE	280630082350900	USGS_NWIS	1/18/2000														
5124	ROGERS LAKE	280630082350900	USGS_NWIS	7/1/1999														
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_SUPP	2/19/1997										7.66666666		833.3333333	19.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_SUPP	4/13/1995	42.77070731			9.23333333						7.4		660	13	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_SUPP	7/16/1991	55.1209124			25.33333333						7.4		800	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_SUPP	3/19/1991	47.25811721			8.5						7.9		683.3333333	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/1/2005	59.82724448			26								895	29.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/1/2005	54.21805446			17.33333333								953.3333333	32	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/31/2004	54.7828105			11								1070	32.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/30/2004	59.71116245			24								930	30.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/1/2004	60.3513825			24.66666666								1010	31.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/1/2004	61.84392065			41								956.6666667	43.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/1/2004	52.22698399			17.66666666								755	19.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/2/2004	54.6466742			18								730	23.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/1/2004	48.51459329			11.5								733.3333333	18.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/1/2004	44.61693982			7								870	18	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/1/2004	48.77954268			10.5								1000	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/1/2004	49.35526662			10.5								750	21	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/1/2004	52.23641902			15.66666666								835	21	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/2/2004	52.95037011			13								896.6666667	25	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/30/2003	58.80964915			23								953.3333333	29	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/1/2003	61.18738929			32								970	29	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/31/2003	55.93303454			23.66666666								1030	22.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/1/2003	58.40383422			26								1036.666667	26	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/1/2003	59.40999673			25								950	29	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/1/2003	42.88221067			10								896.6666667	12.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/5/2003	45.34039384			8.5								880	17	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/2/2003	42.69711442			7.5								790	14.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/1/2003	41.55368274			8.5								846.6666667	12.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/31/2003	46.08114055			12								823.3333333	14.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/3/2003	46.85807889			8.5								996.6666667	19.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	1/31/2003	44.88538164			5.5								1116.666667	21.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	1/2/2003	42.38024795			4.5								1010	19.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/1/2002	47.96103061			9								1040	20.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/1/2002	47.95591266			13.5								896.6666667	16	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/30/2002	50.93986673			18.5								790	17	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/2/2002	56.13993798			30								903.3333333	19.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/1/2002	48.66280041			17.5								730	14.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/2/2002	47.53628859			10.5								600	18	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/3/2002	34.22754743			4								576.6666667	10.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/2/2002	39.83245154			7								540	12	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/1/2002	34.21360648			3								516.6666667	12.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/4/2002	42.12361496			9								496.6666667	12.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/1/2002	36.90764799			5								620	11.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	1/2/2002	37.14689621			6								846.6666667	10.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/3/2001	39.50003519			7								756.6666667	11.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/1/2001	43.07510821			10.5								803.3333333	12.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/1/2001	51.30652806			21.5								783.3333333	16	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/31/2001	49.82439327			17.5								755	16	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/1/2001	53.4189132			20								876.6666667	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/6/2001	42.18371739			8								596.6666667	13.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/1/2001	38.88431132			4.5								653.3333333	14.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/1/2001	41.51987043			5								630	17	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/2/2001	35.62452148			4.5								500	11	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/2/2001	46.44400132			8.5								703.3333333	18.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/1/2001	42.1748788			8.5								723.3333333	13	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/30/2000	36.97456362			4.5								676.6666667	12.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/30/2000	38.43631177			4								580	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/2/2000	39.44117391			4								746.6666667	16.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/2/2000	46.92262775			13								483.3333333	15	

5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/1/2000	47.17437709			16								570	13.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/1/2000	45.39698453			12.5								570	13.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/30/2000	47.70886265			14.5								590	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/2/2000	41.93196805			6.5								503.3333333	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/1/2000	40.72917864			5.5								686.6666667	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/1/2000	37.40985144			5								650	12	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/1/2000	47.25811721			8.5								790	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/1/2000	40.15575943			7								720	12.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/31/1999	53.59670001			20.5								906.6666667	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/1/1999	50.60864903			13								846.6666667	20.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/1/1999	47.42589683			11								723.3333333	17.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/1/1999	43.71322635			12								776.6666667	12	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/1/1999	50.68547265			12								800	21.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/4/1999	43.40679712			11.5								616.6666667	12	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/3/1999	51.1035111			14.5								850	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/1/1999	48.05894178			9.5								700	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/3/1999	45.39966945			9								715	16.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/1/1999	46.42158162			8								676.6666667	19.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/1/1999	44.25038866			8.5								830	15.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/1/1999	46.69633422			11.33333333								693.3333333	16	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/30/1998	47.78900224			15.5								790	14.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/1/1998	48.45155315			18								720	14	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/2/1998	49.27708693			21								826.6666667	13.66666666	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/1/1998	49.32915983			20.33333333								716.6666667	14	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/1/1998	49.06283872			17.5								745	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/4/1998	47.85886905			11.5								876.6666667	17.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/1/1998	52.39245286			25								960	16	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/1/1998	49.7770191			14.33333333								850	18	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/3/1998	44.78127214			7.5								625	17.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/2/1998	49.73613693			12.5								725	19.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/2/1998	46.97520748			10.66666666								800	17	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/1/1998	44.94024771			7								950	18.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	1/2/1998	46.73966354			10								783.3333333	17.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/1/1997	46.38024222			13.5								713.3333333	14	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/3/1997	46.64208926			14								730	14	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/1/1997	49.615683			17								860	16	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/1/1997	48.58086527			14								720	16.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/2/1997	46.92262775			13								695	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/1/1997	42.95990575			10.33333333								586.6666667	12.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/1/1997	52.25232923			18.5								676.6666667	19	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/1/1997	46.7943198			13.5								660	14.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/2/1997	48.4282535			10								676.6666667	20	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/3/1997	46.48327134			9.5								736.6666667	17.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/4/1997	48.71962633			10								770	20.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/16/1992	41.00446517			9.5								586.6666667	11	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	8/16/1992	46.10851186			13								590	14	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/1/1992	46.2402003			12.5								593.3333333	14.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/7/1992	39.48560945			8								336.6666667	13.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/3/1992	36.74772182			4								603.3333333	13	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/29/1992	35.80321787			4								683.3333333	12	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/1/1992	31.44714339			3.5								773.3333333	9	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/2/1992	30.7726741			3.5								906.6666667	8.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/29/1991	38.43631177			4								870	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	11/30/1991	47.02715852			12.5								825	15.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	10/27/1991	53.2402168			22.5								880	18.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	9/22/1991	56.94450965			34.5								980	19.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	7/16/1991	50.20205155			20.5								716.6666667	15	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	6/28/1991	51.95002677			17								750	19.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	5/19/1991	46.70969974			15								596.6666667	13.5	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	4/18/1991	39.76714332			8								570	11	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	3/19/1991	42.97570337			9.5								590	13	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	2/10/1991	47.82324534			12								590	17	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	1/13/1991	52.40561818			14.5								803.3333333	22.33333333	
5074	SUNSET LAKE	Sunset-Hillsborough	LAKEWATCH_V	12/2/1990	55.10658685			18.33333333								806.6666667	24.33333333	
5074	SUNSET LAKE	STA-213	LEGACY_SWFWMD_WQ	2/21/2002				6.7		9.9							10	
5074	SUNSET LAKE	STA-213	LEGACY_SWFWMD_WQ	8/8/2001						8.23	12				20		13	
5074	SUNSET LAKE	Sunset Lake	SWFWMD_KenRomie_WQ	8/27/1998	34.97276652			11.1						7.6		410	6	
5074	SUNSET LAKE	Sunset Lake	SWFWMD_KenRomie_WQ	1/25/1996	35.20690694			5.9						7.3		1840	9	
5074	SUNSET LAKE	Sunset Lake	SWFWMD_KenRomie_WQ	7/19/1995	47.06464963			10.8						8.3		960	17	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_SUPP	7/13/1998	44.38113486			6.2						6.8		610	19	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	1/30/2005	43.17463857			6								885	17.5	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	12/1/2004	51.80652735			12								953.3333333	33.66666666	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	11/5/2004	49.53260485			11.5								753.3333333	28.33333333	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	9/29/2004	47.63655811			9.66666666								730	25.5	

5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	8/29/2004	41.24230295			5.5								655	15.66666666	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	7/23/2004	40.32914033			5.5								656.6666667	14.5	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	6/27/2004	41.04780748			5								636.6666667	16.33333333	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	5/14/2004	40.76127472			4.5								713.3333333	17	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	3/17/2004	47.4136001			10.33333333								633.3333333	25.5	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	11/10/1998	45.60314035			10								570	20.33333333	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	9/15/1998	50.04301513			16.33333333								606.6666667	17	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	8/12/1998	41.16760546			5								520	16.5	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	7/10/1998	44.86833089			8.5								916.6666667	16.33333333	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	5/30/1998	44.14504813			6								575	19	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	4/23/1998	42.19338803			5.5								616.6666667	22.66666666	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	3/15/1998	47.5623221			8								703.3333333	35	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	2/9/1998	44.21721319			6								736.6666667	25.33333333	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	2/13/1994	41.23037484			8.5								495	12	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	12/24/1993	43.58110181			10.33333333								650	13	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	11/21/1993	41.64191542			9								530	12	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	10/10/1993	47.18197884			13								786.6666667	15.33333333	
5072	TAYLOR, LAKE	Taylor-Hillsborough	LAKEWATCH_V	9/11/1993	44.66429332			9.5								845	15	
5072	TAYLOR, LAKE	STA-267	LEGACY_SWFWMD_WQ	8/15/2002				5.985		7.64							10	
5072	TAYLOR, LAKE	STA-267	LEGACY_SWFWMD_WQ	1/27/2000				5.655		9.14							10	
5072	TAYLOR, LAKE	STA-267	LEGACY_SWFWMD_WQ	8/24/1999				7.44		6.91	0				90		18	
5072	TAYLOR, LAKE	Lake Taylor	SWFWMD_KenRomie_WQ	2/11/1997	36.18639872			3.7								520	13	
5072	TAYLOR, LAKE	Lake Taylor	SWFWMD_KenRomie_WQ	8/20/1996	35.94469036			5.5						6.6		930	10	
5072	TAYLOR, LAKE	02307331	USGS_NWIS	1/27/2000														
5072	TAYLOR, LAKE	02307331	USGS_NWIS	8/24/1999														
5037	WASTENA, LAKE	5037	HCEPC_WQ_REPORTS	7/21/1994							10				50			
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_SUPP	2/19/1997										7.05		890	23	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	5/10/2002	21.03741019			1								510	8	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	11/9/2001	43.9823546			4								873.3333333	24	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	6/30/2001	40.40900975			4.5								666.6666667	16.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	5/11/2001	37.84192594			3								673.3333333	17	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	3/3/2001	35.81384019			2.5								645	16	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	2/11/2001	36.36500085			3								680	15	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	11/12/2000	47.4536809			9.5								663.3333333	19	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	9/29/2000	49.23938825			11.66666666								773.3333333	19.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	8/19/2000	44.94024771			7								783.3333333	18.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	7/21/2000	46.6483154			7.5								840	20.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	6/11/2000	47.11299276			8								870	20.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	5/14/2000	37.84192594			3								730	17	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	4/8/2000	44.94535477			6								913.3333333	20.33333333	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	3/11/2000	46.97580742			6.5								880	23	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	2/4/2000	40.14237027			4								823.3333333	17.33333333	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	12/31/1999	40.72917864			5.5								833.3333333	15	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	11/21/1999	42.17164127			3.5								940	22.33333333	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	10/13/1999	49.34575248			13.5								836.6666667	18	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	4/21/1999	41.11609855			5.5								593.3333333	15.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	3/22/1999	41.22569935			4								740	19	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	2/20/1999	46.6281483			10.5								775	16.66666666	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	1/21/1999	35.32349138			3.5								645	12.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	12/30/1998	43.86279524			6.5								815	17.66666666	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	11/18/1998	44.18852602			8								776.6666667	16	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	6/7/1998	41.66678834			6.5								873.3333333	14.66666666	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	4/14/1998	57.88022137			21								1065	28.33333333	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	3/13/1998	56.10355241			20								1023.333333	35.66666666	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	2/14/1998	58.6378413			24.5								943.3333333	27.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	1/9/1998	59.46346955			29.5								863.3333333	26.33333333	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	12/17/1997	51.06430624			9								813.3333333	26.66666666	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	11/4/1997	42.85246536			7								716.6666667	15.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	9/1/1997	46.03989103			11.5								846.6666667	15	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	7/7/1997	49.82073465			13.66666666								716.6666667	24.33333333	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	6/24/1997	52.06763339			11.5								786.6666667	25	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	5/5/1997	45.90167374			8								760	18.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	4/8/1997	53.84732699			17.5								860	22.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	3/7/1997	51.0613474			10								840	25	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	2/7/1997	59.20283693			26.5								910	27.5	
5037	WASTENA, LAKE	Wastena-Hillsborough	LAKEWATCH_V	6/1/1991	32.90089127			2.5								500	12.5	
5037	WASTENA, LAKE	STA-575	LEGACY_SWFWMD_WQ	2/20/2002				1.43		9.54							10	
5037	WASTENA, LAKE	STA-575	LEGACY_SWFWMD_WQ	8/8/2001				19.85		8.47	42				250		11	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	11/25/1996	32.69039747			3.5								493.3333333	10	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	10/27/1996	33.6518235			4								400	10	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	7/25/1996	32.31040762			4.33333333								416.6666667	8.5	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	12/19/1992	20.27585564			1								266.6666667	7.5	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	10/21/1992	25.26651534			2								280	7.5	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	7/23/1992	24.45239946			2								320	7	

5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	6/25/1992	28.6611638			2								335	10	
5047	WOOD, LAKE	Wood-Hillsborough	LAKEWATCH_V	5/15/1992	18.88601581			1								333.3333333	6.66666666	
5047	WOOD, LAKE	STA-574	LEGACY_SWFWMD_WQ	2/20/2002				4.07		9.08							10	
5047	WOOD, LAKE	STA-574	LEGACY_SWFWMD_WQ	8/14/2001				2.745		6.76	6				8		0	
5047	WOOD, LAKE	Lake Wood	SWFWMD_KenRomie_WQ	8/27/1998	23.08728313			4.14						7.1		260	4	
5047	WOOD, LAKE	Lake Wood	SWFWMD_KenRomie_WQ	1/25/1996	29.02454328			2.5						6.9		1440	9	
5047	WOOD, LAKE	Lake Wood	SWFWMD_KenRomie_WQ	7/19/1995	23.6705041			1						6.7		690	10	

Sampling Stations and Number of Sampling Events per Station in the Brooker Creek

Count of count	
STATIONID	Total
02307197	2
02307227	2
02307328	3
02307331	2
02307366	3
02307388	17
159	4
24040016	2
24040017	2
24040018	2
24040019	11
24040059	1
280623082350100	2
280630082350900	3
28063378235197	1
330	44
5037	1
5118	2
5137	1
Alice-Hillsborough	51
Buck-Hillsborough	8
Calm Lake	2
Calm-Hillsborough	113
Church Lake	4
Church-Hillsborough	52
Crescent Lake	3
Crescent-Hillsborough	87
Dead Lady-Hillsborough	168
Echo-Hillsborough	1
Elizabeth-Hillsborough	50
Garden-Hillsborough	81
Gibson-Hillsborough	2
Horse Lake	3
Horse-Hillsborough	1
Island Ford Lake	4
Island Ford-Hillsborough	24
Jackson-Hillsborough	4
James-Hillsborough	89
Juanita Lake	3
Juanita-Hillsborough	100
Keystone Lake	4
Keystone-Hillsborough	122
Lake Alice	3
Lake Jackson	3
Lake Raleigh	3
Lake Taylor	2
Lake Wood	3
Little Jewel-Hillsborough	6

Little Moon Lake	5
Little Moon-Hillsborough	11
Martha-Hillsborough	5
Mound-Hillsborough	62
Rainbow Lake	2
Rainbow-Hillsborough	60
Rogers Lake	3
Rogers-Hillsborough	4
STA-103	2
STA-213	2
STA-224	2
STA-229	2
STA-267	3
STA-281	2
STA-33	2
STA-369	2
STA-410	2
STA-422	2
STA-425	2
STA-460	3
STA-477	2
STA-574	2
STA-575	2
STA-73	2
STA-876	2
Sunset Lake	3
Sunset-Hillsborough	122
Taylor-Hillsborough	23
Wastena-Hillsborough	40
Wood-Hillsborough	8
(blank)	
Grand Total	1485

CHAPTER 62-302 SURFACE WATER QUALITY STANDARDS

62-302.200 Definitions.

(1) "Acute Toxicity" shall mean the presence of one or more substances or characteristics or components of substances in amounts which:

(a) Are greater than one-third (1/3) of the amount lethal to 50% of the test organisms in 96 hours (96 hr LC_{50}) where the 96 hr LC_{50} is the lowest value which has been determined for a species significant to the indigenous aquatic community; or

(b) May reasonably be expected, based upon evaluation by generally accepted scientific methods, to produce effects equal to those of the concentration of the substance specified in paragraph (a) above.

(2) "Annual Average Flow" is the long-term harmonic mean flow of the receiving water, or an equivalent flow based on generally accepted scientific procedures in waters for which such a mean cannot be calculated. For waters for which flow records have been kept for at least the last three years, "long-term" shall mean the period of record. For all other waters, "long-term" shall mean three years (unless the Department finds the data from that period not representative of present flow conditions, based on evidence of land use or other changes affecting the flow) or the period of records sufficient to show a variation of flow of at least three orders of magnitude, whichever period is less. For nontidal portions of rivers and streams, the harmonic mean (Q_{hm}) shall be calculated as

$$Q_{hm} = \frac{n}{\frac{1}{Q_1} + \frac{1}{Q_2} + \frac{1}{Q_3} + \frac{1}{Q_4} + \ldots + \frac{1}{Q_n}}$$

in which each Q is an individual flow record and n is the total number of records. In lakes and reservoirs, the annual average flow shall be based on the hydraulic residence time, which shall be calculated according to generally accepted scientific procedures, using the harmonic mean flows for the inflow sources. In tidal estuaries and coastal systems or tidal portions of rivers and streams, the annual average flow shall be determined using methods described in EPA publication no. 600/6-85/002b pages 142-227, incorporated by reference in paragraph 62-4.246(9)(k), F.A.C., or by other generally accepted scientific procedures, using the harmonic mean flow for any freshwater inflow. If there are insufficient data to determine the harmonic mean then the harmonic mean shall be estimated by methods as set forth in the EPA publication *Technical Support Document for Water Quality-Based Toxics Control* (March 1991), incorporated by reference in paragraph 62-4.246(9)(d), F.A.C., or other generally accepted scientific procedures. In situations with seasonably variable effluent discharge rates, hold-and-release treatment systems, and effluent-dominated sites, annual average flow shall mean modeling techniques that calculate long-term average daily concentrations from long-term individual daily flows and concentrations in accordance with generally accepted scientific procedures.

(3) "Background" shall mean the condition of waters in the absence of the activity or discharge under consideration, based on the best scientific information available to the Department.

(4) "Chronic Toxicity" shall mean the presence of one or more substances or characteristics or components of substances in amounts which:

(a) Are greater than one-twentieth (1/20) of the amount lethal to 50% of the test organisms in 96 hrs (96 hr LC_{50} where the 96 hr LC_{50} is the lowest value which has been determined for a species significant to the indigenous aquatic community; or

(b) May reasonably be expected, based upon evaluation by generally accepted scientific methods, to produce effects equal to those of the concentration of the substance specified in paragraph (a) above.

(5) "Commission" shall mean the Environmental Regulation Commission.

(6) "Compensation Point for Photosynthetic Activity" shall mean the depth at which one percent of the light intensity at the surface remains unabsorbed. The light intensities at the surface and subsurface shall be measured simultaneously by irradiance meters such as the Kahlsico Underwater Irradiameter, Model No. 268 WA 310 or other devices having a comparable spectral response.

(7) “Department” shall mean the Department of Environmental Protection.

(8) “Designated Use” shall mean the present and future most beneficial use of a body of water as designated by the Environmental Regulation Commission by means of the Classification system contained in this Chapter.

(9) “Dissolved Metal” shall mean the metal fraction that passes through a 0.45 micron filter.

(10) “Effluent Limitation” shall mean any restriction established by the Department on quantities, rates or concentrations of chemical, physical, biological or other constituents which are discharged from sources into waters of the State.

(11) “Exceptional Ecological Significance” shall mean that a water body is a part of an ecosystem of unusual value. The exceptional significance may be in unusual species, productivity, diversity, ecological relationships, ambient water quality, scientific or educational interest, or in other aspects of the ecosystem’s setting or processes.

(12) “Exceptional Recreational Significance” shall mean unusual value as a resource for outdoor recreation activities. Outdoor recreation activities include, but are not limited to, fishing, boating, canoeing, water skiing, swimming, scuba diving, or nature observation. The exceptional significance may be in the intensity of present recreational usage, in an unusual quality of recreational experience, or in the potential for unusual future recreational use or experience.

(13) “Existing Uses” shall mean any actual beneficial use of the water body on or after November 28, 1975.

(14) “Man-induced conditions which cannot be controlled or abated” shall mean conditions that have been influenced by human activities, and

(a) Would remain after removal of all point sources,

(b) Would remain after imposition of best management practices for non-point sources, and

(c) Cannot be restored or abated by physical alteration of the water body, or there is no reasonable relationship between the economic, social and environmental costs and the benefits of restoration or physical alteration.

(15) “Natural Background” shall mean the condition of waters in the absence of man-induced alterations based on the best scientific information available to the Department. The establishment of natural background for an altered waterbody may be based upon a similar unaltered waterbody or on historical pre-alteration data.

(16) “Nuisance Species” shall mean species of flora or fauna whose noxious characteristics or presence in sufficient number, biomass, or areal extent may reasonably be expected to prevent, or unreasonably interfere with, a designated use of those waters.

(17) “Nursery Area of Indigenous Aquatic Life” shall mean any bed of the following aquatic plants, either in monoculture or mixed: *Halodule wrightii*, *Halophila* spp., *Potamogeton* spp. (pondweed), *Ruppia maritima* (widgeon-grass), *Sagittaria* spp. (arrowhead), *Syringodium filiforme* (manatee-grass), *Thalassia testudinum* (turtle grass), or *Vallisneria* spp. (eel-grass), or any area used by the early-life stages, larvae and post-larvae, of aquatic life during the period of rapid growth and development into the juvenile states.

(18) “Outstanding Florida Waters” shall mean waters designated by the Environmental Regulation Commission as worthy of special protection because of their natural attributes.

(19) “Outstanding National Resources Waters” shall mean waters designated by the Environmental Regulation Commission that are of such exceptional recreational or ecological significance that water quality should be maintained and protected under all circumstances, other than temporary lowering and the lowering allowed under Section 316 of the Federal Clean Water Act.

(20) “Pollution” shall mean the presence in the outdoor atmosphere or waters of the state of any substances, contaminants, noise, or man-made or man-induced alteration of the chemical, physical, biological or radiological integrity of air or water in quantities or levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property, including outdoor recreation.

(21) “Predominantly Fresh Waters” shall mean surface waters in which the chloride concentration at the surface is less than 1,500 milligrams per liter.

(22) “Predominantly Marine Waters” shall mean surface waters in which the chloride concentration at the surface is greater than or equal to 1,500 milligrams per liter.

(23) “Propagation” shall mean reproduction sufficient to maintain the species’ role in its respective ecological community.

(24) “Secretary” shall mean the Secretary of the Department of Environmental Protection.

(25) “Shannon-Weaver Diversity Index” shall mean: negative summation (from i = 1 to s) of $(n_i/N) \log_2 (n_i/N)$ where s is the number of species in a sample, N is the total number of individuals in a sample, and ni is the total number of individuals in species i.

(26) “Special Waters” shall mean water bodies designated in accordance with Rule 62-302.700, F.A.C., by the Environmental Regulation Commission for inclusion in the Special Waters Category of Outstanding Florida Waters, as contained in Rule 62-302.700, F.A.C. A Special Water may include all or part of any water body.

(27) “Surface Water” means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth’s surface.

(28) “Total Recoverable Metal” shall mean the concentration of metal in an unfiltered sample following treatment with hot dilute mineral acid.

(29) “Water quality criteria” shall mean elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports the present and future most beneficial uses.

(30) "Water quality standards" shall mean standards composed of designated present and future most beneficial uses (classification of waters), the numerical and narrative criteria applied to the specific water uses or classification, the Florida antidegradation policy, and the moderating provisions contained in this rule and in Chapter 62-4, F.A.C., adopted pursuant to Chapter 403, F.S.

(31) "Waters" shall be as defined in Section 403.031(13), Florida Statutes.

(32) "Zone of Mixing" or "Mixing Zone" shall mean a volume of surface water containing the point or area of discharge and within which an opportunity for the mixture of wastes with receiving surface waters has been afforded.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 403.021, 403.031, 403.061, 403.085, 403.086, 403.087, 403.088, 403.502, 403.802 FS. History–New 5-29-90, Amended 2-13-92, Formerly 17-302.200, Amended 1-23-95, 5-15-02.

62-302.300 Findings, Intent, and Antidegradation Policy for Surface Water Quality.

(1) Article II, Section 7 of the Florida Constitution requires abatement of water pollution and conservation and protection of Florida's natural resources and scenic beauty.

(2) Congress, in Section 101(a)(2) of the Federal Water Pollution Control Act, as amended, declares that achievement by July 1, 1983, of water quality sufficient for the protection and propogation of fish, shellfish, and wildlife, as well as for recreation in and on the water, is an interim goal to be sought whenever attainable. Congress further states in Section 101(a)(3), that it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited.

(3) The present and future most beneficial uses of all waters of the State have been designated by the Department by means of the classification system set forth in this Chapter pursuant to Section 403.061(10), F.S. Water quality standards are established by the Department to protect these designated uses.

(4) Because activities outside the State sometimes cause pollution of Florida's waters, the Department will make every reasonable effort to have such pollution abated.

(5) Water quality standards apply equally to and shall be uniformly enforced in both the public and private sector.

(6) Public interest shall not be construed to mean only those activities conducted solely to provide facilities or benefits to the general public. Private activities conducted for private purposes may also be in the public interest.

(7) The Commission, recognizing the complexity of water quality management and the necessity to temper regulatory actions with the technological progress and the social and economic well-being of people, urges, however, that there be no compromise where discharges of pollutants constitute a valid hazard to human health.

(8) The Commission requests that the Secretary seek and use the best environmental information available when making decisions on the effects of chronically and acutely toxic substances and carcinogenic, mutagenic, and teratogenic substances. Additionally, the Secretary is requested to seek and encourage innovative research and developments in waste treatment alternatives that might better preserve environmental quality or at the same time reduce the energy and dollar costs of operation.

(9) The criteria set forth in this Chapter are minimum levels which are necessary to protect the designated uses of a water body. It is the intent of this Commission that permit applicants should not be penalized due to a low detection limit associated with any specific criteria.

(10)(a) The Department's rules that were adopted on March 1, 1979, regarding water quality standards are designed to protect the public health or welfare and to enhance the quality of waters of the State. They have been established taking into consideration the use and value of waters of the State for public water supplies, propogation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes, and also taking into consideration their use and value for navigation.

(b) Under the approach taken in the formulation of the rules adopted in this proceeding:

1. The Department's rules that were adopted on March 1, 1979, regarding water quality standards are based upon the best scientific knowledge related to the protection of the various designated uses of waters of the State; and

2. The mixing zone, zone of discharge, site specific alternative criteria, exemption, and equitable allocation provisions are designed to provide an opportunity for the future consideration of factors relating to localized situations which could not adequately be addressed in this proceeding, including economic and social consequences, attainability, irretrievable conditions, natural background, and detectability.

(c) This is an even-handed and balanced approach to attainment of water quality objectives. The Commission has specifically recognized that the social, economic and environmental costs may, under certain special circumstances, outweigh the social, economic and environmental benefits if the numerical criteria are enforced statewide. It is for that reason that the Commission has provided for mixing zones, zones of discharge, site specific alternative criteria, exemptions and other provisions in Chapters 62-302, 62-4, and 62-6, F.A.C. Furthermore, the continued availability of the moderating provisions is a vital factor providing a basis for the Commission's determination that water quality standards applicable to water classes in the rule are attainable taking into consideration environmental, technological, social, economic and institutional factors. The companion provisions of Chapters 62-4 and 62-6, F.A.C., approved simultaneously with these Water Quality Standards are incorporated herein by reference as a substantive part of the State's comprehensive program for the control, abatement and prevention of water pollution.

(d) Without the moderating provisions described in subparagraph (b)2. above, the Commission would not have adopted the revisions described in (b)1. above nor determined that they are attainable as generally applicable water quality standards.

(11) Section 403.021, Florida Statutes, declares that the public policy of the State is to conserve the waters of the State to protect, maintain, and improve the quality thereof for public water supplies, for the propagation of wildlife, fish and other aquatic life, and for domestic, agricultural, industrial, recreational, and other beneficial uses. It also prohibits the discharge of wastes into Florida waters without treatment necessary to protect those beneficial uses of the waters.

(12) The Department shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources, and all cost-effective and reasonable best management practices for nonpoint source control. For the purposes of this rule, highest statutory and regulatory requirements for new and existing point sources are those which can be achieved through imposition of effluent limits required under Sections 301(b) and 306 of the Federal Clean Water Act (as amended in 1987) and Chapter 403, F.S. For the purposes of this rule, cost-effective and reasonable best management practices for nonpoint source control are those nonpoint source controls authorized under Chapters 373 and 403, F.S., and Department rules.

(13) The Department finds that excessive nutrients (total nitrogen and total phosphorus) constitute one of the most severe water quality problems facing the State. It shall be the Department's policy to limit the introduction of man-induced nutrients into waters of the State. Particular consideration shall be given to the protection from further nutrient enrichment of waters which are presently high in nutrient concentrations or sensitive to further nutrient concentrations and sensitive to further nutrient loadings. Also, particular consideration shall be given to the protection from nutrient enrichment of those waters presently containing very low nutrient concentrations: less than 0.3 milligrams per liter total nitrogen or less than 0.04 milligrams per liter total phosphorus.

(14) Existing uses and the level of water quality necessary to protect the existing uses shall be fully maintained and protected. Such uses may be different or more extensive than the designated use.

(15) Pollution which causes or contributes to new violations of water quality standards or to continuation of existing violations is harmful to the waters of this State and shall not be allowed. Waters having water quality below the criteria established for them shall be protected and enhanced. However, the Department shall not strive to abate natural conditions.

(16) If the Department finds that a new or existing discharge will reduce the quality of the receiving waters below the classification established for them or violate any Department rule or standard, it shall refuse to permit the discharge.

(17) If the Department finds that a proposed new discharge or expansion of an existing discharge will not reduce the quality of the receiving waters below the classification established for them, it shall permit the discharge if such degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest, and if all other Department requirements are met. Projects permitted under Part IV of Chapter 373, F.S., shall be considered in compliance with this subsection if those projects comply with the requirements of subsection 373.414(1), F.S.; also projects permitted under the grandfather provisions of Sections 373.414(11) through (16), F.S., or permitted under Section 373.4145, F.S., shall be considered in compliance with this subsection if those projects comply with the requirements of subsection 62-312.080(2), F.A.C.

(18)(a) Except as provided in subparagraphs (b) and (c) of this paragraph, an applicant for either a general or generic permit or renewal of an existing permit for which no expansion of the discharge is proposed is not required to show that any degradation from the discharge is necessary or desirable under federal standards and under circumstances which are clearly in the public interest.

(b) If the Department determines that the applicant has caused degradation of water quality over and above that allowed through previous permits issued to the applicant, then the applicant shall demonstrate that this lowering of water quality is necessary or desirable under federal standards and under circumstances which are clearly in the public interest. These circumstances are limited to cases where it has been demonstrated that degradation of water quality is occurring due to the discharge.

(c) If the new or expanded discharge was initially permitted by the Department on or after October 4, 1989, and the Department determines that an antidegradation analysis was not conducted, then the applicant seeking renewal of the existing permit shall demonstrate that degradation from the discharge is necessary or desirable under federal standards and under circumstances which are clearly in the public interest.

Specific Authority 403.061, 403.062, 403.087, 403.088, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 373.414, 403.021, 403.061, 403.085, 403.086, 403.087, 403.088, 403.101, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708, 403.802 FS. History–Formerly 17-3.041, Amended 1-28-90, Formerly 17-3.042, 17-302.300, Amended 12-19-94, 1-23-95, 12-26-96, 5-15-02.

62-302.400 Classification of Surface Waters, Usage, Reclassification, Classified Waters.

(1) All surface waters of the State have been classified according to designated uses as follows:

CLASS I	Potable Water Supplies
CLASS II	Shellfish Propagation or Harvesting
CLASS III	Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife
CLASS IV	Agricultural Water Supplies
CLASS V	Navigation, Utility and Industrial Use

(2) Classification of a water body according to a particular designated use or uses does not preclude use of the water for other purposes.

(3) The specific water quality criteria corresponding to each surface water classification are listed in Rules 62-302.500 and 62-302.530, F.A.C.

(4) Water quality classifications are arranged in order of the degree of protection required, with Class I water having generally the most stringent water quality criteria and Class V the least. However, Class I, II, and III surface waters share water quality criteria established to protect recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.

(5) Criteria applicable to a classification are designed to maintain the minimum conditions necessary to assure the suitability of water for the designated use of the classification. In addition, applicable criteria are generally adequate to maintain minimum conditions required for the designated uses of less stringently regulated classifications. Therefore, unless clearly inconsistent with the criteria applicable, the designated uses of less stringently regulated classifications shall be deemed to be included within the designated uses of more stringently regulated classifications.

(6) Any person regulated by the Department or having a substantial interest in this chapter may seek reclassification of waters of the State by filing a petition with the Secretary in the form required by Rule 62-103.040, F.A.C.

(7) A petition for reclassification shall reference and be accompanied by the information necessary to support the affirmative finding required in this section to support the proposed reclassification.

(8) All reclassifications of waters of the State shall be adopted, after public notice and public hearing, only upon an affirmative finding by the Environmental Regulation Commission that:

(a) The proposed reclassification will establish the present and future most beneficial use of the waters; and

(b) Such a reclassification is clearly in the public interest.

(9) Reclassification of waters of the State which establishes more stringent criteria than presently established by this chapter shall be adopted, only upon additional affirmative finding by the Environmental Regulation Commission that the proposed designated use is attainable, upon consideration of environmental, technological, social, economic, and institutional factors.

(10) The surface waters of the State of Florida are classified as Class III – Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife, except for certain waters which are described in this subsection 62-302.400(12), F.A.C. A water body may be designated as an Outstanding Florida Water or an Outstanding National Resource Water in addition to being classified as Class I, Class II, or Class III. A water body may also have special standards applied to it. Outstanding Florida Waters and Outstanding National Resource Waters are listed in Rule 62-302.700, F.A.C.

(11) Unless otherwise specified, the following shall apply:

(a) The landward extent of a classification shall coincide with the landward extent of waters of the state, as defined in Rule 62-301.400, F.A.C.

(b) Water quality classifications shall be interpreted to include associated water bodies such as tidal creeks, coves, bays and bayous.

(12) Exceptions to Class III:

(a) All secondary and tertiary canals wholly within agricultural areas are classified as Class IV and are not individually listed as exceptions to Class III. “Secondary and tertiary canals” shall mean any wholly artificial canal or ditch which is behind a control structure and which is part of a water control system that is connected to the works (set forth in Section 373.086, F.S.) of a water management district created under Section 373.069, F.S., and that is permitted by such water management district pursuant to Section 373.103, 373.413, or 373.416, F.S. Agricultural areas shall generally include lands actively used solely for the production of food and fiber which are zoned for agricultural use where county zoning is in effect. Agricultural areas exclude lands which are platted and subdivided or in a transition phase to residential use;

(b) The following listed water bodies are classified as Class I, Class II, or Class V:

1. Alachua County – none.

2. Baker County – none.

3. Bay County

Class I

Bayou George and Creek – Impoundment to source.
Bear Creek – Impoundment to source.
Big Cedar Creek – Impoundment to source.
Deer Point Impoundment – Dam to source.
Econfina Creek – Upstream of Deer Point Impoundment.

Class II

East Bay and Tributaries – East of U.S. Highway 98 to, but excluding Wetappo Creek.
North Bay and Tributaries – North of U.S. Highway 98 to Deer Point Dam excluding Alligator Bayou and Fanning Bayous north of an east-west line through Channel Marker 3.
West Bay and Tributaries – West of North Bay (line from West Bay Point on the north to Shell Point on the South) except West Bay Creek (northwest of Channel Marker 27C off Goose Point), Crooked Creek (north of a line from Crooked Creek Point to Doyle Point), and Burnt Mill Creek (north of a line from Graze Point to Cedar Point).

4. Bradford County – none.

5. Brevard County

Class I

St. Johns River and Tributaries – Lake Washington Dam south through and including Sawgrass Lake, Lake Hellen Blazes, to Indian River County Line.

Class II Goat Creek.

Indian River – South from a line due east of Barnes Blvd. (SR 502) to South Section Line of Section 29, T26S, R37E, Palm Shores.

Indian River – From a line from Cape Malabar northeastward through Intracoastal Waterway marker 16, to shore, then southward to S. Brevard County Line.

Indian River – N. Brevard County Line south to Florida East Coast Railroad Crossing (vicinity of Jay Jay).

Kid Creek.

Mosquito Lagoon – North Brevard County Line south to Beach Road.

Trout Creek.

Indian River – The east side of the Intracoastal Waterway from SR 405 northward, to a line from the southern point of land at the mouth of Brock Creek to Intracoastal Waterway Channel Marker 33.

Indian River – From SR 405 south to SR 528.

6. Broward County – none.

7. Calhoun County

Class I

Bear Creek.

Econfina Creek.

8. Charlotte County

Class I

Alligator Creek – North and South Prongs from headwaters to the water control structure downstream of SR 765-A.

Port Charlotte Canal System – Surface waters lying upstream of, or directly connected to, Fordham Waterway upstream of Conway Boulevard.

Prairie Creek – DeSoto County Line and headwaters to Shell Creek.

Shell Creek – Headwaters to Hendrickson Dam (east of Myrtle Slough, in Section 20, T40S, R24E).

Class II

Lemon Bay, Placida Harbor, and Tributaries – N. Charlotte County Line south to Gasparilla Sound and bounded on the east by SR 775.

Charlotte Harbor, Myakka River, and Gasparilla South – Waters except Peace River upstream from the northeastern point of Myakka Cutoff to the boat ramp in Ponce de Leon Park in south Punta Gorda, Catfish Creek north of N. Lat. 26º50'56", and Whidden Creek north of N. Lat. 26º 51'15".

9. Citrus County

Class II Coastal Waters – From the southern side of the Cross Florida Barge Canal southward to the Hernando County line, with the exception of Crystal River (from the southern shore at the mouth of Cedar Creek to Shell Point to the westernmost tip of Fort Island), Salt River (portion generally east and southward along the eastern edge of the islands bordering the Salt River and Dixie Bay to St. Martins River), and St. Martins River from its mouth to Greenleaf Bay.

10. Clay County – none.

11. Collier County

Class II

Cocohatchee River.

Connecting Waterways – From Wiggins Pass south to Outer Doctors Bay.

Dollar Bay.

Inner and Outer Clam Bay.

Inner and Outer Doctors Bay.

Little Hickory Bay.

Tidal Bays and Passes – Naples Bay and south and easterly through Rookery Bay and the Ten Thousand Islands to the Monroe County Line.

Wiggins Pass.

12. Columbia County – none.

13. Dade County – none.

14. DeSoto County

Class I

Horse Creek – From the northern border of Section 14, T38S, R23E, southward to Peace River.

Prairie Creek – Headwaters to Charlotte County Line.

15. Dixie County

Class II

Coastal Waters – From an east-west line through Stuart Point southward to the County line, excluding the mouth of the Suwannee River and its passes.

16. Duval County

Class II

Ft. George River and Simpson Creeks – Ft. George Inlet north to Nassau Sound.
Intracoastal Waterway and Tributaries – Confluence of Nassau and Amelia Rivers south to Flashing Marker 73 thence eastward along Ft. George River to Ft. George Inlet and includes Garden Creek.
Nassau River and Creek – From the mouth of Nassau Sound, (a line connecting the northeasternmost point of Little Talbot Island to the southeasternmost tip of Amelia Island westerly to a north-south line through Seymore Point.
Pumpkinhill Creek.

17. Escambia County

Class II

Escambia Bay – Louisville and Nashville Railroad Trestle south to Pensacola Bay (Line from Emanuel Point east northeasterly to Garcon Point).
Pensacola Bay – East of a line connecting Emanuel Point on the north to the south end of the Pensacola Bay Bridge (U.S. Highway 98).
Santa Rosa Sound – East of a line connecting Gulf Breeze approach to Pensacola Beach (Bascule Bridge), and Sharp Point with exception of the Navarre Beach area from a north-south line through Channel Marker 106 to Navarre Bridge.

18. Flagler County

Class II

Matanzas River (Intracoastal Waterway) – N. Flagler County Line south to an east-west line through Fl. Marker 109.
Pellicer Creek.

19. Franklin County

Class II

Alligator Harbor – East from a line from Peninsula Point north to St. James Island to mean high water.
Apalachicola Bay – with exception of an area encompassed within a 2-mile radius from Apalachicola entrance of John Gorrie Memorial Bridge.
East Bay and Tributaries – with the exception of area encompassed within 2-mile radius from Apalachicola entrance of John Gorrie Memorial Bridge.
Gulf of Mexico – North of a line from Peninsula Point on Alligator Point to the southeastern tip of Dog Island and bounded on the east by Alligator Harbor and west by St. George Sound.
Ochlockonee Bay – From the confluence of Sopchoppy and Ochlockonee Rivers eastward to a line through the two flashing beacons marking the end of the main channel and south channel, to the shoreline south of Bald Point north to the county line.
St. George Sound – Gulf of Mexico westerly to Apalachicola Bay.
St. Vincent Sound – Apalachicola Bay to Indian Pass.

20. Gadsden County

Class I

Holman Branch – SR 270-A to source.
Mosquito Creek – U.S. Highway 90 north to Florida State Line.
Quincy Creek – SR 65 to source.

21. Gilchrist County – none.

22. Glades County

Class I

Lake Okeechobee.

23. Gulf County

Class II

Indian Lagoon – West of Indian Pass and St. Vincent Sound.
St. Joseph Bay – South of a line from St. Joseph Point due east, excluding an area that is both within an arc 2.9 miles from the center of the mouth of Gulf County Canal and east of a line from St. Joseph Point to the northwest corner of section 13, T8S, R11W.

24. Hamilton County – none.

25. Hardee County – none.

26. Hendry County

Class I

Lake Okeechobee.

27. Hernando County – none.

28. Highlands County – none.

29. Hillsborough County

Class I

Cow House Creek – Hillsborough River to source.
Hillsborough River – City of Tampa Water Treatment Plant Dam to Flint Creek.

Class II

Old Tampa Bay – Waters within Hillsborough County between SR 60 (Courtney Campbell Parkway), and Interstate 275 (Howard Frankland Bridge), to the line of mean high water.

Old Tampa Bay and Mobbly Bay – Beginning at the intersection of the north shore of SR 60 (Courtney Campbell Parkway) and Longitude 82º35'45" west, thence due north to the line of mean high water, thence westward along the line of mean high water, (except Rocky and Double Branch Creeks which are included only to SR 580), and up Channel A to a line connecting the lines of mean high water on the outer sides of the canal banks, to the county line, thence southerly along the county line to SR 60, thence along the north shore of SR 60 to the point of beginning.

Tampa Bay – Beginning at Gadsden Point, thence along a line connecting Gadsden Point and the intersection of Gadsden Point Cut and Cut "A" to a point one-half nautical mile inside said intersection, thence westward along a line one-half nautical mile inside and parallel to Gadsden Point Cut, Cut "G", Cut "J", Cut "J2", and Cut "K", to the line of mean high water, thence along the line of mean high water to the point of beginning.

Tampa Bay – Beginning at the intersection of the Hillsborough County Line and the line of mean high water, thence to the rear range marker of Cut "D", thence northerly along the line of Cut "D" range to a point one-half nautical mile inside the southern boundary of Cut "C", thence along a line one-half mile inside and parallel to Cut "C", Cut "D", and Cut "E" to a point with Latitude 27º45'40" north and Longitude 82º30'40" west, thence to a point Latitude 27º47' north and Longitude 82º27' west, thence on a true bearing of 140º to the line of mean high water, thence along the line of mean high water southward to the western tip of Mangrove Point, thence to the northwestern tip of Tropical Island, thence eastward along the line of mean high water to the eastern tip of Goat Island, thence due south to the line of mean high water, thence generally southward along the line of mean high water to the point of beginning.

Tampa Bay – Hillsborough County portion west of the Sunshine Skyway (excluding Tampa Harbor Channel) up to the line of mean high water.

30. Holmes County – none.

31. Indian River County

Class I

St. Johns River and Tributaries – Brevard County Line south through and including Blue Cypress Lake to SR 60.

Class II Indian River – Indian River County Line south to SR 510 east of the Intracoastal Waterway channel centerline.

Indian River – SR 510 south to an east-west line from the north side of the North Relief Canal.

Indian River – From an east-west line through the northernmost point of Round Island south to county line and east of Intracoastal Waterway centerline.

32. Jackson County

Class I

Econfina Creek – Bay County to source.

33. Jefferson County

Class II

Coastal Waters – Within the county, excluding the mouth of Aucilla River.

34. Lafayette County – none.

35. Lake County – none.

36. Lee County

Class I

Caloosahatchee River – E. Lee County Line to South Florida Water Management District Structure 79.

Class II

Charlotte Harbor.

Matanzas Pass, Hurricane Bay, and Hell Peckish (Peckney) Bay – From San Carlos Bay to a line from Estero Island through the southernmost tip of the unnamed island south of Julies Island, northeastward to the southernmost point of land in section 27, T46S, R24E.

Matlacha Pass – Charlotte Harbor to San Carlos Bay.

Pine Island Sound – Charlotte Harbor to San Carlos Bay.

San Carlos Bay – From a line from point Ybel to Bodwitch Point northward to a line from the eastern point at the mouth of Punta Blanca Creek, southeast through the southern point of Big Shell Island to the mainland and westward to Pine Island Sound.

37. Leon County – none.

38. Levy County

Class II

Coastal Waters and Tidal Creeks – Within the county excluding:

a. The mouth of the Suwannee River, and its passes;

b. Alligator Pass to a line connecting the seawardmost points of the islands connecting Alligator Pass with the Gulf;

c. Cedar Key area – from SR 24 bridge at the northernmost point of Rye Key, southwestward to the northernmost point of Gomez Key, then southward to the westernmost point of Seahorse Key, then along the southern shoreline of Seahorse Key to its easternmost point, then northeastward to the southernmost point of Atsena Otie Key, then northward along the eastern shoreline of Atsena Otie Key to its northeasternmost point, then northward to the southernmost point of Dog Island, northwestward to the westernmost point of Scale Key, northwestward to the boundary marker piling, then northward to the point of beginning;

d. The mouth of the Withlacoochee River.

39. Liberty County – none.

40. Madison County – none.

41. Manatee County

Class I

Manatee River – From Rye Bridge Road to the sources thereof, including but not limited to the following tributaries: the East Fork of the Manatee River, the North Fork of the Manatee River, Boggy Creek, Gilley Creek, Poley Branch, Corbit Branch, Little Deep Branch, Fisher Branch, Ft. Crawford Creek, Webb Branch, Clearwater Branch, Craig Branch, and Guthrey Branch.

Lake Evers (Ward Lake) and Braden River – City of Bradenton Water Treatment Dam to SR 675, excluding upland cut irrigation or drainage ditches and including the following tributaries:

Tributary	Upstream Limit(s)
a. Rattlesnake Slough	Lockwood Ridge Road in Section 28, Township 35 South, Range 18 East.
b. Cedar Creek	
West Branch	Whitfield Avenue in Section 27, Township 35 South, Range 18 East.
Central Branch	Country Club Way in Section 34, Township 35 South, Range 18 East.
East Branch	To a point where an east-west line lying 1200 feet south of the section line between Sections 23 and 26 (Township 35 South, Range 18 East) crosses the tributary.
c. Cooper Creek	
West Branch (Foley Branch)	South Boundary of Section 1, Township 36 South, Range 18 East.
East Branch	East Boundary of Section 31, Township 35 South, Range 19 East.
d. Nonsense Creek	To a point where an east-west line lying 800 feet North of the section line between Sections 14 and 23 (Township 35 South, Range 18 East) crosses the creek.
e. Hickory Hamock	To a point where an east-west line lying 1000 feet South of the section line between Sections 17 and 20 (Township 35 South, Range 19 East) crosses the creek.
f. Wolf Slough	East Boundary of Section 16, Township 35 South, Range 19 East.
g. Unnamed Tributary 1	To a point where an east-west line lying 2300 feet south of the section line between Sections 21 and 28 (Township 35 South, Range 19 East) crosses the tributary.
h. Unnamed Tributary 2	East Boundary of Section 14, Township 35 South, Range 19 East.
i. Unnamed Tributary 3	West Boundary of Section 25, Township 35 South, Range 19 East.
j. Unnamed Tributary 4	To a point where a north-south line lying 200 feet East of the section line between Sections 23 and 24 (Township 35 South, Range 19 East) crosses the tributary.

Class II

Gulf and Coastal Waters of Tampa Bay – (Including, but not limited to Terra Ceia Bay, Perico Bayou, Palma Sola Bay, and Sarasota Bay), excluding waters northward of a line from the southern shore of the mouth of Little Redfish Creek northwesterly through the red marker (approximately one nautical mile away) to the county line; Manatee River upstream of a line from Emerson Pt. to Mead Pt.

Gulf Waters – North of 27º31' N. Lat.

42. Marion County – none.
43. Martin County

Class I

Lake Okeechobee.

Class II

Great Pocket – St. Lucie River to Peck's Lake.
Indian River – N. Martin County Line south to the mouth of St. Lucie Inlet, east of the Intracoastal Waterway Channel centerline.
Loxahatchee River – West of the Florida East Coast Railroad Bridge including Southwest, Northwest, and North Forks.

44. Monroe County

Class II

Monroe County Coastline – From Collier and Dade County Lines southward to and including that part of Florida Bay within Everglades National Park.

45. Nassau County

Class II

Alligator Creek.
Nassau River and Creek – From the mouth of Nassau Sound (a line connecting the northeasternmost point of Little Talbot Island to the southeasternmost point of Amelia Island) westerly to Seymore Point.
South Amelia River – Nassau River north to a line from the northern shore of the mouth of Alligator Creek to the northernmost shore of Harrison Creek.
Waters between South Amelia River and Alligator Creek.

46. Okaloosa County

Class II

Choctahatchee Bay and Tributaries – From a line from White Point southwesterly through Fl. Light Marker 2 of the Intracoastal Waterway, eastward to the county line, including East Pass.
Rocky Bayou – Choctahatchee Bay (from a line extending due east from Shirk Point) to Rocky Creek.
Santa Rosa Sound – From a north-south line through Manatee Point west to the Santa Rose County Line.

47. Okeechobee County

Class I

Lake Okeechobee.

48. Orange County – none.
49. Osceola County – none.
50. Palm Beach County

Class I

Canal C-18 (freshwater portion).
City of West Palm Beach Water Catchment Area.
Clear Lake, Lake Mangonia, and the waterway connecting them.
Lake Okeechobee.
M-Canal – L-8 to Lake Mangonia.

Class II

Canal C-18 – Salinity barrier to Loxahatchee River.
Loxahatchee River – Upstream of Florida East Coast railroad bridge including Southwest, Northwest, and North Forks.

51. Pasco County – none.
52. Pinellas County

Class II

Old Tampa Bay, Mobbly Bay and Tampa Bay – South and westward to Sunshine Skyway (SR 55), except Safety Harbor north of an east-west line through Phillipi Point.
Tampa Bay and Gulf waters – West of Sunshine Skyway (SR 55), excluding waters north of SR 682 and waters that are both west of Pinellas Bayway and north of an east-west line through the southernmost point of Pine Key.

53. Polk County – none.
54. Putnam County – none.
55. St. Johns County

Class II

Guano River and Tributaries – From Guano Lake Dam south to Tolomato River.
Matanzas River, Intracoastal Waterway and Tributaries, excluding Treasure Beach Canal System – From Intracoastal Waterway Marker number 29, south to Flagler County Line.
Pellicer Creek.
Salt Run – Waters south of an east-west line connecting Lighthouse Park boat ramp with Conch Island.
Tolomato River (North River) and Tributaries – From a line connecting Spanish Landing to Booth Landing, south to an east-west line through Intracoastal Waterway Marker number 55.

56. St. Lucie County

Class II

Indian River – From Middle Point south to S. St. Lucie County Line, east of Intracoastal Waterway Channel centerline.
Indian River – N. St. Lucie County Line south to an east-west line through the southern point of Fishhouse Cove.

57. Santa Rosa County

Class II

Blackwater Bay – From a line connecting Robinson's Point to Broad River south to East Bay (line due west from Escribano Point).
East Bay and Tributaries – Blackwater Bay (line due west from Escribano Point) southerly to Pensacola Bay (line from Garcon Point on the north to Redfish Point on the south).
Escambia Bay – Louisville and Nashville Railroad Trestle south to Pensacola Bay (Line from Emanuel Point east northeasterly to Garcon Point).
Pensacola Bay – East of a line connecting Emanuel Point on the north to the south end of the Pensacola Bay Bridge (U.S. Highway 98).
Santa Rosa Sound – From a line connecting Gulf Breeze approach to Pensacola Beach, (Bascule Bridge), and Sharp Point, east to Santa Rosa/Okaloosa County line with exception of the Navarre Beach area from a north-south line through Channel Marker 106 eastward to Navarre Beach Toll Road.

58. Sarasota County

Class I

Big Slough Canal – South to U.S. 41.
Cooper Creek (Foley Branch) upstream to the South boundary of Section 1, Township 36 South, Range 18 East.
Myakka River – From the Manatee County line southwesterly through Upper and Lower Myakka Lakes to Manhattan Farms (north line of Section 6 T39S, R20E).

Class II

Lemon Bay – From a line eastward from the northern shore of the mouth of Forked Creek south to Charlotte County Line.
Myakka River – From the western line of section 35, T39S, R20E south to Charlotte County Line.
Sarasota Bay – West of the Intracoastal Waterway Channel centerline.

59. Seminole County – none.

60. Sumter County – none.

61. Suwannee County – none.

62. Taylor County

Class V

Fenholloway River. Repealed effective December 31, 1997.

63. Union County – none.

64. Volusia County

Class II

Indian River North, Indian River Lagoon, and Mosquito Lagoon from an east-west line through Intracoastal Waterway Channel Marker 57 south to S. Volusia County Line.
Indian River – North of County Line.

65. Wakulla County

Class II

Coastal Waters and Tributaries – From Jefferson County Line westward with the exception of Spring Creek and the portion of King Bay (Dickerson Bay) west and north of a line from the westernmost tip of Porter Island south to Hungry Point, and Walker Creek north of a line from Live Oak Point southwest across the Creek to the closest tip of Shell Point.

66. Walton County

Class II

Choctawhatchee Bay and Tributaries – Except waters north of a line from Alaqua Point to Wheeler Point.

67. Washington County

Class I

Econfina Creek.

Specific Authority 403.061, 403.062, 403.087, 403.088, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.504, 403.702, 403.708 FS. History–Formerly 28-5.06, 17-3.06, Amended and Renumbered 3-1-79, Amended 1-1-83, 2-1-83, Formerly 17-3.081, Amended 4-25-93, Formerly 17-302.400, Amended 12-26-96, 8-24-00.

62-302.500 Surface Waters: Minimum Criteria, General Criteria.

(1) Minimum Criteria. All surface waters of the State shall at all places and at all times be free from:

(a) Domestic, industrial, agricultural, or other man-induced non-thermal components of discharges which, alone or in combination with other substances or in combination with other components of discharges (whether thermal or non-thermal):

1. Settle to form putrescent deposits or otherwise create a nuisance; or
2. Float as debris, scum, oil, or other matter in such amounts as to form nuisances; or
3. Produce color, odor, taste, turbidity, or other conditions in such degree as to create a nuisance; or
4. Are acutely toxic; or
5. Are present in concentrations which are carcinogenic, mutagenic, or teratogenic to human beings or to significant, locally occurring, wildlife or aquatic species, unless specific standards are established for such components in subsection 62-302.500(2) or Rule 62-302.530, F.A.C.; or
6. Pose a serious danger to the public health, safety, or welfare.

(b) Thermal components of discharges which, alone, or in combination with other discharges or components of discharges (whether thermal or non-thermal):
1. Produce conditions so as to create a nuisance; or
2. Do not comply with applicable provisions of subsection 62-302.500(3), F.A.C.

(c) Silver in concentrations above 2.3 micrograms/liter in predominently marine waters.

(2) General Criteria.

(a) The criteria of surface water quality provided in subsection 62-302.500(2) and Rule 62-302.530, F.A.C., shall apply to all surface waters outside zones of mixing except:
1. Where inconsistent with the limitations of Section 403.061(7), F.S.; or
2. Where relief from such criteria has been granted pursuant to other applicable rules of the Department.

(b) The Department may establish a Technical Advisory Committee on request or on its own initiative, to review and advise the Department about the sufficiency and validity of data or methodologies and the need for revision of numerical surface water quality criteria established in this rule chapter. The committee shall be appointed by the Secretary and consist of professionals knowledgeable about the specific criteria to be reviewed. The committee shall be chaired by a representative of the Department and shall meet at the call of the chair. Any findings, conclusions, or recommendations of the commmittee shall be conveyed to the Secretary and to the chair of the Commission but shall not bind the Department.

(c) Effluent limits may be established for pollutants for which analytical detection limits are higher than the established water quality criteria based upon computation of concentrations in the receiving waters. Effluent limits will be established on site-specific conditions in the context of a Department permit. Monitoring reports and permit applications shall specify the detection limits and indicate non-detectable results in such cases. Unless otherwise specified, such non-detectable results shall be accepted as demonstrating compliance for that pollutant as long as specified effluent limits are met.

(d) Criteria for metals in Rule 62-302.530 and paragraph 62-302.500(1)(c), F.A.C., are measured as total recoverable metal. However, cadmium, chromium, copper, lead, nickel, silver, and zinc may be applied as dissolved metals when, as part of a permit application, a dissolved metals translator has been established according to the procedures described in the document, “Guidance for Establishing a Metals Translator”, Florida Department of Environmental Protection, December 17, 2001.

(e) A violation of any surface water quality criterion as set forth in this chaper constitutes pollution. For certain pollutants, numeric criteria have been established to protect human health from an unacceptable risk of additional cancer caused by the consumption of water or aquatic organisms. These numeric criteria are based on annual average flow conditions. However, this allowable annual average does not relieve any activity from complying with subsection 62-302.500(1), Rule 62-302.530, F.A.C., or any other provision of water quality standards.

(f) Notwithstanding the specific numerical criteria applicable to individual classes of water, dissolved oxygen levels that are attributable to natural background conditions or man-induced conditions which cannot be controlled or abated may be established as alternative dissolved oxygen criteria for a water body or portion of a water body. Alternative dissolved oxygen criteria may be established by the Secretary or a Director of District Management in conjunction with the issuance of a permit or other Department action only after public notice and opportunity for public hearing. The determination of alternative criteria shall be based on consideration of the factors described in subparagraphs 62-302.800(1)(a)1.-4., F.A.C. Alternative criteria shall not result in a lowering of dissolved oxygen levels in the water body, water body segment or any adjacent waters, and shall not violate the minimum criteria specified in subsection 62-302.500(1), F.A.C. Daily and seasonal fluctuations in dissolved oxygen levels shall be maintained.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History–Formerly 28-5.02, 17-3.02, Amended 10-28-78, Amended and Renumbered 3-1-79, Amended 1-1-83, 10-4-89, Formerly 17-3.051, Amended 4-25-93, Formerly 17-302.500, Amended 1-15-96, 12-26-96, 5-15-02.

62-302.520 Thermal Surface Water Criteria.

All discharges or proposed discharges of heated water into receiving bodies of water (RBW) which are controlled by the State shall be subjected to a thorough study to assess the consequences of the discharge upon the environment. The State shall be divided into two general climatological zones: Peninsular Florida, which varies from tropical in nature to temperate but is modified by the peninsular configuration and is the area south of latitude 30º N (excluding Gulf and Franklin Counties): and Northern Florida which is temperate and continental and is the area above latitude 30º N plus the portions of Gulf and Franklin Counties which lie below 30º N.

(1) Heated water discharges existing on July 1, 1972:

(a) Shall not increase the temperature of the RBW so as to cause substantial damage or harm to the aquatic life or vegetation therein or interfere with beneficial uses assigned to the RBW,

(b) Shall be monitored by the discharger to ensure compliance with this rule, and

(c) If the Department, pursuant to notice and opportunity for hearing, finds by a preponderance of the evidence that a discharge has caused substantial damage, it may require conversion of such discharge to offstream cooling or approved alternate methods. In making determinations regarding such conversions, the Department may consider:

1. The nature and extent of the existing damage;

2. The projected lifetime of the existing discharge;

3. Any adverse economic and environmental (including non-water quality) impacts which would result from such conversion; and

4. Such other factors as may be appropriate.

(2) Heated water sources proposed for future discharges into RBW controlled by the State shall not increase the water temperature by more than the monthly temperature limits prescribed for the particular type and location of the RBW. New sources shall include all expansions, modifications, alterations, replacements, or repairs which result in an increased output of ten percent (10%) or more of the level of energy production which existed on the date this rule became effective. Water temperatures shall be measured by procedures approved by the Florida Department of Environmental Protection (DEP). In all cases where a temperature rise above ambient is allowed and a maximum RBW temperature is also prescribed, the lower of the two limitations shall be the control temperature.

(3) Definitions.

(a) Ambient (natural) temperature of a RBW shall mean the existing temperature of the receiving water at a location which is unaffected by man-made thermal discharges and a location which is also of a depth and exposure to winds and currents which typify the most environmentally stable portions of the RBW.

(b) Coastal waters shall be all waters in the State which are not classified as fresh waters or as open waters.

(c) A cooling pond is a body of water enclosed by natural or constructed restraints which has been approved by the Florida DEP for purposes of controlling heat dissipation from thermal discharges.

(d) An existing heat source is any thermal discharge (a) which is presently taking place, or (b) which is under construction or for which a construction or operation permit has been issued prior to the effective date of this rule.

(e) Fresh waters shall be all waters of the State which are contained in lakes and ponds, or are in flowing streams above the zone in which tidal actions influence the salinity of the water and where the concentration of chloride ions is normally less than 1500 milligrams per liter.

(f) Open water shall be all waters in the State extending seaward from the most seaward 18-foot depth contour line (three-fathom bottom depth contour) which is offshore from any island; exposed or submerged bar or reef; or mouth of any embayment or estuary which is narrowed by headlands. Contour lines shall be determined from Coast and Geodetic Survey Charts.

(g) The point of discharge (POD) for a heated water discharge shall be primarily that point at which the effluent physically leaves its carrying conduit (open or closed), and discharges into the waters of the state, or, in the event it is not practicable to measure temperature at the end of the discharge conduit, a specific point designated by the Florida DEP for that particular thermal discharge.

(h) Heated water discharges are the effluents from commercial or industrial activities or processes in which water is used for the purpose of transporting waste heat, and which constitute heat sources of one million British Thermal Units per hour (1,000,000 BTU/HR.), or greater.

(i) Blowdown shall mean the minimum discharge of recirculating cooling water for the purpose of discharging materials contained in the water, the further buildup of which could cause concentrations in amounts exceeding limits established by best engineering practice.

(j) Recirculating cooling water shall mean water which is used for the purpose of removing waste heat and then passed through a cooling system for the purpose of removing such heat from the water and then, except for blowdown, is used again to remove waste heat.

(4) Monthly and Maximum Temperature Limits.

(a) Fresh Waters – Heated water with a temperature at the POD more than 5º F higher than the ambient (natural) temperature of any stream shall not be discharged into such stream. At all times under all conditions of stream flow the discharge temperature shall be controlled so that at least two-thirds (2/3) of the width of the stream's surface remains at ambient (natural) temperature. Further, no more than one-fourth (1/4) of the cross-section of the stream at a traverse perpendicular to the flow shall be heated by the discharge. Heated water with a temperature at the POD more than 3º F higher than the ambient (natural) temperature of any lake or reservoir shall not be discharged into such lake or reservoir. Further, no heated water with a temperature above 90º F shall be discharged into any fresh waters in Northern Florida regardless of the ambient temperature of the RBW. In Peninsular Florida, heated waters above 92º F shall not be discharged into fresh waters.

(b) Coastal Waters – Heated water with a temperature at the POD more than 2º F higher than the ambient (natural) temperature of the RBW shall not be discharged into coastal waters in any zone during the months of June, July, August, and September. During the remainder of the year, heated water with a temperature at the POD more than 4º F higher than the ambient (natural) temperature of the RBW shall not be discharged into coastal waters in any zone. In addition, during June, July, August, and September, no heated water with a temperature above 92º F shall be discharged into coastal waters. Further, no heated water with a temperature above 90º F shall be discharged into coastal waters during the period October thru May.

(c) Open Waters – Heated water with a temperature at the POD up to 17º F above ambient (natural) temperature of the RBW may be discharged from an open or closed conduit into open waters under the following restraints: The surface temperature of the RBW shall not be raised to more than 97º F and the POD must be sufficient distance offshore to ensure that the adjacent coastal waters are not heated beyond the temperatures permitted in such waters.

(d) Cooling Ponds – The temperature for heated water discharged from a cooling pond shall be measured at the POD from the pond, and the temperature limitation shall be that specified for the RBW.

(5) General.

(a) Daily and seasonal temperature variations that were normal to the RBW before the addition of heat from other than natural causes shall be maintained.

(b) Recapitulation of temperature limitations prescribed above:

			COASTAL		
ZONE	STREAMS	LAKES	SUMMER	REMAINDER	OPEN
NORTH.	90º F Max.	90º F Max.	92º F Max.	90º F Max.	97º F Max.
	AM + 5º F	AM + 3º F	AM + 2º F	AM + 4º F	AM + 17º F
PENIN.	92º F Max.	92º F Max.	92º F Max.	90º F Max.	97º F Max.
	AM + 5º F	AM + 3º F	AM + 2º F	AM + 4º F	AM + 17º F

(6) Upon application on a case-by-case basis, the Department may establish a zone of mixing beyond the POD to afford a reasonable opportunity for dilution and mixture of heated water discharges with the RBW, in the following manner:

(a) Zones of mixing for thermal discharges from non-recirculated cooling water systems and process water systems of new sources shall be allowed if supported by a demonstration, as provided in Section 316(a), Public Law 92-500 and regulations promulgated thereunder, including 40 C.F.R. Part 122, by an applicant that the proposed mixing zone will assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the body of water into which the discharge is to be made and such demonstration has not been rebutted. It is the intent of the Commission that to the extent practicable, proceedings under this provision should be conducted jointly with proceedings before the federal government under Section 316(a), Public Law 92-500.

(b) Zones of mixing for blowdown discharges from recirculated cooling water systems, and for discharges from non-recirculated cooling water systems of existing sources, shall be established on the basis of the physical and biological characteristics of the RBW.

(c) When a zone of mixing is established pursuant to this subsection 62-302.520(6), F.A.C., any otherwise applicable temperature limitations contained in Rule 62-302.520, F.A.C., shall be met at its boundary; however, the Department may also establish maximum numerical temperature limits to be measured at the POD and to be used in lieu of the general temperature limits in Rule 62-302.520, F.A.C., to determine compliance by the discharge with the established mixing zone and the temperature limits in Rule 62-302.520, F.A.C.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History–Formerly 28-5.02, 17-3.02, Amended 10-28-70, Amended and Renumbered 3-1-79, Formerly 17-3.05, 17-3.050, 17-302.520.

62-302.530 Table: Surface Water Quality Criteria.

The following table contains both numeric and narrative surface water quality criteria to be applied except within zones of mixing. The left-hand column of the Table is a list of constituents for which a surface water criterion exists. The headings for the water quality classifications are found at the top of the Table. Applicable criteria lie within the Table. The individual criteria should be read in conjunction with other provisions in water quality standards, including Rule 62-302.500, F.A.C. The criteria contained in Rule 62-302.500, F.A.C., also apply to all waters unless alternative or more stringent criteria are specified in Rule 62-302.530, F.A.C. Unless otherwise stated, all criteria express the maximum not to be exceeded at any time. In some cases, there are separate or additional limits, which apply independently of the maximum not to be exceeded at any time. For example, annual average (denoted as “annual avg.” in the Table) means the maximum concentration at average annual flow conditions (see subsection 62-302.200(2), F.A.C.).

62-302.530, Criteria for Surface Water Quality Classifications

Parameter	Units	Class I: Potable Water Supply	Class II: Shellfish Propagation or Harvesting	Class III: Recreation, Propagation and Maintenance of a Healthy, Well-Balanced Population of Fish and Wildlife		Class IV: Agricultural Water Supplies	Class V: Navigation, Utility, and Industrial Use
				Predominantly Fresh Waters	Predominantly Marine Waters		
(1) Alkalinity	Milligrams/L as $CaCO_3$	Shall not be depressed below 20		Shall not be depressed below 20		≤ 600	
(2) Aluminum	Milligrams/L		≤ 1.5		≤ 1.5		
(3) Ammonia (un-ionized)	Milligrams/L as NH_3	≤ 0.02		≤ 0.02			
(4) Antimony	Micrograms/L	≤ 14.0	≤ 4,300	≤ 4,300	≤ 4,300		
(5) (a) Arsenic (total)	Micrograms/L	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
(5) (b) Arsenic (trivalent)	Micrograms/L measured as total recoverable Arsenic		≤ 36		≤ 36		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(6) Bacteriological Quality (Fecal Coliform Bacteria)	Number per 100 ml (Most Probable Number (MPN) or Membrane Filter (MF))	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 5 samples taken over a 30 day period.	MPN shall not exceed a median value of 14 with not more than 10% of the samples exceeding 43, nor exceed 800 on any one day.	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period.	MPN or MF counts shall not exceed a monthly average of 200, nor exceed 400 in 10% of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period.		
(7) Bacteriological Quality (Total Coliform Bacteria)	Number per 100 ml (Most Probable Number (MPN) or Membrane Filter (MF))	$\leq$ 1,000 as a monthly avg., nor exceed 1,000 in more than 20% of samples examined during any month, nor exceed 2,400 at any time, using either MPN or MF counts.	Median MPN shall not exceed 70, and not more than 10% of the samples shall exceed an MPN of 230.	$\leq$ 1,000 as a monthly average; nor exceed 1,000 in more than 20% of the samples examined during any month; $\leq$ 2,400 at any time. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period, using either the MPN or MF counts.	$\leq$ 1,000 as a monthly average; nor exceed 1,000 in more than 20% of the samples examined during any month; $\leq$ 2,400 at any time. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30 day period, using either the MPN or MF counts.		
(8) Barium	Milligrams/L	$\leq$ 1					
(9) Benzene	Micrograms/L	$\leq$ 1.18	$\leq$ 71.28 annual avg.	$\leq$ 71.28 annual avg.	$\leq$ 71.28 annual avg.		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(10) Beryllium	Micrograms/L	≤ 0.0077 annual avg.	≤ 0.13 annual avg.	≤ 0.13 annual avg.	≤ 0.13 annual avg.	≤ 100 in waters with a hardness in mg/L of $CaCO_3$ of less than 250 and shall not exceed 500 in harder waters	
(11) Biological Integrity	Per cent reduction of Shannon-Weaver Diversity Index	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three Hester-Dendy type artificial substrate samplers of 0.10 to 0.15 m^2 area each, incubated for a period of four weeks.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three natural substrate samples, taken with Ponar type samplers with minimum sampling area of 225 cm^2.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three Hester-Dendy type artificial substrate samplers of 0.10 to 0.15 m^2 area each, incubated for a period of four weeks.	The Index for benthic macroinvertebrates shall not be reduced to less than 75% of established background levels as measured using organisms retained by a U. S. Standard No. 30 sieve and collected and composited from a minimum of three natural substrate samples, taken with Ponar type samplers with minimum sampling area of 225 cm^2.		
(12) BOD (Biochemical Oxygen Demand)		Shall not be increased to exceed values which would cause dissolved oxygen to be depressed below the limit established for each class and, in no case, shall it be great enough to produce nuisance conditions.					
(13) Boron	Milligrams/L					≤ 0.75	
(14) Bromates	Milligrams/L		≤ 100		≤ 100		
(15) Bromine (free molecular)	Milligrams/L		≤ 0.1		≤ 0.1		
(16) Cadmium	Micrograms/L See Notes (1) and (3).	Cd ≤ $e^{(0.7852[\ln H]-3.49)}$	≤ 9.3	Cd ≤ $e^{(0.7852[\ln H]-3.49)}$	≤ 9.3		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(17) Carbon tetra-chloride	Micrograms/L	≤ 0.25 annual avg.; 3.0 max	≤ 4.42 annual avg.	≤ 4.42 annual avg.	≤ 4.42 annual avg.		
(18) Chlorides	Milligrams/L	≤ 250	Not increased more than 10% above normal background. Normal daily and seasonal fluctuations shall be maintained.		Not increased more than 10% above normal background. Normal daily and seasonal fluctuations shall be maintained.		In predominantly marine waters, not increased more than 10% above normal background. Normal daily and seasonal fluctuations shall be maintained.
(19) Chlorine (total residual)	Milligrams/L	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01		
(20) (a) Chromium (trivalent)	Micrograms/L measured as total recoverable Chromium See Notes (1) and (3).	Cr (III) ≤ $e^{(0.819[\ln H]+0.6848)}$		Cr (III) ≤ $e^{(0.819[\ln H]+0.6848)}$		Cr (III) ≤ $e^{(0.819[\ln H]+0.6848)}$	In predominantly fresh waters, ≤ $e^{(0.819[\ln H]+0.6848)}$
(20) (b) Chromium (hexavalent)	Micrograms/L See Note (3).	≤ 11	≤ 50	≤ 11	≤ 50	≤ 11	In predominantly fresh waters, ≤ 11. In predominantly marine waters, ≤ 50
(21) Chronic Toxicity (see definition in Section 62-302.200(3), F.A.C. and also see below, "Substances in concentrations which...")							

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(22) Color, etc. (see also Minimum Criteria, Odor, Phenols, etc.)	Color, odor, and taste producing substances and other deleterious substances, including other chemical compounds attributable to domestic wastes, industrial wastes, and other wastes					Only such amounts as will not render the waters unsuitable for agricultural irrigation, livestock watering, industrial cooling, industrial process water supply purposes, or fish survival.	
(23) Conductance, Specific	Micromhos/cm	Shall not be increased more than 50% above background or to 1275, whichever is greater		Shall not be increased more than 50% above background or to 1275, whichever is greater		Shall not be increased more than 50% above background or to 1275, whichever is greater	Shall not exceed 4,000
(24) Copper	Micrograms/L See Notes (1) and (3).	Cu ≤ $e^{(0.8545[lnH]-1.702)}$	≤ 3.7	Cu ≤ $e^{(0.8545[lnH]-1.702)}$	≤ 3.7	≤ 500	≤ 500
(25) Cyanide	Micrograms/L	≤ 5.2	≤ 1.0	≤ 5.2	≤ 1.0	≤ 5.0	≤ 5.0
(26) Definitions (see Section 62-302.200, F.A.C.)							
(27) Detergents	Milligrams/L	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
(28) 1,1-Dichloroethylene (1,1-dichloroethene)	Micrograms/L	≤ 0.057 annual avg.; ≤ 7.0 max	≤ 3.2 annual avg.	≤ 3.2 annual avg.	≤ 3.2 annual avg.		
(29) Dichloromethane (methylene chloride)	Micrograms/L	≤ 4.65 annual avg.	≤ 1,580 annual avg.	≤ 1,580 annual avg.	≤ 1,580 annual avg.		
(30) 2,4-Dinitrotoluene	Micrograms/L	≤ 0.11 annual avg.	≤ 9.1 annual avg.	≤ 9.1 annual avg.	≤ 9.1 annual avg.		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(31) Dissolved Oxygen	Milligrams/L	Shall not be less than 5.0. Normal daily and seasonal fluctuations above this level shall be maintained.	Shall not average less than 5.0 in a 24-hour period and shall never be less than 4.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not be less than 5.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not average less than 5.0 in a 24-hour period and shall never be less than 4.0. Normal daily and seasonal fluctuations above these levels shall be maintained.	Shall not average less than 4.0 in a 24-hour period and shall never be less than 3.0.	Shall not be less than 0.3, fifty percent of the time on an annual basis for flows greater than or equal to 250 cubic feet per second and shall never be less than 0.1. Normal daily and seasonal fluctuations above these levels shall be maintained.
(32) Dissolved Solids	Milligrams/L	≤ 500 as a monthly avg.; ≤ 1,000 max.					
(33) Fluorides	Milligrams/L	≤ 1.5	≤ 1.5	≤ 10.0	≤ 5.0	≤ 10.0	≤ 10.0
(34) "Free Froms" (see Minimum Criteria in Section 62-302.500, F.A.C.)							
(35) "General Criteria" (see Section 62-302.510, F.A.C. and individual criteria)							

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(36)(a) Halomethanes (Total trihalomethanes) (total of bromoform, chlorodibromomethane, dichlorobromomethane, and chloroform). Individual halomethanes shall not exceed (b)1. to (b)5. below.	Micrograms/L	≤ 100					
(36)(b) 1. Halomethanes (individual): Bromoform	Micrograms/L	≤ 4.3 annual avg.	≤ 360 annual avg.	≤ 360 annual avg.	≤ 360 annual avg.		
(36)(b) 2. Halomethanes (individual): Chlorodibromomethane	Micrograms/L	≤ 0.41 annual avg.	≤ 34 annual avg.	≤ 34 annual avg.	≤ 34 annual avg.		
(36)(b) 3. Halomethanes (individual): Chloroform	Micrograms/L	≤ 5.67 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.		
(36)(b) 4. Halomethanes (individual): Chloromethane (methyl chloride)	Micrograms/L	≤ 5.67 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.	≤ 470.8 annual avg.		
(36)(b) 5. Halomethanes (individual): Dichlorobromomethane	Micrograms/L	≤ 0.27 annual avg.	≤ 22 annual avg.	≤ 22 annual avg.	≤ 22 annual avg.		
(37) Hexachlorobutadiene	Micrograms/L	≤ 0.45 annual avg.	≤ 49.7 annual avg.	≤ 49.7 annual avg.	≤ 49.7 annual avg.		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(38) Imbalance (see Nutrients)							
(39) Iron	Milligrams/L	≤ 0.3	≤ 0.3	≤ 1.0	≤ 0.3	≤ 1.0	
(40) Lead	Micrograms/L See Notes (1) and (3).	Pb ≤ $e^{(1.273[\ln H]-4.705)}$	≤ 8.5	Pb ≤ $e^{(1.273[\ln H]-4.705)}$	≤ 8.5	≤ 50	≤ 50
(41) Manganese	Milligrams/L		≤ 0.1				
(42) Mercury	Micrograms/L	≤ 0.012	≤ 0.025	≤ 0.012	≤ 0.025	≤ 0.2	≤ 0.2
(43) Minimum Criteria (see Section 62-302.500, F.A.C.)							
(44) Mixing Zones (See Section 62-4.244, F.A.C.)							
(45) Nickel	Micrograms/L See Notes (1) and (3).	Ni ≤ $e^{(0.846[\ln H]+0.0584)}$	≤ 8.3	Ni ≤ $e^{(0.846[\ln H]+0.0584)}$	≤ 8.3	≤ 100	
(46) Nitrate	Milligrams/L as N	≤ 10 or that concentration that exceeds the nutrient criteria					
(47) Nuisance Species		Substances in concentrations which result in the dominance of nuisance species: none shall be present.					
(48) (a) Nutrients		The discharge of nutrients shall continue to be limited as needed to prevent violations of other standards contained in this chapter. Man-induced nutrient enrichment (total nitrogen or total phosphorus) shall be considered degradation in relation to the provisions of Sections 62-302.300, 62-302.700, and 62-4.242, F.A.C.					
(48) (b) Nutrients		In no case shall nutrient concentrations of a body of water be altered so as to cause an imbalance in natural populations of aquatic flora or fauna. [Note: For Class III waters in the Everglades Protection Area, this criterion has been numerically interpreted for phosphorus in Section 62-302.540, F.A.C.]					

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(49) Odor (also see Color, Minimum Criteria, Phenolic Compounds, etc.)	Threshold odor number		Shall not exceed 24 at 60 degrees C as a daily average.				Odor producing substances only in such amounts as will not unreasonably interfere with use of the water for the designated purpose of this classification.
(50) (a) Oils and Greases	Milligrams/L	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 5.0	Dissolved or emulsified oils and greases shall not exceed 10.0
(50) (b) Oils and Greases		No undissolved oil, or visible oil defined as iridescence, shall be present so as to cause taste or odor, or otherwise interfere with the beneficial use of waters.					
(51) **Pesticides and Herbicides**							
(51) (a) 2,4,5-TP	Micrograms/L	≤ 10					
(51) (b) 2-4-D	Micrograms/L	≤ 100					
(51) (c) Aldrin	Micrograms/L	≤ .00013 annual avg.; 3.0 max	≤ .00014 annual avg.; 1.3 max	≤ .00014 annual avg.; 3.0 max	≤ .00014 annual avg.; 1.3 max		
(51) (d) Beta-hexachlorocyclohexane (b-BHC)	Micrograms/L	≤ 0.014 annual avg.	≤ 0.046 annual avg.	≤ 0.046 annual avg.	≤ 0.046 annual avg.		
(51) (e) Chlordane	Micrograms/L	≤ 0.00058 annual avg.; 0.0043 max	≤ 0.00059 annual avg.; 0.004 max	≤ 0.00059 annual avg.; 0.0043 max	≤ 0.00059 annual avg.; 0.004 max		
(51) (f) DDT	Micrograms/L	≤ 0.00059 annual avg.; 0.001 max	≤ 0.00059 annual avg.; 0.001 max	≤ 0.00059 annual avg.; 0.001 max	≤ 0.00059 annual avg.; 0.001 max		
(51) (g) Demeton	Micrograms/L	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1		

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(51) (h) Dieldrin	Micrograms/L	≤ 0.00014 annual avg.; 0.0019 max	≤ 0.00014 annual avg.; 0.0019 max	≤ 0.00014 annual avg.; 0.0019 max	≤ 0.00014 annual avg.; 0.0019 max		
(51) (i) Endosulfan	Micrograms/L	≤ 0.056	≤ 0.0087	≤ 0.056	≤ 0.0087		
(51) (j) Endrin	Micrograms/L	≤ 0.0023	≤ 0.0023	≤ 0.0023	≤ 0.0023		
(51) (k) Guthion	Micrograms/L	≤ 0.01	≤ 0.01	≤ 0.01	≤ 0.01		
(51) (l) Heptachlor	Micrograms/L	≤ 0.00021 annual avg.; 0.0038 max	≤ 0.00021 annual avg.; 0.0036 max	≤ 0.00021 annual avg.; 0.0038 max	≤ 0.00021 annual avg.; 0.0036 max		
(51) (m) Lindane (g-benzene hexachloride)	Micrograms/L	≤ 0.019 annual avg.; 0.08 max	≤ 0.063 annual avg.; 0.16 max	≤ 0.063 annual avg.; 0.08 max	≤ 0.063 annual avg.; 0.16 max		
(51) (n) Malathion	Micrograms/L	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1		
(51) (o) Methoxychlor	Micrograms/L	≤ 0.03	≤ 0.03	≤ 0.03	≤ 0.03		
(51) (p) Mirex	Micrograms/L	≤ 0.001	≤ 0.001	≤ 0.001	≤ 0.001		
(51) (q) Parathion	Micrograms/L	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04		
(51) (r) Toxaphene	Micrograms/L	≤ 0.0002	≤ 0.0002	≤ 0.0002	≤ 0.0002		
(52) (a) pH (Class I and Class IV Waters)	Standard Units	Shall not vary more than one unit above or below natural background provided that the pH is not lowered to less than 6 units or raised above 8.5 units. If natural background is less than 6 units, the pH shall not vary below natural background or vary more than one unit above natural background. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below background.					
(52) (b) pH (Class II Waters)	Standard Units	Shall not vary more than one unit above or below natural background of coastal waters as defined in Section 62-302.520(3)(b), F.A.C., or more than two-tenths unit above or below natural background of open waters as defined in Section 62-302.520(3)(f), F.A.C., provided that the pH is not lowered to less than 6.5 units or raised above 8.5 units. If natural background is less than 6.5 units, the pH shall not vary below natural background or vary more than one unit above natural background for coastal waters or more than two-tenths unit above natural background for open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of coastal waters or more than two-tenths unit below natural background of open waters.					

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(52) (c) pH (Class III Waters)	Standard Units	Shall not vary more than one unit above or below natural background of predominantly fresh waters and coastal waters as defined in Section 62-302.520(3)(b), F.A.C. or more than two-tenths unit above or below natural background of open waters as defined in Section 62-302.520(3)(f), F.A.C., provided that the pH is not lowered to less than 6 units in predominantly fresh waters, or less than 6.5 units in predominantly marine waters, or raised above 8.5 units. If natural background is less than 6 units, in predominantly fresh waters or 6.5 units in predominantly marine waters, the pH shall not vary below natural background or vary more than one unit above natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit above natural background of open waters. If natural background is higher than 8.5 units, the pH shall not vary above natural background or vary more than one unit below natural background of predominantly fresh waters and coastal waters, or more than two-tenths unit below natural background of open waters.					
(52) (d) pH (Class V Waters)	Standard Units	Not lower than 5.0 nor greater than 9.5 except certain swamp waters which may be as low as 4.5.					
(53)(a) Phenolic Compounds: Total		Phenolic compounds other than those produced by the natural decay of plant material, listed or unlisted, shall not taint the flesh of edible fish or shellfish or produce objectionable taste or odor in a drinking water supply.					
(53) (b) Phenolic Compounds: Total	Micrograms/L	1. The total of all chlorinated phenols, and chlorinated cresols, except as set forth in (c) 1. to (c) 4. below, shall not exceed 1.0 unless higher values are shown not to be chronically toxic. Such higher values shall be approved in writing by the Secretary. 2. The compounds listed in (c) 1. to (c) 6. below shall not exceed the limits specified for each compound.					1. The total of the following Phenolic compounds shall not exceed 50: a) Chlorinated phenols; b) Chlorinated cresols; and c) 2,4-dinitrophenol.
(53) (c) 1. Phenolic Compound: 2-chlorophenol	Micrograms/L	≤ 120	< 400 See Note (2).	< 400 See Note (2).	< 400 See Note (2).	< 400 See Note (2).	
(53) (c) 2. Phenolic Compound: 2,4-dichlorophenol	Micrograms/L	< 93 See Note (2).	< 790 See Note (2).	< 790 See Note (2).	< 790 See Note (2).	< 790 See Note (2).	
(53) (c) 3. Phenolic Compound: Pentachlorophenol	Micrograms/L	≤ 30 max; ≤ 0.28 annual avg; $\leq e^{(1.005[pH]-5.29)}$	≤ 7.9	≤ 30 max; ≤ 8.2 annual avg; $\leq e^{(1.005[pH]-5.29)}$	≤ 7.9	≤ 30	
(53) (c) 4. Phenolic Compound: 2,4,6-trichlorophenol	Micrograms/L	≤ 2.1 annual avg.	≤ 6.5 annual avg.	≤ 6.5 annual avg.	≤ 6.5 annual avg.	≤ 6.5 annual avg.	

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Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(53)(c) 5. Phenolic Compound: 2,4-dinitrophenol	Milligrams/L	≤ 0.0697 See Note (2).	≤ 14.26 See Note (2).	≤ 14.26 See Note (2).	≤ 14.26 See Note (2).	≤ 14.26 See Note (2).	
(53)(c) 6. Phenolic Compound: Phenol	Milligrams/L	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3	≤ 0.3
(54) Phosphorus (Elemental)	Micrograms/L		≤ 0.1		≤ 0.1		
(55) Phthalate Esters	Micrograms/L	≤ 3.0		≤ 3.0			
(56) Polychlorinated Biphenyls (PCBs)	Micrograms/L	≤ 0.000044 annual avg.; 0.014 max	≤ 0.000045 annual avg.; 0.03 max	≤ 0.000045 annual avg.; 0.014 max	≤ 0.000045 annual avg.; 0.03 max		
(57) (a) Polycyclic Aromatic Hydrocarbons (PAHs). Total of: Acenaphthylene; Benzo(a)anthracene; Benzo(a)pyrene; Benzo(b)fluoranthene; Benzo(ghi)perylene; Benzo(k)fluoranthene; Chrysene; Dibenzo-(a,h)anthracene; Indeno(1,2,3-cd)pyrene; and Phenanthrene	Micrograms/L	≤ 0.0028 annual avg.	≤ 0.031 annual avg.	≤ 0.031 annual avg.	≤ 0.031 annual avg.		
(57) (b) 1. (Individual PAHs): Acenaphthene	Milligrams/L	< 1.2 See Note (2).	< 2.7 See Note (2).	< 2.7 See Note (2).	< 2.7 See Note (2).		
(57) (b) 2. (Individual PAHs): Anthracene	Milligrams/L	< 9.6 See Note (2).	< 110 See Note (2).	< 110 See Note (2).	< 110 See Note (2).		
(57) (b) 3. (Individual PAHs): Fluoranthene	Milligrams/L	< 0.3 See Note (2).	< 0.370 See Note (2).	< 0.370 See Note (2).	< 0.370 See Note (2).		

Notes: (1) "In H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(57) (b) 4. (Individual PAHs): Fluorene	Milligrams/L	< 1.3 See Note (2).	< 14 See Note (2).	< 14 See Note (2).	< 14 See Note (2).		
(57) (b) 5. (Individual PAHs): Pyrene	Milligrams/L	< 0.96 See Note (2).	< 11 See Note (2).	< 11 See Note (2).	< 11 See Note (2).		
(58) (a) Radioactive substances (Combined radium 226 and 228)	Picocuries/L	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
(58) (b) Radioactive substances (Gross alpha particle activity including radium 226, but excluding radon and uranium)	Picocuries/L	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15	≤ 15
(59) Selenium	Micrograms/L	≤ 5.0	≤ 71	≤ 5.0	≤ 71		
(60) Silver	Micrograms/L See Note (3).	≤ 0.07	See Minimum criteria in Section 62-302.500(3)	≤ 0.07	See Minimum criteria in Section 62-302.500(3)		
(61) Specific Conductance (see Conductance, Specific, above)							
(62) Substances in concentrations which injure, are chronically toxic to, or produce adverse physiological or behavioral response in humans, plants, or animals		None shall be present.					

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Parameter	Units	Class I	Class II	Class III: Fresh	Class III: Marine	Class IV	Class V
(63) 1,1,2,2-Tetra-chloroethane	Micrograms/L	≤ 0.17 annual avg.	≤ 10.8 annual avg.	≤ 10.8 annual avg.	≤ 10.8 annual avg.		
(64) Tetrachloroethyl-ene (1,1,2,2-tetrachlo-roethene)	Micrograms/L	≤ 0.8 annual avg., ≤ 3.0 max	≤ 8.85 annual avg.	≤ 8.85 annual avg.	≤ 8.85 annual avg.		
(65) Thallium	Micrograms/L	< 1.7	< 6.3	< 6.3	< 6.3		
(66) Thermal Criteria (See Section 62-302.520)							
(67) Total Dissolved Gases	Percent of the saturation value for gases at the existing atmospheric and hydrostatic pressures	≤ 110% of saturation value	≤ 110% of saturation value	≤ 110% of saturation value	≤ 110% of saturation value		
(68) Transparency	Depth of the com-pensation point for photosynthetic activity	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.	Shall not be reduced by more than 10% as compared to the natural background value.		
(69) Trichloroethylene (trichloroethene)	Micrograms/L	≤ 2.7 annual avg., ≤ 3.0 max	≤ 80.7 annual avg.	≤ 80.7 annual avg.	≤ 80.7 annual avg.		
(70) Turbidity	Nephelometric Turbidity Units (NTU)	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions	≤ 29 above natural background conditions
(71) Zinc	Micrograms/L. See Notes (1) and (3).	$Zn \leq e^{(0.8473[\ln H]+0.884)}$	≤ 86	$Zn \leq e^{(0.8473[\ln H]+0.884)}$	≤ 86	≤ 1,000	≤ 1,000

Notes: (1) "ln H" means the natural logarithm of total hardness expressed as milligrams/L of $CaCO_3$. For metals criteria involving equations with hardness, the hardness shall be set at 25 mg/L if actual hardness is < 25 mg/L and set at 400 mg/L if actual hardness is > 400 mg/L. (2) This criterion is protective of human health not of aquatic life. (3) For application of dissolved metals criteria see 62-302.500(2)(d), F.A.C.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.182, 403.502, 403.702, 403.708 FS. History–New 1-28-90, Formerly 17-3.065, Amended 2-13-92, 6-17-92, Formerly 17-302.540, 17-302.550, 17-302.560, 17-302.570, 17-302.580, Amended 4-25-93, Formerly 17-302.530, Amended 1-23-95, 1-15-96, 5-15-02, 7-19-04.

62-302.540 Water Quality Standards for Phosphorus Within the Everglades Protection Area.

(1) Purpose and Scope.

(a) The purpose of this rule is to implement the requirements of the Everglades Forever Act by utilizing the powers and duties granted the Department under the Act and other applicable provisions of Chapters 373 and 403, F.S., to establish water quality standards for phosphorus, including a numeric phosphorus criterion, within the EPA.

(b) The water quality standards adopted by this rule include all of the following elements:

1. A numerical interpretation of the Class III narrative nutrient criterion for phosphorus;

2. Establishment of moderating provisions for permits authorizing discharges into the EPA in compliance with water quality standards, including the numeric phosphorus criterion; and

3. A method for determining achievement of the numeric phosphorus criterion, which takes into consideration spatial and temporal variability, natural background conditions and confidence in laboratory results.

(2) Findings.

(a) The Legislature, in adopting the Everglades Forever Act, recognized that the EPA must be restored both in terms of water quantity and water quality.

(b) Best Management Practices (BMPs) have reduced phosphorus loads from the Everglades Agricultural Area to the EPA by more than twice the amount required by existing rules. Stormwater Treatment Areas (STAs) have reduced phosphorus concentrations to less than the goal of 50 ppb established in the Everglades Forever Act.

(c) While a significant percentage of the EPA currently meets the numeric phosphorus criterion, further efforts are required to achieve the criterion in the remaining impacted areas of the EPA.

(d) Even as water quality continues to improve, restoration will be a long-term process because of historic phosphorus accumulations found in sediments within impacted areas. This phosphorus can diffuse back into the water column, a phenomenon the Department recognizes as reflux.

(e) The Basin-Specific Feasibility Studies completed by the District considered environmental factors, implementation cost, scheduling, and technical factors in evaluating measures to reduce phosphorus levels entering the EPA. These studies and other information provided to the Commission show that:

1. At this time, chemical treatment technology is not cost-effective for treating discharges entering the EPA and poses the potential for adverse environmental effects.

2. Optimization of the existing STAs, in combination with BMPs, is currently the most cost-effective and environmentally preferable means to achieve further phosphorus reductions to the EPA, and to restore impacted areas. The effectiveness of such measures should be determined and maximized prior to requiring additional measures. Optimization shall take into consideration viable vegetative technologies, including Periphyton-based STAs that are found to be cost-effective and environmentally acceptable.

(f) The District and the Department recognize that STA and BMP optimization requires a sustained commitment to construct, implement, stabilize and measure phosphorus reduction benefits.

(g) The Comprehensive Everglades Restoration Plan (CERP) contains projects that will affect the flows and phosphorus levels entering the EPA. Achievement of water quality standards for water quality projects required under the Everglades Forever Act can be most effectively and efficiently attained when integrated with CERP projects.

(h) The Long-Term Plan constitutes a comprehensive program to optimize the STAs and BMPs to achieve further phosphorus reductions and thereby accomplish implementation of Best Available Phosphorus Reduction Technology (BAPRT).

(i) It is the intent of the Commission that implementation of this rule will fulfill commitments made by the State of Florida to restore and maintain water quality in the EPA, while, at the same time, fulfill the States obligations under the Settlement Agreement to achieve the long-term phosphorus concentration levels and discharge limits established in that Agreement for the Loxahatchee National Wildlife Refuge (Refuge) and the Everglades National Park (Park).

(j) Establishment of the numeric phosphorus criterion, based upon analyses conducted primarily in freshwater open water slough systems, assumed that preservation of the balance of the native flora and fauna in these open water slough systems would protect other communities of native vegetation in the EPA. Further research should be conducted in other habitat types to further evaluate the natural variability in those habitat types.

(k) The Commission has received substantial testimony regarding mercury and its impact on the EPA. The Commission encourages all interested parties to continue research efforts on the effects of mercury.

(l) The Commission finds that this rule must incorporate a flexible approach towards the application of the numeric phosphorus criterion for phosphorus in order to guide the implementation of phosphorus reductions in the Everglades Protection Area. Chapter 403, F.S., the Everglades Forever Act and U.S. Environmental Protection Agency regulations set forth at 40 CFR Part 131 include general policies that authorize such flexibility under appropriate circumstances, including those described in paragraphs (c) through (h) and (k) above. The Commission has exercised this authority by including in this rule both a numeric interpretation of the phosphorus criterion and the various other standard setting provisions of this rule, including the permitting and moderating provisions.

(3) Definitions.

(a) “Best Available Phosphorus Reduction Technology” (BAPRT) shall be as defined by Section 373.4592(2)(a), F.S. BMPs shall maintain and, where practicable, improve upon the performance of urban and agricultural source controls in reducing overall phosphorus levels. Agricultural BMPs within the Everglades Agricultural Area and the C-139 Basin shall be in accordance with Chapters 40E-61 and 40E-63, F.A.C. STA phosphorus reductions shall be improved through implementation of optimization measures as defined by Section 373.4592(2)(l), F.S. BAPRT may include measures intended to reduce phosphorus levels in discharges from a single basin or sub-basin, or a program designed to address discharges from multiple basins.

(b) “Long-Term Plan” shall be as defined by Section 373.4592(2)(j), F.S.

(c) The “Everglades Protection Area” or “EPA” shall mean Water Conservation Areas 1 (Refuge), 2A, 2B, 3A and 3B, and the Everglades National Park.

(d) “Impacted Areas” shall mean areas of the EPA where total phosphorus concentrations in the upper 10 centimeters of the soils are greater than 500 mg/kg.

(e) “District” shall mean the South Florida Water Management District.

(f) “Optimization” shall be as defined by Section 373.4592(2)(l), F.S.

(g) “Settlement Agreement” shall mean the Settlement Agreement entered in Case No. 88-1886-Civ-Hoeveler, United States District Court for the Southern District of Florida, as modified by the Omnibus Order entered in the case on April 27, 2001.

(h) “Technology-based Effluent Limitation” or “TBEL” shall be as defined in Section 373.4592(2)(p), F.S.

(i) “Unimpacted Areas” shall mean those areas which are not “Impacted Areas”.

(4) Phosphorus Criterion.

(a) The numeric phosphorus criterion for Class III waters in the EPA shall be a long-term geometric mean of 10 ppb, but shall not be lower than the natural conditions of the EPA, and shall take into account spatial and temporal variability. Achievement of the criterion shall be determined by the methods in this subsection. Exceedences of the provisions of this subsection shall not be considered deviations from the criterion if they are attributable to the full range of natural spatial and temporal variability, statistical variability inherent in sampling and testing procedures or higher natural background conditions.

(b) Water Bodies. Achievement of the phosphorus criterion for waters in the EPA shall be determined separately in impacted and unimpacted areas in each of the following water bodies: Water Conservation Areas 1, 2 and 3, and the Everglades National Park.

(c) Achievement of Criterion in Everglades National Park. Achievement of the phosphorus criterion in the Park shall be based on the methods as set forth in Appendix A of the Settlement Agreement unless the Settlement Agreement is rescinded or terminated. If the Settlement Agreement is no longer in force, achievement of the criterion shall be determined based on the method provided for the remaining EPA. For the Park, the Department shall review data from inflows into the Park at locations established pursuant to Appendix A of the Settlement Agreement and shall determine that compliance is achieved if the Department concludes that phosphorus concentration limits for inflows into the Park do not result in a violation of the limits established in Appendix A.

(d) Achievement of the Criterion in WCA-1, WCA-2 and WCA-3.

1. Achievement of the criterion in unimpacted areas in each WCA shall be determined based upon data from stations that are evenly distributed and located in freshwater open water sloughs similar to the areas from which data were obtained to derive the phosphorus criterion. Achievement of the criterion shall be determined based on data collected monthly from the network of monitoring stations in the unimpacted area. The water body will have achieved the criterion if the five year geometric mean averaged across all stations is less than or equal to 10 ppb. In order to provide protection against imbalances of aquatic flora or fauna, the following provisions must also be met:

a. The annual geometric mean averaged across all stations is less than or equal to 10 ppb for three of five years;

b. The annual geometric mean averaged across all stations is less than or equal to 11 ppb; and

c. The annual geometric mean at all individual stations is less than or equal to 15 ppb. Individual station analyses are representative of only that station.

2. Achievement of the criterion shall be determined based on data collected monthly from the network of monitoring stations in the impacted area. Impacted Areas of the water body will have achieved the criterion if the five year geometric mean averaged across all stations is less than or equal to 10 ppb. In order to provide protection against imbalances of aquatic flora or fauna, the following provisions must also be met:

a. The annual geometric mean averaged across all stations is less than or equal to 10 ppb for three of five years;

b. The annual geometric mean averaged across all stations is less than or equal to 11 ppb; and

c. The annual geometric mean at all individual stations is less than or equal to 15 ppb. Individual station analyses are representative of only that station.

If these limits are not met, no action shall be required, provided that the net improvement or hydropattern restoration provisions of subsection (6) below are met. Notwithstanding the definition of Impacted Area in subsection (3), individual stations in the network shall be deemed to be unimpacted for purposes of this rule if the five-year geometric mean is less than or equal to 10 ppb and the annual geometric mean is less than or equal to 15 ppb.

(e) Adjustment of Achievement Methods. The Department shall complete a technical review of the achievement methods set forth in this subsection at a minimum of five year intervals and will report to the ERC on changes as needed. Data will be collected as necessary at stations that are evenly distributed and representative of major natural habitat types to further define the natural spatial and temporal variability and natural background of phosphorus concentrations in the EPA. As a part of the review, the Department may propose amendments to the achievement method provisions of this rule to include:

1. A hydrologic variability algorithm in a manner similar to the Settlement Agreement; and

2. Implementing adjustment factors that take into account water body specific variability, including the effect of habitat types. The hydrologic variability evaluation shall be based on data from at least one climatic drought cycle and data reflecting the average interior stage of the water body on the dates of sample collection.

(f) Data Screening. Data from each monitoring station shall be evaluated prior to being used for the purposes of determining achievement of the criterion. Data shall be excluded from calculations for the purpose of determining achievement of the criterion if such data:

1. Do not comply with the requirements of Chapter 62-160, F.A.C.; or

2. Are excluded through the screening protocol set forth in the *Data Quality Screening Protocol*; or

3. Were collected from sites affected by extreme events such as fire, flood, drought or hurricanes, until normal conditions are restored; or

4. Were affected by localized activities caused by temporary human or natural disturbances such as airboat traffic, authorized (permitted or exempt) restoration activities, alligator holes, or bird rookeries.

5. Were sampled in years where hydrologic conditions (e.g., rainfall amount, water levels and water deliveries) were outside the range that occurred during the period (calendar years 1978 – 2001) used to set the phosphorus criterion.

(5) Long-Term Compliance Permit Requirements for Phosphorus Discharges into the EPA.

(a) In addition to meeting all other applicable permitting criteria, an applicant must provide reasonable assurance that the discharge will comply with state water quality standards as set forth in this section.

(b) Discharges into the EPA shall be deemed in compliance with state water quality standards upon a demonstration that:

1. Phosphorus levels in the discharges will be at or below the phosphorus criterion set forth in this rule; or

2. Discharges will not cause or contribute to exceedences of the phosphorus criterion in the receiving waters, the determination of which will take into account the phosphorus in the water column that is due to reflux; or

3. Discharges will comply with moderating provisions as provided in this rule.

(c) Discharges into the Park must not result in a violation of the concentration limits established for the Park in Appendix A of the Settlement Agreement as determined through the methodology set forth in subsection (4).

(d) Discharge limits for permits allowing discharges into the EPA shall be based upon TBELs established through BAPRT and shall not require water quality based effluent limitations through 2016. Such TBELs shall be applied as effluent limitations as defined in subsection 62-302.200(10), F.A.C.

(6) Moderating Provisions. The following moderating provisions are established for discharges into or within the EPA as a part of state water quality standards applicable to the phosphorus criterion set forth in this rule:

(a) Net Improvement in Impacted Areas.

1. Until December 31, 2016, discharges into or within the EPA shall be permitted using net improvement as a moderating provision upon a demonstration by the applicant that:

a. The permittee will implement, or cause to be implemented, BAPRT, as defined by Section 373.4592(2)(a), F.S., and further provided in this section, which shall include a continued research and monitoring program designed to reduce outflow concentrations of phosphorus; and

b. The discharge is into or within an impacted area.

2. BAPRT shall use an adaptive management approach based on the best available information and data to develop and implement incremental phosphorus reduction measures with the goal of achieving the phosphorus criterion. BAPRT shall also include projects and strategies to accelerate restoration of natural conditions with regard to populations of native flora or fauna.

3. For purposes of this rule, the Long-Term Plan shall constitute BAPRT. The planning goal of the Long-Term Plan is to achieve compliance with the criterion set forth in subsection (4) of this rule. Implementation of BAPRT will result in net improvement in impacted areas of the EPA. The Initial Phase of the Long-Term Plan shall be implemented through 2016. Revisions to the Long-Term Plan shall be incorporated through an adaptive management approach including a Process Development and Engineering component to identify and implement incremental optimization measures for further phosphorus reductions.

4. The Department and the District shall propose amendments to the Long-Term Plan as science and environmental conditions warrant. The Department shall approve all amendments to the Long-Term Plan.

5. As part of the review of permit applications, the Department shall review proposed changes to the Long-Term Plan identified through the Process Development and Engineering component of the Long-Term Plan to evaluate changes necessary to comply with this rule, including the numeric phosphorus criterion. Those changes which the department deems necessary to comply with this rule, including the numeric phosphorus criterion, shall be included as conditions of the respective permit or permits for the structures associated with the particular basin or basins involved. Until December 31, 2016, such permits shall include technology-based effluent limitations consistent with the Long-Term Plan.

(b) Hydropattern Restoration. Discharges into or within unimpacted areas of the EPA shall be permitted for hydropattern restoration purposes upon a demonstration by the applicant that:

1. The discharge will be able to achieve compliance with the requirements of sub-subparagraph (6)(a)1.a. above;

2. The environmental benefits of establishing the discharge clearly outweigh the potential adverse impacts that may result in the event that phosphorus levels in the discharge exceed the criterion; and

3. The discharge complies with antidegradation requirements.

(c) Existing Moderating Provisions. Nothing in this rule shall eliminate the availability of moderating provisions that may otherwise exist as a matter of law, rule or regulation.

(7) Document Incorporated by Reference. The following document is referenced elsewhere in this section and is hereby incorporated by reference:

Data Quality Screening Protocol, dated 7-15-04.

(8) Contingencies. In the event any provision of this rule is challenged in any proceeding, the Commission shall immediately be notified. In the event any provision of this rule:

(a) Is determined to be invalid under applicable laws; or

(b) Is disapproved by the U.S. Environmental Protection Agency under the Clean Water Act, the Department shall bring the matter back before the Commission at the earliest practicable date for reconsideration.

Specific Authority 373.043, 373.4592, 403.061 FS. Law Implemented 373.016, 373.026, 373.4592, 403.021(11), 403.061, 403.201 FS. History–New 7-15-04, Amended 5-25-05.

62-302.700 Special Protection, Outstanding Florida Waters, Outstanding National Resource Waters.

(1) It shall be the Department policy to afford the highest protection to Outstanding Florida Waters and Outstanding National Resource Waters. No degradation of water quality, other than that allowed in subsections 62-4.242(2) and (3), F.A.C., is to be permitted in Outstanding Florida Waters and Outstanding National Resource Waters, respectively, notwithstanding any other Department rules that allow water quality lowering.

(2) A complete listing of Outstanding Florida Waters and Outstanding National Resource Waters is provided in subsections (9) and (10). Outstanding Florida Waters generally include the following surface waters (unless named as Outstanding National Resource Waters):

(a) Waters in National Parks, Preserves, Memorials, Wildlife Refuges and Wilderness Areas;

(b) Waters in the State Park System and Wilderness Areas;

(c) Waters within areas acquired through donation, trade, or purchased under the Environmentally Endangered Lands Bond Program, Conservation and Recreation Lands Program, Land Acquisition Trust Fund Program, and Save Our Coast Program;

(d) Rivers designated under the Florida Scenic and Wild Rivers Program, federal Wild and Scenic Rivers Act of 1968 as amended, and Myakka River Wild and Scenic Designation and Preservation Act;

(e) Waters within National Seashores, National Marine Sanctuaries, National Estuarine Research Reserves, and certain National Monuments;

(f) Waters in Aquatic Preserves created under the provisions of Chapter 258, F.S.;

(g) Waters within the Big Cypress National Preserve;

(h) Special Waters as listed in paragraph 62-302.700(9)(i), F.A.C.; and

(i) Certain Waters within the Boundaries of the National Forests.

(3) Each water body demonstrated to be of exceptional recreational or ecological significance may be designated as a Special Water.

(4) The following procedure shall be used in designating an Outstanding National Resource Water as well as any Special Water:

(a) Rulemaking procedures pursuant to Chapter 120, F.S., and Chapter 62-102, F.A.C., shall be followed;

(b) At least one fact-finding workshop shall be held in the affected area;

(c) All local county or municipal governments and state legislators whose districts or jurisdictions include all or part of the water shall be notified at least 60 days prior to the workshop in writing by the Secretary;

(d) A prominent public notice shall be placed in a newspaper of general circulation in the area of the proposed water at least 60 days prior to the workshop; and

(e) An economic impact analysis, consistent with Chapter 120, F.S., shall be prepared which provides a general analysis of the impact on growth and development including such factors as impacts on planned or potential industrial, agricultural, or other development or expansion.

(5) The Commission may designate a water of the State as a Special Water after making a finding that the waters are of exceptional recreational or ecological significance and a finding that the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.

(6) The Commission may designate a water as an Outstanding National Resource Water after making all of the following findings:

(a) That the waters are of such exceptional recreational or ecological significance that water quality should and can be maintained and protected under all circumstances other than temporary degradation and the lowering allowed by Section 316 of the Federal Clean Water Act; and

(b) That the level of protection afforded by the designation as Outstanding National Resource Waters is clearly necessary to preserve the exceptional ecological or recreational significance of the waters; and

(c) That the environmental, social, and economic benefits of the designation outweigh the environmental, social, and economic costs.

(7) The policy of this section shall be implemented through the permitting process pursuant to Rule 62-4.242, F.A.C.

(8) For each Outstanding Florida Water listed under subsection 62-302.700(9), F.A.C., the last day of the baseline year for defining the existing ambient water quality (paragraph 62-4.242(2)(c), F.A.C.) is March 1, 1979, unless otherwise indicated. Where applicable, Outstanding Florida Water boundary expansions are indicated by date(s) following "as mod." under subsection 62-302.700(9), F.A.C. For each Outstanding Florida Water boundary which expanded subsequent to the original date of designation, the baseline year for the entire Outstanding Florida Water, including the expansion, remains March 1, 1979, unless otherwise indicated.

(9) Outstanding Florida Waters:

(a) Waters within National Parks and National Memorials.

National Park or National Memorial	County
1. Biscayne National Park (as mod. 5-14-86, 8-8-94)	Dade
2. Dry Tortugas National Park (10-4-90)	Monroe
3. Everglades National Park (as mod. 8-8-94)	Monroe/Dade/ Collier
4. Fort Caroline National Memorial (8-8-94)	Duval

(b) Waters within National Wildlife Refuges.

Wildlife Refuge	County
1. Archie Carr (8-8-94)	Indian River/Brevard
2. Caloosahatchee	Lee
3. Cedar Keys (as mod. 5-14-86, 4-19-88)	Levy
4. Chassahowitzka (as mod. 5-14-86, 4-19-88)	Citrus/Hernando
5. Chinsegut	Hernando
6. Crocodile Lake (12-1-82; as mod. 5-14-86, 4-19-88, 8-8-94)	Monroe
7. Crystal River (5-14-86; as mod. 10-4-90)	Citrus
8. Egmont Key	Hillsborough
9. Florida Panther (10-4-90; as mod. 8-8-94)	Collier
10. Great White Heron (as mod. 5-14-86, 4-19-88)	Monroe
11. Hobe Sound (as mod. 5-14-86, 4-19-88, 8-8-94)	Martin

12. Island Bay	Charlotte
13. J. N. “Ding” Darling (as mod. 5-14-86, 4-19-88, 8-8-94)	Lee
14. Key West	Monroe
15. Lake Woodruff (as mod. 8-8-94)	Volusia/Lake
16. Lower Suwannee (12-1-82; as mod. 8-8-94)	Dixie/Levy
17. Loxahatchee	Palm Beach
18. Matlacha Pass (as mod. 8-8-94)	Lee
19. Merritt Island	Volusia/Brevard
20. National Key Deer (as mod. 5-14-86, 4-19-88, 10-4-90, 8-8-94)	Monroe
21. Okefenokee (Florida Portion)	Baker
22. Passage Key	Manatee
23. Pelican Island (as mod. 8-8-94)	Indian River
24. Pine Island (as mod. 8-8-94)	Lee
25. Pinellas	Pinellas
26. St. Johns (including Bee Line Unit) (as mod. 5-14-86, 4-19-88)	Brevard
27. St. Marks (as mod. 10-4-90, 8-8-94)	Jefferson/Wakulla/ Taylor
28. St. Vincent (including Pig Island Unit)	Franklin/Gulf

(c) Waters within State Parks, State Wildlife Parks, and State Recreation Areas.

State Park or State Recreation Area	County
1. Amelia Island State Recreation Area (5-14-86)	Nassau
2. Anastasia State Recreation Area (as mod. 4-19-88)	St. Johns
3. Avalon State Recreation Area (4-19-88; as mod. 8-8-94)	St. Lucie
4. Bahia Honda State Park (as mod. 5-14-86)	Monroe
5. Bear Creek State Recreation Area (12-1-82)	Gadsden
6. Big Lagoon State Recreation Area (12-1-82; as mod. 5-14-86, 8-8-94)	Escambia
7. Big Talbot Island State Park (5-14-86; as mod. 4-19-88, 8-8-94)	Duval

8. Bill Baggs Cape Florida State Recreation Area	Dade
9. Blackwater River State Park	Santa Rosa
10. Blue Springs State Park	Volusia
11. Bulow Creek State Park (5-14-86; as mod. 4-19-88)	Flagler/Volusia
12. Caladesi Island State Park	Pinellas
13. Cayo Costa State Park (12-1-82; as mod. 5-14-86, 4-19-88, 10-4-90, 8-8-94)	Lee
14. Collier-Seminole State Park	Collier
15. Dead Lakes State Recreation Area	Gulf
16. De Leon Springs State Recreation Area (5-14-86; as mod. 10-4-90)	Volusia
17. Delnor-Wiggins Pass State Recreation Area (12-1-82)	Collier
18. Don Pedro Island State Recreation Area (5-14-86; as mod. 4-19-88)	Charlotte
19. Dr. Julian G. Bruce St. George Island State Park (12-1-82)	Franklin
20. Edward Ball Wakulla Springs State Park (4-19-88)	Wakulla
21. Falling Waters State Recreation Area	Washington
22. Faver-Dykes State Park	St. Johns
23. Florida Caverns State Park (as mod. 8-8-94)	Jackson
24. Fort Clinch State Park (as mod. 4-19-88, 8-8-94)	Nassau
25. Fort Cooper State Park (12-1-82)	Citrus
26. Fort Pierce Inlet State Recreation Area (12-1-82; as mod. 5-14-86)	St. Lucie
27. Fred Gannon Rocky Bayou State Recreation Area	Okaloosa
28. Gamble Rogers Memorial State Recreation Area at	Flagler

Flagler Beach	
29. Gasparilla Island State Recreation Area (5-14-86; as mod. 4-19-88, 10-4-90)	Lee
30. Grayton Beach State Recreation Area (as mod. 4-19-88)	Walton
31. Guana River State Park (5-14-86; as mod. 4-19-88)	St. Johns
32. Henderson Beach State Recreation Area (5-14-86)	Okaloosa
33. Highlands Hammock State Park (as mod. 8-8-94)	Highlands/Hardee
34. Hillsborough River State Park	Hillsborough
35. Homosassa Springs State Wildlife Park (10-4-90)	Citrus
36. Honeymoon Island State Recreation Area (12-1-82; as mod. 5-14-86)	Pinellas
37. Hontoon Island State Park	Volusia/Lake
38. Hugh Taylor Birch State Recreation Area	Broward
39. Ichetucknee Springs State Park	Columbia/ Suwannee
40. John D. McArthur Beach State Park (12-1-82)	Palm Beach
41. John Pennekamp Coral Reef State Park (as mod. 5-14-86, 4-19-88)	Monroe
42. John U. Lloyd Beach State Recreation Area	Broward
43. Jonathan Dickinson State Park	Martin
44. Lake Arbuckle State Park (5-14-86)	Polk
45. Lake Griffin State Recreation Area	Lake
46. Lake Kissimmee State Park	Polk
47. Lake Louisa State Park (12-1-82)	Lake
48. Lake Manatee State Recreation Area (12-1-82)	Manatee
49. Lake Rousseau State Recreation Area (12-1-82)	Citrus/Levy/Marion
50. Lake Talquin State	Leon

Recreation Area (12-1-82; as mod. 5-14-86)	
51. Little Manatee River State Recreation Area (12-1-82)	Hillsborough
52. Little Talbot Island State Park	Duval
53. Long Key State Recreation Area	Monroe
54. Lovers Key State Recreation Area (5-14-86)	Lee
55. Manatee Springs State Park (as mod. 10-4-90)	Levy
56. Mike Roess Gold Head Branch State Park (as mod. 5-14-86, 4-19-88, 8-8-94)	Clay
57. Myakka River State Park	Manatee/Sarasota
58. North Peninsula State Recreation Area (5-14-86; as mod. 4-19-88, 10-4-90)	Volusia
59. Ochlockonee River State Park	Wakulla
60. O'Leno State Park (as mod. 5-14-86)	Alachua/Columbia
61. Oleta River State Recreation Area (12-1-82)	Dade
62. Oscar Scherer State Park (as mod. 8-8-94)	Sarasota
63. Peacock Springs State Recreation Area (4-19-88)	Suwannee
64. Perdido Key State Recreation Area (12-1-82)	Escambia
65. Ponce de Leon Springs State Recreation Area	Holmes/Walton
66. Port Charlotte Beach State Recreation Area (12-1-82)	Charlotte
67. St. Andrews State Recreation Area (as mod. 5-14-86, 4-19-88)	Bay
68. Sebastian Inlet State Recreation Area	Indian River/Brevard
69. Silver River State Park (4-19-88; as mod. 10-4-90, 8-8-94)	Marion
70. Suwannee River State Park (as mod. 10-4-90)	Hamilton/Madison/ Suwannee

71. Three Rivers State Recreation Area	Jackson
72. T. H. Stone Memorial St. Joseph Peninsula State Park	Gulf
73. Tomoka State Park	Volusia
74. Torreya State Park	Liberty
75. Wekiwa Springs State Park (as mod. 4-19-88)	Orange/Seminole

(d) Waters within State Ornamental Gardens, State Botanical Sites, State Historic Sites, and State Geological Sites.

State Ornamental Gardens, State Botanical Site, State Historic Site, or State Geological Site	County
1. Alfred B. Maclay State Gardens	Leon
2. Devils Millhopper State Geological Site (10-4-90)	Alachua
3. Eden State Gardens	Walton
4. Fort Zachary Taylor State Historic Site (10-4-90)	Monroe
5. Indian Key State Historic Site (10-4-90)	Monroe
6. Key Largo Hammock State Botanical Site (5-14-86)	Monroe
7. Koreshan State Historic Site (10-4-90)	Lee
8. Lignumvitae Key State Botanical Site (5-14-86)	Monroe
9. Marjorie Kinnan Rawlings State Historic Site (10-4-90)	Alachua
10. Natural Bridge Battlefield State Historic Site (10-4-90)	Leon
11. Paynes Creek State Historic Site (10-4-90)	Hardee
12. Ravine State Gardens	Putnam
13. San Marcos de Apalachee State Historic Site (10-4-90)	Wakulla
14. Washington Oaks State Gardens (as mod. 5-14-86)	Flagler
15. Windley Key Fossil Reef State Geological Site (10-4-90)	Monroe

(e) Waters within State Preserves, State Underwater Archaeological Preserves, and State Reserves.

State Preserve or State Reserve	County
1. Anclote Key State Preserve (12-1-82)	Pasco/Pinellas
2. Cape St. George State	Franklin

Reserve (12-1-82)	
3. Cedar Key Scrub State Reserve (12-1-82; as mod. 4-19-88)	Levy
4. Charlotte Harbor State Reserve (as mod. 4-19-88)	Charlotte
5. Crystal River State Reserve (5-14-86; as mod. 4-19-88)	Citrus
6. Fakahatchee Strand State Preserve (12-1-82; as mod. 5-14-86, 4-19-88, 10-4-90, 8-8-94)	Collier
7. Haw Creek State Preserve (12-1-82)	Flagler/Putnam/ Volusia
8. Lower Wekiva River State Reserve (12-1-82)	Lake/Seminole
9. Nassau Valley State Reserve (12-1-82)	Duval/Nassau
10. Paynes Prairie State Preserve (as mod. 10-4-90, 8-8-94)	Alachua
11. Prairie-Lakes State Preserve	Osceola
12. River Rise State Preserve (12-1-82; as mod. 8-8-94)	Alachua/Columbia
13. Rock Springs Run State Reserve (5-14-86; as mod. 4-19-88)	Orange
14. San Felasco Hammock State Preserve (12-1-82; as mod. 5-14-86, 4-19-88)	Alachua
15. San Pedro State Underwater Archaeological Preserve (10-4-90)	Monroe
16. Savannas State Reserve (12-1-82; as mod. 5-14-86, 10-4-90, 8-8-94)	Martin/St. Lucie
17. St. Lucie Inlet State Preserve (12-1-82)	Martin
18. Waccasassa Bay State Preserve (12-1-82; as mod. 4-19-88)	Levy
19. Weedon Island State Preserve (12-1-82)	Pinellas
20. William Beardell Tosohatchee State Reserve (12-1-82)	Orange

(f) Waters within Areas Acquired through Donation, Trade, or Purchased Under the Environmentally Endangered Lands Bond Program, Conservation and Recreation Lands Program, Land Acquisition Trust Fund Program, and Save Our Coast Program.

Program Area	County
1. Andrews Tract (5-14-86; as mod.	Levy

4-19-88, 8-8-94)	
2. Apalachicola Bay (8-8-94)	Franklin
3. Barefoot Beach (12-1-82)	Collier
4. Beker Tracts (10-4-90)	Manatee
5. Big Bend Coastal Tract (4-19-88; as mod. 10-4-90)	Dixie/Taylor
6. Big Shoals (4-19-88)	Hamilton
7. B.M.K. Ranch (8-8-94)	Lake/Orange
8. Bower Tract (5-14-86; as mod. 4-19-88)	Hillsborough
9. Caravelle Ranch (8-8-94)	Putnam
10. Carlton Half-Moon Ranch (8-8-94)	Sumter
11. Catfish Creek (8-8-94)	Polk
12. Chassahowitzka Swamp (5-14-86; as mod. 4-19-88, 8-8-94)	Hernando/Citrus
13. Coupon Bight (10-4-90; as mod. 8-8-94)	Monroe
14. Crystal River (10-4-90)	Citrus
15. Curry Hammock (8-8-94)	Monroe
16. Deering Hammock/Estate (5-14-86; as mod. 4-19-88, 8-8-94)	Dade
17. East Everglades (5-14-86)	Dade
18. Econfina River (8-8-94)	Taylor
19. Emerson Point (8-8-94)	Manatee
20. Escambia Bay Bluffs (5-14-86)	Escambia
21. Estero Bay (8-8-94)	Lee
22. Florida First Magnitude Springs (8-8-94)	Levy
23. Ft. George Island (10-4-90)	Duval
24. Ft. Mose (8-8-94)	St. Johns
25. Ft. San Luis (5-14-86; as mod. 8-8-94)	Leon
26. Gateway (5-14-86)	Pinellas
27. Gills Tract (8-8-94)	Pasco
28. Green Turtle Beach (4-19-88)	St. Lucie
29. Guana River (5-14-86; as mod.	St. Johns

4-19-88)	
30. Homosassa Reserve/Walker Tract (8-8-94)	Citrus
31. Indian River North Beach (5-14-86)	Indian River
32. ITT/Hammock (5-14-86)	Dade
33. Josslyn Island (10-4-90)	Lee
34. Levy County Forest/Sandhills (8-8-94)	Levy
35. Letchworth Mounds (8-8-94)	Jefferson
36. Lower Econlockhatchee (8-8-94)	Seminole
37. Martin County Tracts (5-14-86)	Martin
38. Mashes Sands (5-14-86)	Wakulla
39. Miami Rockridge Pinelands (8-8-94)	Dade
40. Milton to Whiting Field (8-8-94)	Santa Rosa
41. North Beach (5-14-86)	Broward
42. North Key Largo Hammock (5-14-86; as mod. 4-19-88, 10-4-90, 8-8-94)	Monroe
43. Placid Lakes (8-8-94)	Highlands
44. Point Washington (8-8-94)	Walton
45. Port Bougainville (10-4-90)	Monroe
46. Rainbow River/Springs (8-8-94)	Marion
47. Rookery Bay (10-4-90; as mod. 8-8-94)	Collier
48. Rotenberger (as mod. 4-19-88, 8-8-94)	Palm Beach
49. Saddle Blanket Lakes Scrub (8-8-94)	Polk
50. Save Our Everglades (10-4-90; as mod. 8-8-94)	Collier
51. Sea Branch (8-8-94)	Martin
52. Seminole Springs/Woods (8-8-94)	Lake
53. Snake Warrior Island (Oaks of Miramar) (8-8-94)	Broward
54. Spring Hammock (4-19-88; as mod. 10-4-90)	Seminole
55. Spruce Creek (4-19-88; as mod.	Volusia

8-8-94)	
56. St. Martins River (8-8-94)	Citrus
57. Stark Tract (10-4-90)	Volusia
58. Stoney-Lane (10-4-90)	Citrus
59. Surfside Additions (5-14-86)	St. Lucie
60. Three Lakes/Prairie Lakes (as mod. 8-8-94)	Osceola
61. Topsail Hill (8-8-94)	Walton
62. Upper Black Creek (8-8-94)	Clay
63. Volusia Water Recharge Area	Volusia
64. Wacissa/Aucilla Rivers (10-4-90)	Jefferson/Taylor
65. Wekiva River Buffers (8-8-94)	Seminole
66. Westlake (5-14-86; as mod. 4-19-88)	Broward
67. Wetstone/Berkovitz (8-8-94)	Pasco
68. Withlacoochee Tracts (12-1-82)	Sumter

(g) Waters within National Seashores.

National Seashores	County
1. Canaveral	Brevard/Volusia
2. Gulf Islands	Escambia/Santa Rosa

(h) Waters within State Aquatic Preserves.

Aquatic Preserves	County
1. Alligator Harbor	Franklin
2. Apalachicola Bay	Franklin
3. Banana River (as mod. 8-8-94)	Brevard
4. Big Bend Seagrasses	Wakulla/Taylor/ Jefferson/Dixie/ Levy

except for the following areas:

a. Keaton Beach, Taylor County – Begin at 29º 49' 50" N. Lat., 83º 35' 24" W. Long.; then west to 29º 49' 45", 83º 35' 50"; then south to 29º 49' 04", 83º 35' 48"; then east to 29º 49' 04", 83º 35' 24"; then north to the point of beginning.

b. Steinhatchee, Taylor County – Begin at 29º 40' 35", 83º 22' 10"; then west to 29º 40' 35", 83º 23' 10"; then north to 29º 41', 83º 23' 10"; then west to 29º 41', 83º 24' 10"; then south to the Taylor County-Dixie County boundary; then eastward along the boundary to 29º 39' 55", 83º 22' 10"; then north to the point of beginning.

c. Suwannee, Dixie County – Begin at 29º 20' 30", 83º 08' 10"; then west to 29º 20' 30", 83º 08' 25"; then south to 29º 20' 05", 83º 08' 25"; then southwesterly along SR 349 to 29º 19' 51", 83º 08' 35"; then west to 29º 19' 51", 83º 08' 45"; then southwesterly to 29º 19' 40", 83º 09' 12"; then south to 29º 19' 30", 83º 09' 12"; then northeasterly to 29º 19' 39", 83º 08' 53"; then southeasterly to 29º 19' 25", 83º 08' 41"; then southwesterly to 29º 19' 20", 83º 08' 49"; then southeasterly to 29º 19' 14", 83º 08' 41"; then northeasterly along the bank of the Suwannee River to and along the bank of Demory Creek to 29º 19' 45", 83º 08' 10"; then north to the point of beginning.

d. Cedar Key unincorporated airport area, Levy County – Begin at 29º 08' 26", 83º 03' 17"; then south to 29º 07' 34", 83º 03' 17", then northeasterly to 29º 07' 48", 83º 02' 33"; beginning northerly and tracing the corporate limit of Cedar Key to the point of beginning.

e. Cedar Key unincorporated causeway area, Levy County – That portion of Section 20 lying within 1000 feet of the centerline of SR 24 and lying north of a line 500 feet northeast of and parallel to the northern corporate limit of Cedar Key.

f. Cedar Key channel, Levy County – Begin at 29º 08' 58", 83º 01' 17"; then west to 29º 08' 58", 83º 01' 24"; then south to 29º 08' 05", 83º 01' 26"; then northeasterly to 29º 08' 08", 83º 01' 17"; then northerly to the point of beginning.

g. Keaton Beach navigation channel, Taylor County – Begin at 29º 49' 02", 83º 35' 30"; then west to 29º 49' 02", 83º 37' 58"; then south to 29º 48' 45", 83º 37' 58"; then east to 29º 48' 45", 83º 35' 30"; then north to the point of beginning.

h. Keaton Beach local channels, Taylor County – Begin at 29º 49' 01", 83º 35' 38"; then southeast to 29º 48' 55", 83º 35' 15"; then northeast to 29º 48' 59", 83º 35' 13"; then northwest to 29º 49' 06", 83º 35' 36"; then southwest to the point of beginning. (10-29-86)

5. Biscayne Bay (Cape Florida)	Dade/Monroe
6. Biscayne Bay (Card Sound) (12-1-82)	Dade/Monroe
7. Boca Ciega Bay	Pinellas
8. Cape Haze	Charlotte/Lee
9. Cape Romano-Ten Thousand Islands	Collier
10. Cockroach Bay	Hillsborough
11. Coupon Bight	Monroe
12. Estero Bay (as mod. 4-19-88)	Lee
13. Fort Clinch State Park	Nassau
14. Fort Pickens State Park	Santa Rosa/Escambia
15. Gasparilla Sound-Charlotte Harbor (as mod. 10-4-90)	Charlotte/Lee
16. Guana River Marsh (8-8-94)	St. Johns
17. Indian River Malabar to Vero Beach	Brevard/Indian River
18. Indian River Malabar to Vero Beach (additions), except those Indian River portions of Sebastian Creek and Turkey Creek upstream of U.S. Highway 1 (1-26-88)	Brevard/Indian River
19. Indian River Vero Beach to Ft. Pierce (as mod. 10-4-90)	Indian River/St. Lucie
20. Jensen Beach to Jupiter Inlet (as mod. 10-4-90)	Martin/Palm Beach/St. Lucie
21. Lake Jackson	Leon
22. Lemon Bay (4-19-88; as mod. 10-4-90)	Charlotte/Sarasota
23. Lignumvitae Key	Monroe
24. Loxahatchee River-Lake Worth Creek (as mod. 8-8-94)	Martin/Palm Beach
25. Matlacha Pass	Lee
26. Mosquito Lagoon	Volusia/Brevard
27. Nassau River-St. Johns River Marshes	Nassau/Duval
28. North Fork, St. Lucie	St. Lucie/Martin
29. Oklawaha River (10-4-90)	Marion
30. Pellicer Creek	St. Johns/Flagler
31. Pine Island Sound	Lee
32. Pinellas County	Pinellas

33. Rainbow Springs (4-19-88)	Marion
34. Rocky Bayou State Park	Okaloosa
35. Rookery Bay (12-1-82; as mod. 11-24-87, 7-11-91)	Collier
36. St. Andrews State Park	Bay
37. St. Joseph Bay	Gulf
38. St. Martins Marsh (as mod. 8-8-94)	Citrus
39. Terra Ceia (5-22-86)	Manatee
40. Tomoka Marsh	Volusia/Flagler
41. Wekiva River (12-1-82)	Lake/Orange/ Seminole
42. Wekiva River Addition, except that portion of the St. Johns River between Interstate Highway 4 and the Wekiva River confluence (12-28-88)	Lake/Seminole/ Volusia
43. Yellow River Marsh	Santa Rosa

(i) Special Waters.

1. Apalachicola River except for the following areas:

a. From a point 50 feet north of the northern boundary of the Jackson County Port Authority Slip, and including the slip itself, downstream to a point about four-tenths of a mile downstream, and specifically identified by navigation mile 103 on the 1982 U.S. Geological Survey Quadrangle Map of Sneads, Florida; and

b. From 850 feet downstream of the U.S. Army Corps of Engineers Blountstown Navigation Gage in Calhoun County, north to a point approximately 2,700 feet upstream of the Gage, and specifically identified by the line passing through 30º 25' 45" N. Lat. and 85º 1' 35" W. Long.; and 30º 25' 38" N. Lat. and 85º 1' 20" W. Long. (12-11-84).

2. Aucilla River.

3. Blackwater River.

4. Butler Chain of Lakes – consisting of Lake Butler, Lake Down, Wauseon Bay, Lake Louise, Lake Palmer (also known as Lake Isleworth), Lake Chase, Lake Tibet, Lake Sheen, Pocket Lake, Fish Lake, and the waterways which connect these lakes (3-1-84), and Lake Blanche and its connecting waterway (2-18-87).

5. Chassahowitzka River System including: Potter, Salt, Baird, Johnson, Crawford, Ryle, and Stevenson Creeks, and other tributaries to the Chassahowitzka River; but excluding artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (1-5-93).

6. Chipola River.

7. Choctawhatchee River.

8. Clermont Chain of Lakes – consisting of Lake Louisa (also known as Lake Louise), Lake Susan, Lake Crescent, Lake Minnehaha, Lake Winona, Lake Palatlakaha, Lake Hiawatha, Lake Minneola, Lake Wilson, Lake Cook, Cherry Lake, Lake Hunt, Lake Stewart, Lake Lucy, Lake Emma, and the waterways that interconnect Clermont Chain of Lakes (5-28-86).

9. Crooked Lake in Polk County including the area known as Little Crooked Lake and the connecting waterway between these waterbodies; less however, artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (4-9-87).

10. Crystal River, including Kings Bay (2-1-83).

11. Econlockhatchee River System – consisting of the Econlockhatchee River and the following tributaries:

a. Little Econlockhatchee River upstream to Michaels Dam in Jay Blanchard Park; and

b. Mills Creek upstream to Mills Lake; and

c. Southerly branch of Mills Creek upstream to Fort Christmas Road in Section 2, Township 22 South, Range 32 East; and

d. Silcox Branch (branch of Mills Creek) upstream to Lake Pickett; and

e. Long Branch upstream to the eastern section line of Section 34, Township 22 South, Range 32 East; and

f. Hart Branch upstream to the Old Railroad Grade in Section 18, Township 23 South, Range 32 East; and

g. Cowpen Branch upstream to the southernmost bifurcation of the creek in Section 20, Township 23 South, Range 32 East; and

h. Green Branch upstream to the western section line of Section 29, Township 23 South, Range 32 East; and

i. Turkey Creek upstream to Weewahootee Road in Section 5, Township 24 South, Range 32 East, and to the west section lines of Section 5, Township 24 South, Range 32 East, and Section 32, Township 23 South, Range 32 East; and

j. Little Creek upstream to the eastern section line of Section 22, Township 24 South, Range 32 East; and

k. Fourmile Creek upstream to the southern line of the NE 1{2} of Section 28, Township 24 South, Range 32 East; and

l. Econlockhatchee River Swamp upstream to State Road 532;

m. But excluding all other tributaries and artificial water bodies, defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (6-18-92).

12. Estero Bay Tributaries including: Hendry Creek to State Road 865, Big Bayou, Mullock Creek to U.S. 41 (State Road 45); Mud Creek; Estero River (north and south branches) to I-75 Halfway Creek to State Road 41; Spring Creek to Business Route 41 (State Road 887, old State Road 41), and the unnamed south branch of Spring Creek in Sections 20 and 29; Imperial River to the eastern line of Section 31, Range 26 East, Township 47 South, Oak Creek, and Leitner Creek; except for Tenmile Canal and any artificial water bodies, defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (10-4-90).

13. Florida Keys, including channels as defined in subsection 62-312.020(4), F.A.C., and described as follows: Commence at the northeasterly most point of Palo Alto Key and run due north to a point at the center of the channel of Broad Creek as the point of beginning, thence due east to the eastern boundary of the jurisdictional waters of the State of Florida, thence meander southerly along said eastern boundary to a point due south of the westernmost point of the island of Key West; thence westerly, northerly and easterly along the arc of a curve three leagues distant from the westernmost point of the island of Key West to a point due north of the island of Key West; thence northeasterly three leagues distant from the most northerly land of the Florida Keys to the intersection with the boundary of the Everglades National Park; thence southeasterly, northeasterly and northwesterly along the boundary of the Everglades National Park to the intersection with the Dade County-Monroe County line; thence northeasterly and easterly along the Dade County-Monroe County line to the point of beginning; less however, three areas:

a. Key West Sewage Outfall, being a circle 150 feet in radius from the point of discharge located at approximately 24º 32' 13" N. Latitude and 81º 48' 55" W. Longitude; and

b. Stock Island Power Plant Mixing Zone; being a circle 150 feet in radius from the end of the power plant discharge canal; and

c. Artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (5-8-85).

14. Hillsborough River from Fletcher Avenue (State Road 582A) in Hillsborough County upstream to the Withlacoochee River Overflow in Pasco County, and the following tributaries:

a. Crystal Springs; and

b. Blackwater Creek westward of the Hillsborough – Polk County line; and

c. Cypress Creek, Thirteenmile Run eastward of Livingston Avenue, and Big Cypress Swamp upstream to and including the Cypress Creek Wellfield, as delineated in the maps entitled "Cypress Creek OFW Boundary Maps," incorporated herein by reference; and

d. Trout Creek upstream to Bruce B. Downs Boulevard (State Road 581);

e. But excluding all other tributaries as well as the proposed transportation corridor, which crosses Cypress Creek in Section 21, Township 27 South, Range 19 East, as identified in the Adopted 2010 Long Range Transportation Plan of the Metropolitan Planning Organization, dated May 26, 1993.

f. A copy of the maps referenced in subparagraph c. above may be obtained from the Department of Environmental Protection, Bureau of Surface Water Management, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400 (4-12-95).

15. Homosassa River System including: Halls River, Turtle, Otter, Battle, and Price Creeks, and other tributaries to the Homosassa River; but excluding artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (1-5-93).

16. Kingsley Lake and Black Creek (North Fork) downstream to the northern line of Section 23, Township 5 South, Range 23 East, including all tributaries along this segment of Black Creek (11-8-90).

17. Lake Disston – Specifically including Lake Disston plus contiguous wetlands within the following areas: Township 14 South, Range 29 East, Sections 21, 20, 19, 18, 17, 16, 9, 8 and 7 in Flagler County; and Township 14 South, Range 28 East, Sections 13 and 24 in Volusia County except:

a. Artificial water bodies defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C.; and

b. Any natural water bodies connected by artificial water bodies to the above-described system.

18. Lake Powell, Phillips Inlet, and all tributaries to Lake Powell as bounded by the following described line: Begin at the Northwest corner of Section 26, Township 2 South, Range 18 West; thence East to the Northwest corner of Section 29, Township 2 South, Range 17 West; thence South to the Northwest corner of the SW 1/4 of Section 29, Township 2 South, Range 17 West; thence East to the West line of Section 27, Township 2 South, Range 17 West, thence South to the mean high water line of the Gulf of Mexico; thence meander Northwest along the mean high water line to the West line of Section 35, Township 2 South, Range 18 West; thence North to the point of beginning (8-18-91).

19. Lemon Bay estuarine system – from Boca Grande Causeway northward to approximately two thousand feet northwest of the mouth of Alligator Creek, specifically identified as the East line of Section 31, Township 39 South, Range 19 East, including Placida Harbor, Gasparilla Pass, Kettle Harbor, Bocilla Lagoon, Bocilla Pass, Knight Pass, Stump Pass, Lemon Bay, Buck Creek upstream to County Road 775, Oyster Creek upstream to County Road 775, Ainger (Rock) Creek upstream to County Road 775, and Godfrey (Godfried, Gottfried) Creek upstream to County Road 775; but excluding:

a. Alligator Creek, Forked Creek, Lemon Creek, and all other tributaries; and

b. Artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (4-29-86).

20. Little Manatee River – from its mouth to the western crossing of the river by S.R. 674, including Hayes, Mill and Bolster Bayous, but excluding South Fork, Ruskin Inlet and all other tributaries (10-1-82).

21. Lochloosa Lake (including Little Lochloosa Lake, Lochloosa Lake Right Arm, and Lochloosa Creek upstream to County Road 20A) (12-15-87).

22. Myakka River between State Road 771 (El Jobean Bridge) and the Charlotte-Sarasota County line, except for artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (4-19-88).

23. Ochlockonee River.

24. Oklawaha River between the eastern line of Section 36, Township 15 South, Range 23 East, and Eureka Lock and Dam, including Turkey Creek, Strouds Creek, Dead River (the water body so named near Gores Landing), Cedar Creek, and Fish Creek, but excluding Marshall Swamp, the Dead River (the water body so named exiting Marshall Swamp), and all other tributaries (12-20-89).

25. Orange Lake up to the U.S. Highway 301 bridge, the River Styx up to Camps Canal, and Cross Creek (4-9-87).

26. Perdido River.

27. Rainbow River, including Indian Creek, but excluding all other tributaries (1-17-85).

28. Santa Fe River System – consisting of the Santa Fe River, Lake Santa Fe, Little Lake Santa Fe, Santa Fe Swamp, Olustee Creek, and the Ichetucknee River below S.R. 27, but excluding all other tributaries (8-16-84).

29. Sarasota Bay estuarine system – generally extending from Venice north to the Hillsborough-Manatee County line and specifically described as follows: Commence at the northern tip of Anna Maria Island and follow a line running to the southern tip of Egmont Key until intersecting the boundary between Hillsborough and Manatee Counties; thence run easterly and northeasterly along the county boundary until intersecting the Intracoastal Waterway; thence proceed southerly until intersecting a line between the southern tip of Mullet Key and the western tip of Snead Island; thence proceed southeasterly along said line to the western tip of Snead Island; thence to De Soto Point; and thence westerly and southerly including all of the Sarasota Bay estuarine system southward to the northernmost U.S. Highway Business Route 41 bridge over the Intracoastal Waterway in Venice, including Anna Maria Sound, Passage Key Inlet, Perico Bayou, Palma Sola Bay, Longboat Pass, Sarasota Bay, New Pass, Big Sarasota Pass, Roberts Bay, Little Sarasota Bay, Dryman Bay, Blackburn Bay, Lyons Bay, Venice Inlet, Dona Bay upstream to the U.S. Highway 41 bridge, and Roberts Bay upstream to the U.S. Highway 41 bridge; less however, the following areas:

a. All tributaries, including Palma Sola Creek, Bowlees Creek, Whitaker Bayou, Hudson Bayou, Phillippi Creek, Catfish Creek, North Creek, South Creek, Shakett Creek, Curry Creek; and

b. A circle 1500 feet in radius from the mouth of Whitaker Bayou; and

c. A circle 1500 feet in radius from the mouth of Phillippi Creek; and

d. Artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (4-29-86).

e. The designation shall not affect the consideration by the Department of an application for Site Specific Alternative Criteria for the discharge of the City of Bradenton’s Municipal Sewage Treatment Plant being built under Department of Environmental Protection Construction Permit No. DC41-81224. The application will be processed under the regulations of the Department existing on February 18, 1986.

30. St. Marks River – except that part between Rattlesnake Branch and the confluence of the St. Marks and Wakulla Rivers.

31. Shoal River.

32. Silver River (Marion County) (4-9-87).

33. Spruce Creek upstream to State Road 40A, and the following tributaries:

a. Unnamed tributary upstream to the Southern section line of Section 4, Township 17 South, Range 33 East; and

b. Unnamed tributary upstream to the Northern section line of Section 20, Township 16 South, Range 33 East; and

c. Unnamed tributary upstream to the Northern section line of Section 23, Township 16 South, Range 32 East (right fork), and to the Western line of the NE 1/4 of Section 27, Township 16 South, Range 32 East; and

d. Unnamed tributary upstream to the Western section line Section 35, Township 16 South, Range 32 East; and

e. Strickland Bay; and Turnbull Bay and Turnbull Creek upstream to the Northwestern section line of Section 43, Township 17 South, Range 33 East; and

f. Murray Creek upstream to the Town of Ponce Inlet municipal limits; and

g. Waters east from U.S. Highway 1 following the northerly and southerly municipal limits of the Town of Ponce Inlet to its intersection with the western boundary of the Intracoastal Waterway and including Rose Bay upstream to Nova Road (State Road 5A);

h. But excluding all other tributaries (7-11-91).

34. Suwannee River.

35. Tomoka River upstream to Interstate Highway 4; and the following tributaries:

a. Priest Branch upstream to the Western and Southern section lines of Section 6, Township 15 South, Range 32 East; and

b. Little Tomoka River and its tributaries as bounded by the following described line: Begin at the Southwestern point of confluence between the Tomoka River and the Little Tomoka River; thence meander upstream along the Little Tomoka River to the Western section line of Section 25, Township 14 South, Range 31 East; thence South to the Southwest corner of Section 25, Township 14 South, Range 31 East; thence West to the Southwest corner of Section 28, Township 14 South, Range 31 East; thence North to the Northwest corner of Section 28, Township 14 South, Range 31 East; thence East to the West section line of Section 25, Township 14 South, Range 31 East; thence South to the Northern shore of the Little Tomoka River; thence meander easterly to the confluence with the Tomoka River; thence South to the point of beginning; and

c. Groover Branch upstream to the Northern section line of Section 24, Township 14 South, Range 31 East; and

d. Misner's Branch upstream to the Northern section line of Section 29, Township 14 South, Range 32 East; and

e. Thompson Creek and Strickland Creek upstream to the Northern section line of Section 40, Township 14 South, Range 32 East;

f. But excluding all other tributaries (7-11-91).

36. Wacissa River.

37. Wakulla River.

38. Weekiwachee Riverine and Spring System – consisting of the Weekiwachee Springs and River, Mud Springs and River, Jenkins Creek, Salt Spring and Creek, the Weekiwachee Swamp, and all tributaries and contiguous wetlands within the following sections: Township 23 South, Range 17 East, Sections 2-9; Township 22 South, Range 17 East, Sections 20, 21, and 27-35, together with that portion of Section 19 that is southerly of CR 550 (Cortez Blvd.); Township 22 South, Range 16 East, Sections 25 and 36; including any and all waters, and wetlands contiguous to the tributaries located southerly of the north line of Section 25, Township 22 South, Range 16 East and westerly projection thereof and easterly of the west line of Section 36, Township 22 South, Range 16 East and northerly projection thereof, and easterly of a line through latitude 28º 32' 52" North, longitude 82º 39' 23" West, and through latitude 28º 31' 47" North, longitude 82º 39' 52" West (North American Datum of 1983). This OFW excludes artificial waters defined as any water body created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (12-11-03).

39. Wekiva River System – consisting of the Wekiva River, Rock Springs Run and its tributary Sulphur Spring, the Little Wekiva River south to its confluence with the southernmost run of Sanlando Springs, Black Water Creek and Swamp (up to Lake Dorr), Lake Norris, Seminole Springs and Creek, Seminole Swamp, Sulphur Spring and Run, and Messant Spring and Creek, but excluding all other tributaries (12-28-88).

40. Wiggins Pass Estuarine Area and the Cocohatchee River System – the estuarine and marine waters from the Lee/Collier County line southward through and including Water Turkey Bay to 50 feet north of S.R. 846 (Bluebill Ave.) 1995 right-of-way; the Cocohatchee River downstream from 50 feet west of U.S. 41 1995 right-of-way; and Wiggins Pass; but excluding maintenance dredging as authorized by Section 403.813(2)(f), F.S., in the following areas:

a. Wiggins Pass from the Gulf of Mexico eastward for 200 linear feet (as measured from the southwestern point of Little Hickory Island);

b. The channel (South Channel, Vanderbilt Channel), that connects Wiggins Pass with Vanderbilt Lagoon through Water Turkey Bay; and

c. East Channel (for purposes of this designation described as the East Channel from its confluence with South Channel to Vanderbilt Drive, including all waters surrounding the spoil islands known as Conklin Point and Island Marina).

41. Withlacoochee Riverine and Lake System, including:

a. The Withlacoochee River downstream of State Road 33 in Lake County to eastern section line of Section 33, Township 16 South, Range 18 East; and

b. The lower Withlacoochee River, from the Gulf of Mexico to the Cross Florida Barge Canal By-Pass Spillway, but not including that portion of the river between Lake Rousseau and the Cross Florida Barge Canal; and

c. The Little Withlacoochee River; and

d. Jumper Creek downstream of State Road 35, including Jumper Creek Swamp; and

e. Gum Springs, Gum Slough (Dead River), and Gum Swamp; and

f. Lake Panasoffkee, Outlet River, Little Jones Creek, Big Jones Creek, and Rutland Creek; and

g. Shady (Brook, Panasoffkee) Creek downstream of State Road 468, including Warm Spring Hammock; and

h. Lake Tsala Apopka; and

i. But excluding all other tributaries and artificial waterbodies, defined as any waterbody created by dredging, or excavation, or by the filling in of its boundaries, including canals as defined in subsection 62-312.020(3), F.A.C. (4-10-89); and

(j) Waters within Rivers Designated Under the Florida Scenic and Wild Rivers Program, Federal Wild and Scenic Rivers Act of 1968 as amended, and Myakka River Wild and Scenic Designation and Preservation Act

River Segment	County
1. Loxahatchee National Wild and Scenic River Segment (5-14-86)	Martin/Palm Beach
2. Myakka Florida Wild and Scenic River Segment (5-14-86)	Sarasota
3. Wekiva Florida Scenic and Wild River Segment (12-1-82)	Lake/Seminole

(k) Waters within National Preserves

National Preserve	County
1. Big Cypress National Preserve (as mod. 5-14-86, 4-19-88, 8-8-94)	Collier/Dade/ Monroe
2. Timucuan Ecological and Historic Preserve (8-8-94)	Duval

(l) Waters within National Marine Sanctuaries

Marine Sanctuary	County
1. Key Largo	Monroe
2. Looe Key (12-1-82)	Monroe

(m) Waters within National Estuarine Research Reserves

National Estuarine Research Reserve	County
1. Apalachicola (12-1-82; as mod. 5-14-86, 4-19-88)	Franklin/Gulf
2. Rookery Bay (as mod. 5-14-86, 4-19-88)	Collier

(n) Certain Waters within the Boundaries of the National Forests

National Forest	County
1. Apalachicola	Wakulla/Leon/ Franklin
a. Sopchoppy River (9-1-82)	
b. Big Dismal Sink (9-1-82)	
2. Ocala	Putnam/Marion/ Lake
a. Alexander Springs (9-1-82)	
b. Alexander Springs Creek (9-1-82)	
c. Juniper Springs (9-1-82)	
d. Juniper Creek (9-1-82)	
e. Salt Springs (9-1-82)	
f. Salt Springs Run (9-1-82)	
g. Lake Dorr (9-1-82)	
h. Lake Kerr (9-1-82)	
i. Little Lake Kerr (9-1-82)	
3. Osceola	Baker/Columbia
a. Deep Creek (9-1-82)	
b. Robinson Creek (9-1-82)	
c. Middle Prong – St. Marys River (9-1-82)	
d. Ocean Pond (9-1-82)	
e. Falling Creek (9-1-82)	

(10) Outstanding National Resource Waters:

(a) The Commission designates the following waters as Outstanding National Resource Waters:

1. Biscayne National Park, as described in the document entitled "Outstanding National Resource Waters Boundary Description and Map for Biscayne National Park", dated June 15, 1989, herein adopted by reference.

2. Everglades National Park, as described in the document entitled "Outstanding National Resource Waters Boundary Description and Map for Everglades National Park", dated June 15, 1989, herein adopted by reference.

(b) It is the intent of the Commission that water bodies designated as Outstanding National Resource Waters shall be protected and maintained to the extent required by the federal Environmental Protection Agency. Therefore, the designations set forth in paragraph 62-302.700(10)(a), F.A.C., shall not be effective until the Florida Legislature enacts legislation specifically authorizing protection and maintenance of Outstanding National Resource Waters to the extent required by the federal Environmental Protection Agency pursuant to 40 C.F.R. 131.12.

(c) It is also the intent of the Commission to utilize the Surface Water Improvement and Management Act planning process, as outlined in Section 373.451, F.S., and Chapter 62-43, F.A.C., to establish the numerical standards for water quality parameters appropriate for Everglades and Biscayne National Parks' status as outstanding National Resource Waters.

(d) The baseline for defining the existing ambient water quality (paragraph 62-4.242(2)(c), F.A.C.) in Outstanding National Resource Waters is a five year period from March 1, 1976 to March 1, 1981, unless otherwise indicated.

Specific Authority 403.061, 403.087, 403.088, 403.804, 403.805 FS. Law Implemented 403.021, 403.061, 403.062, 403.087, 403.088, 403.101, 403.141, 403.182, 403.502, 403.702, 403.708, 403.918 FS. History–New 3-1-79, Amended 8-10-80, 8-24-82, 9-30-82, 11-30-82, 2-1-83, 6-1-83, 3-1-84, 8-16-84, 12-11-84, 1-17-85, 5-8-85, 4-29-86, 5-14-86, 5-22-86, 5-28-86, 10-29-86, 2-18-87, 4-9-87, 11-24-87, 12-15-87, 1-26-88, 4-19-88, 12-28-88, 4-10-89, 9-13-89, 10-4-89, 12-20-89, 1-28-90, Formerly 17-3.041, Amended 10-4-90, 11-8-90, 7-11-91, 8-18-91, 12-11-91, 6-18-92, 1-5-93, 8-8-94, Formerly 17-302.700, Amended 1-23-95, 4-3-95, 4-12-95, 7-16-96, 4-4-01, 12-11-03.

62-302.800 Site Specific Alternative Criteria.

(1) A water body, or portion thereof, may not meet a particular ambient water quality criterion specified for its classification, due to natural background conditions or man-induced conditions which cannot be controlled or abated. In such circumstances, and upon petition by an affected person or upon the initiation by the Department, the Secretary may establish a site specific alternative water quality criterion when an affirmative demonstration is made that an alternative criterion is more appropriate for a specified portion of waters of the state. Public notice and an opportunity for public hearing shall be provided prior to issuing any order establishing alternative criteria.

(a) The affirmative demonstration required by this section shall mean a documented showing that the proposed alternative criteria would exist due to natural background conditions or man-induced conditions which cannot be controlled or abated. Such demonstration shall be based upon relevant factors which include:

1. A description of the physical nature of the specified water body and the water pollution sources affecting the criterion to be altered.

2. A description of the historical and existing water quality of the parameter of concern including, spatial, seasonal, and diurnal variations, and other parameters or conditions which may affect it. Conditions in similar water bodies may be used for comparison.

3. A description of the historical and existing biology, including variations, which may be affected by the parameter of concern. Conditions in similar water bodies may be used for comparison.

4. A discussion of any impacts of the proposed alternative criteria on the designated use of the waters and adjoining waters.

(b) The Secretary shall specify, by order, the site specific criteria for the parameters which the Secretary determines to have been demonstrated by the preponderance of competent substantial evidence to be more appropriate.

(2) In accordance with the procedures set forth below, affected persons may petition the Department to adopt an alternative water quality criterion for a specific water body, or portion thereof, on the basis of site-specific reasons other than those set forth above in subsection 62-302.800(1), F.A.C. The Department shall process any such petition as follows:

(a) No later than 60 days after receipt of a petition, the Department shall review the petition and notify the petitioner of whether the petition is sufficiently complete to enable the Department to evaluate the proposed site-specific alternative criterion under subparagraph (c) below. If the petition is not sufficiently complete, the Department shall request the submittal of additional information. The Department shall review any additional information within 60 days of receipt from the applicant and may then request only that information reasonably needed to clarify or answer new questions directly related to the additional information, unless the Department shows good cause for not having requested the information previously.

(b) Petitions deemed complete by the Department shall be processed under subparagraph (c). For any petition not deemed complete, if the petitioner believes that additional information requested by the Department under subparagraph (a) is not necessary to the Department's evaluation, the Department, at the petitioner's request, shall proceed to process the petition under subparagraph (c) below.

(c) The Department shall initiate rulemaking for the Commission to consider approval of the proposed alternative criterion as a rule if the petitioner meets all the requirements of this subparagraph and its subparts. The petitioner must demonstrate that the proposed criterion would fully maintain and protect human health, existing uses, and the level of water quality necessary to protect human health and existing and designated beneficial uses. If the petition fails to meet any of these requirements (including the required demonstration), the Department shall issue an order denying the petition. In deciding whether to initiate rulemaking or deny the petition, the Department shall evaluate the petition and other relevant information according to the following criteria and procedures:

1. The petition shall include all the information required under subparagraphs (1)(a)1.-4. above.

2. In making the demonstration required by this subparagraph (c), the petition shall include an assessment of aquatic toxicity, except on a showing that no such assessment is relevant to the particular criterion. The assessment of aquatic toxicity shall show that physical and chemical conditions at the site alter the toxicity or bioavailability of the compound in question and shall meet the requirements and follow the Indicator Species procedure set forth in *Water Quality Standards Handbook* (December 1983), a publication of the United States Environmental Protection Agency, incorporated here by reference.

3. The demonstration shall also include a risk assessment that determines the human exposure and health risk associated with the proposed alternative criterion, except on a showing that no such assessment is relevant to the particular criterion. The risk assessment shall include all factors and follow all procedures required by generally accepted scientific principles for such an assessment, such as analysis of existing water and sediment quality, potential transformation pathways, the chemical form of the compound in question, indigenous species, bioaccumulation and bioconcentration rates, and existing and potential rates of human consumption of fish, shellfish, and water. If the results of the assessments of health risks and aquatic toxicity differ, the more stringent result shall govern.

4. The demonstration shall include information indicating that one or more assumptions used in the risk assessment on which the existing criterion is based are inappropriate at the site in question and that the proposed assumptions are more appropriate or that physical or chemical characteristics of the site alter the toxicity or bioavailability of the compound. Such a variance of assumptions, however, shall not be a ground for a proposed alternative criterion unless the assumptions characterize a factor specific to the site, such as bioaccumulation rates, rather than a generic factor, such as the cancer potency and reference dose of the compound. Man-induced pollution that can be controlled or abated shall not be deemed a ground for a proposed alternative criterion.

5. The petition shall include all information required for the Department to complete its economic impact statement for the proposed criterion.

6. For any alternative criterion more stringent than the existing criterion, the petition shall include an analysis of the attainability of the alternative criterion.

7. No later than 180 days after receipt of a complete petition or after a petitioner requests processing of a petition not found to be complete, the Department shall notify the petitioner of its decision on the petition. The Department shall publish in the Florida Administrative Weekly either a notice of rulemaking for the proposed alternative criterion or a notice of the denial of the petition, as appropriate, within 30 days after notifying the petitioner of the decision. A denial of the petition shall become final within 14 days unless timely challenged under Section 120.57, F.S.

(d) The provisions of this subsection do not apply to criteria contained in Rule 62-302.500, F.A.C., or criteria that apply to:

1. Bacteriological Quality.
2. Biological Integrity.
3. B.O.D.
4. Chlorides.
5. Color.
6. Detergents.
7. Dissolved Oxygen.
8. Dissolved Solids.
9. Nutrients.
10. Odor.
11. Oils and Greases.
12. Radioactive Substances.
13. Specific Conductance.
14. Substances in concentrations that injure, are chronically toxic to, or produce adverse physiological or behavioral response in humans, animals, or plants.
15. Substances in concentrations that result in the dominance of nuisance species.
16. Total Dissolved Gases.
17. Transparency.
18. Turbidity.
19. Any criterion or maximum concentration based on or set forth in paragraph 62-4.244(3)(b), F.A.C.

(e) Despite any failure of the Department to meet a deadline set forth in this subsection (4), the grant of an alternative criterion shall not become effective unless approved as a rule by the Commission.

(f) Nothing in this rule shall alter the rights afforded to affected persons by Chapter 120, F.S.

(3) The Department shall modify permits of existing sources affected in a manner consistent with the Secretary’s Order.

(4) Additional relief from criteria established by this Chapter may be provided through exemption pursuant to Rule 62-4.243, F.A.C., or variances as provided for by Rule 62-103.100, F.A.C.

Specific Authority 403.061, 403.062, 403.087, 403.504, 403.704, 403.804, 403.805 FS. Law Implemented 403.021, 403.061, 403.087, 403.088, 403.141, 403.161, 403.201, 403.502 FS. History–Formerly 17-3.05(4), Amended 3-1-79, 10-2-80, 2-1-83, Formerly 17-3.031, Amended 6-17-92, Formerly 17-302.800, Amended 5-15-02.

Ground Water Data for Brooker Creek Watershed								
Primary Station ID	**Station Location Name**	**Latitude**	**Longitude**	**Start Date**	**Start Time**	**Parameter Code**	**Parameter Long Name**	**Result Value**
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	10	TEMPERATURE, WATER (DEGREES CENTIGRADE)	25.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	10	TEMPERATURE, WATER (DEGREES CENTIGRADE)	24.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	94	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)	55.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	94	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)	110.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	400	PH (STANDARD UNITS)	5.15
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	400	PH (STANDARD UNITS)	4.84
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	403	PH, LAB, STANDARD UNITS SU	4.82
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	440	BICARBONATE ION (MG/L AS HCO3)	2.10
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	445	CARBONATE ION (MG/L AS CO3)	0.10
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	650	PHOSPHATE, TOTAL (MG/L AS PO4)	0.05
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	680	CARBON, TOTAL ORGANIC (MG/L AS C)	7.39
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	745	SULFIDE, TOTAL (MG/L AS S)	5.50
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	916	CALCIUM, TOTAL (MG/L AS CA)	1.08
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	916	CALCIUM, TOTAL (MG/L AS CA)	1.21
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	927	MAGNESIUM, TOTAL (MG/L AS MG)	2.26
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	927	MAGNESIUM, TOTAL (MG/L AS MG)	3.44
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	929	SODIUM, TOTAL (MG/L AS NA)	2.90
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	929	SODIUM, TOTAL (MG/L AS NA)	2.81
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	937	POTASSIUM, TOTAL MG/L AS K)	1.21
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	937	POTASSIUM, TOTAL MG/L AS K)	0.91
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	940	CHLORIDE,TOTAL IN WATER MG/L	5.74
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	945	SULFATE, TOTAL (MG/L AS SO4)	15.50
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	951	FLUORIDE, TOTAL (MG/L AS F)	0.04
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1002	ARSENIC, TOTAL (UG/L AS AS)	2.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1002	ARSENIC, TOTAL (UG/L AS AS)	2.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1007	BARIUM, TOTAL (UG/L AS BA)	50.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1007	BARIUM, TOTAL (UG/L AS BA)	400.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1027	CADMIUM, TOTAL (UG/L AS CD)	2.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1027	CADMIUM, TOTAL (UG/L AS CD)	167.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1034	CHROMIUM, TOTAL (UG/L AS CR)	12.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1034	CHROMIUM, TOTAL (UG/L AS CR)	30.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1042	COPPER, TOTAL (UG/L AS CU)	57.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1042	COPPER, TOTAL (UG/L AS CU)	6.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1045	IRON, TOTAL (UG/L AS FE)	13300.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1045	IRON, TOTAL (UG/L AS FE)	11900.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1051	LEAD, TOTAL (UG/L AS PB)	80.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1051	LEAD, TOTAL (UG/L AS PB)	40.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1055	MANGANESE, TOTAL (UG/L AS MN)	58.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1055	MANGANESE, TOTAL (UG/L AS MN)	45.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1077	SILVER, TOTAL (UG/L AS AG)	8.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1077	SILVER, TOTAL (UG/L AS AG)	10.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1092	ZINC, TOTAL (UG/L AS ZN)	27000.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1092	ZINC, TOTAL (UG/L AS ZN)	16.20
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	1147	SELENIUM, TOTAL (UG/L AS SE)	2.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	1147	SELENIUM, TOTAL (UG/L AS SE)	4.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	32101	BROMODICHLOROMETHANE,WHOLE WATER,UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	32102	CARBON TETRACHLORIDE,WHOLE WATER,UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	32104	BROMOFORM,WHOLE WATER,UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	32105	DIBROMOCHLOROMETHANE,WHOLE WATER,UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	32106	CHLOROFORM,WHOLE WATER,UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34301	CHLOROBENZENE TOTWUG/L	1.00

280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34311	CHLOROETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34361	ENDOSULFAN, ALPHA TOTWUG/L	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34371	ETHYLBENZENE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34413	METHYL BROMIDE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34418	METHYL CHLORIDE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34423	METHYLENE CHLORIDE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34475	TETRACHLOROETHYLENE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34488	TRICHLOROFLUOROMETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34496	1,1-DICHLOROETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34501	1,1-DICHLOROETHYLENE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34506	1,1,1-TRICHLOROETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34511	1,1,2-TRICHLOROETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34516	1,1,2,2-TETRACHLOROETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34531	1,2-DICHLOROETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34536	1,2-DICHLOROBENZENE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34541	1,2-DICHLOROPROPANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34546	TRANS-1,2-DICHLOROETHENE, TOTAL, IN WATER UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34566	1,3-DICHLOROBENZENE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34571	1,4-DICHLOROBENZENE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34576	2-CHLOROETHYL VINYL ETHER TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34668	DICHLORODIFUOROMETHANE TOTWUG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34699	TRANS-1,3-DICHLOROPROPENETOTAL IN WATER UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	34704	CIS-1,3-DICHLOROPROPENE TOTAL IN WATER UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	38760	DBCP WATER, TOTUG/L	0.04
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	38815	HEXAZINONE WATER, TOTUG/L	0.70
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	38845	METHAM WATER, TOTUG/L	3.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	38865	OXAMYL WATER, TOTUG/L	7.30
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	38929	FENAMIPHOS(NEMACUR) WHOLE WATER SAMPLE UG/L	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39033	ATRAZINE IN WHOLE WATER SAMPLE UG/L	0.05
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39051	METHOMYL IN WHOLE WATER (UG/L)	8.90
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39053	ALDICARB IN WHOLE WATER (UG/L)	0.20
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39055	SIMAZINE IN WHOLE WATER (UG/L)	0.06
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39175	VINYL CHLORIDE-WHOLE WATER SAMPLE-UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39180	TRICHLOROETHYLENE-WHOLE WATER SAMPLE-UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39300	P,P' DDT IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39310	P,P' DDD IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39320	P,P' DDE IN WHOLE WATER SAMPLE (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39330	ALDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39340	GAMMA-BHC(LINDANE),WHOLE WATER,UG/L	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39350	CHLORDANE(TECH MIX & METABS),WHOLE WATER,UG/L	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39380	DIELDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39390	ENDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39400	TOXAPHENE IN WHOLE WATER SAMPLE (UG/L)	0.10
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39410	HEPTACHLOR IN WHOLE WATER SAMPLE (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39420	HEPTACHLOR EPOXIDE IN WHOLE WATER SAMPLE (UG/L)	0.08
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39480	METHOXYCHLOR IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39516	PCBS IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39570	DIAZINON IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39650	DIURON IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39730	2,4-D IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39755	MIREX, TOTAL (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39760	SILVEX IN WHOLE WATER SAMPLE (UG/L)	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	39770	DACTHAL (DCPA) IN WHOLE WATER SAMPLE (UG/L)	0.50
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	46315	ETHYL PARATHION IN WHOLE WATER SAMPLE (UG/L)	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	46570	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)	12.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	46570	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)	17.19
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	70300	RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	75.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	71900	MERCURY, TOTAL (UG/L AS HG)	2.30

280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	17-Apr-86	2500	71900	MERCURY, TOTAL (UG/L AS HG)	3.10
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	72000	ELEVATION OF LAND SURFACE DATUM (FT. ABOVE MSL)	53.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	72008	DEPTH, TOTAL OF WELL (FT BELOW LAND SURFACE DATUM)	29.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	73665	BOTTOM OF CASING SEGMENT BELOW LSD FEET	27.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	77548	CHLOROPICRIN WHOLE WATER,UG/L	0.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	77651	1,2-DIBROMOETHANE WHOLE WATER,UG/L	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	77825	ALACHLOR WHOLE WATER,UG/L	0.20
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	78124	BENZENE IN WATER (VOLATILE ANALYSIS) UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	78131	TOLUENE IN WHOLE WATER (VOLATILE ANALYSIS) UG/L	1.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	81405	CARBOFURAN (EURADAN) WHOLE WATER SAMPLE UG/L	2.60
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	81408	METRIBUZIN (SENCOR), WATER, WHOLE UG/L	0.40
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	81758	ETHOPROP IN THE WHOLE WATER SAMPLE UG/L	0.01
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	4-Nov-85	2500	82198	BROMACIL (HYVAR) IN WATER UG/L	2.38
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	82509	SCREENED INTERVAL (FEET)	3.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	82513	CASING DIAMETER (INCHES)	6.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	82514	MEASURING POINT ELEVATION (FEET)	55.00
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	84061	WELL USE ALPHA-NUMERIC CODE	OBSWL
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	84113	WELL INTAKE FINISH CODE	UNKSC
280652082341602	WMD SITE ID JAMES # 10 SHALLOW	28.114444	82.571111	1-Jun-84	1200	84114	WELL CASING MATERIAL CODE	GALFE
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	10	TEMPERATURE, WATER (DEGREES CENTIGRADE)	23.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	94	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)	200.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	400	PH (STANDARD UNITS)	7.70
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	403	PH, LAB, STANDARD UNITS SU	7.51
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	440	BICARBONATE ION (MG/L AS HCO3)	108.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	445	CARBONATE ION (MG/L AS CO3)	0.10
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	650	PHOSPHATE, TOTAL (MG/L AS PO4)	0.18
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	680	CARBON, TOTAL ORGANIC (MG/L AS C)	16.80
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	745	SULFIDE, TOTAL (MG/L AS S)	0.10
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	916	CALCIUM, TOTAL (MG/L AS CA)	29.90
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	927	MAGNESIUM, TOTAL (MG/L AS MG)	1.86
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	929	SODIUM, TOTAL (MG/L AS NA)	3.20
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	937	POTASSIUM, TOTAL MG/L AS K)	0.23
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	940	CHLORIDE,TOTAL IN WATER MG/L	5.70
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	945	SULFATE, TOTAL (MG/L AS SO4)	4.50
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	951	FLUORIDE, TOTAL (MG/L AS F)	0.15
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1002	ARSENIC, TOTAL (UG/L AS AS)	2.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1007	BARIUM, TOTAL (UG/L AS BA)	30.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1027	CADMIUM, TOTAL (UG/L AS CD)	2.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1034	CHROMIUM, TOTAL (UG/L AS CR)	12.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1042	COPPER, TOTAL (UG/L AS CU)	13.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1045	IRON, TOTAL (UG/L AS FE)	980.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1051	LEAD, TOTAL (UG/L AS PB)	20.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1055	MANGANESE, TOTAL (UG/L AS MN)	23.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1077	SILVER, TOTAL (UG/L AS AG)	8.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1092	ZINC, TOTAL (UG/L AS ZN)	18.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	1147	SELENIUM, TOTAL (UG/L AS SE)	2.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	32101	BROMODICHLOROMETHANE,WHOLE WATER,UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	32102	CARBON TETRACHLORIDE,WHOLE WATER,UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	32104	BROMOFORM,WHOLE WATER,UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	32105	DIBROMOCHLOROMETHANE,WHOLE WATER,UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	32106	CHLOROFORM,WHOLE WATER,UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34301	CHLOROBENZENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34311	CHLOROETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34361	ENDOSULFAN, ALPHA TOTWUG/L	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34371	ETHYLBENZENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34413	METHYL BROMIDE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34418	METHYL CHLORIDE TOTWUG/L	1.00

280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34423	METHYLENE CHLORIDE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34475	TETRACHLOROETHYLENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34488	TRICHLOROFLUOROMETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34496	1,1-DICHLOROETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34501	1,1-DICHLOROETHYLENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34506	1,1,1-TRICHLOROETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34511	1,1,2-TRICHLOROETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34516	1,1,2,2-TETRACHLOROETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34531	1,2-DICHLOROETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34536	1,2-DICHLOROBENZENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34541	1,2-DICHLOROPROPANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34546	TRANS-1,2-DICHLOROETHENE, TOTAL, IN WATER UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34566	1,3-DICHLOROBENZENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34571	1,4-DICHLOROBENZENE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34576	2-CHLOROETHYL VINYL ETHER TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34668	DICHLORODIFUOROMETHANE TOTWUG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34699	TRANS-1,3-DICHLOROPROPENETOTAL IN WATER UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	34704	CIS-1,3-DICHLOROPROPENE TOTAL IN WATER UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39175	VINYL CHLORIDE-WHOLE WATER SAMPLE-UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39180	TRICHLOROETHYLENE-WHOLE WATER SAMPLE-UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39300	P,P' DDT IN WHOLE WATER SAMPLE (UG/L)	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39310	P,P' DDD IN WHOLE WATER SAMPLE (UG/L)	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39320	P,P' DDE IN WHOLE WATER SAMPLE (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39330	ALDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39340	GAMMA-BHC(LINDANE),WHOLE WATER,UG/L	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39350	CHLORDANE(TECH MIX & METABS),WHOLE WATER,UG/L	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39380	DIELDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39390	ENDRIN IN WHOLE WATER SAMPLE (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39400	TOXAPHENE IN WHOLE WATER SAMPLE (UG/L)	0.10
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39410	HEPTACHLOR IN WHOLE WATER SAMPLE (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39420	HEPTACHLOR EPOXIDE IN WHOLE WATER SAMPLE (UG/L)	0.08
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39480	METHOXYCHLOR IN WHOLE WATER SAMPLE (UG/L)	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39516	PCBS IN WHOLE WATER SAMPLE (UG/L)	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39730	2,4-D IN WHOLE WATER SAMPLE (UG/L)	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39755	MIREX, TOTAL (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	39760	SILVEX IN WHOLE WATER SAMPLE (UG/L)	0.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	46315	ETHYL PARATHION IN WHOLE WATER SAMPLE (UG/L)	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	46570	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)	82.32
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	70300	RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	135.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	71900	MERCURY, TOTAL (UG/L AS HG)	0.10
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	72000	ELEVATION OF LAND SURFACE DATUM (FT. ABOVE MSL)	57.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	72008	DEPTH, TOTAL OF WELL (FT BELOW LAND SURFACE DATUM)	300.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	73665	BOTTOM OF CASING SEGMENT BELOW LSD FEET	76.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	77651	1,2-DIBROMOETHANE WHOLE WATER,UG/L	0.01
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	78124	BENZENE IN WATER (VOLATILE ANALYSIS) UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	5-Nov-85	2500	78131	TOLUENE IN WHOLE WATER (VOLATILE ANALYSIS) UG/L	1.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	82509	SCREENED INTERVAL (FEET)	224.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	82513	CASING DIAMETER (INCHES)	16.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	82514	MEASURING POINT ELEVATION (FEET)	60.00
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	84061	WELL USE ALPHA-NUMERIC CODE	OBSWL
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	84113	WELL INTAKE FINISH CODE	OPNHL
280703082341701	WMD SITE ID JAMES # 11 DEEP	28.1175	82.571389	1-Jun-84	1200	84114	WELL CASING MATERIAL CODE	STEEL
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	10	TEMPERATURE, WATER (DEGREES CENTIGRADE)	23.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	76	TURBIDITY,HACH TURBIDIMETER (FORMAZIN TURB UNIT)	25.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	94	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)	170.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	406	PH, FIELD, STANDARD UNITS SU	4.99
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	608	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N)	0.07
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	0.06

280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	612	AMMONIA, UNIONZED (MG/L AS N)	0.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	619	AMMONIA, UNIONIZED (CALC FR TEMP-PH-NH4) (MG/L)	0.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	9.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	631	NITRITE PLUS NITRATE, DISS. 1 DET. (MG/L AS N)	5.20
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)	0.04
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	680	CARBON, TOTAL ORGANIC (MG/L AS C)	12.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	915	CALCIUM, DISSOLVED (MG/L AS CA)	18.80
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	916	CALCIUM, TOTAL (MG/L AS CA)	22.60
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	925	MAGNESIUM, DISSOLVED (MG/L AS MG)	1.20
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	927	MAGNESIUM, TOTAL (MG/L AS MG)	1.40
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	929	SODIUM, TOTAL (MG/L AS NA)	14.90
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	930	SODIUM, DISSOLVED (MG/L AS NA)	14.40
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	935	POTASSIUM, DISSOLVED (MG/L AS K)	6.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	937	POTASSIUM, TOTAL MG/L AS K)	5.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	941	CHLORIDE, DISSOLVED IN WATER MG/L	29.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	946	SULFATE, DISSOLVED (MG/L AS SO4)	24.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	950	FLUORIDE, DISSOLVED (MG/L AS F)	0.20
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1000	ARSENIC, DISSOLVED (UG/L AS AS)	20.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1002	ARSENIC, TOTAL (UG/L AS AS)	20.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1005	BARIUM, DISSOLVED (UG/L AS BA)	4.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1007	BARIUM, TOTAL (UG/L AS BA)	4.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1025	CADMIUM, DISSOLVED (UG/L AS CD)	0.10
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1027	CADMIUM, TOTAL (UG/L AS CD)	0.10
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1030	CHROMIUM, DISSOLVED (UG/L AS CR)	10.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1034	CHROMIUM, TOTAL (UG/L AS CR)	10.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1040	COPPER, DISSOLVED (UG/L AS CU)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1042	COPPER, TOTAL (UG/L AS CU)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1045	IRON, TOTAL (UG/L AS FE)	353.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1046	IRON, DISSOLVED (UG/L AS FE)	36.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1049	LEAD, DISSOLVED (UG/L AS PB)	2.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1051	LEAD, TOTAL (UG/L AS PB)	6.70
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1055	MANGANESE, TOTAL (UG/L AS MN)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1056	MANGANESE, DISSOLVED (UG/L AS MN)	4.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1065	NICKEL, DISSOLVED (UG/L AS NI)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1067	NICKEL, TOTAL (UG/L AS NI)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1075	SILVER, DISSOLVED (UG/L AS AG)	3.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1077	SILVER, TOTAL (UG/L AS AG)	3.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1080	STRONTIUM, DISSOLVED (UG/L AS SR)	10.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1082	STRONTIUM, TOTAL (UG/L AS SR)	12.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1090	ZINC, DISSOLVED (UG/L AS ZN)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1092	ZINC, TOTAL (UG/L AS ZN)	5.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1145	SELENIUM, DISSOLVED (UG/L AS SE)	3.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	1147	SELENIUM, TOTAL (UG/L AS SE)	3.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	4255	BICARBONATE ALKALINITY(CAC03),DISSOLVED,WATER MG/L	7.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	32101	BROMODICHLOROMETHANE,WHOLE WATER,UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	32102	CARBON TETRACHLORIDE,WHOLE WATER,UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	32104	BROMOFORM,WHOLE WATER,UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	32105	DIBROMOCHLOROMETHANE,WHOLE WATER,UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	32106	CHLOROFORM,WHOLE WATER,UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34301	CHLOROBENZENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34311	CHLOROETHANE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34371	ETHYLBENZENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34418	METHYL CHLORIDE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34423	METHYLENE CHLORIDE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34475	TETRACHLOROETHYLENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34496	1,1-DICHLOROETHANE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34501	1,1-DICHLOROETHYLENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34506	1,1,1-TRICHLOROETHANE TOTWUG/L	0.50

280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34511	1,1,2-TRICHLOROETHANE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34516	1,1,2,2-TETRACHLOROETHANE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34531	1,2-DICHLOROETHANE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34536	1,2-DICHLOROBENZENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34541	1,2-DICHLOROPROPANE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34546	TRANS-1,2-DICHLOROETHENE, TOTAL, IN WATER UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34561	1,3-DICHLOROPROPENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34566	1,3-DICHLOROBENZENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34571	1,4-DICHLOROBENZENE TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	34576	2-CHLOROETHYL VINYL ETHER TOTWUG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	39175	VINYL CHLORIDE-WHOLE WATER SAMPLE-UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	39180	TRICHLOROETHYLENE-WHOLE WATER SAMPLE-UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	46570	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)	51.89
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	70300	RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	163.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	71900	MERCURY, TOTAL (UG/L AS HG)	0.10
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	72000	ELEVATION OF LAND SURFACE DATUM (FT. ABOVE MSL)	45.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	72008	DEPTH, TOTAL OF WELL (FT BELOW LAND SURFACE DATUM)	27.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	72109	DEPTH TO WATER LEVEL FROM A MEASURING POINT (FEET)	15.29
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	73665	BOTTOM OF CASING SEGMENT BELOW LSD FEET	3.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	73675	VOL OF H20 EVACUATED FRM WELL PRIORTO SAMPLEGALLON	35.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	77651	1,2-DIBROMOETHANE WHOLE WATER,UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	78124	BENZENE IN WATER (VOLATILE ANALYSIS) UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	78131	TOLUENE IN WHOLE WATER (VOLATILE ANALYSIS) UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	81551	XYLENE WHL WATER SMPL UG/L	0.50
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	82509	SCREENED INTERVAL (FEET)	24.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	82513	CASING DIAMETER (INCHES)	2.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	82514	MEASURING POINT ELEVATION (FEET)	49.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	25-Feb-91	855	82514	MEASURING POINT ELEVATION (FEET)	49.00
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	84055	AVAILABLE LOGS ALPHA-NUMERIC CODE	D
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	84061	WELL USE ALPHA-NUMERIC CODE	OBSWL
280940082354701	WMD SITE ID CAMP KEYSTONE WRAP-3	28.161389	82.596111	1-Jun-84	1200	84114	WELL CASING MATERIAL CODE	PVC
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	10	TEMPERATURE, WATER (DEGREES CENTIGRADE)	23.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	76	TURBIDITY,HACH TURBIDIMETER (FORMAZIN TURB UNIT)	11.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	94	SPECIFIC CONDUCTANCE,FIELD (UMHOS/CM @ 25C)	300.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	406	PH, FIELD, STANDARD UNITS SU	7.25
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	608	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N)	0.07
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	610	NITROGEN, AMMONIA, TOTAL (MG/L AS N)	0.07
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	612	AMMONIA, UNIONZED (MG/L AS N)	0.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	619	AMMONIA, UNIONIZED (CALC FR TEMP-PH-NH4) (MG/L)	0.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	630	NITRITE PLUS NITRATE, TOTAL 1 DET. (MG/L AS N)	0.10
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	631	NITRITE PLUS NITRATE, DISS. 1 DET. (MG/L AS N)	0.10
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	671	PHOSPHORUS, DISSOLVED ORTHOPHOSPHATE (MG/L AS P)	0.22
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	680	CARBON, TOTAL ORGANIC (MG/L AS C)	3.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	915	CALCIUM, DISSOLVED (MG/L AS CA)	67.80
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	916	CALCIUM, TOTAL (MG/L AS CA)	70.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	925	MAGNESIUM, DISSOLVED (MG/L AS MG)	1.40
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	927	MAGNESIUM, TOTAL (MG/L AS MG)	1.40
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	929	SODIUM, TOTAL (MG/L AS NA)	5.60
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	930	SODIUM, DISSOLVED (MG/L AS NA)	5.60
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	935	POTASSIUM, DISSOLVED (MG/L AS K)	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	937	POTASSIUM, TOTAL MG/L AS K)	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	941	CHLORIDE, DISSOLVED IN WATER MG/L	14.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	946	SULFATE, DISSOLVED (MG/L AS SO4)	15.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	950	FLUORIDE, DISSOLVED (MG/L AS F)	0.20
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1000	ARSENIC, DISSOLVED (UG/L AS AS)	20.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1002	ARSENIC, TOTAL (UG/L AS AS)	20.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1005	BARIUM, DISSOLVED (UG/L AS BA)	16.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1007	BARIUM, TOTAL (UG/L AS BA)	16.00

280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1025	CADMIUM, DISSOLVED (UG/L AS CD)	0.10
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1027	CADMIUM, TOTAL (UG/L AS CD)	0.20
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1030	CHROMIUM, DISSOLVED (UG/L AS CR)	10.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1034	CHROMIUM, TOTAL (UG/L AS CR)	10.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1040	COPPER, DISSOLVED (UG/L AS CU)	5.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1042	COPPER, TOTAL (UG/L AS CU)	5.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1045	IRON, TOTAL (UG/L AS FE)	585.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1046	IRON, DISSOLVED (UG/L AS FE)	360.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1049	LEAD, DISSOLVED (UG/L AS PB)	2.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1051	LEAD, TOTAL (UG/L AS PB)	8.80
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1055	MANGANESE, TOTAL (UG/L AS MN)	19.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1056	MANGANESE, DISSOLVED (UG/L AS MN)	19.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1065	NICKEL, DISSOLVED (UG/L AS NI)	5.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1067	NICKEL, TOTAL (UG/L AS NI)	5.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1075	SILVER, DISSOLVED (UG/L AS AG)	3.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1077	SILVER, TOTAL (UG/L AS AG)	3.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1080	STRONTIUM, DISSOLVED (UG/L AS SR)	86.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1082	STRONTIUM, TOTAL (UG/L AS SR)	83.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1090	ZINC, DISSOLVED (UG/L AS ZN)	5.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1092	ZINC, TOTAL (UG/L AS ZN)	5.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1145	SELENIUM, DISSOLVED (UG/L AS SE)	3.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	1147	SELENIUM, TOTAL (UG/L AS SE)	3.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	4255	BICARBONATE ALKALINITY(CAC03),DISSOLVED,WATER MG/L	150.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	32101	BROMODICHLOROMETHANE,WHOLE WATER,UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	32102	CARBON TETRACHLORIDE,WHOLE WATER,UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	32104	BROMOFORM,WHOLE WATER,UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	32105	DIBROMOCHLOROMETHANE,WHOLE WATER,UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	32106	CHLOROFORM,WHOLE WATER,UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34301	CHLOROBENZENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34311	CHLOROETHANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34371	ETHYLBENZENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34418	METHYL CHLORIDE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34423	METHYLENE CHLORIDE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34475	TETRACHLOROETHYLENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34496	1,1-DICHLOROETHANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34501	1,1-DICHLOROETHYLENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34506	1,1,1-TRICHLOROETHANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34511	1,1,2-TRICHLOROETHANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34516	1,1,2,2-TETRACHLOROETHANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34531	1,2-DICHLOROETHANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34536	1,2-DICHLOROBENZENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34541	1,2-DICHLOROPROPANE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34546	TRANS-1,2-DICHLOROETHENE, TOTAL, IN WATER UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34561	1,3-DICHLOROPROPENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34566	1,3-DICHLOROBENZENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34571	1,4-DICHLOROBENZENE TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	34576	2-CHLOROETHYL VINYL ETHER TOTWUG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	39175	VINYL CHLORIDE-WHOLE WATER SAMPLE-UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	39180	TRICHLOROETHYLENE-WHOLE WATER SAMPLE-UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	46570	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)	175.06
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	70300	RESIDUE,TOTAL FILTRABLE (DRIED AT 180C),MG/L	208.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	71900	MERCURY, TOTAL (UG/L AS HG)	0.10
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	72000	ELEVATION OF LAND SURFACE DATUM (FT. ABOVE MSL)	45.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	72008	DEPTH, TOTAL OF WELL (FT BELOW LAND SURFACE DATUM)	51.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	72109	DEPTH TO WATER LEVEL FROM A MEASURING POINT (FEET)	16.44
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	73665	BOTTOM OF CASING SEGMENT BELOW LSD FEET	41.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	73675	VOL OF H20 EVACUATED FRM WELL PRIORTO SAMPLEGALLON	60.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	77651	1,2-DIBROMOETHANE WHOLE WATER,UG/L	0.50

280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	78124	BENZENE IN WATER (VOLATILE ANALYSIS) UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	78131	TOLUENE IN WHOLE WATER (VOLATILE ANALYSIS) UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	81551	XYLENE WHL WATER SMPL UG/L	0.50
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	82509	SCREENED INTERVAL (FEET)	10.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	82513	CASING DIAMETER (INCHES)	2.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	82514	MEASURING POINT ELEVATION (FEET)	49.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	25-Feb-91	940	82514	MEASURING POINT ELEVATION (FEET)	49.00
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	84055	AVAILABLE LOGS ALPHA-NUMERIC CODE	D
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	84061	WELL USE ALPHA-NUMERIC CODE	OBSWL
280940082354702	WMD SITE ID CAMP KEYSTONE WRAP-2	28.161389	82.596111	1-Jun-84	1200	84114	WELL CASING MATERIAL CODE	PVC