



Polk County

2002 Annual Lake & Stream Report

*Polk County Board of County Commissioners
Environmental Services Department
Natural Resources Division*

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SECTION I

MISSION & SCOPE OF WORK



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Mission Statement

The mission of the Water Resources Section of the Natural Resources Division is to collect and analyze surface water samples for the benefit of Polk County. The staff is also dedicated to educate the citizens about the quality and value of our water resources.

Introduction

The Water Resources Section of the Natural Resources Division consists of two groups: the National Pollutant Discharge Elimination System (NPDES) program (Stormwater) Figure 1, and the Laboratory Lakes and Streams Management Figure 2. The programs implemented by the Water Resources Section are mandated by federal or state regulations, County ordinances, the County Comprehensive Plan, or as directed by the Board of County Commissioners. This annual report provides a brief description of each of these programs.



Figure 1

Stormwater Staff - Mark Mikolon, Sheryl Taggart, Will Harboe, Robert Kollinger, Joe King



Figure 2

Lab Staff - Diane Gibson, Don Cartwright, Hong Nguyen, Michele Medani, Chris Bolin

Laboratory

The lab is staffed by a Laboratory Manager, a Chemist, an Environmental Technician I, an Environmental Specialist I, and one QA/QC Data Manager. The laboratory is responsible for the collection and analysis of water samples. The laboratory has adopted the Florida Department of Environmental Protection (FDEP) Standard Operating Procedures (SOP) for sample collection and National Environmental Laboratory Accreditation Conference (NELAC) Standards for lab operations. The laboratory participates in

semiannual performance evaluations and system audits conducted by the Florida Department of Health. Continued State Certification for Safe Drinking Water Act and Clean Water Act depends upon successful completion of these audits. Additionally, all lab results are subject to quality assurance/quality control (QA/QC) according to the NELAC Quality Systems Manual.



Figure 3
NELAC Logo

Stormwater Quality

This section is responsible for coordinating implementation of the National Pollutant Discharge Elimination System (NPDES) permit for the County's stormwater drainage system. In addition to monitoring and reporting on stormwater quality, this section is involved in construction and maintenance of stormwater treatment projects. These are generally retrofit projects to improve the quality of water discharged to lakes and streams throughout the County.

Water Quality Lakes and Streams Management

In 2002 samples were collected from 104 lakes and twelve streams in Polk County. These lakes and streams are sampled at least twice a year to observe temporal and spatial ambient water quality. Two numeric tools are used to alert staff concerning ambient water quality, and also to evaluate the success of water quality improvement efforts: the Florida Trophic State Index (TSI) and the Lake Water Quality Index (WQI) (King, 1993).

The original TSI, which was developed by the University of Florida Water Resources Research Center is a numeric tool used to describe relative productivity (eutrophication) of a lake. Polk County Natural Resources currently uses an FDEP modified version of the original TSI using the following water quality measurements: total nitrogen, total phosphorus, and chlorophyll *a*. See Table 1.

Table 1

Florida Trophic State Index Equations*

TSI CHL a = 10 x (1.68 + 1.44 x LN (CHL a))
 TSITP = 10 x (2.36 x LN (TP x 1000) - 2.38)
 TSITN = 10 x (5.96 + 2.15 x LN(TN))
 TSITNB = 10 x (5.6 + 1.98 x LN(TN))
 TSITPB = 10 x (1.86 x LN(TP x 1000) - 1.84)
 TSINUTR = 0.5 x (TSITNB + TSITPB)

Phosphorus Limited Lakes (PLL) TN/TP > 30 :

TSIAVG = 1/3 x (TSICHL a + TSITP)

Nitrogen Limited Lakes (NLL) TN/TP < 10 :

TSIAVG = 1/3 x (TSICHL a + TSITN)

Nutrient Balanced Lakes (NBL) > 10 TN/TP < 30 :

TSIAVG = 1/3 x (TSICHL a + TSINUTR)

Where:

- TSICHL a = Trophic State Index Based on Chlorophyll a
 CHL a = Chlorophyll a concentration (mg/m³)
 TSITP = Trophic State Index Based on Total Phosphorus
 TP = Total Phosphorus Concentration (mg/l)
 TSITN = Trophic State Index Based on Total Nitrogen
 TN = Total Nitrogen Concentration (mg/l)
 TSITNB = Trophic State Index Based on Total Nitrogen Budget
 TSITPB = Trophic State Index Based on Total Phosphorus Budget
 TSINUTR = Trophic State Index Based on Total Nutrient Budget
 TSIAVG = Average Trophic State Index

0 - 49	(BEST) Oligotrophic
50 - 59	(GOOD) Mesotrophic
60 - 69	(FAIR) Eutrophic
70 - Above	(POOR) Hypereutrophic

* Modified from, Huber, et. al., (1982)

The FDEP has eliminated the secchi disc measurement, Figure 4, in their TSI calculations for the statewide Ambient Water Quality, 305(b) report, and most agencies have dropped the secchi measurement except for special project assessments. The secchi disc measurements can have a large degree of variance in the precision among sampling conditions, sampling personnel, and weather conditions, that may make the readings difficult to interpret. Therefore, the secchi measurements are not used for the TSI calculation in this report. In the 2002 Lake and Stream Report, the TSI values from 1992 to present have been recalculated without the secchi measurement. TSI data from pre-1992 are in a different database format that is difficult to process, and will be calculated for future reports.



Figure 4
Lowering Secchi Disc

The Water Quality Index (WQI), published in 1993 (King, 1993) for South Florida waters, has been modified for use in Polk County, see Table 2. The WQI is an algebraic and parameter weighted calculation predicated on Florida Class III Water Quality Standards. The index compares a derived water quality value within the formula to a Class III Standard baseline number of 6.00. A WQI number above the baseline indicates the waterbody does not meet Class III Standards and a number below the baseline indicates it meets or exceeds the Standard. The WQI is more sensitive to small changes in water quality standards than the TSI.

Table 2

Water Quality Index Equations *

	Parameter
A	Dissolved Oxygen, in mg/L
B	Turbidity, in NTU
C	Ammonia Nitrogen, in mg/L
D	Total Nitrogen, in mg/L
E	Total Phosphorus, in mg/L
F	Chlorophyll a, in mg/m ³
Baseline Value = 6.00	

$\text{Water Quality Index} = [1.5*(4/A + 0.001)] + [0.5*(B/10)] + [0.75*(C/0.1)] + [1*(D/1.5)] + [1*(E/0.05)] + [2*(F/40)]$
--

The baseline closely approximates Florida’s Class III Criteria for Surface Water Quality. Class III waters are for propagation and maintenance of a healthy, well-balanced population of fish and wildlife. WQI values more than 6.00 do not meet the criteria and values less than 6.00 meet or exceed the criteria.

*King, J., Technical Report Series, TR 93-06, Broward County DNRP, Florida.



Figure 5
Bluegreen Algae

The laboratory also collected and analyzed samples for the investigation of a metric model qualifying human sewage contamination in ground and surface waters, the Atmospheric Deposition of nutrients to surface waters in the Winter Haven Chain of Lakes, and occurrence of cyanobacteria species (bluegreen algae) like Figure 5, in eutrophic lake systems. In addition, Division staff collected regulatory investigation samples, that were analyzed by the lab. During the calendar year 2002, a total of 768

samples were collected with 9,160 analyses completed.

The laboratory participated in projects with local agencies including the Lake Region Lakes Management District (LRLMD), the Southwest Florida Water Management District (SWFWMD), City of Lakeland, Highlands County, Southwest Regional Ambient Monitoring Program (SWRAMP), South Florida Water Management District (SFWMD), the Florida Department of Environmental Protection (FDEP), the Tampa Bay Estuary Program (TBEP), and the Charlotte Harbor National Estuary



Figure 6
Sample Bottle Rack

Program (CHNEP). Samples from 48 LRLMD lakes were analyzed during April, June, July, October, and December. Lake Hancock was sampled quarterly, collecting 12 random samples per event. Inter-laboratory calibration samples were analyzed by members of the SWRAMP and results discussed in an effort to provide comparable water quality data among different agencies. Monthly samples were collected on the Upper Kissimmee River and the Kissimmee Chain of Lakes for the SFWMD. Monitoring was also performed on groundwater wells at Kissimmee Park and Lake Weohyakapka as part of the FDEP T.V. Groundwater Monitoring Program. To aid the Laboratory staff in the handling of the various bottle sizes and shapes, the lab staff made a sample bottle rack as shown in Figure 6.



The Water Resources Section produced an Annual Hydrologic Report which summarizes information on rainfall, lake levels, groundwater well levels, and evaporation rates. Currently, there are more than 140 rainfall stations and 50 citizen volunteers who supply these data. Most stations

report rainfall on a daily basis and provide a summary at the end of each month. The periods of record for the rainfall stations range from less than one year to more than 90 years. Figure 7 reflects the annual average rainfall of

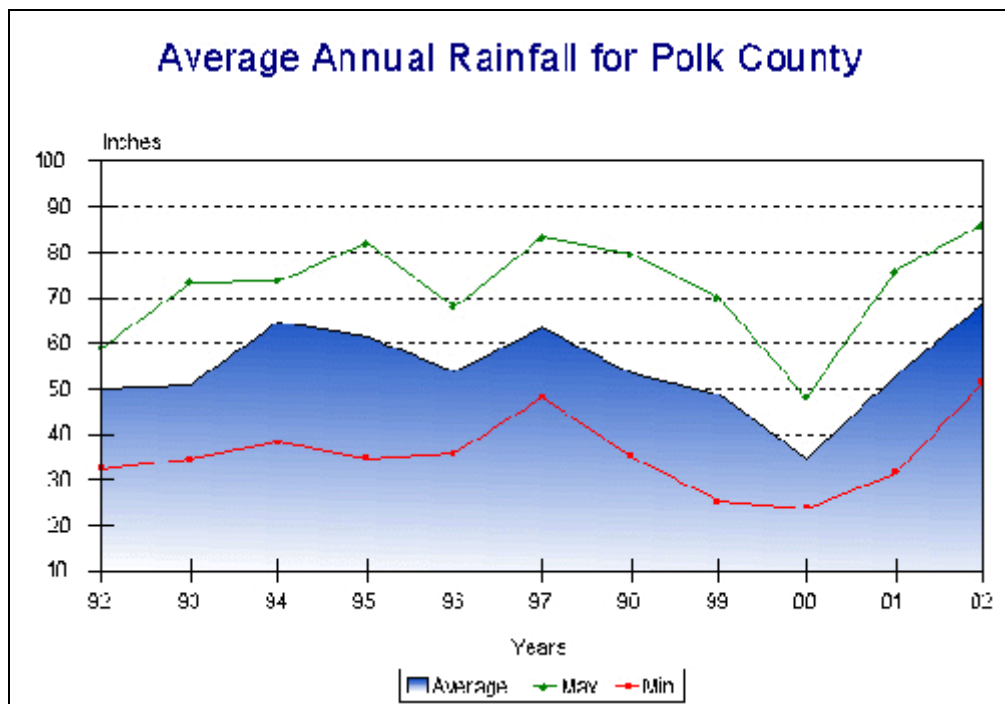


Figure 7
Annual Average Rainfall for Polk County

reporting stations for the entire county from 1992 through 2002. The maximum and minimum annual totals are also shown to reflect the diverse totals of rainfall that the county receives. Figure 8 reflects the average monthly totals for 2000 through 2002. It should be noted that Polk County is located at the summit of the “hydrologic hill” of Peninsular Florida. Rivers and streams flow outward in all directions;

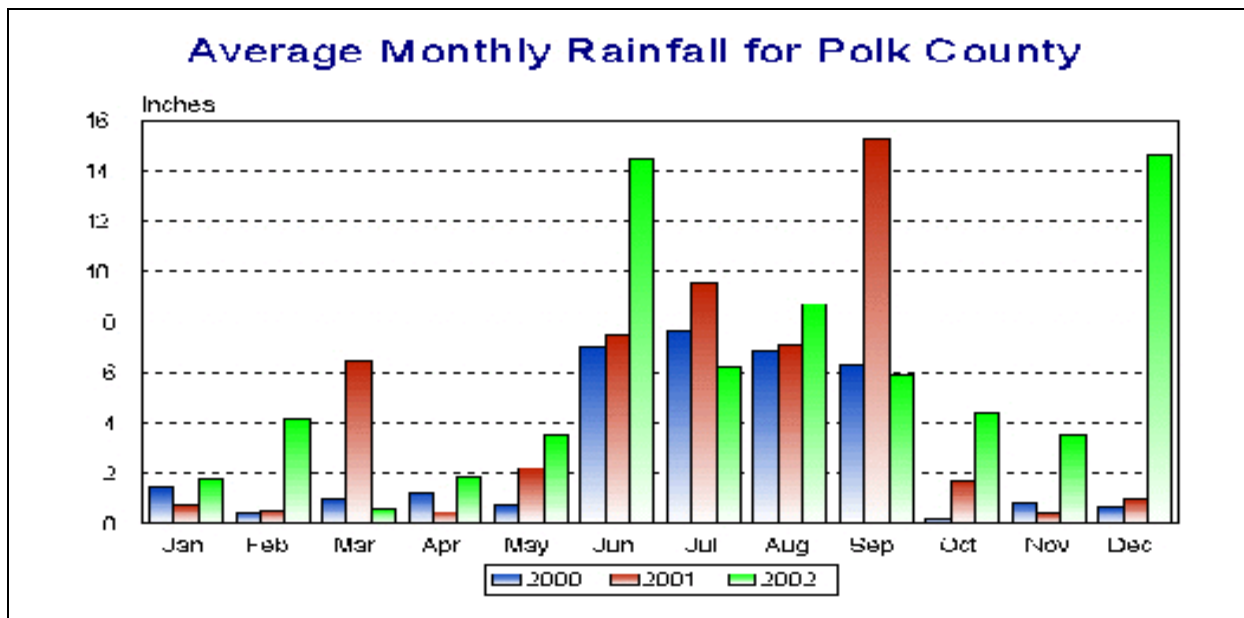


Figure 8
Monthly Average Rainfall for Polk County

the center of the potentiometric high of the Floridan Aquifer is located a few miles east of Polk City in the Green Swamp. Thus, water naturally flows outward in all directions from Polk County into the surrounding counties and waterways. Whereas the water resources of surrounding areas are based not only on rainfall, but also on the natural flow of groundwater and surface water into these areas, Polk County must rely on rainfall alone for replenishment of this resource.

The laboratory also receives lake and ground water levels from SWFWMD. This office maintains lake levels information on 189 lakes within Polk County. The period of record ranges from a few years to more than 30 years, see Section III. Additionally, groundwater level information on the Floridan and Surficial aquifer is collected from several wells around Polk County.

The Division also produces a Boat Access Directory, which is a compilation of maps showing locations and conditions of public boat ramps. In 2002, 65 copies of the Boat Access Directory were requested by the public. Additionally, data such as rainfall, historical lake levels, lake and stream water quality, and lake reports are provided on request to engineers, scientists from private engineering firms, government agencies, and the general public.

LAKES MANAGEMENT / WATER QUALITY PROJECTS

The Board of County Commissioners entered into inter-local agreements with the Southwest Florida Water Management District, the South Florida Water Management District, the Florida Department of Environmental Protection, and the Charlotte Harbor National Estuary Program on various water quality management projects that affect watersheds, lakes and streams. A brief description of major assessments and projects follows.

Atmospheric Deposition

In 1998, the Water Resources Section installed an atmospheric deposition wet/dry sampling station, Figure 9, to quantify the amount of nitrogen and phosphorus in rainfall. The station is located at Lake Cannon in the Winter Haven Chain of Lakes. Major funding was provided by the SWFWMD SWIM Program. Polk County Water Resources Laboratory conducts the chemical analyses on a monthly basis and the annual nutrient loading from rainfall is being calculated by staff. The technical reports for annual nutrient atmospheric deposition can be obtained by contacting the Water Resources Section.



Figure 9

Rainfall data collection for
Atmospheric Deposition Project

Alafia River Process Water Spill

On December 7, 1997, approximately 53 million gallons of low pH process water from Mulberry Phosphate Inc.(MPI) entered the Alafia River at Skinned Sapling Creek in Mulberry. During the next several days the spill traveled down the North Prong to Tampa Bay. Approximately 377 acres of marsh habitat were damaged and more than 55,000 kilograms of fish were killed from the river during the days after the spill. Polk County and four other government agencies are acting as the Trustees, directing the Alafia spill assessment and restoration plan. With the bankruptcy of MPI, the U.S. Attorney General's Office has filed against the company's insurer and a monetary settlement has been reached for all damaged parties. Conceptual designs for the restoration projects on the North Prong are being investigated. Implementation of restoration efforts will depend on the acquisition of suitable property along the river.

Lake Hancock / Upper Peace River Enhancement Project

Lake Hancock is part of the watershed which constitutes the headwaters of the Peace River. The Peace River is clearly a regional system of statewide importance. Beneficial uses include wildlife habitat, drainage, natural resource recreation, and potable water supply. Pollutant loads from the three main tributaries in the watershed have degraded the lake for decades.

Impacts from the discharge of poor water quality from Lake Hancock, Figure 10, have been observed as far south as the Peace River / Manasota Water Supply Authority Potable Water



Figure 10
Lake Hancock

Facility, just north of Charlotte Harbor. The Peace River flows through Polk, Hardee, Desoto, and Charlotte Counties and discharges to the Gulf of Mexico at Charlotte Harbor. Charlotte Harbor and the entire Peace River watershed, including Lake Hancock, are a federally designated National Estuary. Improvement of Lake Hancock's water quality is an objective of the Charlotte Harbor National Estuary Program (NEP) and is included in their *Comprehensive Conservation and Management Plan*.

In July 2000 the legislature provided \$750,000 to Polk County through the Governor's Water Advisory Panel to help restore the watershed. Five goals were established for this project

:

- T Improve the quality of the water discharged from Lake Hancock by applying TMDL's for nutrient and un-ionized ammonia.
- T Preserve and, where feasible, enhance the natural greenway/ wildlife corridor (Peace River/ Green Swamp) through Polk County.
- T Maintain the exceptional wildlife values on Lake Hancock.
- T Enhance the diversity of the fishery.
- T Provide habitat compatible public access for nature-based recreational activities and commercial fishing.

Camp, Dresser, and McKee (CDM) was hired by the County to develop a restoration and management plan to address these goals. Implementation of the project involves a four-phased approach which addresses Land Acquisition, Wetland Restoration and Monitoring, In-Lake Restoration, and Management. Polk County's efforts have focused on reducing the TMDL's from the three primary inflows of Banana Creek, Saddle Creek, and Lena Run.

Through the Environmental Lands Program, the County has acquired the 1,200 acre Circle B Bar Reserve property on the northwest corner of the lake. The property contains the majority of the remnant floodplain of Banana Creek. Restoring the historic flows to this area will enhance the wetland system and reduce the nutrient loads from the creek. The property was surveyed and a conceptual plan was designed for the restoration work. The county is working with the Southwest Florida Water Management District staff and construction is expected to commence in November 2003.

In addition to restoring the historic floodplain, the County plans to enhance the wetland areas adjacent to the project as well as the 120 acre sandhill along the southern property boundary. Planting these areas with native vegetation, Figure 11, will enhance the existing natural systems and help to improve water quality by reducing erosion and treating stormwater runoff.

A second legislative appropriation of \$750,000 was provided to Polk County in July 2002. Water Resources staff are exploring potential project areas along Saddle Creek and Lena Run in an effort to improve the quality of water the flows into Lake Hancock from these tributaries.



Figure 11
Planting native vegetation

EDUCATION PROJECTS

Public Education Presentations

The Water Resources Section participates in many environmental education events as part of its educational commitment. In accordance with the County's NPDES permit, the stormwater program, participates in additional programs related to stormwater runoff and pollution prevention. The goals of the public education efforts are to provide Polk County citizens with information concerning the environmentally-related services provided by the Division and to raise environmental awareness. Water Resources staff travel to many Polk County schools for presentations on water related issues. These programs reach hundreds of Polk County students from kindergarten through high school. Staff participates with local lake groups, including sitting on the Board of Directors of the Lakes Education/Action Drive (LE/AD) and advising as a non-voting member of many local lake associations throughout the county.



Figure 12
FAA Training

Events in which the Division participated in 2002 included Lakes Education/Action Drive (LE/AD) Annual Conference, Earth Day, Polk County School classroom presentations, the Regional Envirothon, the County Extension Services Water School, and the FFA summer Youth Leadership Conferences, Figure 12. The Division provides erosion and sediment control training to construction site contractors. FDEP certification is available to all participants who pass the course exam. Several technical papers were presented at statewide conferences including the FDEP Ambient Monitoring Conferences, the North American Ecosystems Restoration Conference, and the Florida Lakes Management Society Conference.

Polk County Lakes Atlas

The County has contracted with the University of South Florida (USF) to maintain the web-based atlas of Polk County lakes that was developed to provide the public with information via the Internet. The atlas can be viewed at www.polk.wateratlas.org, Figure 13, and was completed in 2001. The Atlas is a tool to provide water quality and other lake information for each of the public access lakes monitored within Polk County. It is also a resource for lakes related publications and links. Information is continually updated on public recreational opportunities, water quality data, historical photographs, local regulations, etc. Maintenance of the Atlas is funded cooperatively between Polk County, the City of Lakeland, the City of Winter Haven, and the Lakes Education/Action Drive (LE/AD).

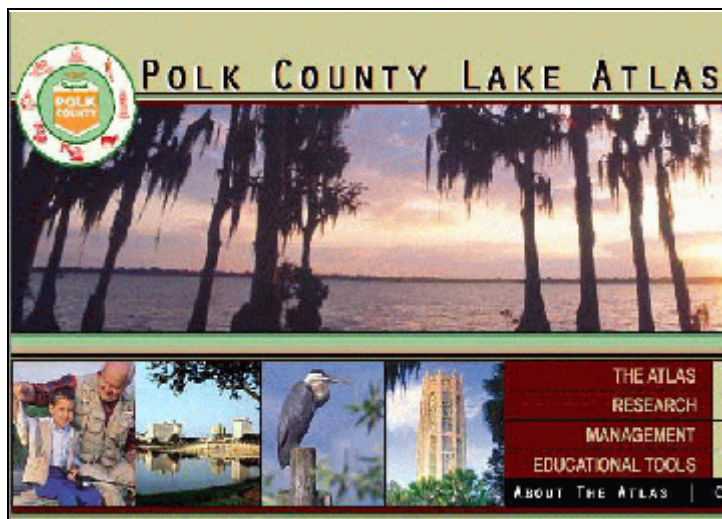


Figure 13

Polk County Lake Atlas Home Page

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SECTION II



LAKE & STREAM WATER QUALITY



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LAKE MONITORING

In an effort to consistently provide accurate data, all laboratory data are subjected to quality assurance/quality control (QA/QC) in accordance with the NELAC Quality System Manual. Water quality results are incorporated into the Division's computer database. All surface water data are uploaded into the USEPA's new STORET data repository.



Figure 14
Boat loaded for sampling



Figure 15
Field Measurements with YSI

There were 104 lakes were sampled in 2002. Public access lakes included in the routine lake sampling program are usually sampled at 0.5 meters at least twice a year at the middle of the lake. In 2002, most lakes were on the road to recovery from the low water levels brought on by the drought of 2001. A note was made in the field log for any sites that were not able to be sampled due to low water. A couple of lakes were dropped from the sampling list because they are no longer public access lakes.



Figure 16
Lab Analyses

Starting in July 2000, the Environmental Technicians collected samples at both mid-depth and 0.5 meters below the water surface. This project continued for one year, after which statistical analyses were performed on water quality data to determine if sampling depth affects results. After this study it was determined that there was not enough difference between 0.5 meters and mid-depth sampling. In order to be consistent with other sampling agencies, the 0.5

meter sampling depth was adopted by the Natural Resources Division.

Water quality parameters tested include field measurements (Figures 14-15) and laboratory analyses (Figures 16-17). Table 3 provides the mean value and ranges for each parameter routinely tested. The 2001 values are included for comparison purposes. Table 4 lists each lake tested in 2002 with the averaged water quality results of each parameter. Appendix A has general information, levels, historical water quality data and charts for each lake monitored in 2002.



Figure 17
Running Bacteria Samples

Table 3

2002 Mean Chemical Lake Parameters

Parameter	2002 Mean Value *	2001 Range	2001 Mean Value *	Unit
Temperature	24.72	17.36-30.98	23.7	Deg C
Secchi Disk	1.01	0.0-3.60	1.0	m
pH	7.76	5.98-9.38	7.98	SU
Specific Conductivity	229	76-414	245	umhos/cm
Dissolved Oxygen	8.47	4.97-12.62	8.43	mg/l
Color	47	6-750	32	CPU
Turbidity	7.39	0.77-44.98	8.69	NTU
Ammonia	0.013	0.001-0.254	0.013	mg/l
Kjeldahl Nitrogen	1.455	0.064-5.554	1.498	mg/l
NO ₂ + NO ₃	0.025	0.000-0.531	0.024	mg/l
Total Nitrogen	1.50	0.42-5.56	1.53	mg/l
Total Phosphorus	0.082	0.003-0.762	0.092	mg/l
Chlorophyll <u>a</u>	47	6-750	37.54	mg/m ³
TSI	57	22-95	59	TSI
WQI	5.34	1.43-29.28	6.49	WQI

* Actual values below the laboratory detection limits were extrapolated to one-half the method detection level.

ND - Not Detected

Mean value is arithmetic

Polk County Natural Resources Division Laboratory

2002 Lake Water Quality Results

<i>Lake Name</i>	<i>STR</i>	<i>Sur Area</i>	<i>Chlor a mg/m3</i>	<i>Color CPU</i>	<i>Cond umhos/cm</i>	<i>DO mg/l</i>	<i>NH3 mg/l</i>	<i>TKN mg/l</i>	<i>NOx mg/l</i>	<i>TN mg/l</i>	<i>TP mg/l</i>	<i>pH SU</i>	<i>SD m</i>	<i>Temp Deg C</i>	<i>Turb NTU</i>
Agnes	4-27-25	386	5.34	13	178	7.88	0.033	0.490	0.002	0.49	0.027	6.46	1.95	25.24	2.17
Alfred	30-27-26	736	26.28	18	384	7.98	0.005	2.173	0.003	2.18	0.037	8.15	0.55	26.32	10.8
Annie	3-29-27	539	2.40	13	266	7.98	0.005	0.868	0.012	0.88	0.015	6.92	2.37	21.58	1.38
Arbuckle	14-32-29	3828	5.01	275	147	8.56	0.054	1.434	0.161	1.59	0.059	7.40	0.41	20.81	4.85
Ariana	3-28-25	1026	29.00	6	248	8.18	0.025	1.263	0.002	1.27	0.027	8.23	0.55	26.28	6.75
Banana	10-29-24	342	136.31	36	221	10.65	0.001	3.598	0.005	3.60	0.762	9.38	0.29	25.16	26.91
Banana North Pit	10-29-24	342	48.03	42	230	7.36	0.005	1.135	0.021	1.16	0.491	7.67	0.75	24.56	5.70
Banana South Pit	10-29-24	342	88.91	26	215	8.41	0.040	2.302	0.028	2.33	0.234	8.74	0.68	24.64	7.60
Bess	18-29-27	148	3.00	20	374	8.55	0.005	0.707	0.003	0.71	0.029	7.57	1.68	24.81	1.37
Blue	13-28-25	56	60.35	25	184	8.29	0.005	2.576	0.000	2.58	0.054	7.94	0.36	24.93	15.63
Bonny	20-28-24	354	49.57	43	184	9.08	0.005	2.460	0.000	2.46	0.066	8.48	0.42	27.77	8.67
Buckeye	22-28-26	71	21.00	23	335	6.85	0.001	1.134	0.058	1.19	0.033	7.47	1.0	23.80	4.40
Buffum	12-31-26	1543	21.83	41	168	9.90	0.002	0.812	0.001	0.81	0.030	7.71	0.80	23.52	13.0
Cannon	19-28-26	336	27.87	16	235	8.37	0.005	1.350	0.002	1.35	0.028	8.18	0.61	25.09	6.16
Carter Road X Pit	25-29-23		38.33	36	414	10.81	0.002	0.987	0.015	1.01	0.479	8.14	0.98	26.76	4.1

Tuesday, August 26, 2003

<i>Lake Name</i>	<i>STR</i>	<i>Sur Area</i>	<i>Chlor a mg/m3</i>	<i>Color CPU</i>	<i>Cond umhos/cm</i>	<i>DO mg/l</i>	<i>NH3 mg/l</i>	<i>TKN mg/l</i>	<i>NOx mg/l</i>	<i>TN mg/l</i>	<i>TP mg/l</i>	<i>pH SU</i>	<i>SD m</i>	<i>Temp Deg C</i>	<i>Turb NTU</i>
Carter Road Y Pit	25-29-23		166.23	26	233	12.47	0.005	3.656	0.003	3.66	0.512	9.19	0.21	26.56	38
Citrus	17-28-26	4	20.83	25	146	5.98	0.005	0.671	0.000	0.67	0.031	7.41	1.9	28.97	2.1
Clinch	31-31-28	1207	4.47	22	157	8.44	0.005	0.553	0.045	0.60	0.013	6.96	2.75	23.70	1.21
Confusion	30-27-27	15	6.81	28	311	7.94	0.010	1.002	0.005	1.01	0.026	7.42	1.58	24.36	1.38
Conine	9-28-26	236	35.26	23	251	8.70	0.001	1.363	0.001	1.36	0.052	8.09	0.68	23.47	6.93
Crooked	1-31-27	5538	4.35	42	91	7.79	0.005	0.715	0.005	0.72	0.005	6.71	1.49	24.30	1.86
Crystal (Lkld)	21-28-24	31	46.76	20	212	9.10	0.005	1.950	0.000	1.95	0.108	8.88	0.53	26.91	17
Daisy	6-29-27	133	7.81	18	199	8.26	0.005	0.605	0.005	0.61	0.025	6.19	1.65	23.74	2.50
Deer	25-28-25	125	9.61	34	199	8.28	0.005	1.098	0.000	1.10	0.013	7.48	1.8	28.8	1.77
Deeson	29-27-24	117	44.97	21	204	9.17	0.001	2.285	0.002	2.29	0.077	8.72	0.43	25.91	12.3
Dexter	2-29-26	153	1.62	10	251	7.25	0.002	0.621	0.004	0.62	0.012	7.07	3.6	22.71	0.80
Eagle	1-29-25	651	11.22	9	268	8.19	0.008	0.810	0.027	0.84	0.013	6.43	1.53	23.41	2.45
Echo	5-28-26	69	26.31	14	272	9.02	0.005	1.164	0.001	1.16	0.031	8.39	0.70	24.82	5.30
Elbert	22-28-26	173	2.27	8	176	8.03	0.005	0.433	0.003	0.44	0.010	7.26	3.34	24.07	0.83
Eloise	3-29-26	1160	24.08	13	306	9.44	0.005	1.356	0.003	1.36	0.025	8.53	0.92	24.85	5.27
Engle	20-29-24	9	73.49	29	265	12.62	0.005	3.214	0.001	3.22	0.198	9.02	0	27.46	11.75
Eva North	32-27-27	173	26.23	16	197	8.56	0.005	1.371	0.000	1.37	0.048	8.15	0.60	24.40	5.3
Eva South	32-27-27	173	26.84	18	196	9.12	0.005	1.448	0.000	1.45	0.046	8.38	0.58	24.07	6.25
Fannie	11-28-26	829	13.96	93	312	7.81	0.020	1.290	0.036	1.33	0.076	6.72	0.41	22.37	14.48

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<i>Lake Name</i>	<i>STR</i>	<i>Sur Area</i>	<i>Chlor a mg/m3</i>	<i>Color CPU</i>	<i>Cond umhos/cm</i>	<i>DO mg/l</i>	<i>NH3 mg/l</i>	<i>TKN mg/l</i>	<i>NOx mg/l</i>	<i>TN mg/l</i>	<i>TP mg/l</i>	<i>pH SU</i>	<i>SD m</i>	<i>Temp Deg C</i>	<i>Turb NTU</i>
Garfield	5-30-26	655	18.96	192	180	8.52	0.006	1.625	0.038	1.68	0.097	7.13	0.50	25.58	5.30
Gem	21-28-26	3	4.81	17	76	4.97	0.005	0.418	0.002	0.42	0.022	7.24	2.4	29.34	0.91
Gibson	25-27-23	474	20.87	33	175	7.42	0.002	1.042	0.012	1.05	0.158	7.98	0.63	26.61	7.23
Gross	14-29-26	89	9.03	27	280	7.38	0.005	0.802	0.000	0.80	0.037	6.24	2.4	30.61	1.18
Haines	33-27-26	716	32.64	35	262	8.85	0.001	1.482	0.001	1.48	0.048	7.99	0.69	23.66	5.80
Hamilton	18-28-27	2162	4.01	47	312	8.43	0.007	0.967	0.037	1.00	0.487	7.42	1.08	21.92	6.80
Hancock	8-29-25	4519	202.68	106	232	6.69	0.010	5.554	0.005	5.56	0.611	8.66	0.19	23.08	44.98
Hartridge	8-28-26	434	9.71	16	182	8.01	0.005	0.831	0.003	0.83	0.019	7.36	1.28	25.86	2.95
Hatchineha	27-28-29	6665	23.63	285	179	8.63	0.023	1.890	0.124	2.01	0.047	7.53	0.45	19.83	4.95
Henry (HC)	36-27-26	857	5.83	180	255	7.20	0.010	1.234	0.029	1.26	0.075	5.98	0.36	23.94	13.0
Hickory (FP)	17-32-28	100	64.28	24	383	10.82	0.254	2.929	0.531	3.46	0.028	8.17	0.39	22.53	23.5
Hollingsworth	30-28-24	356	41.83	20	173	9.15	0.001	2.095	0.001	2.10	0.092	8.90	0.43	27.92	8.93
Howard	30-28-26	628	23.20	12	247	8.81	0.002	1.374	0.003	1.38	0.017	8.44	0.58	24.66	6.97
Hunter	24-28-23	100	164.21	23	158	9.10	0.005	3.506	0.001	3.51	0.261	9.08	0.18	27.69	35.6
Ida (WH)	17-28-26	17	20.09	25	262	8.2	0.005	0.736	0.000	0.74	0.009	7.81	2.3	28.89	2.0
Idyl	16-28-26	20	20.83	20	246	7.41	0.005	0.944	0.003	0.95	0.030	7.42	1.0	28.91	3.6
Idylwild	18-28-26	102	21.38	22	213	8.58	0.005	1.165	0.000	1.17	0.020	8.13	0.70	25.22	6.0
Ina	34-28-26	7	12.02	17	284	8.41	0.005	1.033	0.001	1.03	0.031	8.37	1.2	30.98	2.0
Jessie	12-28-25	190	16.42	19	219	8.64	0.005	0.966	0.001	0.97	0.032	8.03	0.88	24.54	4.07

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<i>Lake Name</i>	<i>STR</i>	<i>Sur Area</i>	<i>Chlor a mg/m3</i>	<i>Color CPU</i>	<i>Cond umhos/cm</i>	<i>DO mg/l</i>	<i>NH3 mg/l</i>	<i>TKN mg/l</i>	<i>NOx mg/l</i>	<i>TN mg/l</i>	<i>TP mg/l</i>	<i>pH SU</i>	<i>SD m</i>	<i>Temp Deg C</i>	<i>Turb NTU</i>
John	32-28-24	34	59.68	25	212	7.20	0.005	1.501	0.000	1.50	0.297	8.44	0.66	26.55	8.25
Juliana	15-27-25	926	47.66	16	265	7.42	0.002	1.923	0.003	1.93	0.034	7.86	0.41	25.76	11.15
Lena	9-28-25	207	68.15	11	233	8.21	0.001	2.740	0.002	2.74	0.042	8.09	0.28	27.60	18.37
Little Crooked	23-31-27		14.15	140	121	8.22	0.008	1.593	0.044	1.63	0.050	7.07	0.32	23.04	16.5
Little Eagle	1-29-25		12.02	10	271	8.28	0.014	0.782	0.024	0.81	0.010	6.88	1.38	23.53	2.15
Little Elbert	22-28-26		7.89	14	165	8.09	0.013	0.538	0.013	0.55	0.024	7.37	2.08	23.18	1.66
Little Hamilton	5-28-27	367	20.75	26	273	8.17	0.005	1.479	0.003	1.48	0.045	7.83	0.65	22.96	5.9
Livingston	21-32-28	1203	1.60	750	148	8.17	0.054	2.591	0.182	2.77	0.403	6.18	0.20	21.88	5.4
Lowery	14-27-26	903	10.68	53	199	7.86	0.006	1.445	0.022	1.47	0.030	6.95	1.33	25.80	3.07
Lulu	4-29-26	301	28.75	18	282	8.42	0.005	1.486	0.003	1.49	0.041	8.30	0.55	24.44	8.47
Mariam	27-28-26	199	26.34	150	263	7.29	0.008	1.360	0.023	1.38	0.058	6.86	0.42	26.80	14.0
Mariana	1-28-25	503	15.05	15	232	7.94	0.002	1.058	0.009	1.07	0.024	7.42	0.98	24.53	4.65
Marie North	27-28-27	50	22.03	26	151	8.11	0.005	1.424	0.004	1.43	0.034	7.40	0.60	23.41	8.65
Marie South	27-28-27	50	18.96	25	141	7.70	0.005	1.419	0.002	1.42	0.038	7.35	0.87	25.40	5.40
Marion	5-28-28	2990	55.09	89	180	8.97	0.005	2.266	0.078	2.34	0.056	7.86	0.39	22.49	15.20
Martha	21-28-26	85	6.02	9	249	8.13	0.007	0.064	0.015	0.65	0.003	7.56	2.43	22.44	1.68
Mattie	14-27-25	1078	12.02	175	244	7.47	0.069	1.531	0.043	1.57	0.082	7.09	0.4	23.28	8.2
Maude	21-28-26	55	10.95	15	238	7.70	0.005	0.867	0.015	0.88	0.022	7.75	1.33	25.47	3.04
May	29-28-26	44	38.18	20	261	8.77	0.005	1.709	0.002	1.71	0.059	8.12	0.48	24.66	10.87

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Mc Leod	7-29-26	512	7.82	11	227	7.66	0.005	0.659	0.005	0.66	0.027	6.70	1.67	24.99	1.70
Menzie	28-28-27	22	14.02	29	214	8.05	0.003	1.063	0.001	1.06	0.024	7.96	1.03	23.66	2.93
Middle Hamilton	7-28-27	106	18.02	210	237	7.48	0.018	2.162	0.131	2.29	0.084	6.73	0.75	22.55	4.23
Mirror (WH)	20-28-27	123	35.59	18	228	9.49	0.005	1.823	0.003	1.83	0.026	8.55	0.48	24.72	8.07
Mud (PC)	6-27-25	133	34.62	60	125	7.36	0.112	1.849	0.002	1.85	0.071	6.99	0.51	27.55	7.03
Ned	1-29-26	74	2.89	24	260	7.85	0.002	0.691	0.046	0.74	0.020	7.22	3.08	23.91	0.77
Pansy	8-28-26	50	11.21	53	147	7.11	0.001	0.843	0.001	0.85	0.018	7.17	1.05	27.49	3.3
Parker (Lkld)	8-28-24	2272	139.11	30	218	8.7	0.003	4.178	0.001	4.18	0.077	9.05	0.29	27.64	15.1
Pierce	9-29-28	3729	20.40	34	183	8.52	0.015	1.406	0.088	1.49	0.013	8.01	0.88	20.00	6.95
Reedy	35-31-28	3486	33.11	18	265	9.72	0.048	2.089	0.109	2.20	0.013	7.64	0.55	18.88	7.77
Rochelle	4-28-26	578	28.08	23	238	8.97	0.001	1.382	0.001	1.39	0.048	8.07	0.65	23.57	6.68
Rosalie	27-29-29	4597	10.02	88	179	9.00	0.002	1.068	0.042	1.11	0.027	7.21	0.9	24.08	3.25
Roy	34-28-26	78	21.77	14	289	9.44	0.014	1.354	0.004	1.36	0.020	8.70	0.99	25.18	4.47
Ruby	12-29-26	255	45.60	13	371	9.73	0.005	2.304	0.006	2.31	0.039	8.12	0.3	24.64	19.25
Sears	36-28-25	82	5.61	15	179	8.8	0.018	0.613	0.034	0.65	0.005	6.47	1.85	18.3	1.36
Shipp	32-28-26	283	46.96	18	262	8.56	0.005	2.039	0.002	2.04	0.036	8.27	0.42	23.61	10.36
Silver (WH)	20-28-26	52	13.62	8	174	8.05	0.005	1.092	0.000	1.09	0.023	8.49	1.3	28.87	2.8
Smart	9-28-26	275	45.66	30	268	11.52	0.005	1.813	0.030	1.84	0.024	8.23	0.60	17.36	9.3
Somerset	32-28-24	54	72.39	20	215	8.70	0.057	1.797	0.024	1.82	0.393	8.43	0.57	26.86	8.1

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Spring	20-28-27	25	21.01	17	225	8.39	0.032	1.369	0.052	1.42	0.035	8.25	0.8	25.30	5.03
Star	16-30-26	84	21.23	22	192	10.56	0.003	0.851	0.042	0.89	0.030	8.37	1.18	24.24	2.50
Summit	34-28-26	68	16.61	16	293	9.54	0.004	0.064	0.002	1.07	0.017	8.60	0.87	25.51	3.17
Surveyors	26-30-26	293	15.65	113	187	9.13	0.005	0.953	0.212	1.17	0.078	6.73	0.75	23.73	4.15
Swoope North	29-27-26	88	7.61	27	362	8.13	0.005	1.202	0.002	1.20	0.017	8.14	1.58	24.64	2.60
Swoope South	29-27-26	88	7.61	24	331	7.07	0.005	0.912	0.006	0.92	0.026	7.74	2.58	24.65	0.87
Tennessee	9-27-25	112	33.51	9	267	7.58	0.005	1.678	0.002	1.68	0.031	8.15	0.43	26.65	9.67
Thomas (WH)	35-28-25	73	4.01	23	204	8.17	0.012	0.827	0.024	0.85	0.010	7.63	2.33	23.26	1.47
Tiger	6-30-30	2200	20.27	55	170	8.15	0.003	1.305	0.009	1.31	0.078	7.02	0.75	24.34	7.2
Tracy	29-27-27	136	16.82	21	232	9.36	0.005	1.484	0.000	1.48	0.035	8.42	0.75	22.46	4.0
Wailes	1-30-27	326	15.22	12	177	8.83	0.005	1.124	0.000	1.12	0.019	7.91	0.80	23.73	3.37
Weohyakapka	3-31-29	7532	5.61	45	155	9.48	0.005	0.858	0.002	0.86	0.018	8.00	2.2	22.45	1.42
Winterset	11-29-26	548	15.64	11	316	8.96	0.005	1.168	0.018	1.19	0.017	8.38	0.83	24.85	3.83
Average:			29.96	47	229	8.47	0.013	1.455	0.025	1.50	0.082	7.76	1.01	24.72	7.39
Minimum:			1.60	6	76	4.97	0.001	0.064	0.000	0.42	0.003	5.98	0.00	17.36	0.77
Maximum:			202.68	750	414	12.62	0.254	5.554	0.531	5.56	0.762	9.38	3.60	30.98	44.98

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Polk County Natural Resources Division Laboratory

2002 Lake Water Quality Results

<i>Lake Name</i>	<i>STR</i>	<i>SurArea</i>	<i>N/P Ratio</i>	<i>Limit Nutrient</i>	<i>TSI Chlor a</i>	<i>TSI TN</i>	<i>TSI TP</i>	<i>TSI TNB</i>	<i>TSI TPB</i>	<i>TSI NUTR</i>	<i>TSI</i>	<i>WQI</i>
Agnes	4-27-25	386	18.15	NBL	40.92	44.26	53.98	41.88	42.90	42.39	41.66	2.25
Alfred	30-27-26	736	58.92	PLL	63.87		61.42				62.64	4.84
Annie	3-29-27	539	58.67	PLL	29.41		40.11				34.76	1.87
Arbuckle	14-32-29	3828	26.95	NBL	40.00	69.57	72.43	65.18	57.44	61.31	50.66	3.84
Ariana	3-28-25	1026	47.04	PLL	65.29		53.98				59.64	4.10
Banana	10-29-24	342	4.72	NLL	87.58	87.14					87.36	26.37
Banana North Pit	10-29-24	342	2.36	NLL	72.55	62.79					67.67	14.13
Banana South Pit	10-29-24	342	9.96	NLL	81.42	77.79					79.60	12.07
Bess	18-29-27	148	24.48	NBL	32.62	52.24	55.67	49.22	44.23	46.73	39.67	2.01
Blue	13-28-25	56	47.78	PLL	75.84		70.34				73.09	7.36
Bonny	20-28-24	354	37.27	PLL	73.01		75.08				74.04	6.57
Buckeye	22-28-26	71	36.06	PLL	60.64		58.72				59.68	3.61
Buffum	12-31-26	1543	27.00	NBL	61.20	55.07	56.47	51.83	44.86	48.34	54.77	3.50
Cannon	19-28-26	336	48.21	PLL	64.72		54.84				59.78	3.92
Carter Road X Pit	25-29-23		2.11	NLL	69.31	59.81					64.56	12.95

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<i>Lake Name</i>	<i>STR</i>	<i>SurArea</i>	<i>N/P Ratio</i>	<i>Limit Nutrient</i>	<i>TSI Chlor a</i>	<i>TSI TN</i>	<i>TSI TP</i>	<i>TSI TNB</i>	<i>TSI TPB</i>	<i>TSI NUTR</i>	<i>TSI</i>	<i>WQI</i>
Carter Road Y Pit	25-29-23		7.15	NLL	90.43	87.50					88.96	23.41
Citrus	17-28-26	4	21.61	NBL	60.52	50.99	57.24	48.07	45.47	46.77	53.65	3.26
Clinch	31-31-28	1207	46.15	PLL	38.36		36.73				37.55	1.69
Confusion	30-27-27	15	38.85	PLL	44.42		53.09				48.76	2.44
Conine	9-28-26	236	26.15	NBL	68.10	66.21	69.45	62.09	55.09	58.59	63.35	4.75
Crooked	1-31-27	5538	144.00	PLL	37.97		14.18				26.08	1.70
Crystal (Lkld)	21-28-24	31	18.06	NBL	72.17	73.96	86.70	69.22	68.69	68.96	70.56	7.35
Daisy	6-29-27	133	24.40	NBL	46.40	48.97	52.17	46.21	41.47	43.84	45.12	2.19
Deer	25-28-25	125	84.62	PLL	49.38		36.73				43.06	2.33
Deeson	29-27-24	117	29.74	NBL	71.61	77.41	78.71	72.41	62.39	67.40	69.50	6.59
Dexter	2-29-26	153	51.67	PLL	23.75		34.84				29.30	1.62
Eagle	1-29-25	651	64.62	PLL	51.61		36.73				44.17	2.30
Echo	5-28-26	69	37.42	PLL	63.89		57.24				60.56	3.68
Elbert	22-28-26	173	44.00	PLL	28.60		30.54				29.57	1.43
Eloise	3-29-26	1160	54.40	PLL	62.61		52.17				57.39	3.55
Engle	20-29-24	9	16.26	NBL	78.68	84.74	101.00	79.15	79.96	79.56	79.12	10.88
Eva North	32-27-27	173	28.54	NBL	63.84	66.37	67.56	62.23	53.60	57.92	60.88	4.19
Eva South	32-27-27	173	31.52	PLL	64.17		66.56				65.37	4.24
Fannie	11-28-26	829	17.50	NBL	54.76	65.73	78.41	61.65	62.15	61.90	58.33	4.75

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<i>Lake Name</i>	<i>STR</i>	<i>SurArea</i>	<i>N/P Ratio</i>	<i>Limit Nutrient</i>	<i>TSI Chlor a</i>	<i>TSI TN</i>	<i>TSI TP</i>	<i>TSI TNB</i>	<i>TSI TPB</i>	<i>TSI NUTR</i>	<i>TSI</i>	<i>WQI</i>
Garfield	5-30-26	655	17.32	NBL	59.17	70.75	84.16	66.27	66.69	66.48	62.83	5.02
Gem	21-28-26	3	19.09	NBL	39.42	40.95	49.15	38.82	39.09	38.96	39.19	2.25
Gibson	25-27-23	474	6.65	NLL	60.55	60.65					60.60	6.09
Gross	14-29-26	89	21.62	NBL	48.49	54.80	61.42	51.58	48.76	50.17	49.33	2.64
Haines	33-27-26	716	30.83	PLL	66.99		67.56				67.28	4.56
Hamilton	18-28-27	2162	2.05	NLL	36.80	59.60					48.20	11.71
Hancock	8-29-25	4519	9.10	NLL	93.29	96.49					94.89	29.28
Hartridge	8-28-26	434	43.68	PLL	49.53		45.69				47.61	2.35
Hatchineha	27-28-29	6665	42.77	PLL	62.34		67.06				64.70	4.58
Henry (HC)	36-27-26	857	16.80	NBL	42.19	64.57	78.09	60.58	61.91	61.24	51.71	4.19
Hickory (FP)	17-32-28	100	123.57	PLL	76.75		54.84				65.80	9.72
Hollingsworth	30-28-24	356	22.83	NBL	70.56	75.55	82.91	70.69	65.71	68.20	69.38	6.44
Howard	30-28-26	628	81.18	PLL	62.08		43.06				52.57	3.47
Hunter	24-28-23	100	13.45	NBL	90.26	86.60	107.52	80.86	85.10	82.98	86.62	18.25
Ida (WH)	17-28-26	17	82.22	PLL	60.00		28.05				44.03	2.55
Idyl	16-28-26	20	31.67	PLL	60.52		56.47				58.50	3.30
Idylwild	18-28-26	102	58.50	PLL	60.90		46.90				53.90	3.29
Ina	34-28-26	7	33.23	PLL	52.61		57.24				54.92	2.76
Jessie	12-28-25	190	30.31	PLL	57.10		57.99				57.54	3.04

Tuesday, August 26, 2003

<i>Lake Name</i>	<i>STR</i>	<i>SurArea</i>	<i>N/P Ratio</i>	<i>Limit Nutrient</i>	<i>TSI Chlor a</i>	<i>TSI TN</i>	<i>TSI TP</i>	<i>TSI TNB</i>	<i>TSI TPB</i>	<i>TSI NUTR</i>	<i>TSI</i>	<i>WQI</i>
John	32-28-24	34	5.05	NLL	75.68	68.32					72.00	11.21
Juliana	15-27-25	926	56.76	PLL	72.44		59.42				65.93	5.73
Lena	9-28-25	207	65.24	PLL	77.59		64.41				71.00	7.73
Little Crooked	23-31-27		32.60	PLL	54.96		68.52				61.74	4.41
Little Eagle	1-29-25		81.00	PLL	52.61		30.54				41.57	2.28
Little Elbert	22-28-26		22.92	NBL	46.54	46.75	51.20	44.16	40.71	42.44	44.49	2.16
Little Hamilton	5-28-27	367	32.89	PLL	60.47		66.04				63.25	3.99
Livingston	21-32-28	1203	6.87	NLL	23.57	81.51					52.54	11.40
Lowery	14-27-26	903	49.00	PLL	50.90		56.47				53.69	3.08
Lulu	4-29-26	301	36.34	PLL	65.16		63.84				64.50	4.43
Mariam	27-28-26	199	23.79	NBL	63.90	66.52	72.03	62.38	57.12	59.75	61.83	4.98
Mariana	1-28-25	503	44.58	PLL	55.84		51.20				53.52	2.95
Marie North	27-28-27	50	42.06	PLL	61.33		59.42				60.38	3.95
Marie South	27-28-27	50	37.37	PLL	59.17		62.05				60.61	3.74
Marion	5-28-28	2990	41.79	PLL	74.53		71.20				72.86	6.90
Martha	21-28-26	85	216.67	PLL	42.65		2.13				22.39	1.67
Mattie	14-27-25	1078	19.15	NBL	52.61	69.30	80.20	64.93	63.56	64.25	58.43	5.02
Maude	21-28-26	55	40.00	PLL	51.26		49.15				50.21	2.54
May	29-28-26	44	28.98	NBL	69.25	71.13	72.43	66.62	57.44	62.03	65.64	5.50

Tuesday, August 26, 2003

<i>Lake Name</i>	<i>STR</i>	<i>SurArea</i>	<i>N/P Ratio</i>	<i>Limit Nutrient</i>	<i>TSI Chlor a</i>	<i>TSI TN</i>	<i>TSI TP</i>	<i>TSI TNB</i>	<i>TSI TPB</i>	<i>TSI NUTR</i>	<i>TSI</i>	<i>WQI</i>
Mc Leod	7-29-26	512	24.44	NBL	46.42	50.67	53.98	47.77	42.90	45.34	45.88	2.28
Menzie	28-28-27	22	44.17	PLL	54.82		51.20				53.01	2.80
Middle Hamilton	7-28-27	106	27.26	NBL	58.44	77.41	80.77	72.41	64.01	68.21	63.32	5.26
Mirror (WH)	20-28-27	123	70.38	PLL	68.24		53.09				60.66	4.59
Mud (PC)	6-27-25	133	26.06	NBL	67.84	72.83	76.80	68.18	60.89	64.53	66.19	6.39
Ned	1-29-26	74	37.00	PLL	32.08		46.90				39.49	1.86
Pansy	8-28-26	50	47.22	PLL	51.60		44.41				48.01	2.51
Parker (Lkld)	8-28-24	2272	54.29	PLL	87.87		78.71				83.29	12.75
Pierce	9-29-28	3729	114.62	PLL	60.22		36.73				48.48	3.44
Reedy	35-31-28	3486	169.23	PLL	67.20		36.73				51.97	4.75
Rochelle	4-28-26	578	28.96	NBL	64.82	66.68	67.56	62.52	53.60	58.06	61.44	4.30
Rosalie	27-29-29	4597	41.11	PLL	49.99		53.98				51.98	2.63
Roy	34-28-26	78	68.00	PLL	61.16		46.90				54.03	3.36
Ruby	12-29-26	255	59.23	PLL	71.81		62.66				67.23	6.22
Sears	36-28-25	82	130.00	PLL	41.63		14.18				27.91	1.70
Shipp	32-28-26	283	56.67	PLL	72.23		60.77				66.50	5.69
Silver (WH)	20-28-26	52	47.39	PLL	54.41		50.20				52.30	2.79
Smart	9-28-26	275	76.67	PLL	71.83		51.20				61.51	5.01
Somerset	32-28-24	54	4.63	NLL	78.46	72.47					75.47	14.22

Tuesday, August 26, 2003

<i>Lake Name</i>	<i>STR</i>	<i>SurArea</i>	<i>N/P Ratio</i>	<i>Limit Nutrient</i>	<i>TSI Chlor a</i>	<i>TSI TN</i>	<i>TSI TP</i>	<i>TSI TNB</i>	<i>TSI TPB</i>	<i>TSI NUTR</i>	<i>TSI</i>	<i>WQI</i>	
Spring	20-28-27	25	40.57	PLL	60.65		60.11				60.38	3.91	
Star	16-30-26	84	29.67	NBL	60.80	57.09	56.47	53.69	44.86	49.28	55.04	2.97	
Summit	34-28-26	68	62.94	PLL	57.26		43.06				50.16	2.70	
Surveyors	26-30-26	293	15.00	NBL	56.41	62.98	79.02	59.11	62.63	60.87	58.64	4.03	
Swoope North	29-27-26	88	70.59	PLL	46.02		43.06				44.54	2.43	
Swoope South	29-27-26	88	35.38	PLL	46.02		53.09				49.56	2.44	
Tennessee	9-27-25	112	54.19	PLL	67.37		57.24				62.31	4.73	
Thomas (WH)	35-28-25	73	85.00	PLL	36.80		30.54				33.67	1.87	
Tiger	6-30-30	2200	16.79	NBL	60.13	65.41	79.02	61.35	62.63	61.99	61.06	4.57	
Tracy	29-27-27	136	42.29	PLL	57.44		60.11				58.78	3.41	
Wailes	1-30-27	326	58.95	PLL	56.01		45.69				50.85	2.77	
Weohyakapka	3-31-29	7532	47.78	PLL	41.63		44.41				43.02	1.96	
Winterset	11-29-26	548	70.00	PLL	56.40		43.06				49.73	2.82	
											<i>Average:</i>	56.93	5.34
											<i>Minimum:</i>	22.39	1.43
											<i>Maximum:</i>	94.89	29.28

Tuesday, August 26, 2003



Figure 18
Crooked Lake

The Natural Resources Division utilizes the Florida Trophic State Index (TSI) and the Water Quality Index (WQI) as assessment tools. The TSI is used by lake managers to describe one aspect of water quality, the relative eutrophication (aging) of lakes. The TSI is a calculated measurement using the concentrations of chlorophyll-a, total nitrogen, and total phosphorus. The WQI is an index used to indicate how well a

waterbody satisfies the Florida Class III Surface Water's classifications. All the lakes in Polk County are Class III Waterbodies.

Like all indices, the TSI and WQI are methods of summarizing and reducing the information of a complex system, and can be misleading or misinterpreted. But used together they can aid in identifying water quality problems and be used to evaluate management decisions and projects.

Lakes can be classified according to their productivity or aging. The three major



Figure 19
Lake Hancock

categories are: Oligotrophic, Figure 18, Mesotrophic, and Eutrophic, Figure 19. An Oligotrophic lake is typically a young lake with few dissolved nutrients, little or no organic sediment, and the lack of littoral vegetation. The water clarity is high and there are no suspended solids or algal blooms. Biological productivity is low; therefore, few fish and other aquatic organisms are present. Typically, this is the type of lake people like to have for swimming and waterskiing. A Eutrophic lake is an older, much more biologically productive waterbody. Eutrophic lakes in their final stage will eventually convert to a swamp, wetland, or bog if natural conditions persist. Eutrophic lakes have a high nutrient concentration, a thick layer of organic sediments and poor light penetration. The littoral zone is heavily covered with vegetation and there may be frequent algal blooms. Fish and other aquatic life may be in abundance, at least until the final stages of eutrophication. Recreation, because of aesthetic reasons, may be limited. A Mesotrophic lake is the relative middle stage between the Oligotrophic and Eutrophic. This life cycle of lakes is a natural one. Human activities may speed the process up, and management activities may slow down the progression to the final stages of eutrophication. Lakes that did not have two or more critical water quality analytes reported were not characterized and the water quality boxes were labeled, *insufficient data*.

Nutrient Balanced Lake Systems

The nutrient balance of lakes includes the ratios between three major elements; nitrogen, phosphorus, and carbon. In an ideal world all lakes would be nutrient balanced, i.e., the elements in the perfect molar weight ratios to each other to optimize biotic productivity (food webs). This report does not take into consideration the element carbon in the nutrient balance equations, because of insufficient data. Based on the concentrations, i.e., mg/L as P or N, the ratios of nitrogen to phosphorus were calculated and the results are included in Table 4. A summary follows for the lake samples in 2002.

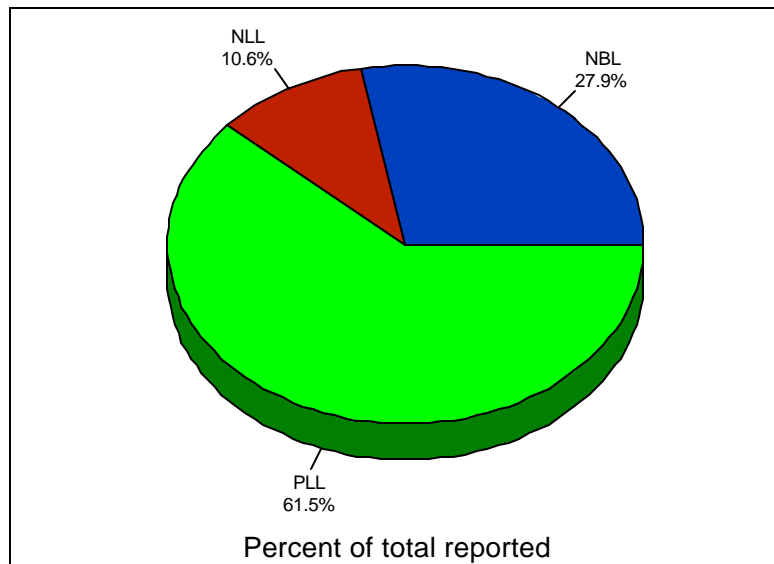
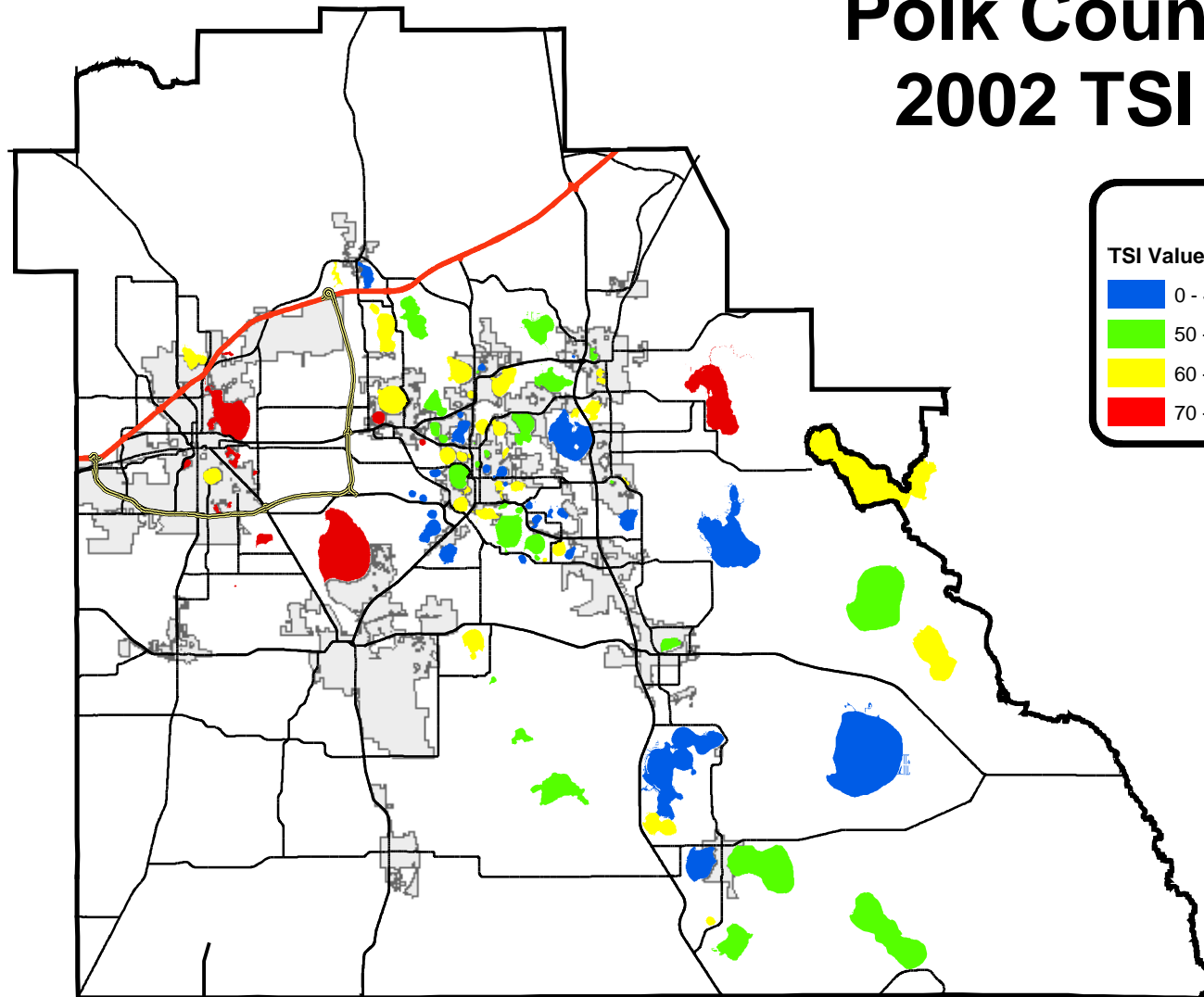


Figure 20
Nutrient Ratio of Lakes Sampled in 2002

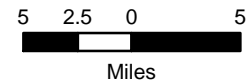
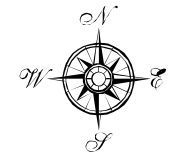
The nutrient ratios can be helpful in identifying the nutrient input that is contributing to the eutrophication of the lake or stream. The ratios of nitrogen to phosphorus can be calculated and using the appropriate formula, the nutrient balance can be determined, see Tables 3 and 4. In 2002, 29 lakes proved to be nutrient balanced lakes, 11 were nitrogen limited, and 64 were phosphorus limited, see Figure 20. Figure 21 graphically displays each lake tested and is color coded based upon the TSI value. Figure 22 shows the WQI for each lake tested in 2002.

Polk County Lakes 2002 TSI Values



Legend

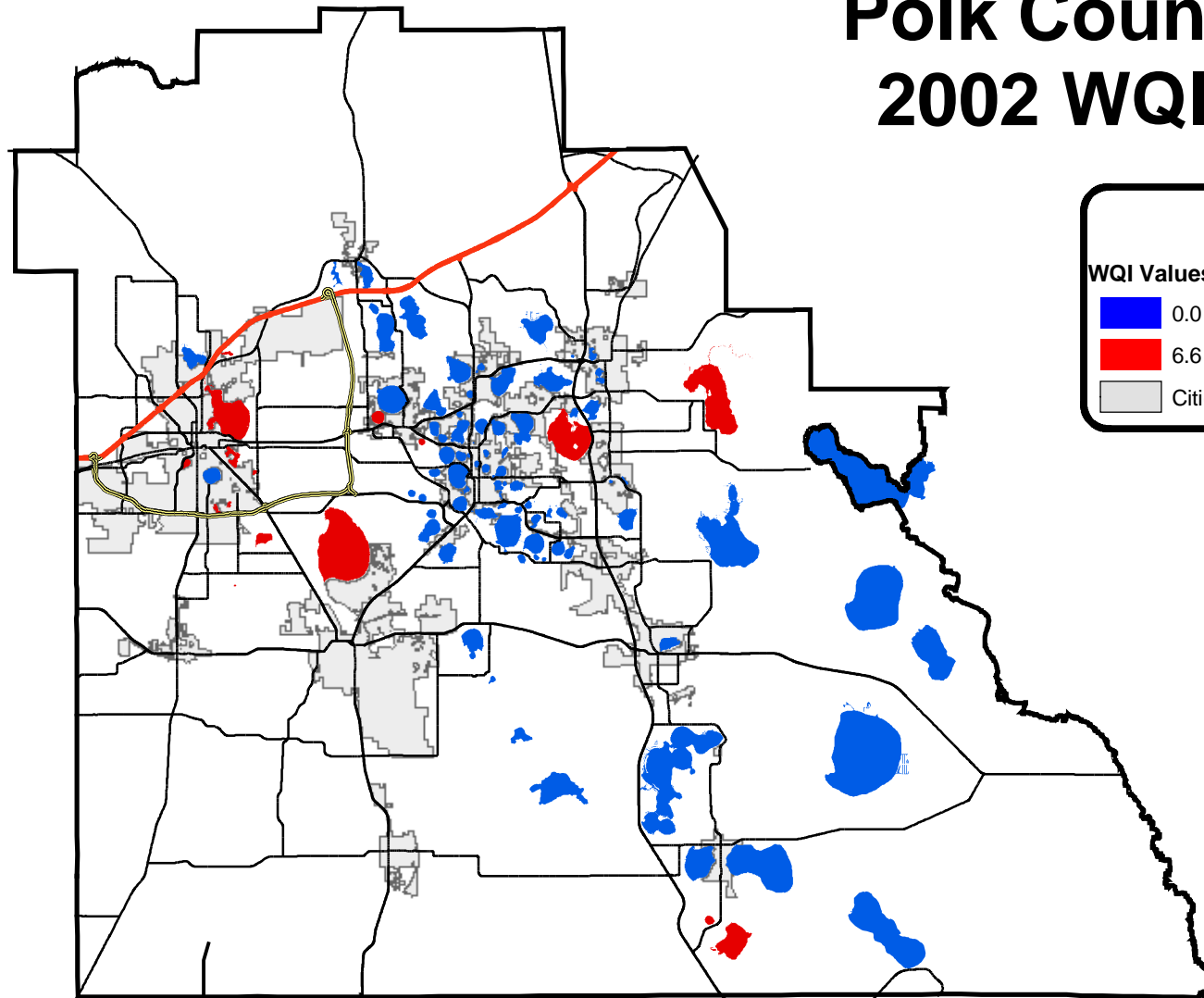
TSI Values 2002	Grey box	Cities
Blue box	Black outline	County Boundary
Green box	Red line	Interstate 4
Yellow box	Yellow line	Polk Parkway
Red box	Black line	Major Roads



Map Created by MIS/GIS Section
Paul Hrebenach 06/09/03

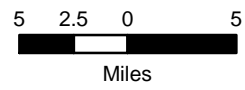
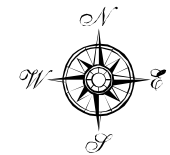
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Polk County Lakes 2002 WQI Values



Legend

0.0 - 6.5	County Boundary
6.6 - 32.4	Interstate 4
Cities	Polk Parkway
	Major Roads



Map Created by MIS/GIS Section
Paul Hrebenach 06/09/03

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Lake/Streams Water Quality Trends

As the TSI increases, water quality generally decreases, and vice versa. To assess current trends in lake water quality, TSI data between the years 1990 and 2002 were plotted and a linear regression of the plot determined for each lake. The slope of the regression line will indicate if the TSI values are increasing or decreasing (or remain relatively the same). Therefore, any positive slope will represent declining water quality and a negative slope, improving water quality. A “Step Change” is not considered a trend in this report. The last 12 years of data were selected to provide the current lake trend, and results are shown in the following two lists: one for declining and one for improving water quality trends.

DECLINING WATER QUALITY TREND

;	Blue	;	Marie
;	Buckeye	;	Marion
;	Deeson	;	Mud
;	Garfield	;	Parker
;	Hunter	;	Sears
;	Juliana	;	Wailes

IMPROVING WATER QUALITY TREND

(	Agnes	(	Howard
(	Alfred	(	Ltl Eagle
(	Annie	(	Mirror
(	Conine	(	Smart
(	Eagle	(	Thomas

Lakes Condition Index (LCI)

The Water Resources Staff are members of the FDEP Biocriteria Committee and have trained with the FDEP to conduct LCI assessments, see Figure 23. Lakes are divided into two categories based on water color (CPU). Dark lakes, color ≥ 20 CPU's, are evaluated using the aquatic macrophyte species, Floristic Quality Index and coefficient of condition; non-dark lakes, < 20 CPU's, are evaluated using benthic macroinvertebrate species (“bugs”) and diversity calculations. The LCI for non-colored lakes (< 20 CPU) is regulatory as defined by the State’s Impaired Waters Rule. The LCI assessments for Polk lakes will begin in 2003 and will be conducted by Water Resources staff.



Figure 23

Looking up plants

Federal Clean Water Act (CWA)

In 1972, the CWA was passed and addressed both point and nonpoint sources of pollution and water quality in the United States. Section 303(d) of the CWA requires that states report streams and waterbodies that do not meet ambient water quality standards, and will require the establishment of Total Maximum Daily Load or TMDL for these waters on a prioritized schedule. A TMDL is the maximum amount of a specific pollutant that a water body can naturally assimilate



Figure 24
Point source



Figure 25
Non-point source

without any water quality degradation. The TMDL's will be calculated/modeled using the concentrations or sum of waste load allocations (point sources), Figure 24, load allocations (nonpoint sources), Figure 25, background loads, and a margin of safety. The TMDL's will then be based on the natural assimilation of all the loadings in that waterbody. Waterbodies will not be allowed to exceed the TMDL and may in some cases may be required to reduce specific pollutant loading to improve water quality.

The 303(d) list, commonly referred to as the Impaired Waters List, is prepared by FDEP and forwarded to USEPA. Annual reports are made to the EPA using a rotating basis scheme listing Verified Impaired Waters. The FDEP Rule for identifying impaired waters is in development at this time. Polk County has several waterbodies on the original 303(d) list and those are identified on the individual data sheet for each waterbody, see Appendix A.

Florida Watershed Restoration Act of 1999

This Act by the Florida legislature authorizes the FDEP to establish a statewide TMDL program and prioritize the TMDL schedule. The Act provides a process for listing impaired waters and developing, adopting, and implementing TMDL's.

STREAM MONITORING

There are six major rivers which make up Polk County's watersheds: the Alafia, Hillsborough, Kissimmee, Palatka, Peace, and Withlacoochee. Additionally, there are approximately 30 streams, commonly referred to as creeks, that flow through Polk County, see Figure 28. These streams collect and transport water for the rivers and some lakes and act as natural drainage conveyances, Figure 26. Streams provide a link between wildlife habitats. Some streams also provide recreation, such as canoeing and fishing.

A total of 23 stream segments were sampled on the following streams, rivers, and canals in Polk County in 2002: Gator, Horseshoe, Itchepackesassa, Lena Run, Marion, Peace, Reedy, Saddle, Poley, and Tiger



Figure 27
Collecting Field Readings

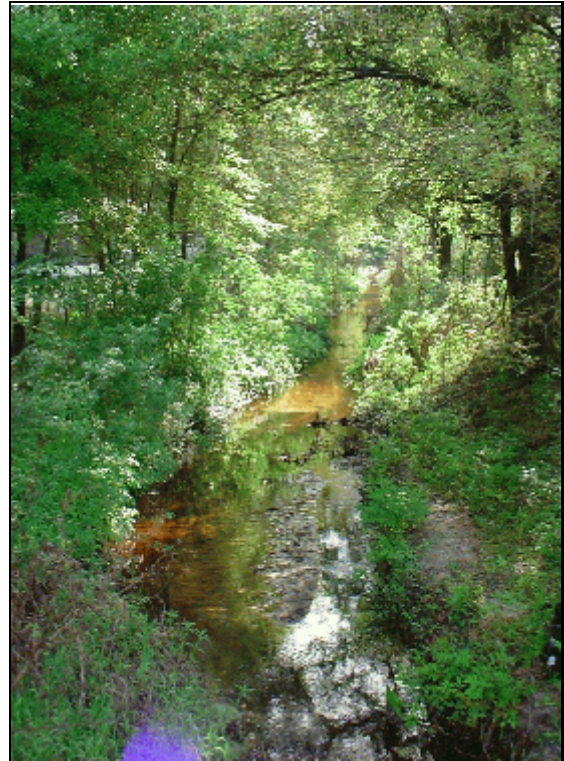






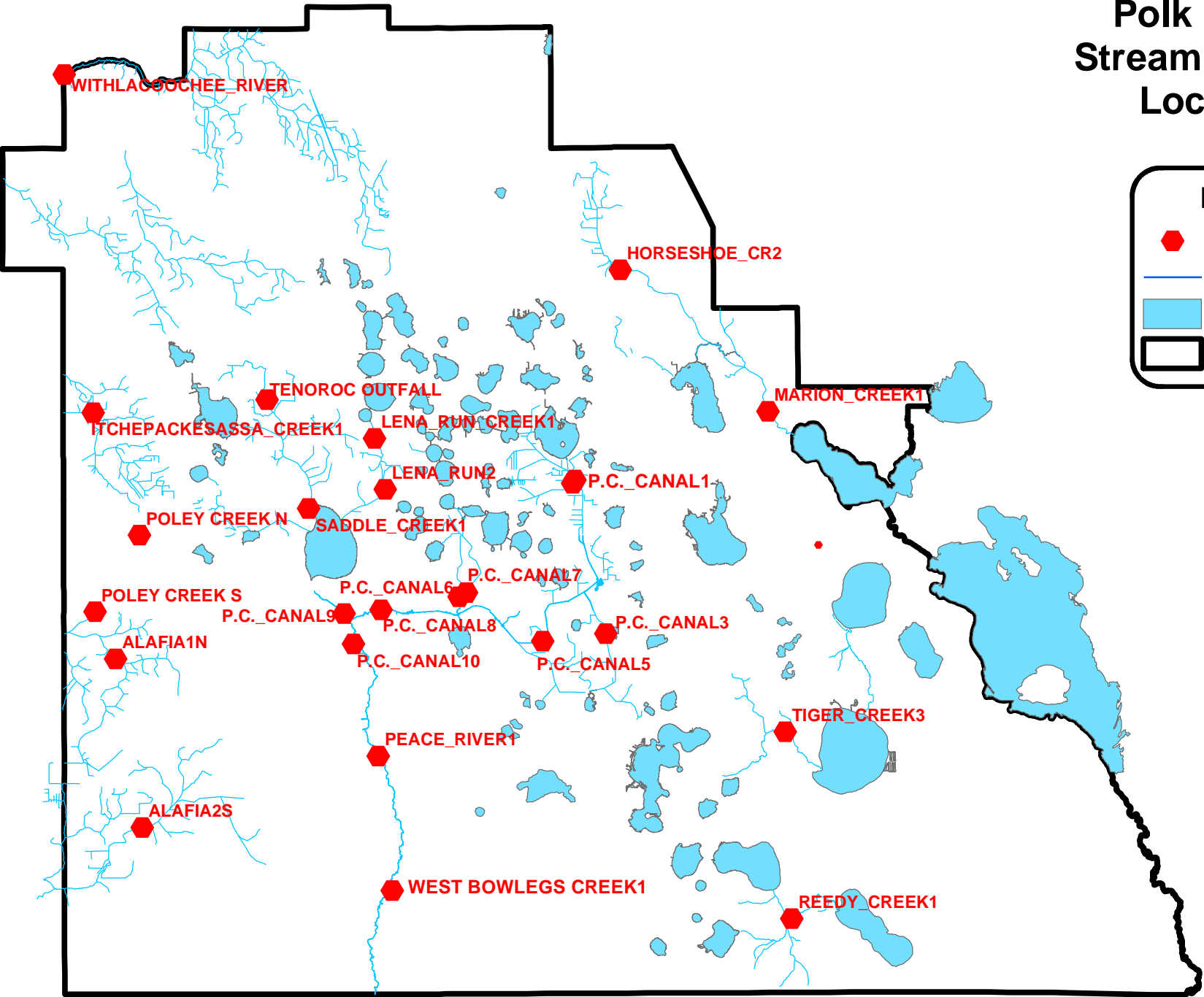
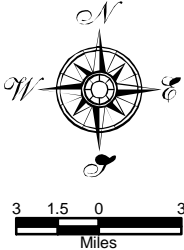
Figure 26
Blackwater Creek

Creeks, Alafia River - North and South Prongs, Wahneta drainage, Peace Creek drainage, and the Withlacoochee River. Due to drought conditions, several stream segments were not tested due to low levels or no flow. Routine analyses of these streams include field measurements of temperature, specific conductance, dissolved oxygen, and pH *in situ*. Color, turbidity, corrected chlorophyll *a*, chlorophyll *a*, ammonia, kjeldahl nitrogen, total phosphorus, nitrate/nitrite nitrogen, total nitrogen, fecal coliform, and enterococci are analyzed in the laboratory.

Polk County Stream Sampling Locations

Legend

-  Stream Sampling Location
-  Streams
-  Lakes
-  County Boundary



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Table 5 provides the mean value and range for each water quality parameter routinely tested and the WQI range for streams in 2002 and 2001. The TSI is not calculated for streams. Table 6 provides the mean water quality results for each stream/creek that was tested in 2002. Appendix B has some historical water quality values as well.

Stream Habitat Assessments/Stream Condition Index (SCI)

SCI's are a State of Florida regulatory tool used to assess "impaired water". Habitat Assessments is an approved methodology by the FDEP to evaluate and rank functional habitat for flora and fauna, in freshwater streams and rivers. The assessment data are used to evaluate the relationship of the stream biology and habitat to the stream water quality. The analysis also includes riparian zone quality and buffering capacity,



Figure 29
Taking field readings

and general water quality observations, see Figures 29-30, and immediate sub-basin land-use. A SCI is the extension of the Habitat Assessment. Net "sweeps" are conducted to collect the macroinvertebrates in productive habitats for identification, and indexing to evaluate the current water quality/habitat/biology condition. The Lakes Manager has trained with the FDEP and is state certified to conduct Habitat Assessments and the SCI's. Additional internal training of staff occurred in 2002, and stream assessments (SCI) will begin in March 2003. As data becomes available they will be included in future Reports.



Figure 30
SCI Observations

Table 5

**2002 Mean Chemical
Stream Parameters**

Parameter	2002 Mean Value *	2002Range	2001 Mean Value *	Unit
Temperature	21.57	14.12-27.13	19.5	Deg C
pH	6.83	5.87-7.42	7.01	SU
Specific Conductivity	338	117-1013	402	umhos/cm
Dissolved Oxygen	5.01	0.48-7.68	6.22	mg/l
Color	182	28-500	157	CPU
Turbidity	7.60	0.38-20.5	4.2	NTU
Ammonia	0.124	0.480-0.758	0.217	mg/l
Kjeldahl Nitrogen	1.644	0.438-2.994	1.310	mg/l
NO ₂ + NO ₃	0.297	0.000-1.040	0.444	mg/l
Total Nitrogen	1.94	0.70-3.03	1.78	mg/l
Total Phosphorus	0.655	0.016-4.377	0.683	mg/l
Chlorophyll <i>a</i>	11.96	0.0-68.09	5.61	mg/m ³
WQI	18.07	2.47-89.55	18.03	WQI

* Mean values are arithmetic. *Actual values below the laboratory detection limits were extrapolated.*

Polk County Natural Resources Division Laboratory

2002 Stream Water Quality Results

Sample Site	Sampling Site Location	Chlor a mg/m3	Color CPU	Cond umhos/cm	DO mg/l	NH3 mg/l	TKN mg/l	NOx mg/l	TN mg/l	TP mg/l	pH SU	Temp Deg C	Turb NTU	WQI
Alafia North Prong	N Prong @ Nichols Bridge On Hwy 676	2.00	65	1013	7.68	0.020	0.834	0.293	1.13	4.377	7.12	20.09	4.45	89.55
Alafia South Prong	S Prong Bridge On Sr37 S 9.3 miles S Of Hwy 60	1.2	35	626	6.99	0.000	0.571	0.131	0.70	1.722	6.9	14.12	0.38	35.85
Horseshoe Creek	Hwy 547 N at RR Trestle Davenport	1.48	135	165	3.00	0.030	1.019	0.436	1.46	0.057	6.56	20.46	1.65	4.50
Itchepackesassa Creek	Bridge On Walker Rd S Of Hwy 582	14.62	95	308	4.68	0.074	1.534	0.190	1.73	0.764	7.08	23.59	9.7	19.49
Lena Run Creek 1	N Side Of 655 On The W Side Of FI Dist.	28.64	42	574	5.25	0.461	1.445	0.600	2.05	1.006	7.26	26.25	3.12	27.68
Lena Run Creek 2	1 Mile S Of 540 On E Side Of Thornhill	2.60	375	345	7.07	0.053	1.582	0.163	1.75	0.363	7.07	22.90	6.45	10.13
Marion Creek	N Of 542 - Bridge On Poinciana Pkw	3.61	290	178	6.01	0.012	1.840	0.256	2.10	0.028	7.42	19.36	3.4	3.40
Peace Creek 9	1 Mile W Old Bartow/Eagle Lk Cutoff Rd	62.28	98	295	4.01	0.045	2.842	0.030	2.87	0.717	7.14	24.44	20.5	22.23
Peace Creek10	Bridge On Hwy 60 W Of Kincaide Marine	22.15	173	281	2.98	0.158	2.333	0.165	2.50	0.694	6.90	25.42	11.3	20.42
Peace Creek3	100yds E Fine Hart Mart Hwy 60 E N Side	10.81	190	564	2.83	0.357	2.403	0.229	2.63	0.386	6.48	21.34	6.30	15.13
Peace Creek4	Alturas Rd Cutoff +520 Yds S Of RR W	4.01	450	119	0.48	0.030	2.920	0.000	2.92	0.116	5.95	27.13	6.2	17.50
Peace Creek5	Bridge @ Hwy 60 W 2/10 Mile W Of RR	3.80	249	402	4.81	0.216	2.166	0.455	2.62	0.214	6.91	22.81	13.28	9.75
Peace Creek6	19th St W Of Hwy 655 3/10 Mile Dirt Rd	2.10	121	210	5.55	0.030	0.972	0.309	1.28	0.133	6.32	22.02	11.30	5.49
Peace Creek7	Hwy 655 N + 100 Yds N Of 12th St E	2.40	140	225	4.56	0.032	1.138	0.374	1.51	0.147	6.26	21.99	12.35	6.24
Peace Creek8	P.C. Bridge On 91 Mine Rd N Of Hwy 60	7.61	250	304	4.28	0.133	1.806	0.357	2.16	0.346	6.80	24.41	13.82	11.83
Peace River1	Bridge On Hwy 640 E Of SR 17 Homeland	18.00	113	518	3.96	0.049	1.705	0.127	1.83	1.486	6.98	21.95	6.54	34.05
Poley Creek North	W on Pipkin; R on S Pipkin Rd 1/4 Mile of R, Sample at staff gage approx 50' E from road	0.40	28	373	7.57	0.226	0.613	0.766	1.38	0.346	7.40	18.62	3.9	10.54
Poley Creek South	Bridge on SR60 1/2 mile E of Coronet Rd; W of Mulberry; Easy access on E bound on SR60	0.00	40	313	7.15	0.026	0.438	0.312	0.75	0.572	7.38	19.22	3.5	13.15
Reedy Creek	Arbuckle Rd To Rucks Dairy Rd At Bridge	14.82	303	212	6.30	0.054	1.876	0.386	2.26	0.121	6.74	20.92	5.50	6.30
Saddle Creek1	Hwy 540 E (Winter Lake Rd) On N Side	68.09	130	242	3.28	0.027	2.994	0.036	3.03	0.428	6.93	21.54	15.9	16.81
Teneroc Outfall	Bridge approx 1/2 mile E of Fish Hatchery Rd on CR546 (Saddle Creek Rd)	3.20	150	227	4.98	0.758	1.915	0.151	2.07	0.922	6.75	16.33	11.7	27.46
Tiger Creek	On Walk In Water Rd Call 813-678-1551	0.40	213	172	7.35	0.014	0.675	1.040	1.72	0.016	6.94	20.23	1.14	2.47
Withlachooshee River	Under Bridge On SR 471 3 mile N Of Hwy 98 N	0.80	500	117	4.37	0.056	2.201	0.035	2.24	0.106	5.87	20.89	2.4	5.57
	Average	11.96	182	338	5.01	0.124	1.644	0.297	1.94	0.655	6.83	21.57	7.60	18.07
	Minimum	0.00	28	117	0.48	0.480	0.438	0.000	0.70	0.016	5.87	14.12	0.38	2.47
	Maximum	68.09	68	1,013	7.68	0.758	2.994	1.040	3.03	4.377	7.42	27.13	20.50	89.55

Tuesday, August 26, 2003

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SECTION III



POLK COUNTY LAKE LEVELS



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LAKE LEVELS

The Water Resources Section receives lake levels from SWFWMD which are used to update the Division's databases. For projects requiring more detailed information, daily level readings are obtained from SWFWMD or read directly by Division staff. At present, this office has lake level information on 189 lakes within the County. The period of level data collection ranges from a few years to more than 30 years. The SWFWMD has automated equipment which records water levels on some lakes.

To maintain a healthy lake ecosystem,



Figure 31

Lake Hancock during drought



Figure 32

Lake Thomas Staff Gage during El Nino

it is important that lake levels fluctuate, see Figures 31 through 33. Therefore, it is necessary to determine what elevation is too high or too low and what elevations constitute a desirable range of water fluctuation. The SWFWMD has a Lake Level Program to track these levels on a number of lakes in their district.

Lake levels that are established for each lake consists of a ten (10) year Flood Warning, Minimum Flood, Minimum Water Level (Low Management), and Extremely Low Management Levels. As of October 1995, the SWFWMD has adopted levels on 154 Polk County lakes in their district.



Figure 33

Lake Haines to Lake Rochelle canal

Lake levels are averaged each month and those averages are then put into a spreadsheet, see Table 7. See Figures 34 - 45

for graphical illustrations of selected lake levels. Lake levels are directly affected by rainfall and evaporation. Other factors can affect the water level in a lake. For example, in the upper Peace River Basin of Polk County, the changes in lake levels can be attributed to fluctuations in water levels of the Floridan Aquifer over the past several years. Ground water withdrawals therefore have shown to have an effect on lake levels.

Lake Levels

Waterbody, S-T-R	2002 Mean	2002 Mean Min Flood Difference	2002 Max	2002 Max. Record High Difference	Record High	2002 Min	2002 Min. Record Low Difference	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min Ext. Low Level	Max Desire Level		
Ada, 33-28-27	111.97	-11.03	114.20	-2.74	11/28/95	116.94	109.74	2.83	6/25/01	106.91	123.80	127.30	123.00	120.00	118.00	122.50
Agnes, 4-27-25	132.13	-3.62	134.08	-1.82	08/29/95	135.90	130.63	0.17	6/26/01	130.46	135.20	136.40	135.75	132.75	130.75	135.00
Alfred, 30-27-26	125.58	-5.17	126.50	-6.26	03/26/98	132.76	124.68	2.28	05/24/77	122.40	132.30	134.20	130.75	128.25	126.25	130.25
Altamaha, 11-30-27	115.76	-6.74	118.92	-2.42	01/26/98	121.34	113.94	1.62	5/31/01	112.32	122.60	123.40	122.50	120.00	118.00	122.00
Amoret, 24-30-27	103.24		105.20	-4.70	3/1/98	109.90	101.98	0.76	5/31/01	101.22						
Annie, 3-29-27	111.87	-7.13	113.36	-4.00	03/25/98	117.36	110.68	2.32	6/1990	108.36	122.10	124.40	119.00	116.00	114.00	118.50
Ariana, 3-28-25	133.44	-3.56	135.05	-2.85	08/28/46	137.90	132.29	1.01	05/06/76	131.28	137.10	138.30	137.00	134.50	132.50	136.75
Arietta, 27-27-25	138.89	-5.11	139.42	-4.12	12/18/97	143.54	138.14	1.64	05/25/77	136.50	144.00	144.80	144.00	141.00	138.00	143.00
Aurora, 13-30-28	92.22	-7.78	93.61	-4.33	09/29/98	97.94	91.24	0.32	05/31/01	90.92	103.30	107.00	100.00	97.00	95.00	99.00
Banana, 10-29-24	104.08	-2.42	105.44	-1.50	06/04/91	106.94	102.68	0.63	6/11/01	102.05	106.75	107.40	106.50	103.50	102.00	105.50
Belle, 11-30-27	113.93	-6.07	115.47	-3.13	03/31/98	118.60	112.91	3.29	06/02/94	109.62	123.60		120.00	117.00	115.00	119.00
Bentley, 29-28-24	114.45		114.99	-0.61	12/15/02	115.60	113.83	0.88	6/22/01	112.95		119.70				
Bess, 18-29-27	124.04	-1.21	125.37	-0.25	09/22/94	125.62	122.82	2.02	6/20/01	120.80	125.50	126.20	125.25	123.00	121.00	125.00
Beulah (Lkld), 13-28-23	178.39		180.58	-0.22	03/20/98	180.80	176.40	1.67	1991	174.73						
Big Gum, 26-29-28	90.46	-4.54	92.71	-2.83	09/30/98	95.54	88.62	2.52	1/31/01	86.10	95.10	96.00	95.00	92.00	89.00	94.50
Blue, 13-28-25	147.85	-1.15	148.16	-1.40	07/27/95	149.56	147.14	0.64	05/31/00	146.50	149.80	150.90	149.00	146.50	144.50	148.50
Blue N, 24-30-27	107.95	-9.05	109.82	-4.77	10/05/98	114.59	106.14	2.76	05/22/82	103.38	118.00	125.30	117.00	114.00	112.50	116.00
Blue S, 24-30-27	107.18	-9.82	108.80	-5.77	09/28/98	114.57	105.78	2.40	05/22/82	103.38	118.00	125.30	117.00	114.00	112.50	116.00
Blue(LW), 24-30-27	107.95	-9.05	109.82	-4.77	10/05/98	114.59	106.14	2.76	05/22/82	103.38	118.00	125.30	117.00	114.00	112.50	116.00
Bonnet (Lkld), 14-28-23	144.60	-0.40	145.18	-1.44	11/23/88	146.62	143.84	1.74	05/30/97	142.10	146.40	147.20	145.00	145.00	142.50	147.50

Waterbody, S-T-R	2002 Mean	2002 Mean	2002 Max	2002 Max.	Record High	Record High	2002 Min.	2002 Min.	Record Low	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min	Max
		Min Flood Difference		Record High Difference			Record Low Difference								Ext. Low Level	Desire Level
Bonny (Lkld), 20-28-24	128.34	-2.16	131.33	-1.07	01/02/98	132.40	125.73	2.81	6/22/01	122.92	130.90	132.40	130.50	128.00	126.00	130.00
Buckeye, 22-28-26	127.48	-1.52	128.28	-0.84	08/14/92	129.12	126.16	1.16	6/22/01	125.00	130.10	131.60	129.00	126.00	124.50	128.75
Buffum, 12-31-26	129.72	-2.53	131.85	-0.57	02/24/98	132.42	128.20	4.30	06/19/91	123.90	132.75	133.40	132.25	129.25	126.75	132.00
Camp, 20-27-26	130.86	-3.64	132.34	-1.04	02/18/98	133.38	129.68	0.96	6/20/01	128.72	133.40	133.90	134.50	132.00	130.00	134.00
Cannon, 19-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Clearwater, 5-27-25	139.97	-3.53	141.22	-4.84	08/28/92	146.06	138.55	0.62	5/30/01	137.93	146.20	148.50	143.50	141.00	139.00	143.00
Clinch, 31-31-28	104.07	-2.68	105.10	-5.11	10/10/48	110.21	102.47	2.37	06/19/91	100.10	108.00	110.40	106.75	104.00	102.50	106.00
Conine, 9-28-26	125.62	-3.13	127.53	-1.75	02/24/98	129.28	124.38	0.27	5/30/01	124.11	129.70	130.50	128.75	126.50	124.50	128.50
Cooper, 2-30-27	120.82	-2.68	121.98	-0.34	11/16/92	122.32	119.20	1.30	3/27/01	117.90	124.20	125.30	123.50	121.00	119.00	123.00
Crooked, 1-31-27	114.79	-7.21	116.42	-7.56	10/08/48	123.98	113.15	7.05	05/20/91	106.10	122.60	125.80	122.00	118.50	117.00	121.00
Crystal (Lkld), 21-28-24	133.96		138.98	-1.64	09/20/96	140.62	130.94	3.04	6/22/01	127.90		140.00				
Crystal (LW), 2-30-27	111.58	-9.67	114.88	-4.98	03/25/98	119.86	109.32	1.12	3/27/01	108.20	121.40	123.00	121.25	118.00	115.00	121.00
Cummings, 31-27-26	127.95	-3.05	130.55	-0.65	03/23/98	131.20	126.46	0.63	5/29/01	125.83	131.50	133.50	131.00	127.50	125.50	129.50
Cypress, 36-29-28	92.65	-5.85	94.40	-4.20	03/25/98	98.60	90.81	1.48	5/31/01	89.33	100.20	101.80	98.50	95.00	93.00	98.00
Daisy, 6-29-27	128.96	-1.04	129.90	0.00	9/11/01	129.90	128.30	2.55	06/20/00	125.75	130.90	131.70	130.00	127.00	126.00	129.75
Deer (WH), 25-28-25	139.13	-1.62	139.54	-2.86	03/30/98	142.40	138.38	1.48	6/12/01	136.90	141.30	142.20	140.75	138.50	136.50	140.50
Deeson, 29-27-24	122.15		125.20	-10.29	09/28/52	135.49	119.85	2.22	6/25/01	117.63	129.50	133.10				
Dell, 28-28-27	123.04	-0.71	124.20	-0.10	09/21/92	124.30	121.40	2.71	6/25/01	118.69	125.70	126.00	123.75	121.50	119.50	123.50
Dexter, 2-29-26	130.01	-1.99	130.60	-0.78	12/19/97	131.38	128.84	2.16	7/27/01	126.68	132.20	132.70	132.00	129.00	127.50	131.50
Dinner, 15-29-27	108.92	-9.58	111.30	0.00	12/20/02	111.30	106.76	2.94	6/25/01	103.82	120.90	124.00	118.50	116.00	114.00	118.00
Eagle, 1-29-25	125.85	-4.90	126.50	-5.00	09/23/96	131.50	125.20	6.44	05/10/76	118.76	131.00	131.90	130.75	128.50	126.50	130.50
Easy, 19-30-28	101.78	-13.47	102.53	-6.35	03/25/98	108.88	100.80	-0.10	6/26/01	100.90	115.50		115.25	113.00	111.00	115.00
Echo, 5-28-26	128.44	-2.56	129.20	-1.45	08/14/90	130.65	127.06	1.00	5/25/01	126.06	132.30	134.00	131.00	128.00	126.00	130.50

Waterbody, S-T-R	2002 Mean	2002 Mean	2002 Max	2002 Max.	Record High	Record High	2002 Min	2002 Min.	Record Low	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min	Max
		Min Flood Difference		Record High Difference				Record Low Difference							Ext. Low Level	Desire Level
Effie, 3-30-27	114.33	-3.67	115.30	-1.56	03/25/98	116.86	113.90	0.50	03/24/77	113.40	119.60	121.70	118.00	115.00	113.00	117.00
Elbert, 22-28-26	131.14	-4.36	131.86	-4.50	03/26/98	136.36	129.84	1.06	06/19/89	128.78	137.50	138.60	135.50	133.00	131.50	135.00
Eloise, 3-29-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Eva, 29-27-26	127.94	-3.56	129.34	-2.72	03/11/98	132.06	126.26	0.61	6/20/01	125.65	132.30	134.70	131.50	129.00	127.00	131.00
Florence, 35-28-26	127.18	-1.32	127.64	-0.56	09/27/94	128.20	126.06	1.32	6/26/01	124.74	128.80	129.50	128.50	127.00	125.00	128.50
Fox, 6-29-27	133.95	-1.05	134.42	-0.42	9/19/94	134.84	133.21	1.80	6/20/01	131.41	135.20	135.90	135.00	132.00	131.00	134.75
Garfield, 5-30-26	101.42	-3.33	104.68	-1.23	09/30/79	105.91	99.65	2.27	6/26/01	97.38	105.70	107.90	104.75	101.00	100.00	103.50
Gator, 26-30-26	130.74	-2.26	131.49	-0.39	02/24/98	131.88	129.52	-0.58	04/23/02	130.10	133.60	134.70	133.00	130.75	128.50	132.75
Gibson, 25-27-23	142.67	-0.83	143.05	-2.35	09/08/88	145.40	142.21	1.81	06/06/85	140.40	144.20	145.50	143.50	141.50	141.50	143.00
Gordon, 16-28-27	111.00	-8.00	113.66	-2.98	03/25/98	116.64	108.64	3.48	9/25/01	105.16	121.30		119.00	116.00	114.00	118.00
Grassy (EL), 2-29-25	125.77	-3.23	126.34	-10.25	09/21/60	136.59	124.69	1.59	06/06/91	123.10	134.80	136.40	129.00	126.50	125.50	128.50
Grassy (LA), 19-27-26	128.05	-3.95	130.57	-3.01	2/18/98	133.58	126.57	0.61	7/2/01	125.96	133.20	133.80	132.00	129.50	128.00	131.50
Griffin, 30-27-26	129.09	-2.41	130.77	-1.77	05/14/98	132.54	127.51	1.26	5/17/01	126.25	132.30	134.70	131.50	129.00	127.00	131.00
Gross, 14-29-26	132.42	-3.58	133.00	-4.40	10/12/95	137.40	131.30	0.74	6/26/01	130.56	138.50	140.00	136.00	133.50	132.00	135.75
Gum, 17-27-26	130.25	-0.75	132.29	-0.93	02/18/98	133.22	128.99	1.07	06/07/79	127.92	132.60	133.00	131.00	128.50	126.00	130.50
Haines, 33-27-26	126.54	-2.21	127.83	-1.49	08/25/66	129.32	125.52	0.93	6/25/01	124.59	129.70	130.60	128.75	126.50	124.50	128.50
Hamilton, 18-28-27	118.40	-3.10	119.10	-5.24	10/03/48	124.34	117.80	1.11	6/18/01	116.69	122.50	123.70	121.50	119.00	117.25	121.25
Hancock, 8-29-25	98.13	-0.87	99.27	-2.61	09/16/60	101.88	97.11	3.13	05/23/68	93.98	102.10	102.40	99.00	96.00	94.00	95.50
Hart (WH), 24-29-26	115.62	-8.88	116.55	-6.41	04/09/98	122.96	114.00	1.47	7/11/01	112.53	124.70	125.60	124.50	122.00	120.00	124.00
Hartridge, 8-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Helene, 34-26-25	139.20	-4.80	140.36	-6.06	03/23/98	146.42	138.02	0.21	06/03/02	137.81	144.80	147.20	144.00	141.00	139.00	143.00
Henry, 16-31-26	155.30	-3.70	156.40	-2.20	01/29/96	158.60	154.30	1.56	06/22/88	152.74	160.10	160.40	159.00	156.00	154.00	158.50
Henry (HC), 36-27-26	123.90	-2.60	124.95	-2.08	08/26/67	127.03	123.06	1.94	6/18/01	121.12	127.00	127.50	126.50	124.00	122.50	126.00

Waterbody, S-T-R	2002 Mean	2002 Mean	2002 Max	2002 Max.	Record High	Record High	2002 Min.	2002 Min	Record Low	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min Ext. Low Level	Max Desire Level
		Min Flood Difference		Record High Difference			Record Low Difference									
Hickory (FP), 17-32-28	96.80	-1.70	96.89	-1.12	08/30/95	98.01	96.74	6.00	6/19/01	90.74	98.50	99.30	98.50	96.00	94.00	98.00
Hollingsworth, 30-28-24	130.70		131.68	-1.53	07/13/91	133.21	129.64	3.92	6/9/00	125.72	134.20	134.80				
Holloway, 21-28-24	138.25		139.05	-1.27	07/24/98	140.32	137.07	1.54	6/22/01	135.53		141.00				
Howard, 30-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Hunter, 24-28-23	161.58	-1.17	162.12	-1.13	12/13/02	163.25	160.89	1.30	02/23/96	159.59	162.30	163.00	162.75	160.25	159.00	162.25
Ida (WH), 17-28-26	134.22	-1.03	134.64	-1.53	08/14/92	136.17	133.04	2.20	5/25/01	130.84	136.70	137.90	135.25	132.00	130.50	135.00
Idyl, 16-28-26	132.38	-1.62	133.22	-0.04	07/13/91	133.26	131.86	0.58	06/28/00	131.28	134.90	136.90	134.00	133.50	131.50	133.50
Idylwild, 18-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Jessie, 12-28-25	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
John, 32-28-24	108.51		109.24	-1.76	11/14/91	111.00	107.82	0.54	4/16/99	107.28		112.60				
Josephine (D), 27-28-27	109.32	-12.18	111.21	-3.65	11/28/95	114.86	107.54	2.62	6/25/01	104.92	124.10	127.70	121.50	118.00	116.50	121.00
Josephine (LW), 13-30-2	108.52	-11.48	110.12	-6.40	03/25/98	116.52	106.40	0.42	5/31/01	105.98	121.30		120.00	116.50	114.50	119.50
Juliana, 15-27-25	129.62	-2.88	131.58	-2.52	03/21/98	134.10	128.39	2.19	05/07/76	126.20	134.70	136.30	132.50	130.00	127.50	132.00
Lee, 10-29-27	113.84	-5.16	115.70	-1.54	03/05/98	117.24	112.41	2.98	6/25/01	109.43	122.10	124.40	119.00	116.00	114.00	118.50
Lee (LH), 16-28-27	115.53	-7.97	118.32	-3.58	03/25/98	121.90	112.02	1.73	6/25/01	110.29	123.50		123.50	121.50	120.00	123.25
Lena, 9-28-25	133.55	-3.45	133.90	-2.76	02/15/85	136.66	132.90	1.05	05/05/76	131.85	137.10	138.30	137.00	134.50	132.50	136.75
Link, 27-28-26	124.19	-3.81	126.19	-1.13	10/24/95	127.32	122.45	2.17	6/12/01	120.28	128.70	129.90	128.00	125.00	123.00	127.00
Ltl Agnes, 4-27-25	133.10	-2.90	134.46	-1.54	08/21/95	136.00	131.39	0.19	6/18/01	131.20	135.20	136.40	136.00	133.00	131.00	135.25
Ltl Aurora, 13-30-28	91.98	-8.52	93.58	-3.58	03/25/98	97.16	90.32	1.02	5/31/01	89.30	103.30		100.50	98.00	96.00	100.00
Ltl Crooked, 23-31-27	115.93		116.02	-2.98	10/18/95	119.00	115.78	2.98	06/13/91	112.80	122.60	125.80				
Ltl Eagle, 1-29-25	125.85	-4.90	126.50	-5.00	09/23/96	131.50	125.20	6.44	05/10/76	118.76	131.00	133.80	130.75			130.50
Ltl Elbert, 22-28-26	131.14	-4.36	131.86	-4.24	11/17/95	136.10	129.84	1.06	06/19/89	128.78	137.50	138.60	135.50			135.00
Ltl Gum, 35-29-28	92.61	-2.89	94.61	-2.25	04/06/98	96.86	90.44	1.06	5/31/01	89.38	96.80	97.80	95.50	94.00	92.00	96.00

Waterbody, S-T-R	2002 Mean	2002 Mean	2002 Max	2002 Max.	Record High	Record High	2002 Min	2002 Min.	Record Low	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min	Max
		Min Flood Difference		Record High Difference				Record Low Difference							Ext. Low Level	Desire Level
Ltl Hamilton, 5-28-27	118.40	-3.10	119.10	-5.24	10/03/48	124.34	117.80	1.11	6/18/01	116.69	122.50	123.70	121.50	119.00	117.25	121.25
Ltl Van, 26-27-25	136.93	-2.07	137.26	-1.42	08/19/82	138.68	136.44	0.60	6/19/00	135.84	141.40	142.00	139.00	136.50	135.50	138.50
Lulu, 4-29-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Mabel, 11-29-27	101.79	-8.96	103.36	-4.84	03/25/98	108.20	100.34	1.59	6/25/01	98.75	114.50	117.00	110.75	107.00	105.00	110.00
Mariam, 27-28-26	123.04	-1.71	124.02	-1.78	08/13/95	125.80	121.72	1.00	05/10/90	120.72	125.60	126.30	124.75	122.75	121.00	124.50
Mariana, 1-28-25	136.55	-0.95	137.56	-1.02	09/15/60	138.58	135.68	1.78	07/01/56	133.90	138.60	139.60	137.50	135.00	133.00	137.00
Marie, 27-28-27	109.71	-11.29	111.80	-2.68	11/28/95	114.48	107.76	2.94	6/25/01	104.82	122.30	124.30	121.00	118.00	116.00	120.00
Martha, 21-28-26	139.63	-2.37	141.15	-1.47	10/27/95	142.62	138.53	1.48	6/20/01	137.05	142.50	143.80	142.00	139.00	137.00	141.50
Mattie, 14-27-25	129.71	-2.79	131.76	-1.66	12/27/97	133.42	128.13	0.23	6/18/01	127.90	133.00	134.70	132.50	130.00	127.50	132.00
Maude, 21-28-26	138.90	-1.60	139.40	-0.68	2/19/99	140.08	137.70	1.70	5/25/01	136.00	141.70	143.30	140.50	137.50	136.00	140.00
May, 29-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Mc Leod, 7-29-26	125.42	-6.58	126.15	-5.83	09/28/98	131.98	124.58	9.47	05/12/76	115.11	133.10	134.60	132.00	129.50	128.00	131.50
Mdl Hamilton, 7-28-27	118.40	-3.10	119.10	-5.24	10/03/48	124.34	117.80	1.11	6/18/01	116.69	122.50	123.70	121.50	119.00	117.25	121.25
Medora, 36-27-25	134.11	-3.89	135.28	-4.47	03/26/98	139.75	133.02	0.34	5/29/01	132.68	140.40	141.40	138.00	134.50	133.00	137.00
Menzie, 28-28-27	119.56	-2.44	121.52	-1.86	10/12/95	123.38	118.00	3.30	6/25/01	114.70	127.00	128.80	122.00	120.00	118.00	121.75
Millsite, 11-29-25	122.28	-1.22	122.84	-1.98	09/21/94	124.82	121.31	1.73	05/15/81	119.58	125.30	126.20	123.50	121.00	119.00	123.00
Mirror (Lkld), 18-28-24	178.42		178.82	-1.20	1988	180.02	178.14	0.76	5/24/00	177.38						
Mirror (WH), 20-28-27	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Morton, 19-28-24	178.17		178.92	-1.55	1991	180.47	177.37	1.07	1955	176.30						
Mountain, 26-29-27	107.34		108.34	-11.32	1960	119.66	106.17	1.57	1981	104.60	116.10	120.60				
Mud (PC), 6-27-25	140.09	-1.41	141.28	0.00	12/17/02	141.28	138.60	1.75	5/30/01	136.85	141.80	142.50	141.50	137.75	136.00	141.00
Myrtle (A), 32-27-25	140.40	-0.60	141.25	-0.43	02/18/98	141.68	139.15	2.49	06/05/86	136.66	141.70	142.40	141.00	138.50	136.50	140.50
N Wales, 1-30-27	102.04	-12.96	104.40	-5.76	03/25/98	110.16	100.52	0.52	8/27/01	100.00	116.80	120.30	115.00	112.00	110.00	114.50

Waterbody, S-T-R	2002 Mean	2002 Mean	2002 Max	2002 Max.	Record High	Record High	2002 Min	2002 Min.	Record Low	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min	Max
		Min Flood Difference		Record High Difference				Record Low Difference							Ext. Low Level	Desire Level
Ned, 1-29-26	127.23	-1.27	127.80	-1.70	10/22/98	129.50	126.06	2.02	6/25/01	124.04	130.60	130.90	128.50	126.00	124.00	127.75
Otis, 28-28-26	124.19	-3.81	126.19	-2.93	09/10/60	129.12	122.45	2.87	05/15/76	119.58	128.70	133.70	128.00	125.00	123.00	127.00
Pansy, 8-28-26	127.43	-1.57	128.26	-1.44	07/15/91	129.70	126.02	1.56	5/25/01	124.46	130.00	130.60	129.00	126.50	124.50	128.50
Parker (Lkld), 8-28-24	130.27	-0.73	131.20	-0.71	06/26/82	131.91	128.90	2.04	6/25/01	126.86	131.60	133.50	131.00	128.75	127.50	130.75
Parker (LW), 32-29-27	118.77	-3.23	120.60	-1.70	02/24/98	122.30	117.30	2.68	06/23/92	114.62	122.50	123.30	122.00	119.50	117.50	121.50
Parks, 36-29-28	100.75	-1.75	102.43	-1.37	03/23/98	103.80	99.06	1.66	05/12/91	97.40	104.50	105.20	102.50	100.00	98.00	102.00
Polecat, 27-30-26	140.86	-1.14	141.42	-1.38	09/26/94	142.80	139.80	2.50	06/02/86	137.30	142.40	143.50	142.00	139.50	137.50	141.50
Reedy, 35-31-28	78.24	-1.51	78.62	-2.04	10/01/60	80.66	77.34	0.45	06/01/67	76.89	80.00	81.10	79.75	77.25	75.25	79.50
River, 1-29-26	135.98	-3.52	136.94	-3.62	11/28/95	140.56	134.91	3.52	6/20/01	131.39	141.60	142.60	139.50	136.00	134.00	139.00
Rochelle, 4-28-26	125.69	-3.06	127.55	-2.50	09/16/60	130.05	124.58	0.47	5/30/01	124.11	129.70	130.60	128.75	126.50	124.60	128.50
Roy, 34-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Ruby, 12-29-26	124.03	-1.22	125.08	-0.54	09/22/94	125.62	122.66	5.25	05/04/76	117.41	125.50	126.20	125.25	123.00	121.00	125.00
Ruth (D), 28-28-27	112.80	-8.70	115.04	-2.12	11/14/95	117.16	110.60	3.42	6/25/01	107.18	123.50	126.30	121.50	117.50	115.50	120.50
Saddlebag, 6-30-29	98.61	-6.39	100.28	-4.22	03/25/98	104.50	97.28	0.88	06/12/91	96.40	106.80	108.20	105.00	102.00	100.00	104.50
Sara, 17-28-27	117.96	-3.54	119.96	-2.54	02/24/98	122.50	116.25	2.57	6/25/01	113.68	122.50		121.50	119.00	117.25	121.00
Scott, 18-29-24	166.39	-1.61	167.18	-2.01	09/13/60	169.19	165.33	6.04	11/18/72	159.29	168.60	172.20	168.00	165.00	164.25	167.50
Sears, 36-28-25	136.37	-4.63	137.00	-5.48	09/20/95	142.48	135.56	1.16	6/12/01	134.40	143.20	144.30	141.00	138.00	136.00	140.50
Shipp, 32-28-26	130.45	-1.55	131.08	-1.20	12/22/97	132.28	129.44	1.72	5/25/01	127.72	132.60	133.40	132.00	129.50	127.00	131.50
Silver (FP), 5-32-28	102.63	-0.37	103.45	-2.29	10/25/95	105.74	99.74	2.39	06/11/86	97.35	105.00	105.80	103.00	100.50	98.50	102.50
Silver (WH), 20-28-26	143.52	-2.98	144.80	-2.00	08/29/95	146.80	141.69	1.79	5/25/01	139.90	147.10	147.90	146.50	144.00	142.00	146.00
Smart, 9-28-26	124.63	-4.12	124.88	-4.74	09/11/47	129.62	124.22	0.86	6/20/01	123.36	129.70	130.50	128.75	126.50	124.50	128.50
Spirit, 35-28-25	125.03	-6.47	125.42	-7.96	04/06/98	133.38	124.26	1.90	05/15/91	122.36	134.10	135.20	131.50	129.00	127.00	131.00
Spring, 20-28-27	130.57	-1.43	131.93	-1.26	09/11/60	133.19	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50

Waterbody, S-T-R	2002 Mean	2002 Mean	2002 Max	2002 Max.	Record High	Record High	2002 Min.	2002 Min	Record Low	Record Low	10 Year Flood	100 Year Flood	Min Flood Level	Min Low Level	Min	Max
		Min Flood Difference		Record High Difference			Record Low Difference								Ext. Low Level	Desire Level
St Anne, 14-30-28	90.88	-5.12	92.28	-2.39	04/04/98	94.67	89.09	2.11	5/30/01	86.98	97.50		96.00	93.00	91.00	95.50
Starr (W), 14-29-27	99.28	-13.72	100.70	-5.40	03/25/98	106.10	98.26	1.93	6/25/01	96.33	115.50	117.40	113.00	110.00	108.00	112.50
Summit, 34-28-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Surveyors, 26-30-26	131.00	-2.00	131.79	-0.89	04/01/87	132.68	129.90	2.90	03/14/91	127.00	133.60	134.70	133.00	130.75	128.50	132.75
Swoope, 29-27-26	127.67	-4.83	129.15	-4.41	02/16/98	133.56	126.61	1.61	10/08/81	125.00	133.00	133.50	132.50	130.00	128.00	132.00
Tennessee, 9-27-25	130.02	-3.98	131.19	-2.07	04/05/95	133.26	128.55	0.59	6/18/01	127.96	134.70	136.30	134.00	130.00	128.00	133.00
Thomas, 1-30-28	94.60	-4.90	96.02	-3.70	09/29/98	99.72	92.86	2.66	06/12/91	90.20	104.20	105.60	99.50	97.00	94.50	99.00
Thomas (WH), 35-28-25	125.25	-6.75	126.12	-6.93	03/21/98	133.05	124.29	0.95	6/20/01	123.34	135.60	136.90	132.00	128.00	126.00	131.00
Tractor, 14-30-27	120.81	-2.44	123.40	-0.80	09/28/98	124.20	119.16	3.21	06/07/94	115.95	125.00		123.25	121.00	119.00	123.00
Twin Lakes E, 2-30-27	116.16	-7.59	120.32	-4.38	02/24/98	124.70	113.10	1.56	3/27/01	111.54	124.10	127.70	123.75	120.00	118.00	123.50
Twin Lakes W, 2-30-27	116.43	-7.32	119.51	-5.19	02/24/98	124.70	114.61	2.97	05/22/90	111.64	124.10	127.70	123.75	120.00	118.00	123.50
Van, 25-27-25	131.61	-1.14	133.22	-1.23	02/18/98	134.45	130.47	0.56	6/18/01	129.91	133.00	134.70	132.75	130.00	128.00	132.00
Venus, 9-29-27	117.66	-7.34	119.88	-2.82	03/25/98	122.70	115.94	3.04	6/25/01	112.90	126.10	127.00	125.00	122.00	120.00	124.50
Wailles, 1-30-27	100.12	-12.38	101.78	-8.31	12/31/51	110.09	98.88	1.79	05/21/90	97.09	114.10	120.30	112.50	110.00	108.00	112.00
Walker, 21-30-26	138.10	-2.90	140.09	-4.15	10/26/98	144.24	136.64	7.21	09/01/77	129.43	143.00		141.00	137.00	135.00	140.00
Warren, 11-30-27	113.22	-10.28	116.80	-5.30	03/25/98	122.10	110.94	1.50	6/26/01	109.44	124.60	127.80	123.50	121.00	119.00	123.00
Weader, 3-30-27	119.09	-2.66	120.88	0.00	10/25/02	120.88	116.96	1.54	5/29/01	115.42	122.00	123.40	121.75	119.00	117.00	121.25
Weohyakapka, 3-31-29	61.48		61.53	-1.90	09/30/90	63.43	61.42	2.52	07/25/81	58.90	63.10	63.70				
Whistler, 33-27-25	136.39	-1.11	136.83	-1.29	04/10/85	138.12	135.34	1.50	5/16/01	133.84	140.90	141.50	137.50	135.00	133.75	136.75
Winterset, 11-29-26	130.57	-1.43	131.93	-1.17	09/11/60	133.10	129.38	1.69	5/30/01	127.69	132.60	133.40	132.00	129.50	127.00	131.50
Wire, 13-28-23	194.85		195.74	-2.48	1959	198.22	193.39	1.56	6/22/01	191.83						

Figure 34

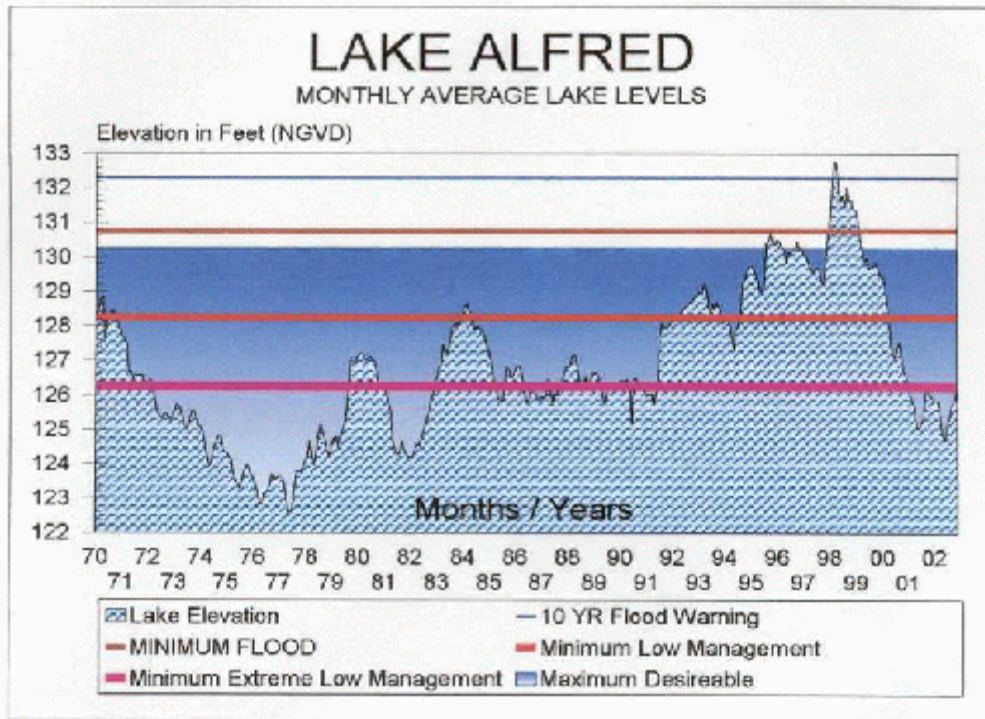


Figure 35

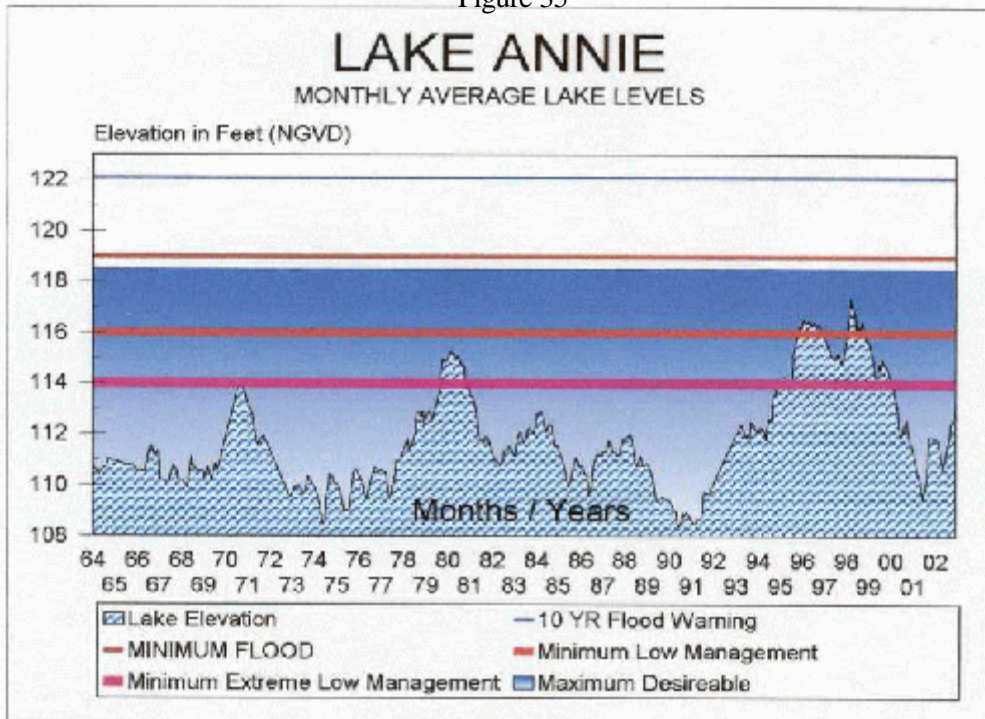


Figure 36

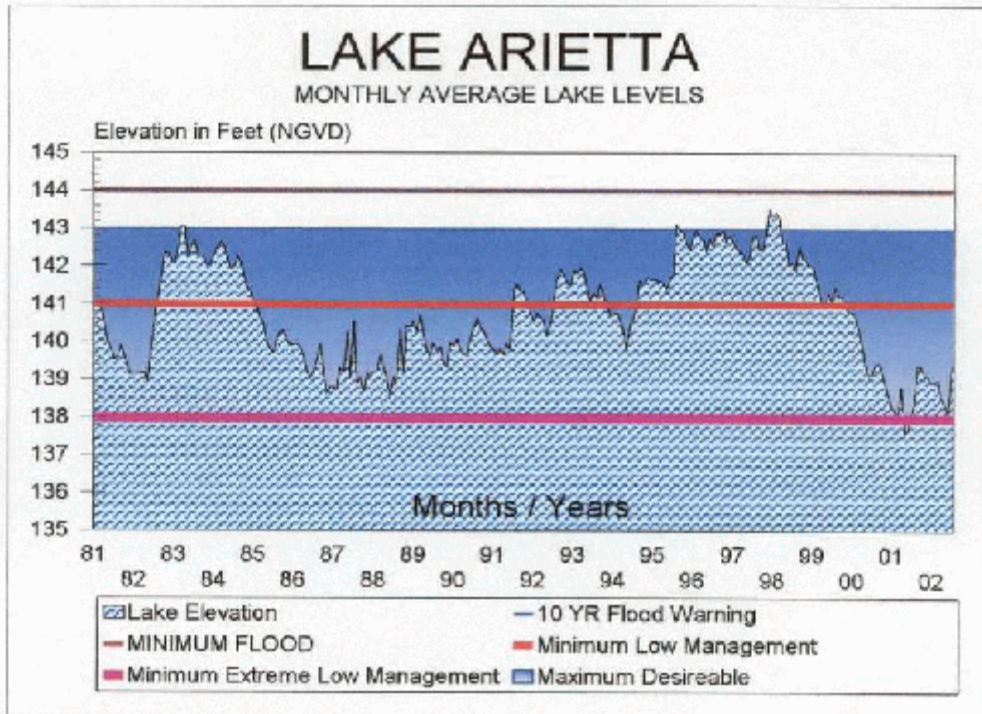


Figure 37

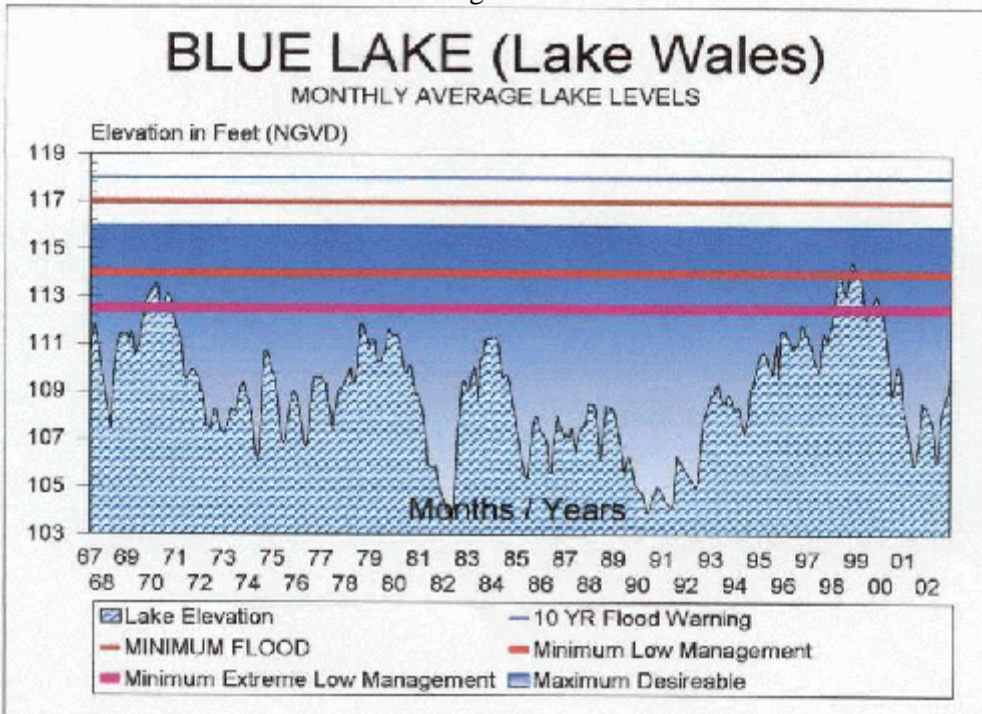


Figure 38

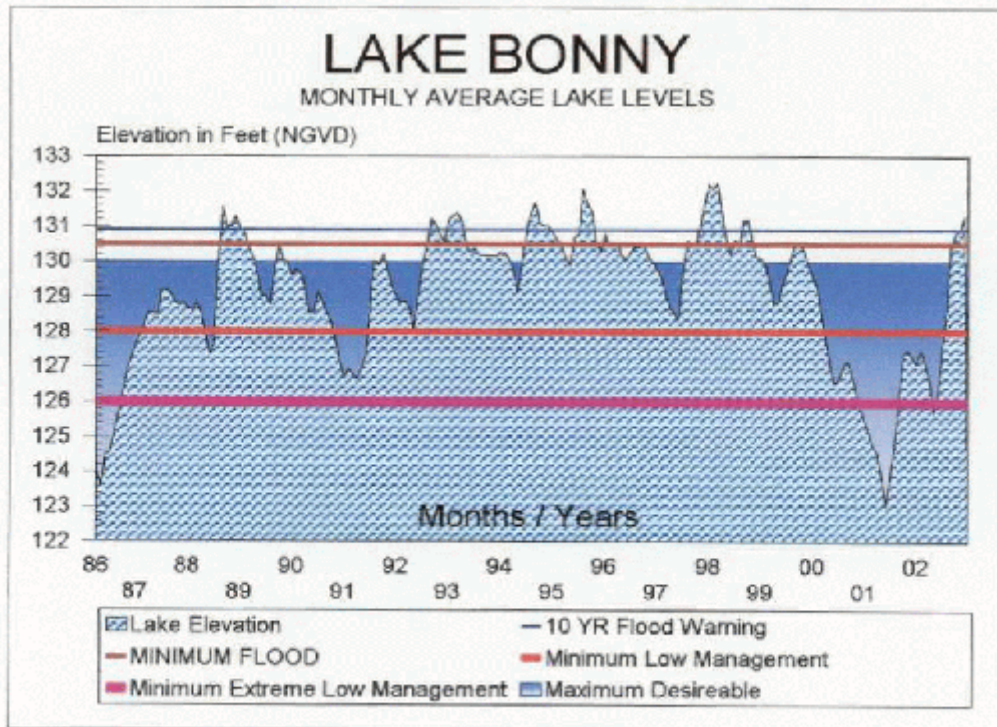


Figure 39

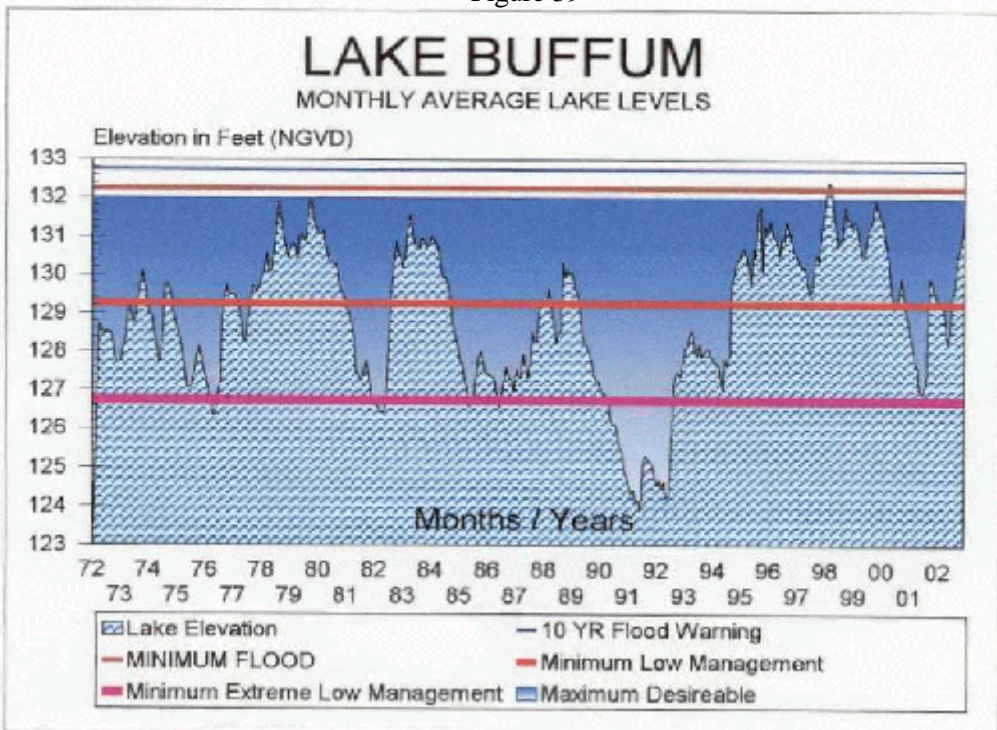


Figure 40

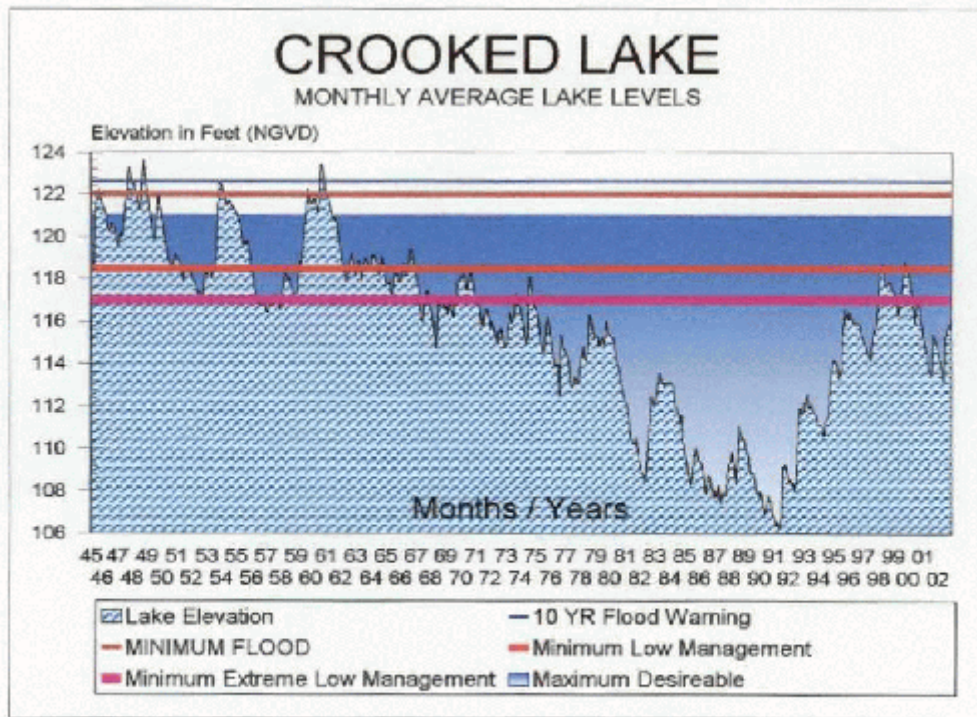


Figure 41

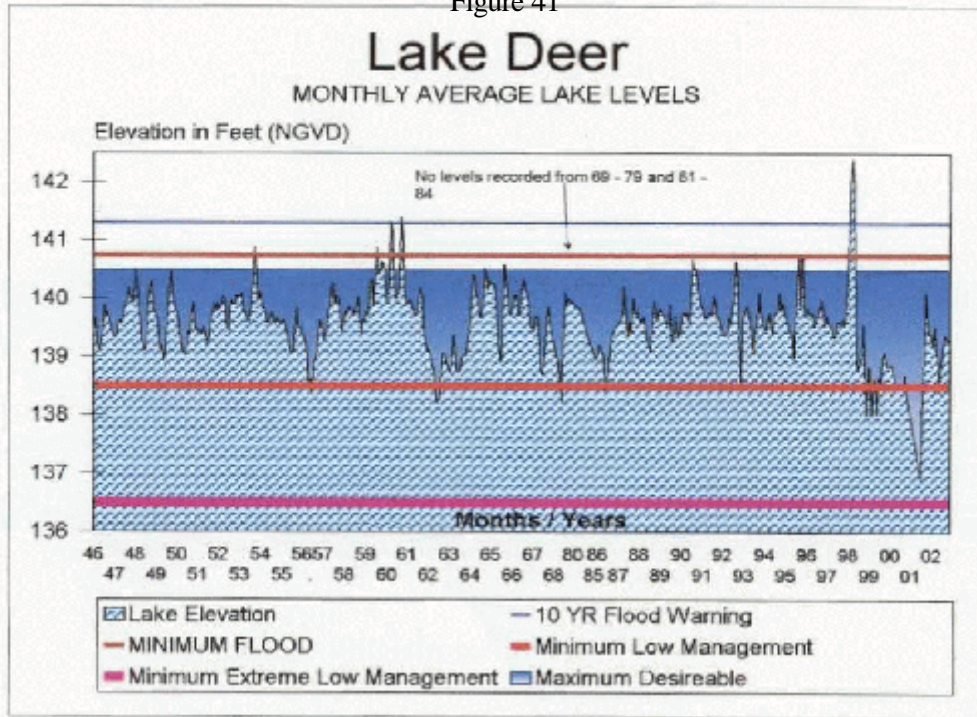


Figure 42

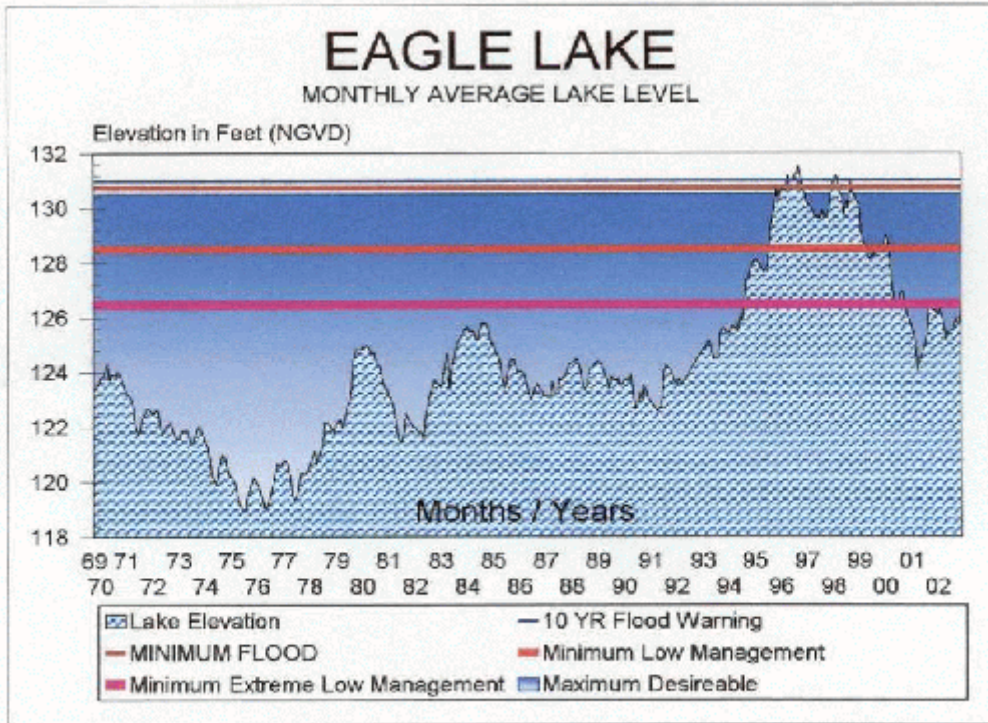


Figure 43

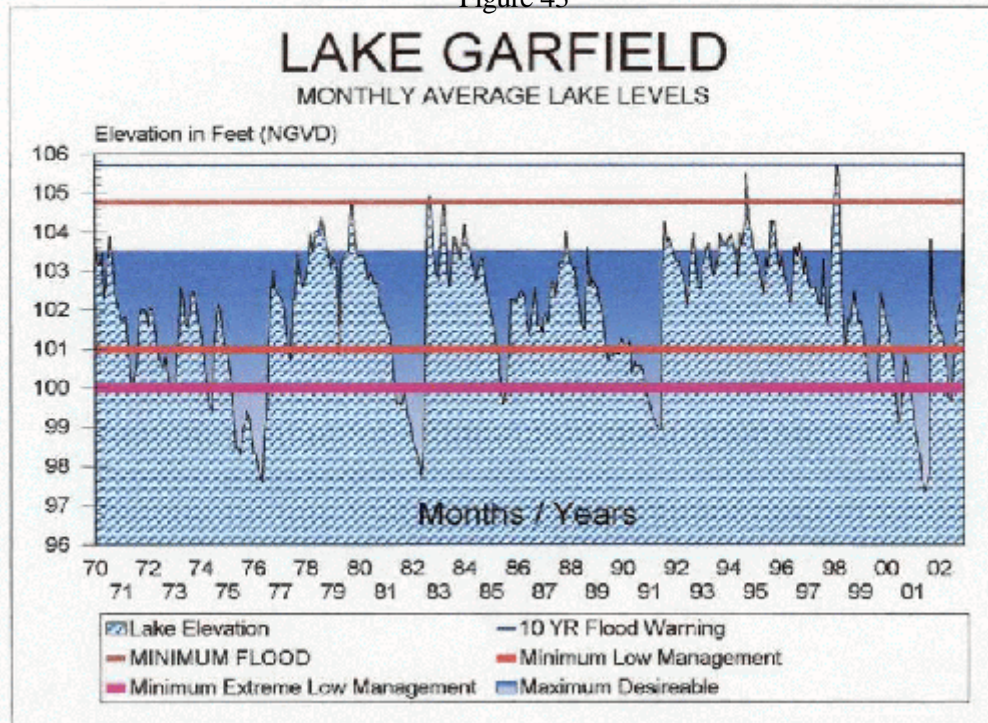


Figure 44

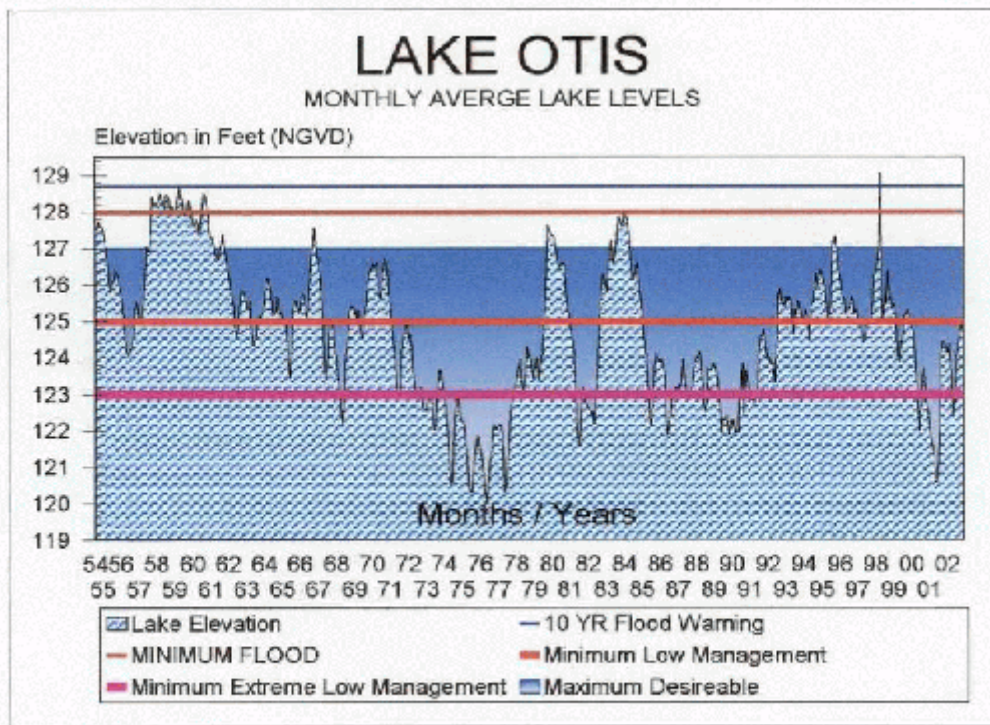
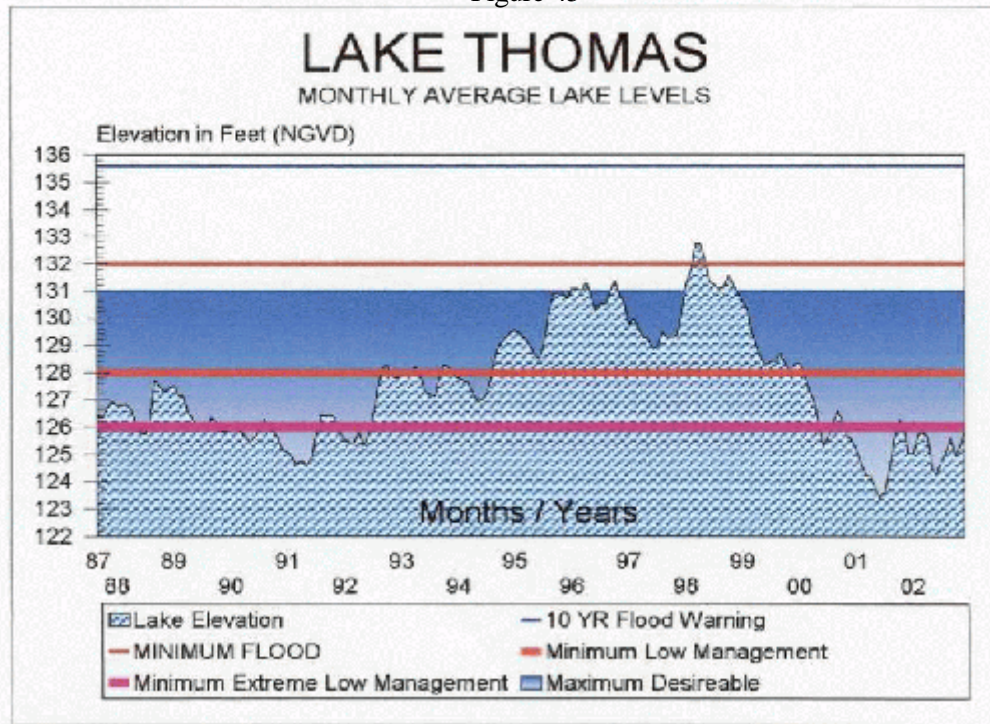


Figure 45



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APPENDIX A

LAKE WATER QUALITY DATA & CHARTS



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Lake List

Agnes	Hamilton	Otis (Not sampled)
Alfred	Hancock	Pansy
Annie	Hartridge	Parker
Arbuckle	Hatchineha	Pierce
Ariana	Henry	Reedy
Banana	Hickory	Ring (Not sampled)
Banana N Pit	Hollingsworth	River (Not sampled)
Banana S Pit	Howard	Rochelle
Bess	Hunter	Rosalie
Blue	Ida	Round (Not sampled)
Bonny	Idyl	Roy
Buckeye	Idylwild	Ruby
Buffum	Ina	Sears
Cannon	Jessie	Shipp
Carter Road X Pit	John	Silver
Carter Road Y Pit	Juliana	Smart
Citrus	Lena	Somerset
Clinch	Link (Not sampled)	Spring
Confusion	Little Crooked	Star
Conine	Little Eagle	Summit
Crooked	Little Elbert	Surveyors
Crystal	Little Hamilton	Swoope North
Daisy	Livingston	Swoope South
Deer	Lowery	Tennessee
Deeson	Lulu	Thomas
Dexter	Mariam	Tiger
Eagle	Mariana	Tracy
Echo	Marie North	Wailes
Elbert	Marie South	Weohyakapka
Elizabeth (Not sampled)	Marion	Winterset
Eloise	Martha	
Eva North	Mattie	
Eva South	Maude	
Fannie	May	
Florence (Not sampled)	McLeod	
Garfield	Menzie	
Gem	Middle Hamilton	
Gibson	Mirror	
Gross	Mud	
Haines	Ned	

Annual Lake Water Quality Data

Waterbody: Agnes		AliasName:	
S-T-R: 4-27-25	Lat/Lon 281006 / 814906	Surface Area(Acres): 386	Bottom Contour: <input type="checkbox"/>
LocationCity Polk City		Elevation: 135.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 8.90	Meandered: <input type="checkbox"/>
Drainage Basin: Withlacoochee River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 2.07	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 135.20	Max Desireable 135.00	Rec High: 135.90 Date: 08/29/95
100 Yr Flood: 136.40	Min Low: 132.75	Rec Low: 130.46 Date: 6/26/01
Min Flood: 135.75	Min Ext Low: 130.75	Lk Lvl POR: 4/23/1979 - Present

Current year water quality and lake levels

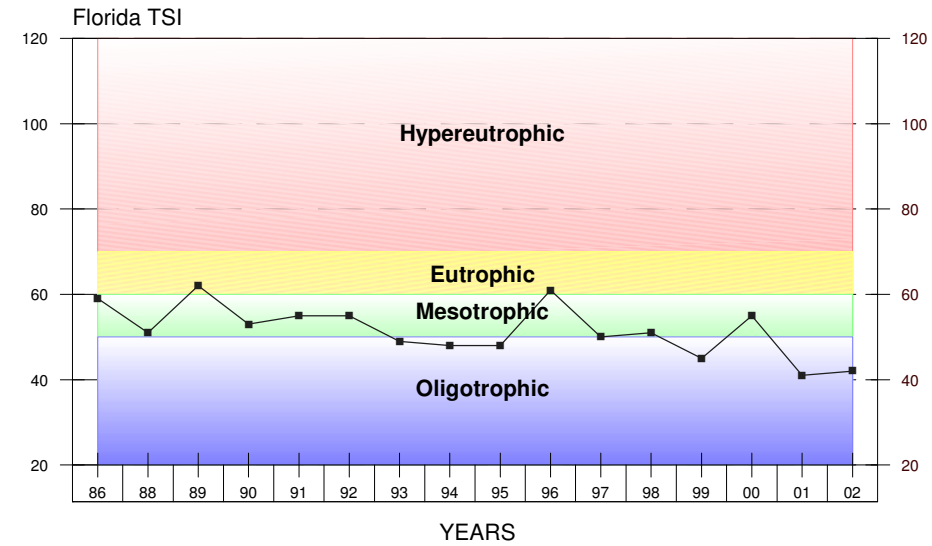
Year 2002
Lake Level Mean: 132.13
Impaired Waterbody
TSI: 41.66
WQI: 2.25
LakeLevel Max: 134.08
LakeLevel Min: 130.63

Water Quality Comments Water quality for this lake is good; it meets Class III Standards.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	6.63	8.46	5.71
Chlorophyll a (Corrected) mg/m3	5.34	8.01	3.20
Color Pt-Co	13	15	10
Conductivity @ 25C umhos/cm	178	191	172
Dissolved Oxygen (DO) mg/l	7.88	8.02	7.61
Nitrogen Ammonia (NH3) mg/l	0.033	0.066	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.490	0.611	0.418
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.002	0.002
Nitrogen Total (TN) mg/l	0.49	0.61	0.42
pH Std Unit	6.46	6.73	6.33
Phosphorus Total (TP) mg/l	0.027	0.044	0.014
Secchi Disk (SD) m	1.95	2.28	1.3
Temperature Deg C	25.24	28.45	23.64
Turbidity NTU	2.17	3.60	1.45

AGNES

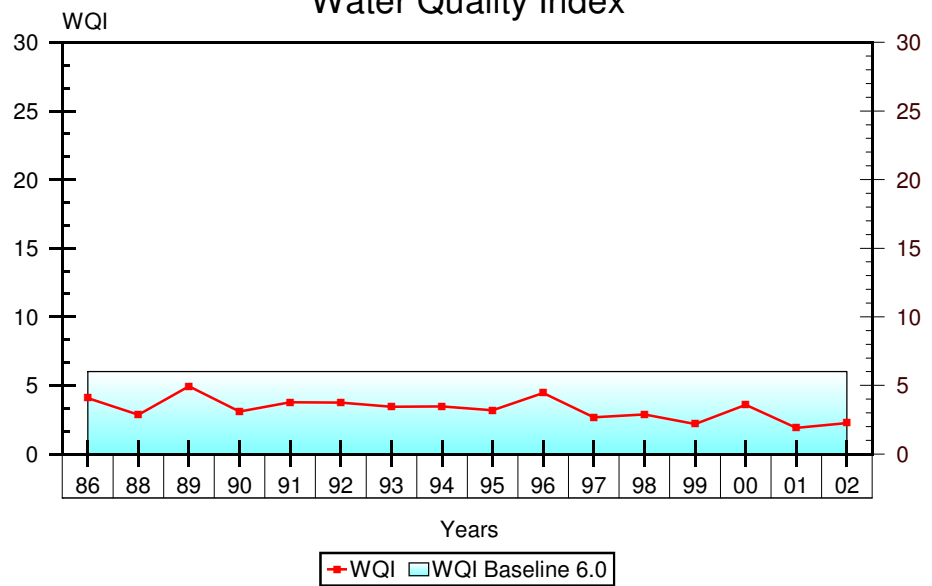
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

AGNES

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Alfred		AliasName:	
S-T-R: 30-27-26	Lat/Lon 280600 / 814440	Surface Area(Acres): 736	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lake Alfred		Elevation: 129.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 12.00	Meandered: <input type="checkbox"/>
Drainage Basin: Withlacoochee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 2.93	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 132.30	Max Desireable 130.25	Rec High: 132.76 Date: 03/26/98
100 Yr Flood: 134.20	Min Low: 128.25	Rec Low: 122.40 Date: 05/24/77
Min Flood: 130.75	Min Ext Low: 126.25	Lk Lvl POR: 3/30/1961 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 125.58

Impaired Waterbody **TSI:** 62.64 **WQI:** 4.84 **LakeLevel Max:** 126.5

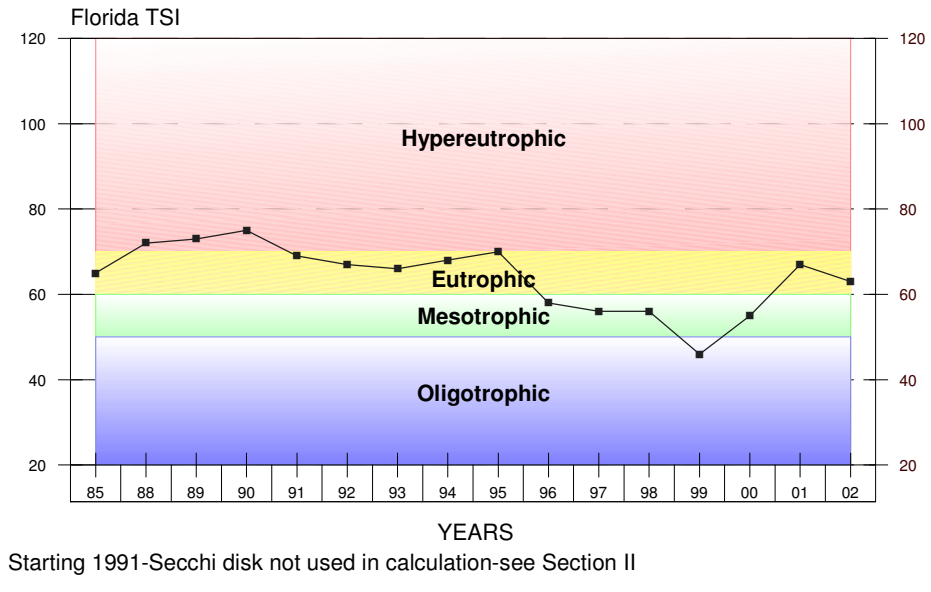
LakeLevel Min: 124.68

Water Quality Comments Potentially an Impaired Waterbody by rule, but improving water quality trend. Water quality is fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	28.09	36.16	20.02
Chlorophyll a (Corrected) mg/m3	26.28	34.14	18.42
Color Pt-Co	18	18	17
Conductivity @ 25C umhos/cm	384	395	372
Dissolved Oxygen (DO) mg/l	7.98	8.16	7.79
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.173	2.183	2.162
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.005	0.000
Nitrogen Total (TN) mg/l	2.18	2.18	2.17
pH Std Unit	8.15	8.80	7.50
Phosphorus Total (TP) mg/l	0.037	0.046	0.028
Secchi Disk (SD) m	0.55	0.60	0.50
Temperature Deg C	26.32	28.12	24.52
Turbidity NTU	10.8	11.2	10.4

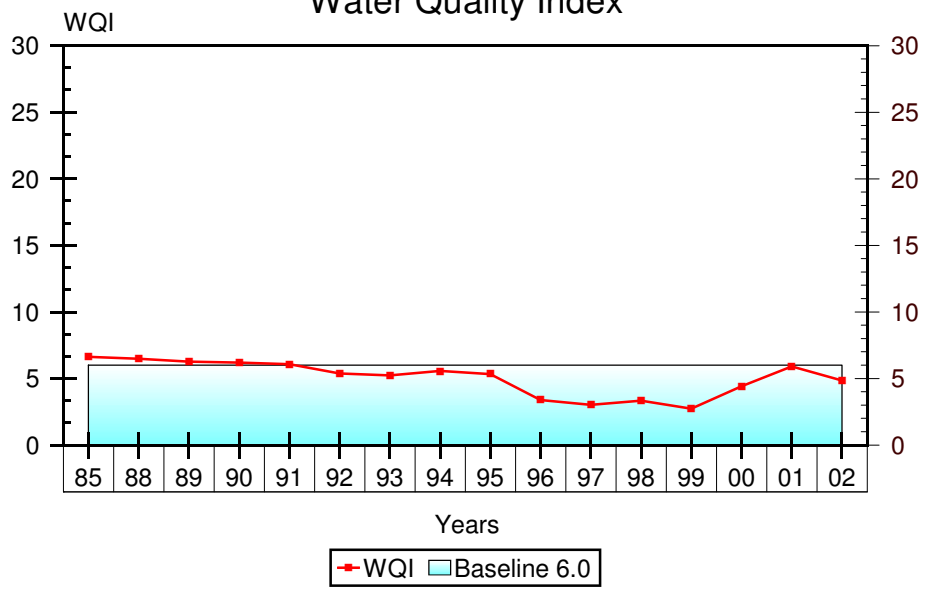
ALFRED

TSI



ALFRED

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Annie		AliasName:	
S-T-R: 3-29-27	Lat/Lon 275933 / 813623.	Surface Area(Acres): 539	Bottom Contour: <input type="checkbox"/>
LocationCity South Of Dundee		Elevation: 119.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 8.20	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 2.75	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:		The ramp is closed; but there is an entrance into the lake just to the right of the ramp. The C does NOT maintain this area!!!	

Historical and set lake level information

10 Yr Flood: 122.10	Max Desireable 118.50	Rec High: 117.36 Date: 03/25/98
100 Yr Flood: 124.40	Min Low: 116.00	Rec Low: 108.36 Date: 6/1990
Min Flood: 119.00	Min Ext Low: 114.00	Lk Lvl POR: 5/1961 - Present

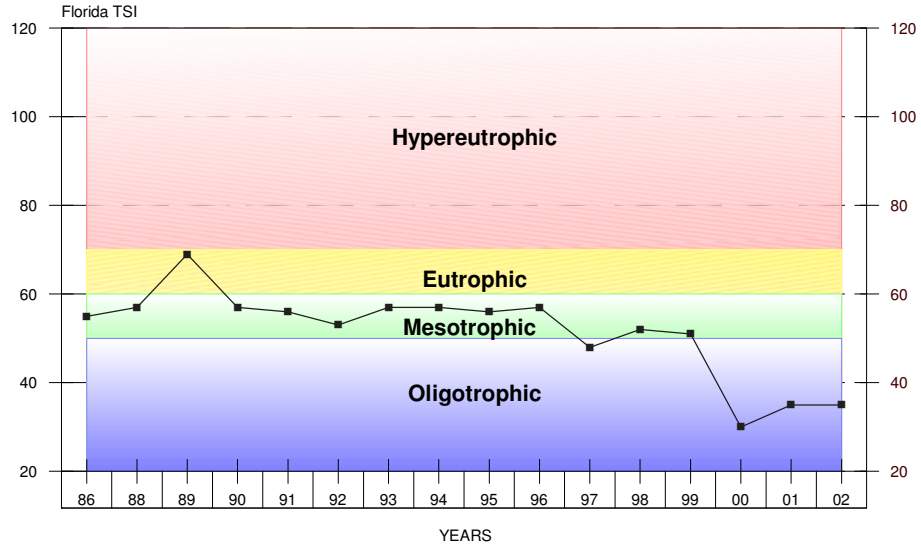
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 111.87
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 113.36
TSI: <u>34.76</u>	LakeLevel Min: 110.68
WQI: <u>1.87</u>	
Water Quality Comments Water quality is very good.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	2.89	3.06	2.55
Chlorophyll a (Corrected) mg/m3	2.40	3.20	1.60
Color Pt-Co	13	15	10
Conductivity @ 25C umhos/cm	266	266	266
Dissolved Oxygen (DO) mg/l	7.98	8.300	7.35
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.868	0.933	0.778
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.012	0.019	0.000
Nitrogen Total (TN) mg/l	0.88	0.95	0.78
pH Std Unit	6.92	6.95	6.91
Phosphorus Total (TP) mg/l	0.015	0.023	0.007
Secchi Disk (SD) m	2.37	2.40	2.32
Temperature Deg C	21.58	29.01	17.86
Turbidity NTU	1.38	1.52	1.23

ANNIE

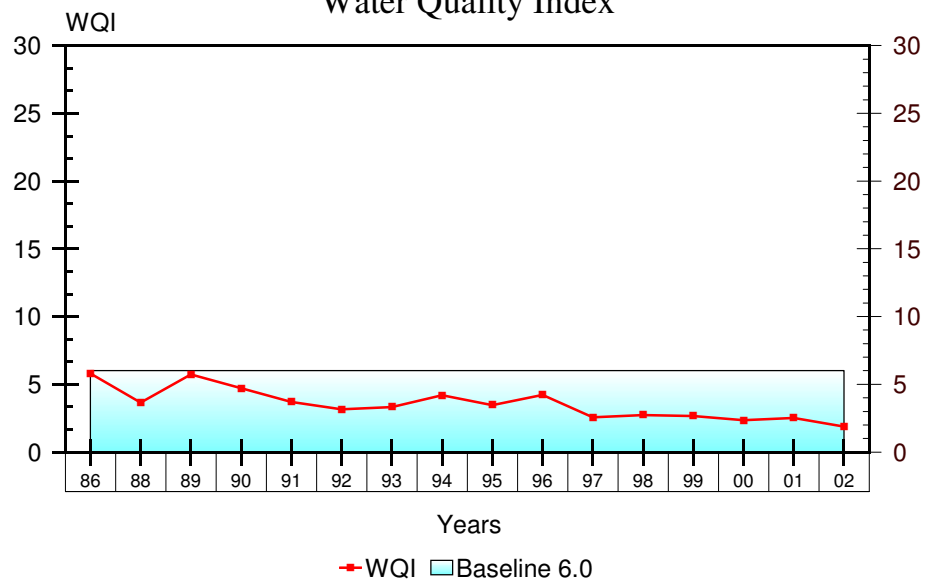
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ANNIE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Arbuckle		AliasName:	
S-T-R: 14-32-29	Lat/Lon: 274046 / 812339	Surface Area(Acres): 3,828	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: East Of Frostproof		Elevation: 53.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Osceola Plain		Lake Depth: 6.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 169.95	Water Quality Data: Current	POR: 1975 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		
Misc Information about this waterbody: Call 635-2811 for additional information about park area.			

Historical and set lake level Information

10 Yr Flood: 57.24	Max Desireable	Rec High: 58.36 Date: 10/04/48
100 Yr Flood: 58.50	Min Low:	Rec Low: 51.15 Date: 06/10/85
Min Flood:	Min Ext Low:	Lk Lvl POR: 12/1/1941 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 0

Impaired Waterbody: **TSI:** 50.66 **WQI:** 3.84 **LakeLevel Max:** 0

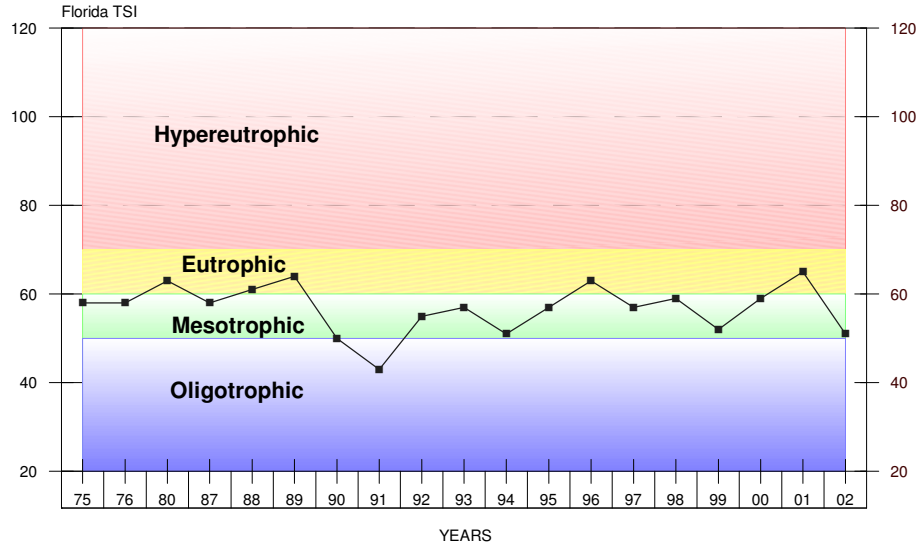
LakeLevel Min: 0

Water Quality Comments: Water quality is fair to good. Ammonia may be a problem.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	6.70	10.65	2.75
Chlorophyll a (Corrected) mg/m3	5.01	8.41	1.60
Color Pt-Co	275	350	200
Conductivity @ 25C umhos/cm	147	158	136
Dissolved Oxygen (DO) mg/l	8.56	10.72	6.40
Nitrogen Ammonia (NH3) mg/l	0.054	0.076	0.032
Nitrogen Kjeldahl (TKN) mg/l	1.434	1.551	1.316
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.161	0.293	0.028
Nitrogen Total (TN) mg/l	1.59	1.84	1.34
pH Std Unit	7.40	7.95	6.85
Phosphorus Total (TP) mg/l	0.059	0.061	0.056
Secchi Disk (SD) m	0.41	0.42	0.40
Temperature Deg C	20.81	28.98	12.63
Turbidity NTU	4.85	6.00	3.70

ARBUCKLE

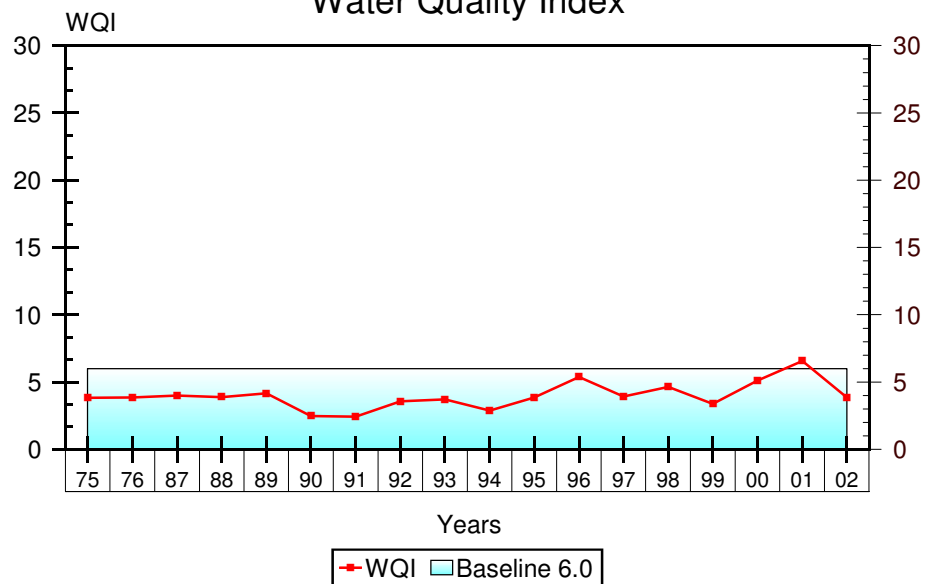
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ARBUCKLE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Ariana		AliasName:	
S-T-R: 3-28-25	Lat/Lon 280458 / 814759	Surface Area(Acres): 1,026	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Auburndale		Elevation: 130.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 26.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 7.44	Water Quality Data: Current	POR: 1977 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 137.10	Max Desireable 136.75	Rec High: 137.90 Date: 08/28/46
100 Yr Flood: 138.30	Min Low: 134.50	Rec Low: 131.28 Date: 05/06/76
Min Flood: 137.00	Min Ext Low: 132.50	Lk Lvl POR: 6/2/1945 1960; 1970 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 133.44

Impaired Waterbody **TSI:** 59.64 **WQI:** 4.10 **LakeLevel Max:** 135.05

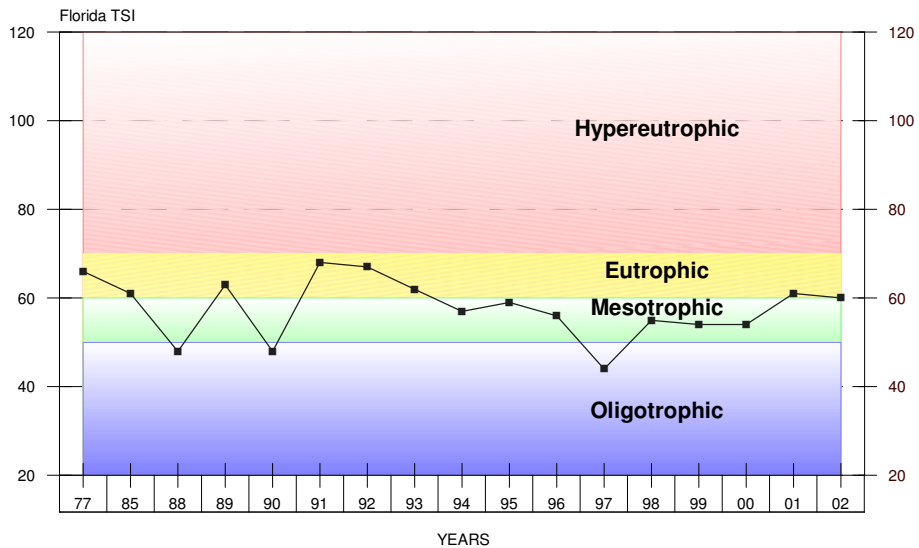
LakeLevel Min: 132.29

Water Quality Comments Water quality is fair. FDEP lists this lake as an Impaired Waterbody.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	30.31	38.81	21.80
Chlorophyll a (Corrected) mg/m3	29.00	36.85	21.14
Color Pt-Co	6	7	5
Conductivity @ 25C umhos/cm	248	253	242
Dissolved Oxygen (DO) mg/l	8.18	8.97	7.38
Nitrogen Ammonia (NH3) mg/l	0.025	0.050	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.263	1.309	1.217
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.003	0.000
Nitrogen Total (TN) mg/l	1.27	1.31	1.22
pH Std Unit	8.23	9.34	7.11
Phosphorus Total (TP) mg/l	0.027	0.032	0.021
Secchi Disk (SD) m	0.55	0.60	0.50
Temperature Deg C	26.28	27.73	24.83
Turbidity NTU	6.75	6.80	6.70

ARIANA

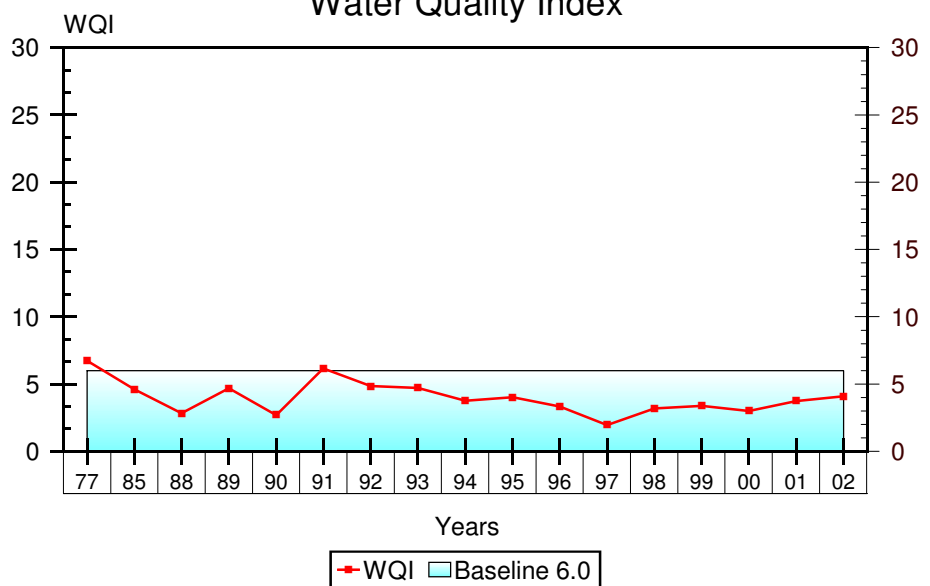
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ARIANA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Banana		AliasName: N Pit =Banana4, Stahl; S Pit =Banana3, Lt1 Banana		
S-T-R: 10-29-24	Lat/Lon 275844 / 815422	Surface Area(Acres): 342	Bottom Contour: <input checked="" type="checkbox"/>	
LocationCity Highland City		Elevation: 105.00	Public Access: <input checked="" type="checkbox"/>	
Physiographic Unit: Polk Upland		Lake Depth: 4.00	Meandered: <input checked="" type="checkbox"/>	
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>	
Drainage Basin (Sq. Miles) 14.30	Water Quality Data: Current	POR: 1980 - Present	Staff Gage: <input checked="" type="checkbox"/>	
Sport Fisheries: FAIR	Rated By FFWCC 3/97			
Misc Information about this waterbody:		Polk County is currently making a park area and new boat ramp at the above location. Comp due sometime in 1997-1998.		

Historical and set lake level information

10 Yr Flood: 106.75	Max Desireable 105.50	Rec High: 106.94 Date: 06/04/91
100 Yr Flood: 107.40	Min Low: 103.50	Rec Low: 102.05 Date: 6/11/01
Min Flood: 106.50	Min Ext Low: 102.00	Lk Lvl POR: 11/1969 - Present

Current year water quality and lake levels

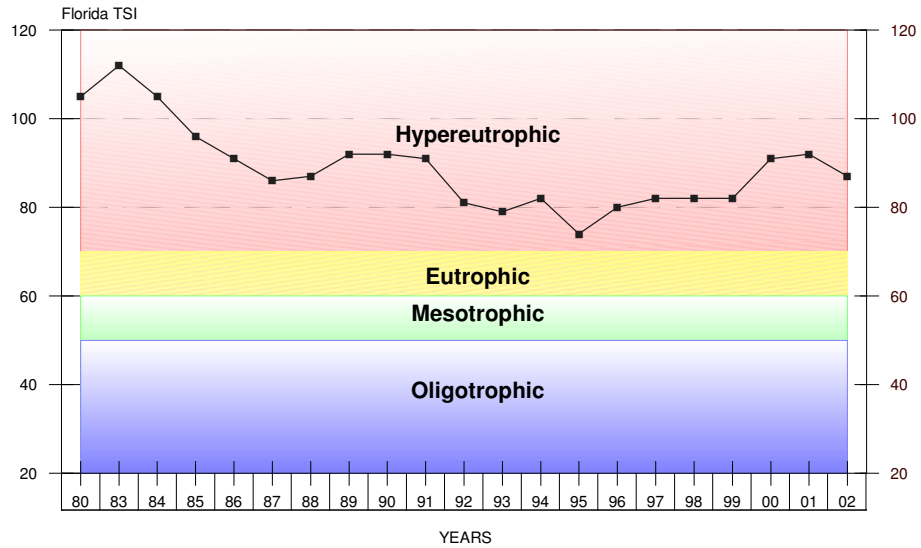
Year <u>2002</u>		Lake Level Mean: 104.08
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>87.36</u>	LakeLevel Max: 105.44
	WQI: <u>26.37</u>	LakeLevel Min: 102.68

Water Quality Comments Nitrogen & Phosphorus concentrations are excessive. Algal blooms contribute to imbalance of flora & fauna.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	155.08	225.05	65.12
Chlorophyll a (Corrected) mg/m3	136.31	196.25	53.67
Color Pt-Co	36	44	27
Conductivity @ 25C umhos/cm	221	263	184
Dissolved Oxygen (DO) mg/l	10.65	13.47	5.83
Nitrogen Ammonia (NH3) mg/l	0.001	0.010	0.000
Nitrogen Kjeldahl (TKN) mg/l	3.598	6.190	1.643
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.005	0.018	0.000
Nitrogen Total (TN) mg/l	3.60	6.20	1.64
pH Std Unit	9.38	10.02	7.87
Phosphorus Total (TP) mg/l	0.762	1.064	0.564
Secchi Disk (SD) m	0.29	0.50	0.15
Temperature Deg C	25.16	30.96	17.56
Turbidity NTU	26.91	45.0	9.50

BANANA

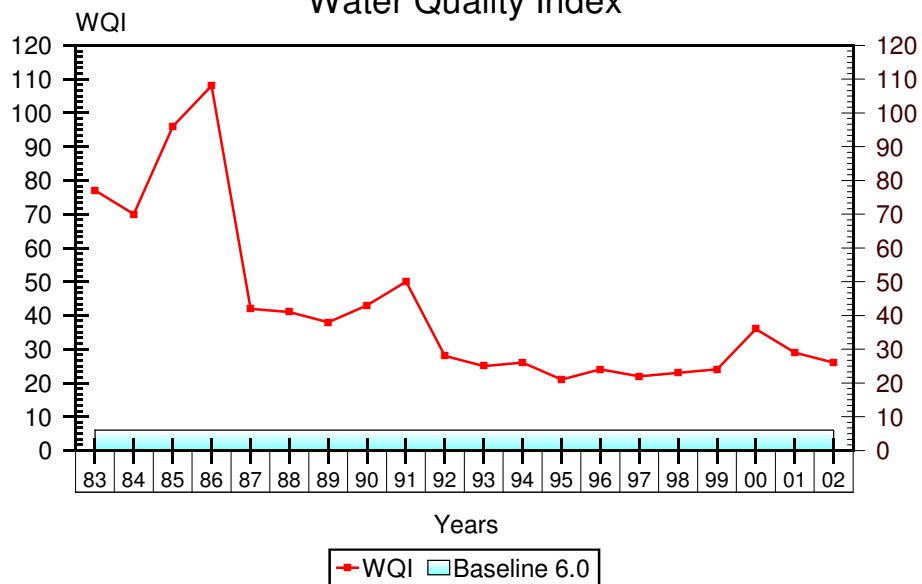
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BANANA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Banana North Pit		AliasName: N Pit =Banana4, Stahl; S Pit =Banana3, Lt1 Banana	
S-T-R: 10-29-24	Lat/Lon: 275844 / 815422	Surface Area(Acres): 342	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Highland City		Elevation: 105.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 4.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles): 14.30	Water Quality Data: Current	POR: 1980 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By: FFWCC 3/97		
Misc Information about this waterbody: Polk County is currently making a park area and new boat ramp at the above location. Comp due sometime in 1997-1998.			

Historical and set lake level information

10 Yr Flood: 106.75	Max Desireable: 105.50	Rec High: 106.94 Date: 06/04/91
100 Yr Flood: 107.40	Min Low: 103.50	Rec Low: 102.05 Date: 6/11/01
Min Flood: 106.50	Min Ext Low: 102.00	Lk Lvl POR: 11/1969 - Present

Current year water quality and lake levels

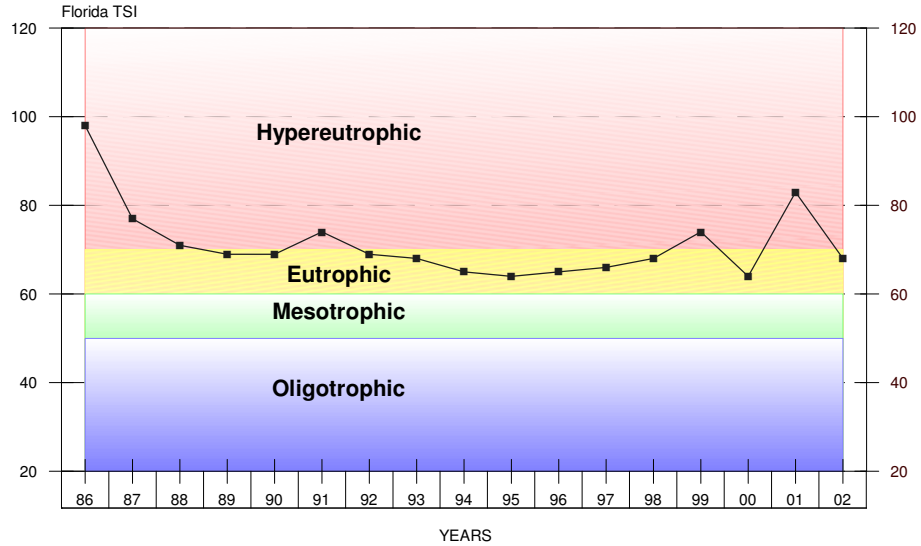
Year: <u>2002</u>		Lake Level Mean: 104.08
Impaired Waterbody: <input checked="" type="checkbox"/>	TSI: <u>67.67</u>	LakeLevel Max: 105.44
	WQI: <u>14.13</u>	LakeLevel Min: 102.68

Water Quality Comments: Phosphorus concentrations are high. May have algal blooms throughout the year.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	52.77	68.70	36.84
Chlorophyll a (Corrected) mg/m3	48.03	63.23	32.84
Color Pt-Co	42	46	37
Conductivity @ 25C umhos/cm	230	247	213
Dissolved Oxygen (DO) mg/l	7.36	8.44	6.28
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.135	1.234	1.036
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.021	0.042	0.000
Nitrogen Total (TN) mg/l	1.16	1.28	1.04
pH Std Unit	7.67	7.68	7.66
Phosphorus Total (TP) mg/l	0.491	0.566	0.417
Secchi Disk (SD) m	0.75	0.90	0.60
Temperature Deg C	24.56	30.92	18.19
Turbidity NTU	5.70	7.10	4.30

BANANA NORTH PIT

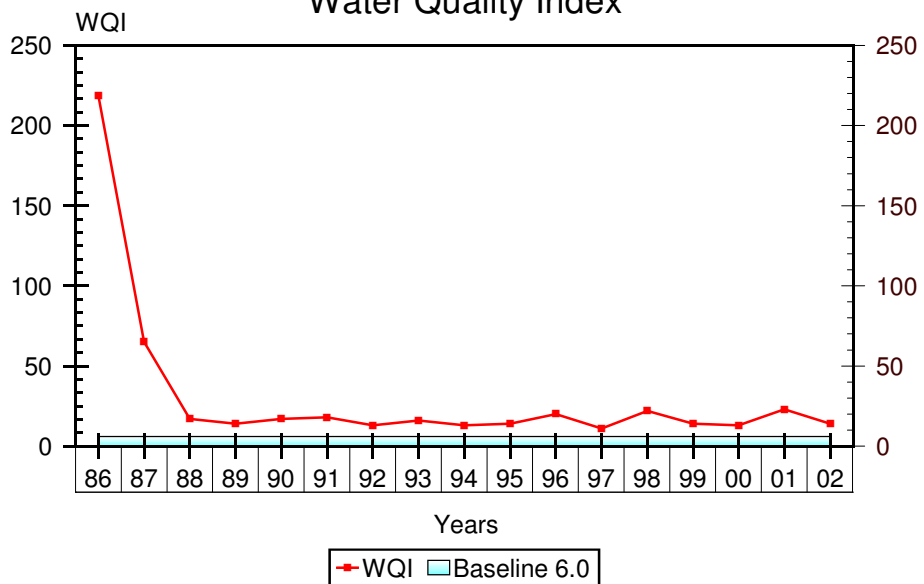
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BANANA NORTH PIT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Banana South Pit

AliasName: N Pit =Banana4, Stahl; S Pit =Banana3, Lt1 Banana

S-T-R: 10-29-24 **Lat/Lon** 275844 / 815422 **Surface Area(Acres):** 342 **Bottom Contour:**

LocationCity Highland City **Elevation:** 105.00 **Public Access:**

Physiographic Unit: Polk Upland **Lake Depth:** 4.00 **Meandered:**

Drainage Basin: Peace River **Lake Type:** Inflow & Outflow **Control Structure:**

Drainage Basin (Sq. Miles) 14.30 **Water Quality Data:** Current **POR:** 1980 - Present **Staff Gage:**

Sport Fisheries: FAIR **Rated By** FFWCC 3/97

Misc Information about this waterbody: Polk County is currently making a park area and new boat ramp at the above location. Comp due sometime in 1997-1998.

Historical and set lake level information

10 Yr Flood: 106.75 **Max Desireable** 105.50

Rec High: 106.94 **Date:** 06/04/91

100 Yr Flood: 107.40 **Min Low:** 103.50

Rec Low: 102.05 **Date:** 6/11/01

Min Flood: 106.50 **Min Ext Low:** 102.00 **Lk Lvl POR:** 11/1969 - Present

Current year water quality and lake levels

Year 2002

Lake Level Mean: 104.08

Impaired Waterbody

TSI: 79.60

WQI: 12.07

LakeLevel Max: 105.44

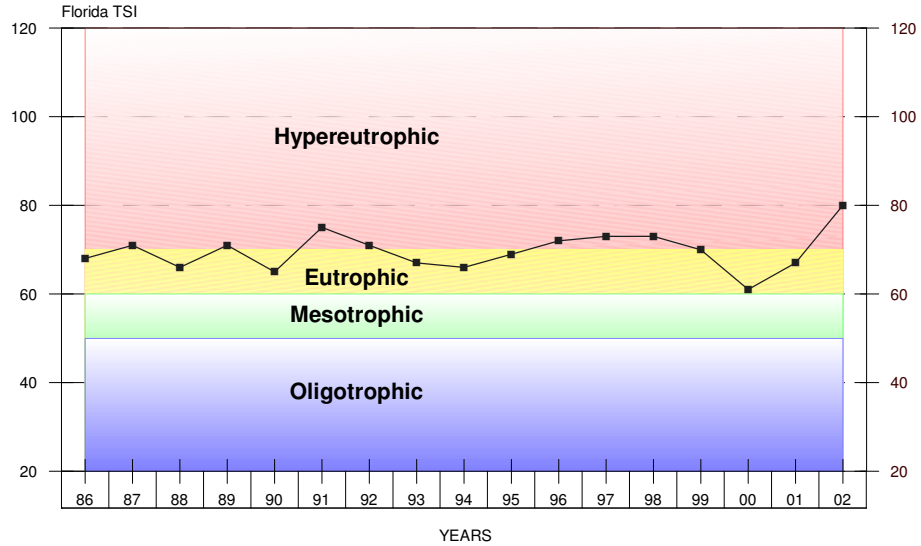
LakeLevel Min: 102.68

Water Quality Comments Nitrogen & Phosphorus concentrations are high. May have algal blooms.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	97.52	167.83	27.21
Chlorophyll a (Corrected) mg/m3	88.91	152.99	24.83
Color Pt-Co	26	30	22
Conductivity @ 25C umhos/cm	215	227	203
Dissolved Oxygen (DO) mg/l	8.41	9.03	7.78
Nitrogen Ammonia (NH3) mg/l	0.040	0.078	0.001
Nitrogen Kjeldahl (TKN) mg/l	2.302	3.124	1.480
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.028	0.054	0.001
Nitrogen Total (TN) mg/l	2.33	3.18	1.48
pH Std Unit	8.74	9.03	8.45
Phosphorus Total (TP) mg/l	0.234	0.368	0.100
Secchi Disk (SD) m	0.68	0.80	0.55
Temperature Deg C	24.64	31.14	18.13
Turbidity NTU	7.60	10.10	5.10

BANANA SOUTH PIT

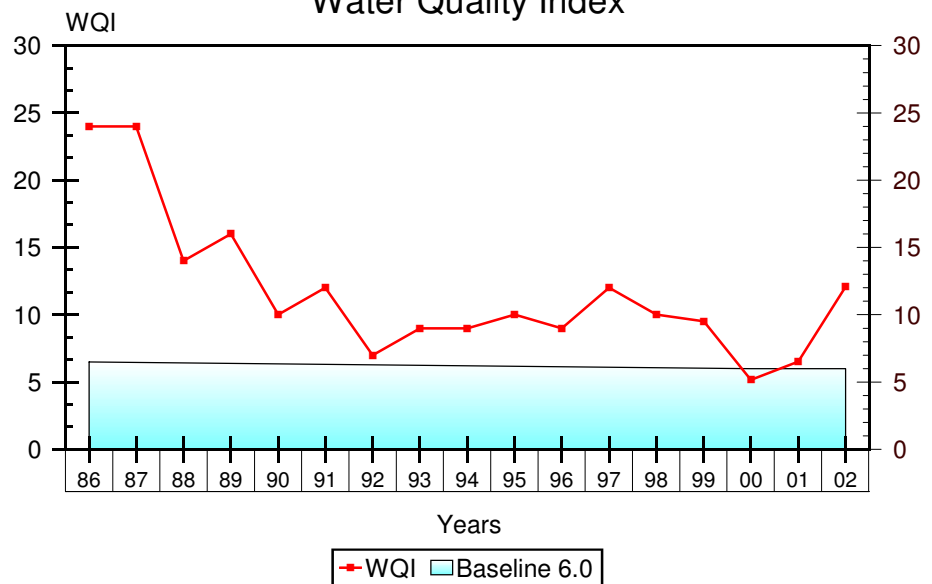
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BANANA SOUTH PIT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Bess		AliasName:	
S-T-R: 18-29-27	Lat/Lon: 275803 / 813921	Surface Area(Acres): 148	Bottom Contour: <input type="checkbox"/>
LocationCity: Winter Haven		Elevation: 125.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 9.80	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.58	Water Quality Data: Current	POR: 1988 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By: FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 125.50	Max Desireable: 125.00	Rec High: 125.62 Date: 09/22/94
100 Yr Flood: 126.20	Min Low: 123.00	Rec Low: 120.80 Date: 6/20/01
Min Flood: 125.25	Min Ext Low: 121.00	Lk Lvl POR: 7/11/1985 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 124.04

Impaired Waterbody: **TSI:** 39.67 **WQI:** 2.01 **LakeLevel Max:** 125.37

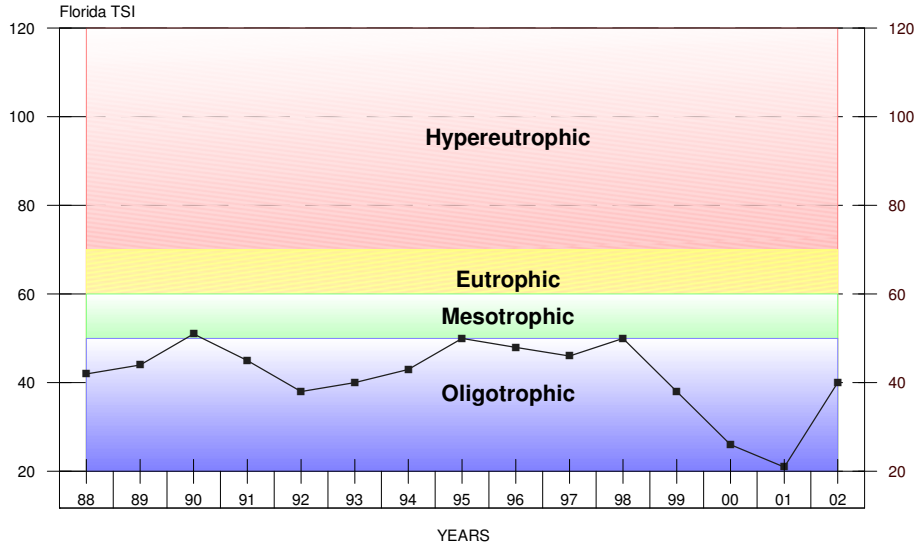
LakeLevel Min: 122.82

Water Quality Comments: Water quality for this lake is very good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	3.99	4.56	3.41
Chlorophyll a (Corrected) mg/m3	3.00	3.61	2.40
Color Pt-Co	20	20	20
Conductivity @ 25C umhos/cm	374	382	365
Dissolved Oxygen (DO) mg/l	8.55	9.39	7.70
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.707	0.713	0.700
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.005	0.001
Nitrogen Total (TN) mg/l	0.71	0.72	0.70
pH Std Unit	7.57	7.81	7.33
Phosphorus Total (TP) mg/l	0.029	0.033	0.024
Secchi Disk (SD) m	1.68	1.70	1.65
Temperature Deg C	24.81	31.54	18.08
Turbidity NTU	1.37	1.53	1.21

BESS

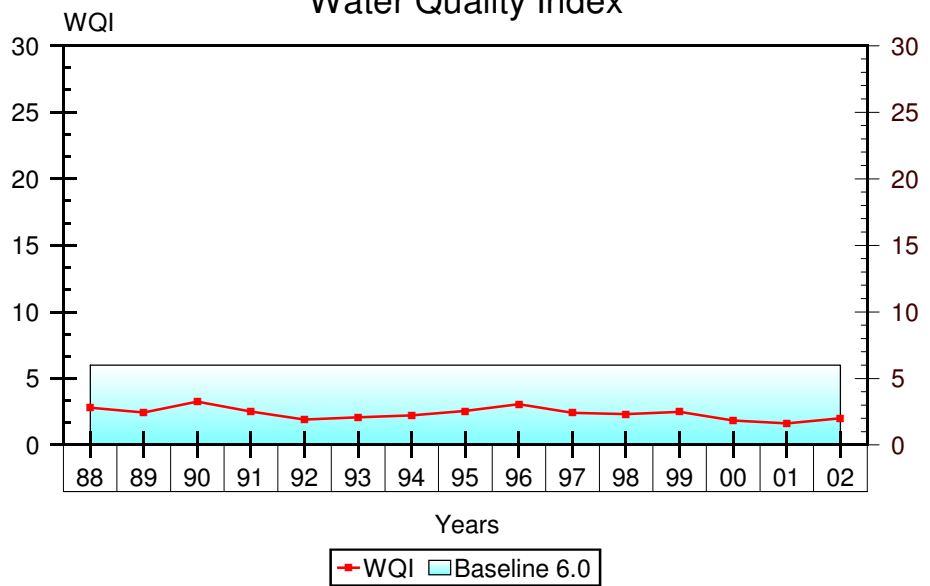
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BESS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Blue		AliasName:	
S-T-R: 13-28-25	Lat/Lon 280254 / 814625	Surface Area(Acres): 56	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 150.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 8.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 0.25	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 149.80	Max Desireable 148.50	Rec High: 149.56 Date: 07/27/95
100 Yr Flood: 150.90	Min Low: 146.50	Rec Low: 146.50 Date: 05/31/00
Min Flood: 149.00	Min Ext Low: 144.50	Lk Lvl POR: 11//21/1985 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 147.85

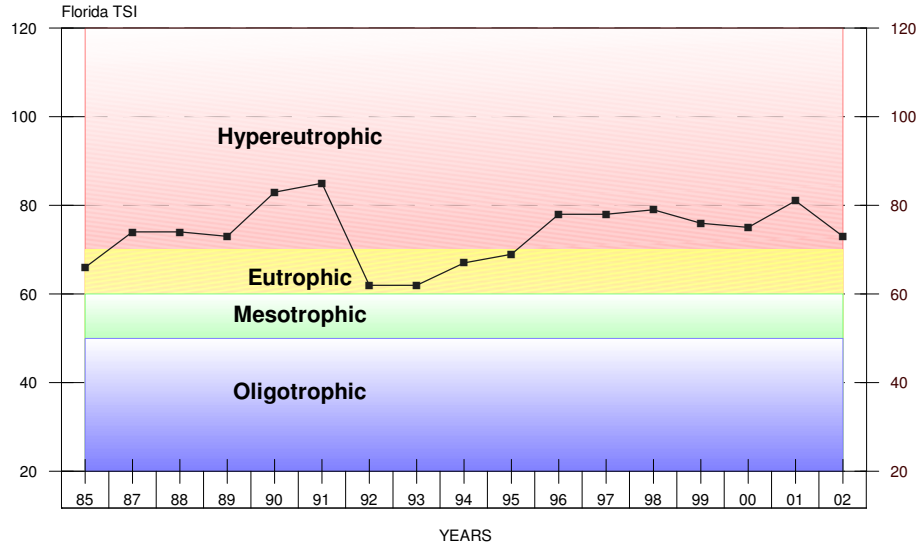
Impaired Waterbody **TSI:** 73.09 **WQI:** 7.36 **LakeLevel Max:** 148.16

LakeLevel Min: 147.14

Water Quality Comments Water quality for this lake is poor. The trend is toward further degradation, algal blooms present.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	64.61	75.43	50.33
Chlorophyll a (Corrected) mg/m3	60.35	69.43	44.86
Color Pt-Co	25	27	23
Conductivity @ 25C umhos/cm	184	198	169
Dissolved Oxygen (DO) mg/l	8.29	9.89	7.38
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.576	3.287	1.968
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	2.58	3.29	1.97
pH Std Unit	7.94	8.25	7.67
Phosphorus Total (TP) mg/l	0.054	0.061	0.047
Secchi Disk (SD) m	0.36	0.45	0.27
Temperature Deg C	24.93	28.57	17.79
Turbidity NTU	15.63	23.0	8.70

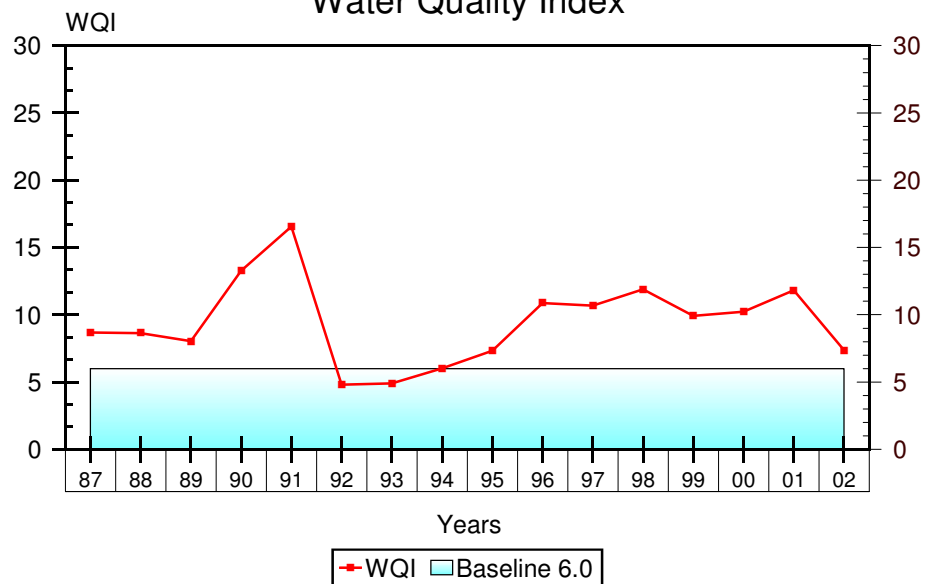
BLUE TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BLUE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Bonny		AliasName:	
S-T-R: 20-28-24	Lat/Lon 280216 / 815536	Surface Area(Acres): 354	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lakeland		Elevation: 130.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 8.20	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 2.80	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record For 1978-1979 Also.			

Historical and set lake level Information

10 Yr Flood: 130.90	Max Desireable 130.00	Rec High: 132.40 Date: 01/02/98
100 Yr Flood: 132.40	Min Low: 128.00	Rec Low: 122.92 Date: 6/22/01
Min Flood: 130.50	Min Ext Low: 126.00	Lk Lvl POR: 7/27/1954 - 1962; 1982 - Present

Current year water quality and lake levels

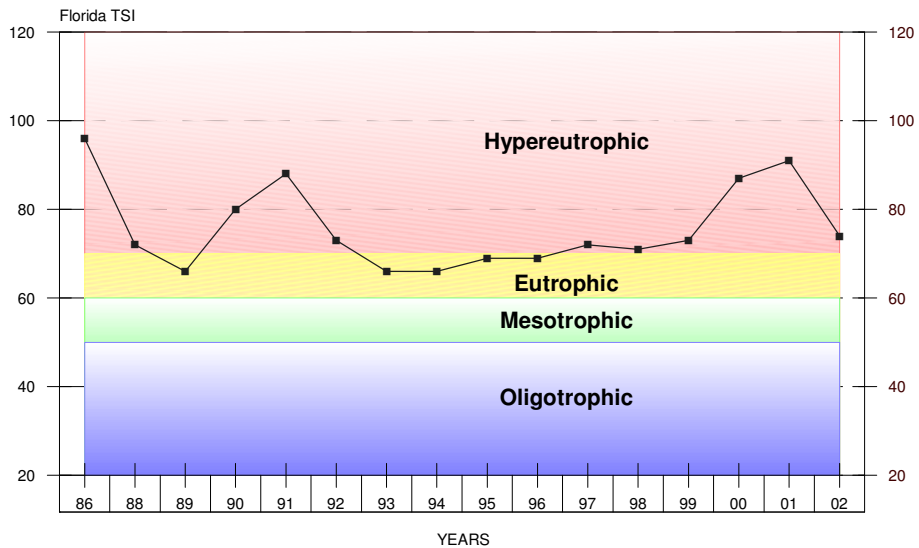
Year <u>2002</u>		Lake Level Mean: 128.34
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>74.04</u>	LakeLevel Max: 131.33
	WQI: <u>6.57</u>	LakeLevel Min: 125.73

Water Quality Comments Water quality trend for this lake is poor. Listed as an Impaired waterbody.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	54.12	59.93	49.98
Chlorophyll a (Corrected) mg/m3	49.57	51.26	46.99
Color Pt-Co	43	70	30
Conductivity @ 25C umhos/cm	184	216	154
Dissolved Oxygen (DO) mg/l	9.08	9.60	8.65
Nitrogen Ammonia (NH3) mg/l	0.000	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.460	3.042	1.777
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.001	0.000
Nitrogen Total (TN) mg/l	2.46	3.04	1.78
pH Std Unit	8.48	9.52	7.55
Phosphorus Total (TP) mg/l	0.066	0.096	0.047
Secchi Disk (SD) m	0.42	0.55	0.30
Temperature Deg C	27.77	31.32	23.66
Turbidity NTU	8.67	11.4	5.30

BONNY

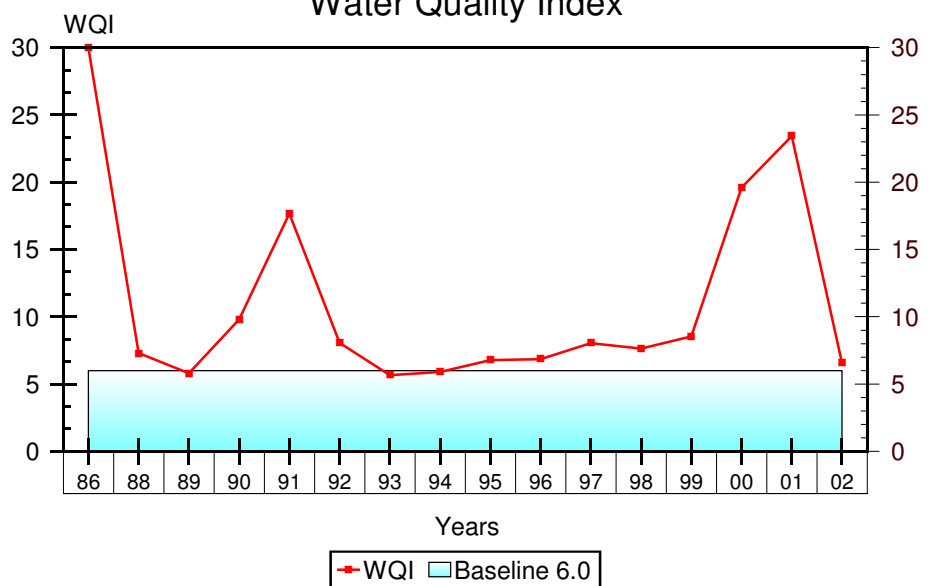
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BONNY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Buckeye		AliasName:	
S-T-R: 22-28-26	Lat/Lon 280226 / 814221	Surface Area(Acres): 71	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.34	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 130.10	Max Desireable 128.75	Rec High: 129.12 Date: 08/14/92
100 Yr Flood: 131.60	Min Low: 126.00	Rec Low: 125.00 Date: 6/22/01
Min Flood: 129.00	Min Ext Low: 124.50	Lk Lvl POR: 11/21/1985 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 127.48

Impaired Waterbody **TSI:** 59.68 **WQI:** 3.61 **LakeLevel Max:** 128.28

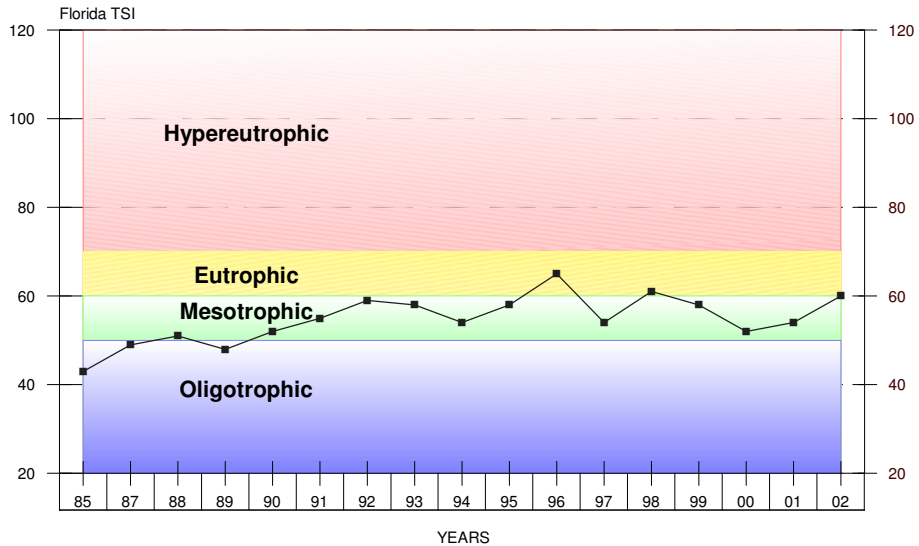
LakeLevel Min: 126.16

Water Quality Comments Water quality trend is from poor to fair. Listed as a potential Impaired waterbody for TSI by FDEP.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	23.02	36.72	15.69
Chlorophyll a (Corrected) mg/m3	21.00	35.24	13.62
Color Pt-Co	23	25	20
Conductivity @ 25C umhos/cm	335	368	291
Dissolved Oxygen (DO) mg/l	6.85	8.05	4.96
Nitrogen Ammonia (NH3) mg/l	0.001	0.002	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.134	1.495	0.944
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.058	0.230	0.000
Nitrogen Total (TN) mg/l	1.19	1.50	1.01
pH Std Unit	7.47	7.75	6.85
Phosphorus Total (TP) mg/l	0.033	0.037	0.029
Secchi Disk (SD) m	1.0	1.4	0.65
Temperature Deg C	23.80	30.42	16.87
Total Suspended Solids (TSS) mg/l	5.4	7.2	3.6
Turbidity NTU	4.40	6.30	3.20

BUCKEYE

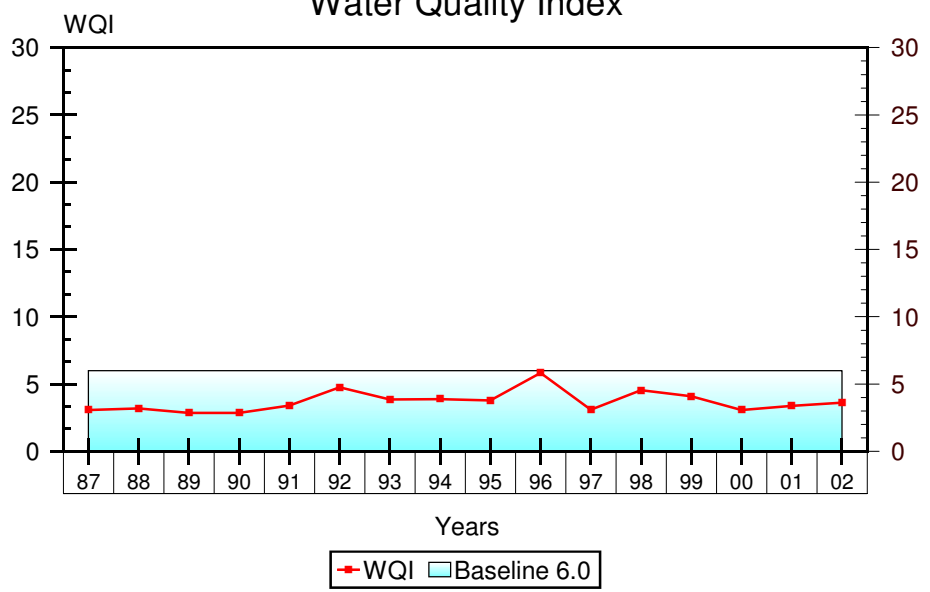
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BUCKEYE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Buffum		AliasName:	
S-T-R: 12-31-26	Lat/Lon: 274754 / 813951	Surface Area(Acres): 1,543	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Southeast Of Alturas		Elevation: 132.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 16.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 10.00	Water Quality Data: Current	POR: 1988 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		
Misc Information about this waterbody: Previous record high - 9/29/1979 - 132.42			

Historical and set lake level Information

10 Yr Flood: 132.75	Max Desireable: 132.00	Rec High: 132.42 Date: 02/24/98
100 Yr Flood: 133.40	Min Low: 129.25	Rec Low: 123.90 Date: 06/19/91
Min Flood: 132.25	Min Ext Low: 126.75	Lk Lvl POR: 4/1972 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 129.72

Impaired Waterbody: **TSI:** 54.77 **WQI:** 3.50 **LakeLevel Max:** 131.85

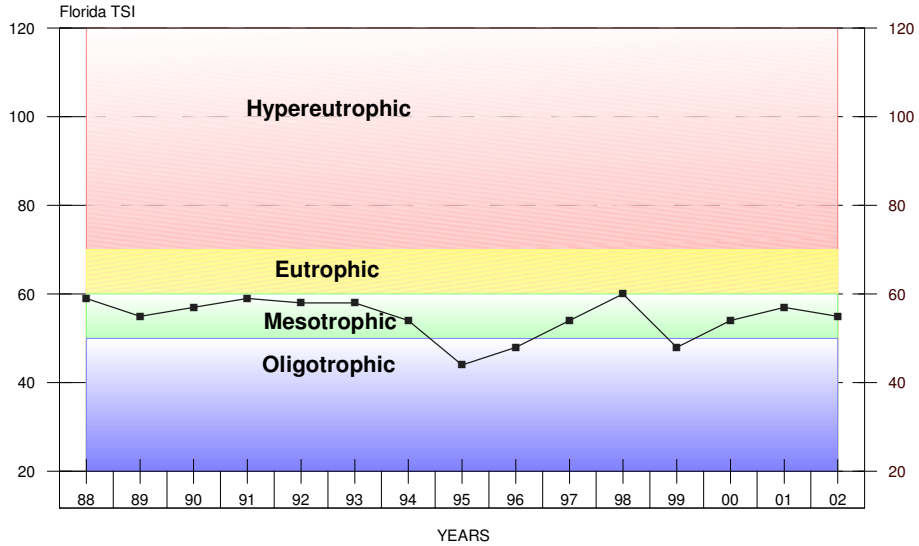
LakeLevel Min: 128.2

Water Quality Comments: Water quality for this lake is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	24.06	28.43	20.38
Chlorophyll a (Corrected) mg/m3	21.83	24.83	19.22
Color Pt-Co	41	50	35
Conductivity @ 25C umhos/cm	168	172	164
Dissolved Oxygen (DO) mg/l	9.90	11.28	8.51
Nitrogen Ammonia (NH3) mg/l	0.002	0.005	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.812	0.878	0.747
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.004	0.000
Nitrogen Total (TN) mg/l	0.81	0.88	0.75
pH Std Unit	7.71	8.13	7.29
Phosphorus Total (TP) mg/l	0.030	0.032	0.028
Secchi Disk (SD) m	0.80	0.90	0.70
Temperature Deg C	23.52	30.71	16.32
Turbidity NTU	13.0	40.0	3.50

BUFFUM

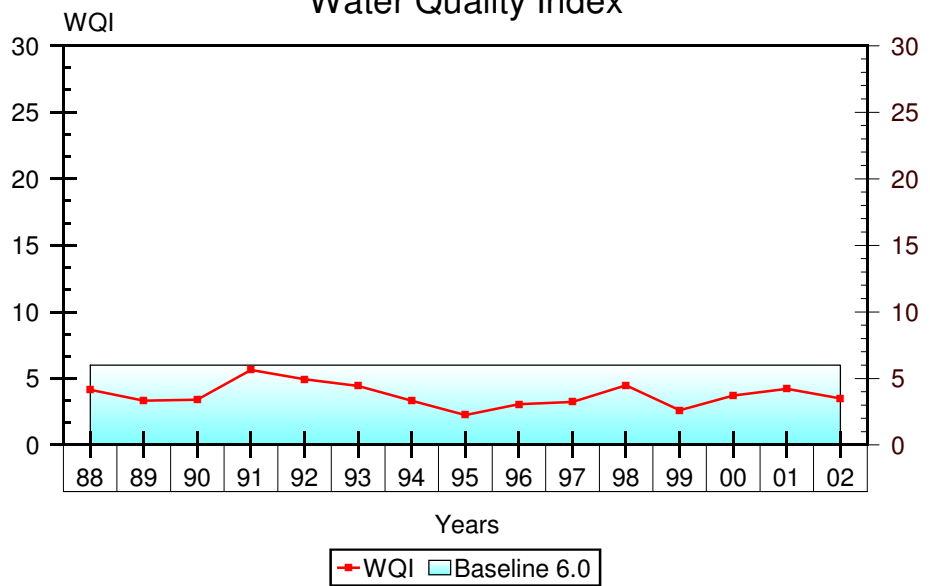
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

BUFFUM

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Cannon		AliasName:	
S-T-R: 19-28-26	Lat/Lon 280218 / 814518	Surface Area(Acres): 336	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 16.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 10.10	Water Quality Data: Current	POR: 1976 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 3/9/84 - 9/7/88 [Lk Howard 2/1946]

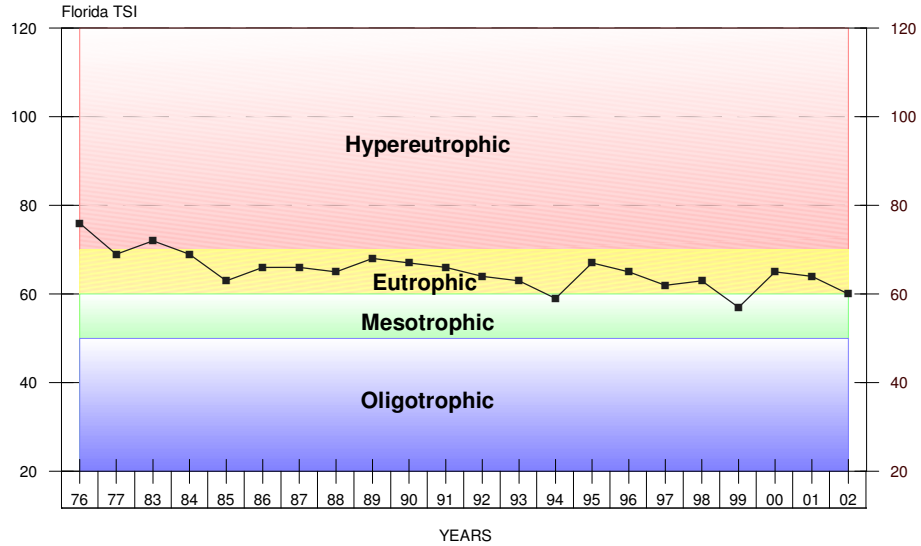
Current year water quality and lake levels

Year <u>2002</u>			Lake Level Mean: 130.57
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>59.78</u>	WQI: <u>3.92</u>	LakeLevel Max: 131.93
			LakeLevel Min: 129.38
Water Quality Comments Water quality is fair. No trend over last ten years. Listed as an Impaired water for nutrients, TSI and bacteria.			

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Alkalinity Total mg/l	46.86	49.28	45.36
Aluminum (Al) ug/l	16.89	19.73	10.50
Chlorophyll a mg/m3	29.75	38.72	17.11
Chlorophyll a (Corrected) mg/m3	27.87	35.24	16.02
Color Pt-Co	16	20	14
Conductivity @ 25C umhos/cm	235	250	224
Dissolved Oxygen (DO) mg/l	8.37	10.37	5.85
Enterococci (MF) CFU	23	63	3
Fecal Coliform (FC) CFU	37	62	2
Nitrogen Ammonia (NH3) mg/l	0.000	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.350	1.754	1.049
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.008	0.000
Nitrogen Total (TN) mg/l	1.35	1.76	1.05
pH Std Unit	8.18	9.43	6.90
Phosphorus Ortho mg/l	0.006	0.007	0.004
Phosphorus Total (TP) mg/l	0.028	0.048	0.006
Secchi Disk (SD) m	0.61	1.00	0.45
Temperature Deg C	25.09	29.74	17.12
Turbidity NTU	6.16	8.30	4.70

CANNON

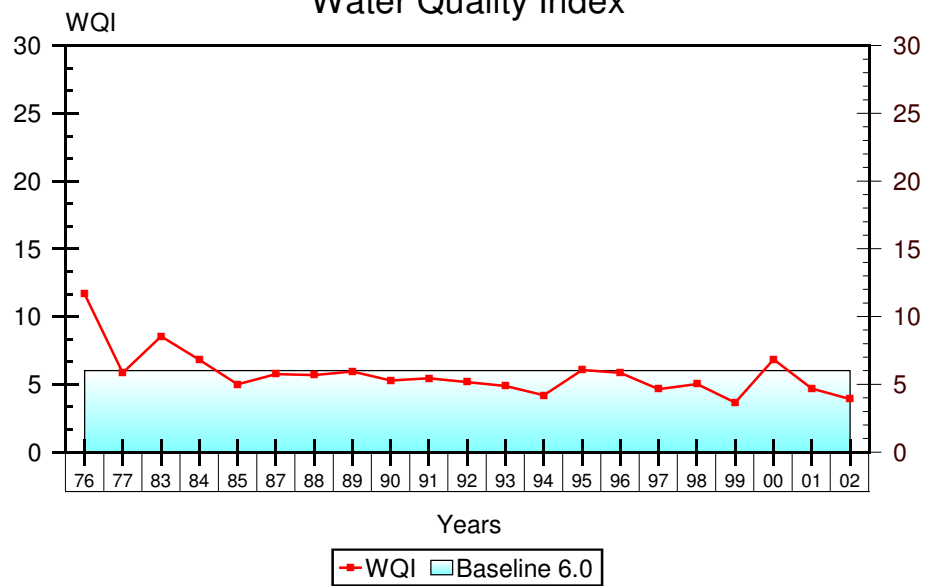
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CANNON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Carter Road X Pit		AliasName:	
S-T-R: 25-29-23	Lat/Lon /	Surface Area(Acres):	Bottom Contour: <input type="checkbox"/>
LocationCity Lakeland		Elevation:	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit:		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Alafia River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data:	POR:	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody: Carter Road Park Pit			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood:	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR:	

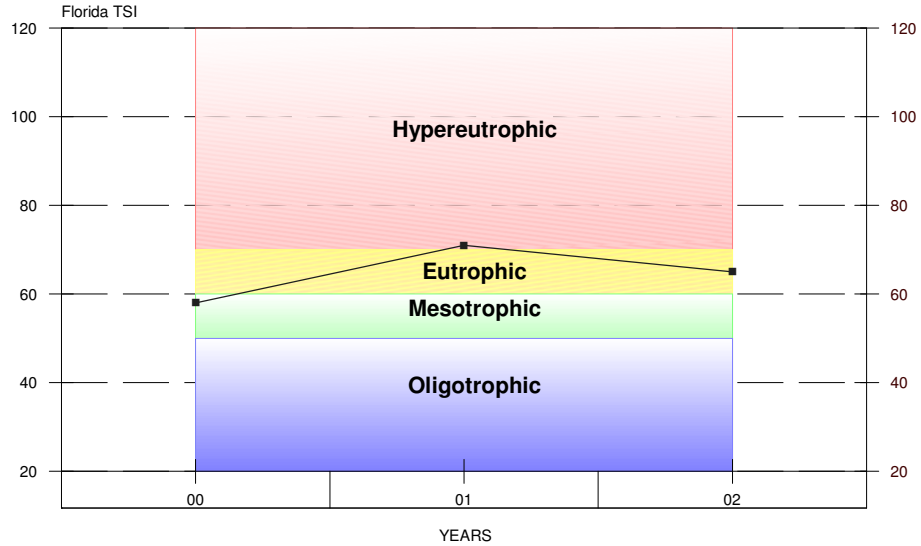
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 0
Impaired Waterbody <input type="checkbox"/>	TSI: <u>64.56</u>	LakeLevel Max: 0
	WQI: <u>12.95</u>	LakeLevel Min: 0
Water Quality Comments Water quality is poor for this lake.		

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	42.73	47.18	38.27
Chlorophyll a (Corrected) mg/m3	38.33	42.21	34.44
Color Pt-Co	36	44	28
Conductivity @ 25C umhos/cm	414	514	313
Dissolved Oxygen (DO) mg/l	10.81	12.76	8.85
Nitrogen Ammonia (NH3) mg/l	0.002	0.003	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.987	1.118	0.856
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.015	0.030	0.000
Nitrogen Total (TN) mg/l	1.01	1.15	0.86
pH Std Unit	8.14	8.50	7.78
Phosphorus Total (TP) mg/l	0.479	0.534	0.423
Secchi Disk (SD) m	0.98	1.05	0.90
Temperature Deg C	26.76	28.53	24.99
Turbidity NTU	4.1	4.4	3.8

Carter Road Park - X PIT

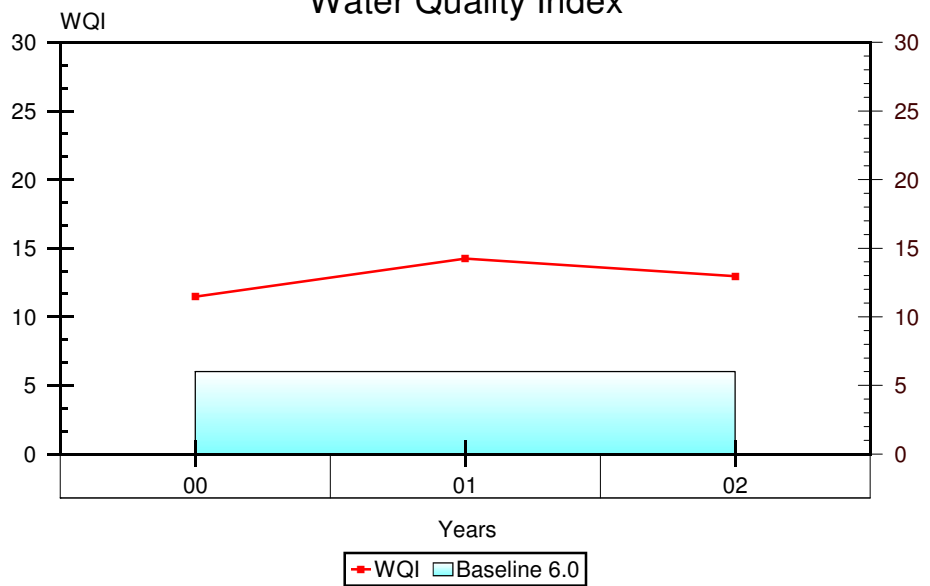
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

Carter Road Park - X PIT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Carter Road Y Pit		AliasName:	
S-T-R: 25-29-23	Lat/Lon /	Surface Area(Acres):	Bottom Contour: <input type="checkbox"/>
LocationCity Lakeland		Elevation:	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit:		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Alafia River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data:	POR:	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody: Carter Road Park Pit			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood:	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR:	

Current year water quality and lake levels

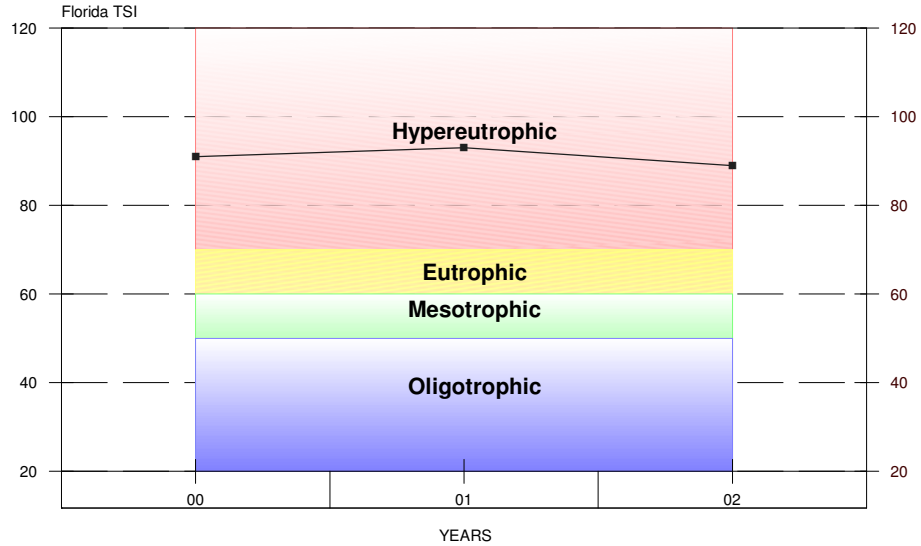
Year 2002 **Lake Level Mean:** 0
Impaired Waterbody **TSI:** 88.96 **WQI:** 23.41 **LakeLevel Max:** 0
LakeLevel Min: 0

Water Quality Comments Water quality is poor for this lake.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	176.08	197.18	154.97
Chlorophyll a (Corrected) mg/m3	166.23	186.28	146.18
Color Pt-Co	26	32	20
Conductivity @ 25C umhos/cm	233	258	207
Dissolved Oxygen (DO) mg/l	12.47	15.70	9.24
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	3.656	3.871	3.441
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.004	0.001
Nitrogen Total (TN) mg/l	3.66	3.88	3.44
pH Std Unit	9.19	9.41	8.96
Phosphorus Total (TP) mg/l	0.512	0.571	0.453
Secchi Disk (SD) m	0.21	0.23	0.18
Temperature Deg C	26.56	28.3	24.82
Turbidity NTU	38	42	34

Carter Road Park - Y PIT

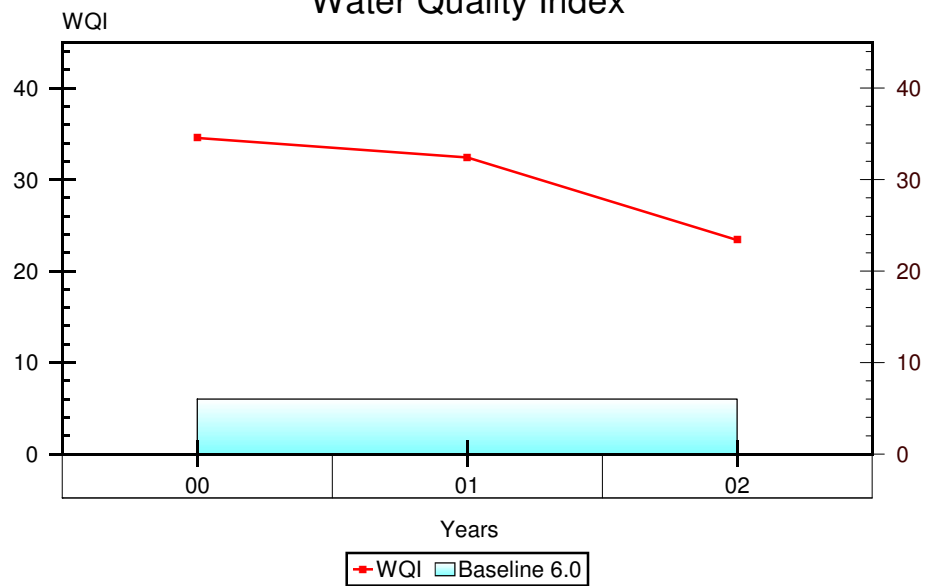
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

Carter Road Park - Y PIT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Citrus		AliasName:	
S-T-R: 17-28-26	Lat/Lon /	Surface Area(Acres): 4	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation:	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1996 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 145.60	Max Desireable	Rec High:	Date:
100 Yr Flood: 146.00	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR: N A	

Current year water quality and lake levels

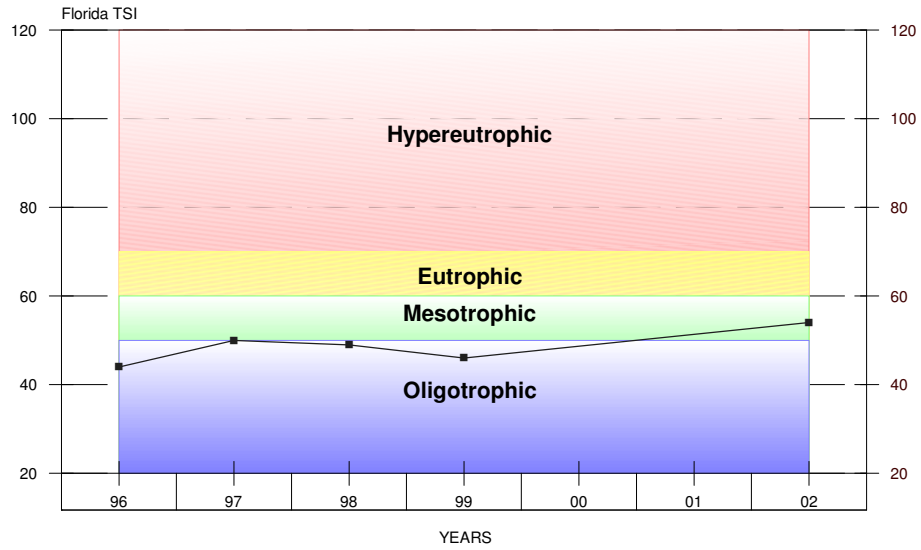
Year <u>2002</u>		Lake Level Mean: 0
Impaired Waterbody <input type="checkbox"/>	TSI: <u>53.65</u>	LakeLevel Max: 0
	WQI: <u>3.26</u>	LakeLevel Min: 0

Water Quality Comments Insufficient data.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	21.75	21.75	21.75
Chlorophyll a (Corrected) mg/m3	20.83	20.83	20.83
Color Pt-Co	25	25	25
Conductivity @ 25C umhos/cm	146	146	146
Dissolved Oxygen (DO) mg/l	5.98	5.98	5.98
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.671	0.671	0.671
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	0.67	0.67	0.67
pH Std Unit	7.41	7.41	7.41
Phosphorus Total (TP) mg/l	0.031	0.031	0.031
Secchi Disk (SD) m	1.9	1.9	1.9
Temperature Deg C	28.97	28.97	28.97
Total Suspended Solids (TSS) mg/l	3.2	3.2	3.2
Turbidity NTU	2.1	2.1	2.1

CITRUS

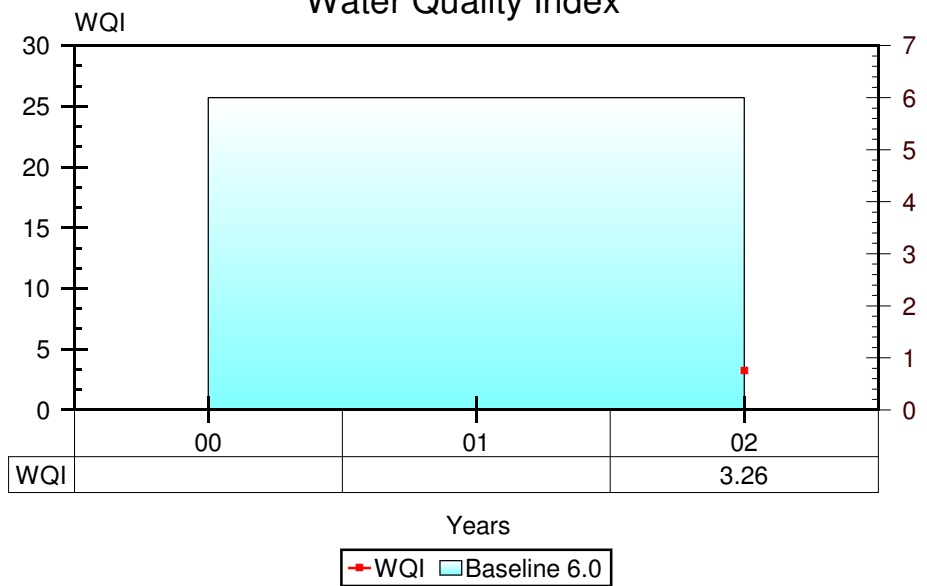
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CITRUS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Clinch		AliasName:	
S-T-R: 31-31-28	Lat/Lon 274528 / 813304	Surface Area(Acres): 1,207	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Frostproof		Elevation: 103.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 17.50	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 42.00	Water Quality Data: Current	POR: 1984 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 108.00	Max Desireable 106.00	Rec High: 110.21 Date: 10/10/48
100 Yr Flood: 110.40	Min Low: 104.00	Rec Low: 100.10 Date: 06/19/91
Min Flood: 106.75	Min Ext Low: 102.50	Lk Lvl POR: 1/31/1947 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 104.07

Impaired Waterbody **TSI:** 37.55 **WQI:** 1.69 **LakeLevel Max:** 105.1

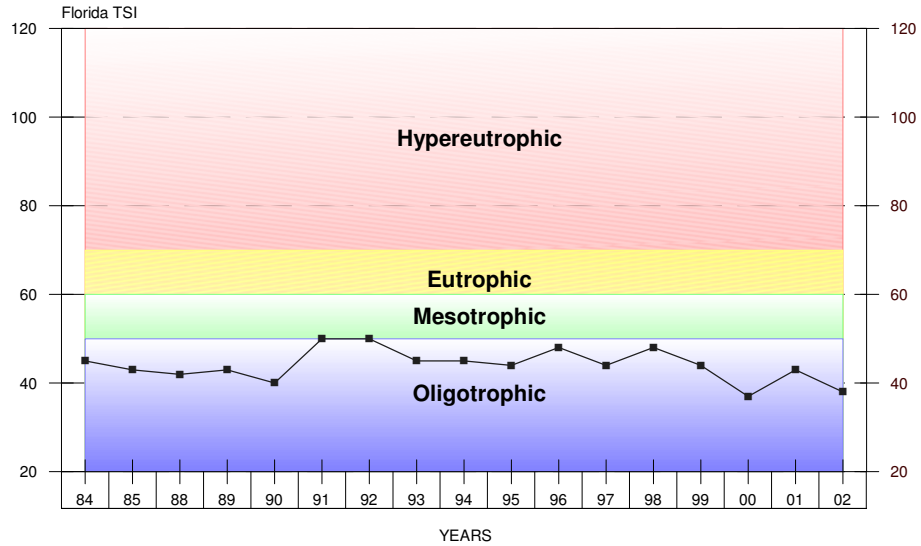
LakeLevel Min: 102.47

Water Quality Comments Water quality is very good for this lake.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	4.79	5.45	4.13
Chlorophyll a (Corrected) mg/m3	4.47	4.81	4.13
Color Pt-Co	22	25	18
Conductivity @ 25C umhos/cm	157	160	153
Dissolved Oxygen (DO) mg/l	8.44	8.73	8.15
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.553	0.566	0.539
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.045	0.089	0.000
Nitrogen Total (TN) mg/l	0.60	0.66	0.54
pH Std Unit	6.96	7.27	6.94
Phosphorus Total (TP) mg/l	0.013	0.020	0.006
Secchi Disk (SD) m	2.75	2.80	2.70
Temperature Deg C	23.70	31.45	15.94
Turbidity NTU	1.21	1.26	1.16

CLINCH

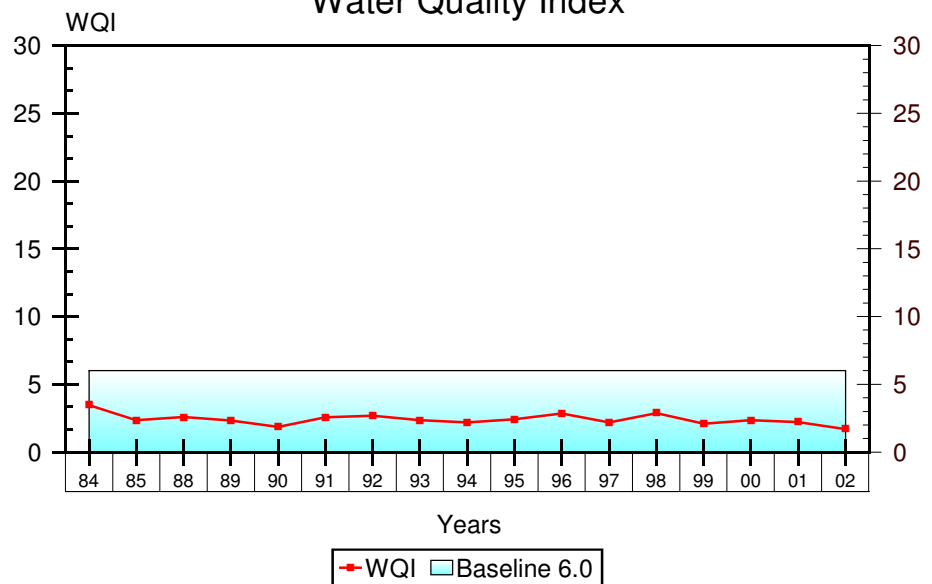
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CLINCH

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Confusion		AliasName:	
S-T-R: 30-27-27	Lat/Lon: 280636 / 813902	Surface Area(Acres): 15	Bottom Contour: <input type="checkbox"/>
LocationCity: W Of Haines City		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit:		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles):	Water Quality Data: None	POR: N A	Staff Gage: <input type="checkbox"/>
Sport Fisheries: NO DAT Rated By: FFWCC 3/97			
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood:	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR: NA	

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 0

Impaired Waterbody: **TSI:** 48.76 **WQI:** 2.44 **LakeLevel Max:** 0

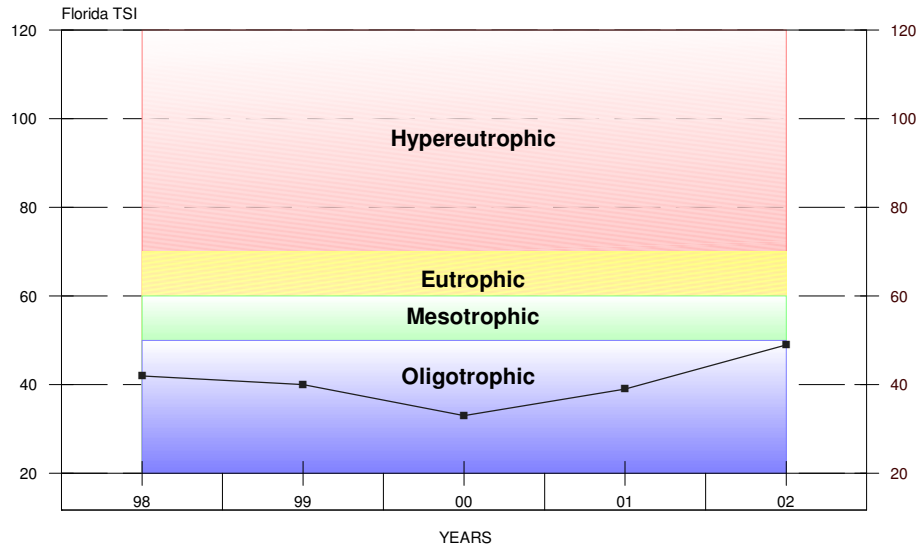
LakeLevel Min: 0

Water Quality Comments: Water quality is very good for this lake.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	7.55	8.68	6.42
Chlorophyll a (Corrected) mg/m3	6.81	7.21	6.41
Color Pt-Co	28	28	28
Conductivity @ 25C umhos/cm	311	315	307
Dissolved Oxygen (DO) mg/l	7.94	9.85	6.02
Nitrogen Ammonia (NH3) mg/l	0.010	0.015	0.005
Nitrogen Kjeldahl (TKN) mg/l	1.002	1.066	0.937
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.005	0.009	0.000
Nitrogen Total (TN) mg/l	1.01	1.08	0.94
pH Std Unit	7.42	7.87	6.96
Phosphorus Total (TP) mg/l	0.026	0.031	0.021
Secchi Disk (SD) m	1.58	1.65	1.50
Temperature Deg C	24.36	29.17	19.54
Turbidity NTU	1.38	1.67	1.08

CONFUSION

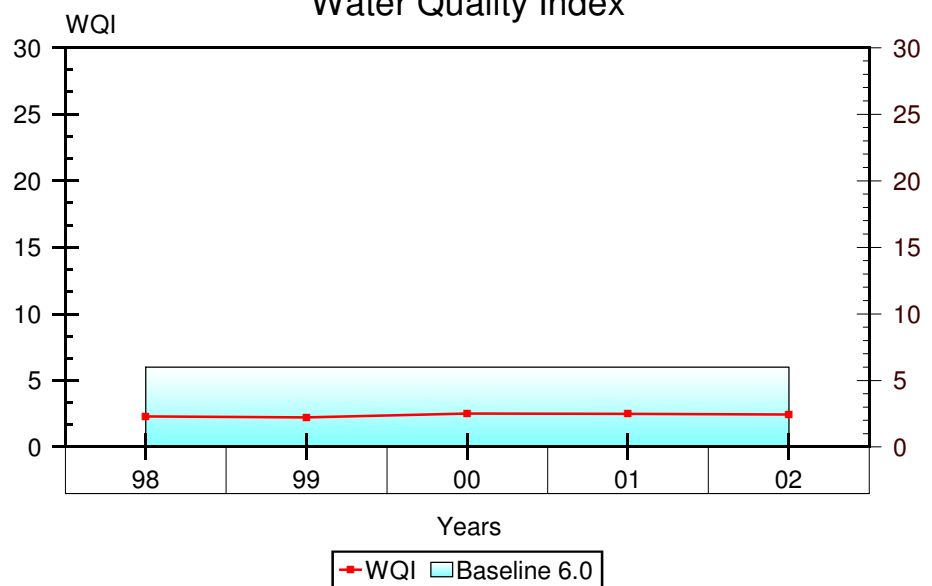
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CONFUSION

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Conine		AliasName: Connie	
S-T-R: 9-28-26	Lat/Lon 280340 / 814338	Surface Area(Acres): 236	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 1.50	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record From 1951-1954 Also. Hydrologic Record; Record High And Low Are The Same As Lake Smart. Controlled By Structure Between Lakes Smart And Fannie.			

Historical and set lake level information

10 Yr Flood: 129.70	Max Desireable 128.50	Rec High: 129.28 Date: 02/24/98
100 Yr Flood: 130.50	Min Low: 126.50	Rec Low: 124.11 Date: 5/30/01
Min Flood: 128.75	Min Ext Low: 124.50	Lk Lvl POR: 1946-1948; 1966 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 125.62

Impaired Waterbody **TSI:** 63.35 **WQI:** 4.75 **LakeLevel Max:** 127.53

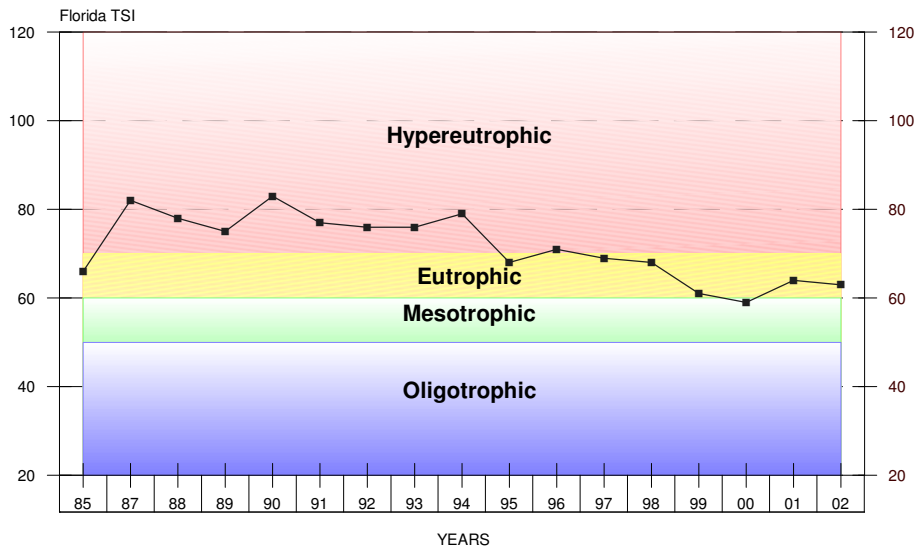
LakeLevel Min: 124.38

Water Quality Comments Improving trend, but still in the poor range for water quality. Listed as potential Impaired by rule (FDEP) for T

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	38.52	48.36	31.68
Chlorophyll a (Corrected) mg/m3	35.26	45.71	28.03
Color Pt-Co	23	30	18
Conductivity @ 25C umhos/cm	251	275	226
Dissolved Oxygen (DO) mg/l	8.70	11.71	6.96
Nitrogen Ammonia (NH3) mg/l	0.001	0.002	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.363	1.599	1.078
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	1.36	1.60	1.08
pH Std Unit	8.09	8.22	8.00
Phosphorus Total (TP) mg/l	0.052	0.065	0.036
Secchi Disk (SD) m	0.68	0.80	0.50
Temperature Deg C	23.47	29.49	17.11
Total Suspended Solids (TSS) mg/l	12.4	14.4	10.4
Turbidity NTU	6.93	7.10	6.80

CONINE

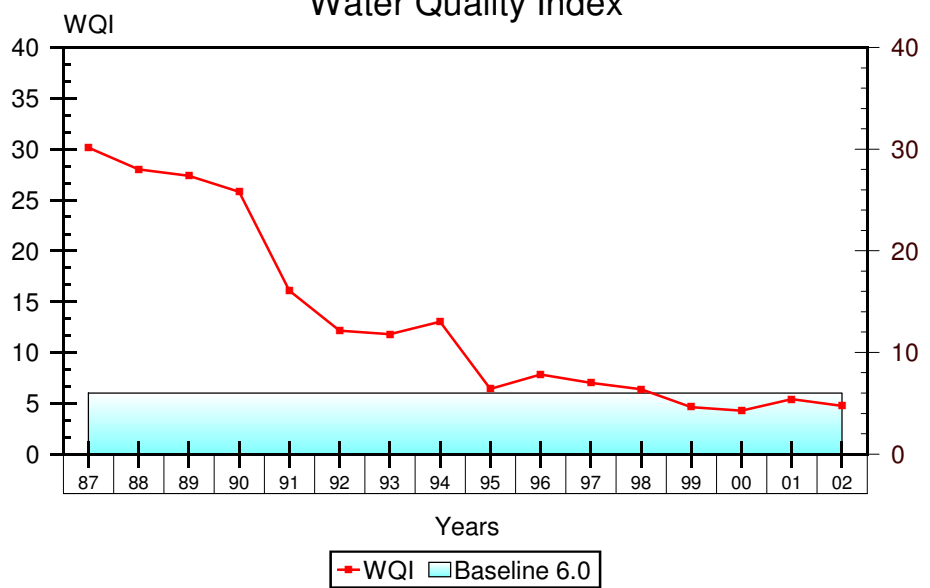
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CONINE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Crooked		AliasName:	
S-T-R: 1-31-27	Lat/Lon 275224 / 813355	Surface Area(Acres): 5,538	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Hillcrest Heights		Elevation: 118.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 13.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 31.30	Water Quality Data: Current	POR: 1969 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Surface Area Includes Little Crooked Lake			

Historical and set lake level Information

10 Yr Flood: 122.60	Max Desireable 121.00	Rec High: 123.98 Date: 10/08/48 Rec Low: 106.10 Date: 05/20/91
100 Yr Flood: 125.80	Min Low: 118.50	
Min Flood: 122.00	Min Ext Low: 117.00	
		Lk Lvl POR: 4/1945 - Present

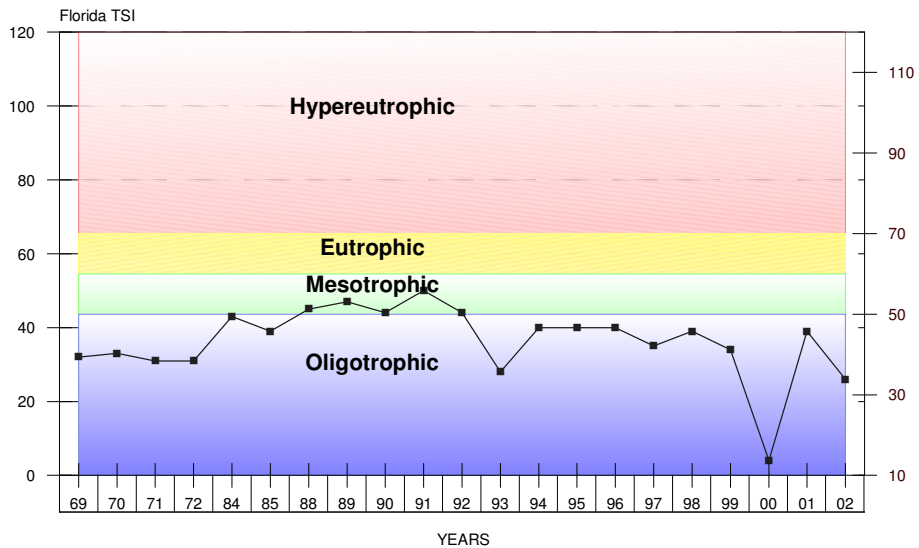
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 114.79
Impaired Waterbody <input type="checkbox"/>	TSI: <u>26.08</u>	LakeLevel Max: 116.42
	WQI: <u>1.70</u>	LakeLevel Min: 113.15
Water Quality Comments Water quality is very good for this lake which is classified as a Florida Outstanding Waterbody.		

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	4.91	8.10	3.06
Chlorophyll a (Corrected) mg/m3	4.35	7.21	2.40
Color Pt-Co	42	100	12
Conductivity @ 25C umhos/cm	91	98	86
Dissolved Oxygen (DO) mg/l	7.79	10.20	6.96
Nitrogen Ammonia (NH3) mg/l	0.000	0.002	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.715	0.899	0.626
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.005	0.015	0.000
Nitrogen Total (TN) mg/l	0.72	0.90	0.63
pH Std Unit	6.71	7.51	6.36
Phosphorus Total (TP) mg/l	0.005	0.012	0.000
Secchi Disk (SD) m	1.49	2.10	1.10
Temperature Deg C	24.30	28.79	13.02
Turbidity NTU	1.86	2.50	1.21

CROOKED

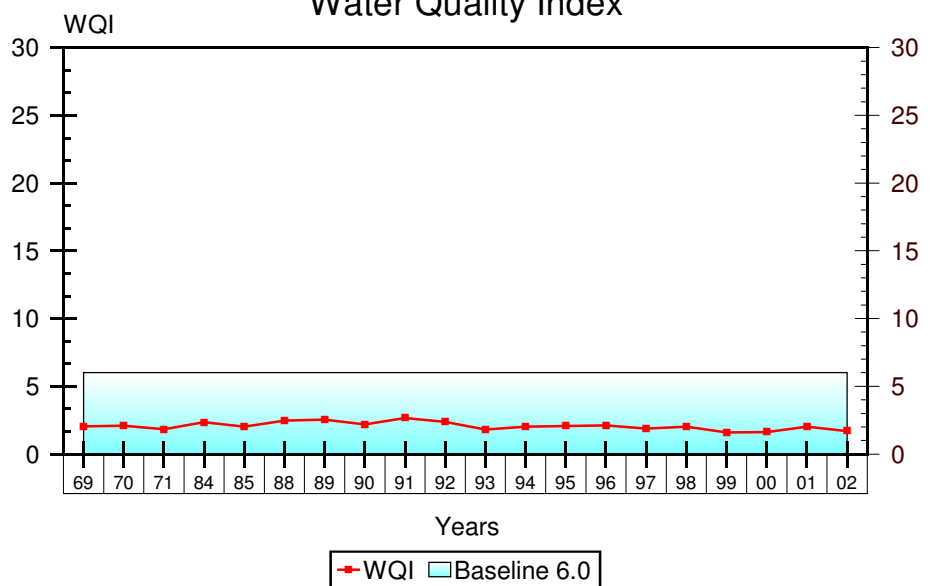
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CROOKED

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Crystal (Lkld)		AliasName:	
S-T-R: 21-28-24	Lat/Lon 280136 / 815438	Surface Area(Acres): 31	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lakeland		Elevation: 131.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1992 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: ADDITIONAL BOAT ACCESS INFORMATION - boardwalk available when it's not submerged			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High: 140.62 Date: 09/20/96
100 Yr Flood: 140.00	Min Low:	Rec Low: 127.90 Date: 6/22/01
Min Flood:	Min Ext Low:	Lk Lvl POR: 11/4/1993 - Present

Current year water quality and lake levels

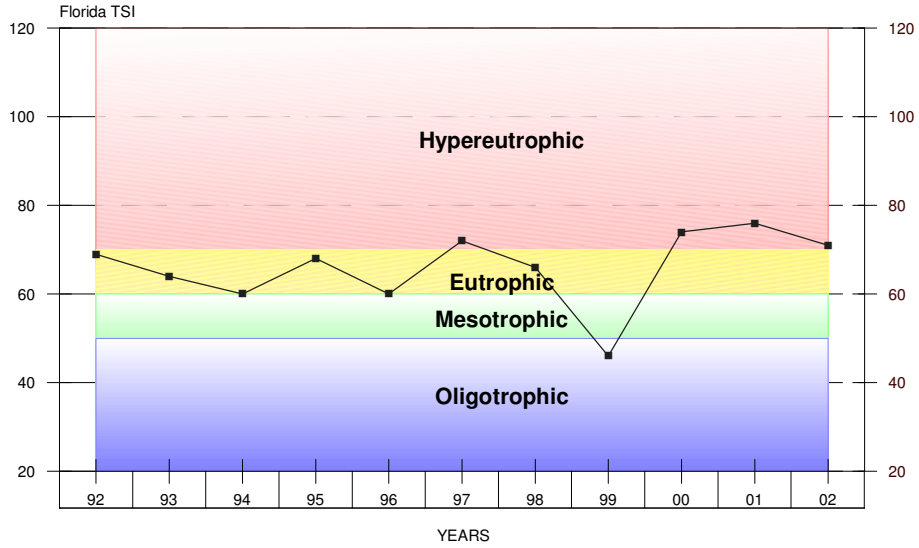
Year <u>2002</u>		Lake Level Mean: 133.96
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>70.56</u>	LakeLevel Max: 138.98
	WQI: <u>7.35</u>	LakeLevel Min: 130.94

Water Quality Comments Water quality is poor. Classified as an Impaired Water.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	50.78	55.13	46.43
Chlorophyll a (Corrected) mg/m3	46.76	54.66	38.85
Color Pt-Co	20	25	15
Conductivity @ 25C umhos/cm	212	253	170
Dissolved Oxygen (DO) mg/l	9.10	9.49	8.70
Nitrogen Ammonia (NH3) mg/l	0.005	0.009	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.950	2.524	1.375
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.95	2.52	1.38
pH Std Unit	8.88	10.04	7.72
Phosphorus Total (TP) mg/l	0.108	0.145	0.070
Secchi Disk (SD) m	0.53	0.80	0.25
Temperature Deg C	26.91	29.29	24.52
Turbidity NTU	17	28	6.0

CRYSTAL

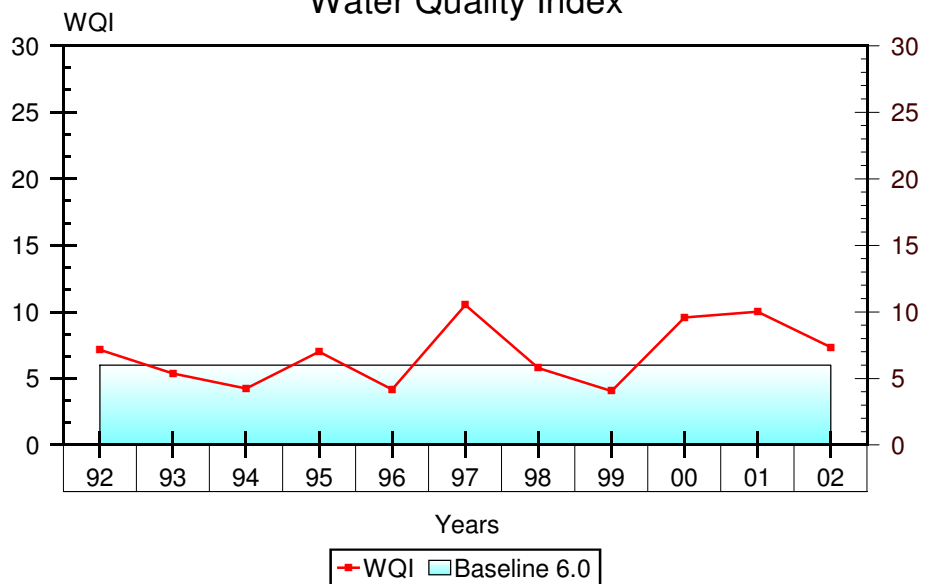
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

CRYSTAL

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Daisy		AliasName:	
S-T-R: 6-29-27	Lat/Lon: 275952 / 813940	Surface Area(Acres): 133	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Garden Grove		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 16.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles): 0.58	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 130.90	Max Desireable: 129.75	Rec High: 129.90 Date: 9/11/01
100 Yr Flood: 131.70	Min Low: 127.00	Rec Low: 125.75 Date: 06/20/00
Min Flood: 130.00	Min Ext Low: 126.00	Lk Lvl POR: 9/14/1989 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 128.96

Impaired Waterbody: **TSI:** 45.12 **WQI:** 2.19 **LakeLevel Max:** 129.9

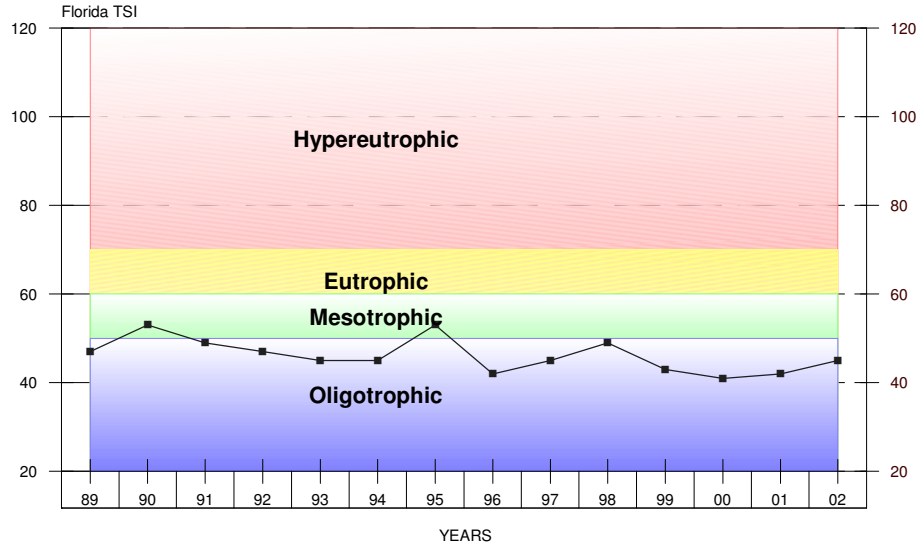
LakeLevel Min: 128.3

Water Quality Comments: Water quality is good. FDEP lists it as potentially impaired for TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	8.57	12.43	4.74
Chlorophyll a (Corrected) mg/m3	7.81	12.02	4.01
Color Pt-Co	18	25	8
Conductivity @ 25C umhos/cm	199	218	173
Dissolved Oxygen (DO) mg/l	8.26	9.55	6.91
Nitrogen Ammonia (NH3) mg/l	0.000	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.605	0.720	0.424
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.005	0.007	0.000
Nitrogen Total (TN) mg/l	0.61	0.73	0.42
pH Std Unit	6.19	7.05	5.74
Phosphorus Total (TP) mg/l	0.025	0.044	0.002
Secchi Disk (SD) m	1.65	2.50	0.80
Temperature Deg C	23.74	31.24	16.69
Total Suspended Solids (TSS) mg/l	2.0	2.8	1.2
Turbidity NTU	2.50	5.00	1.10

DAISY

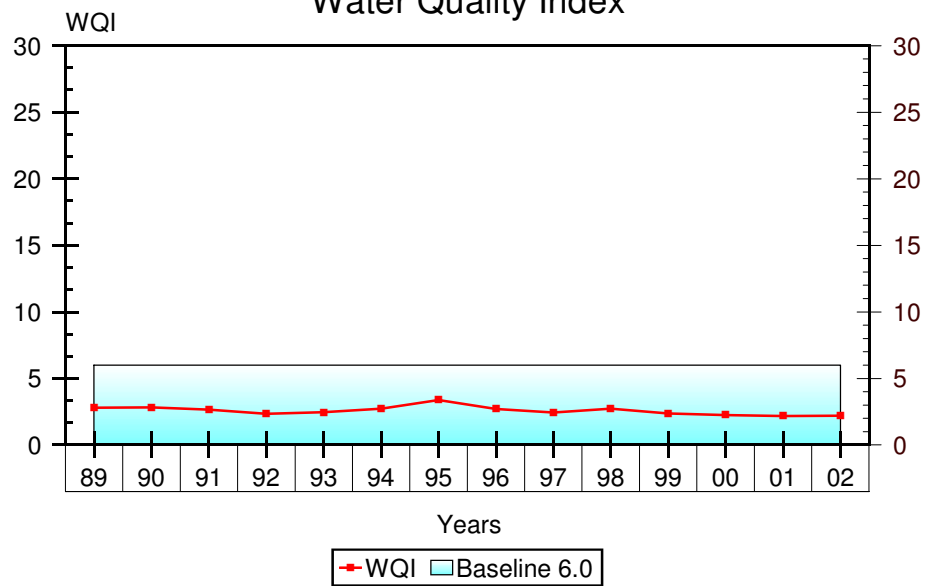
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

DAISY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Deer		AliasName:	
S-T-R: 25-28-25	Lat/Lon 280130 / 814549	Surface Area(Acres): 125	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 130.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.80	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.77	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody:		Lake level altured in 1997 - 1998 due to flooding. Drainage pipe broke - then was repaired. Hydrologic Record From Feb. 1949 - Sept. 1968 And 1980 Also. previous record high - 3/18/141.94	

Historical and set lake level Information

10 Yr Flood: 141.30	Max Desireable 140.50	Rec High: 142.40	Date: 03/30/98
100 Yr Flood: 142.20	Min Low: 138.50	Rec Low: 136.90	Date: 6/12/01
Min Flood: 140.75	Min Ext Low: 136.50	Lk Lvl POR: 2/25/1946 - Present	

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 139.13

Impaired Waterbody **TSI:** 43.06 **WQI:** 2.33 **LakeLevel Max:** 139.54

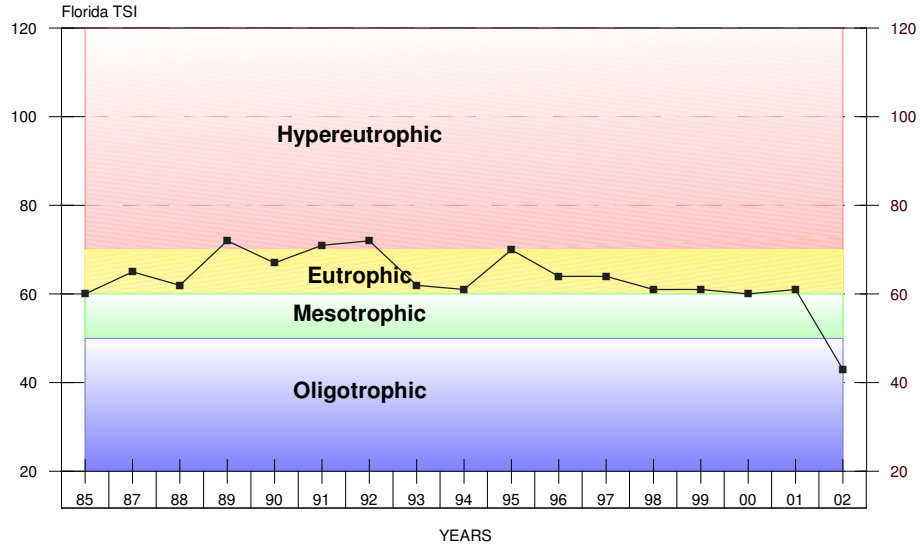
LakeLevel Min: 138.38

Water Quality Comments Water quality is fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	10.54	10.54	10.54
Chlorophyll a (Corrected) mg/m3	9.61	9.61	9.61
Color Pt-Co	34	34	34
Conductivity @ 25C umhos/cm	199	199	199
Dissolved Oxygen (DO) mg/l	8.28	8.28	8.28
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.098	1.098	1.098
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.10	1.10	1.10
pH Std Unit	7.48	7.48	7.48
Phosphorus Total (TP) mg/l	0.013	0.013	0.013
Secchi Disk (SD) m	1.8	1.8	1.8
Temperature Deg C	28.8	28.8	28.8
Total Suspended Solids (TSS) mg/l	2.2	2.2	2.2
Turbidity NTU	1.77	1.77	1.77

DEER

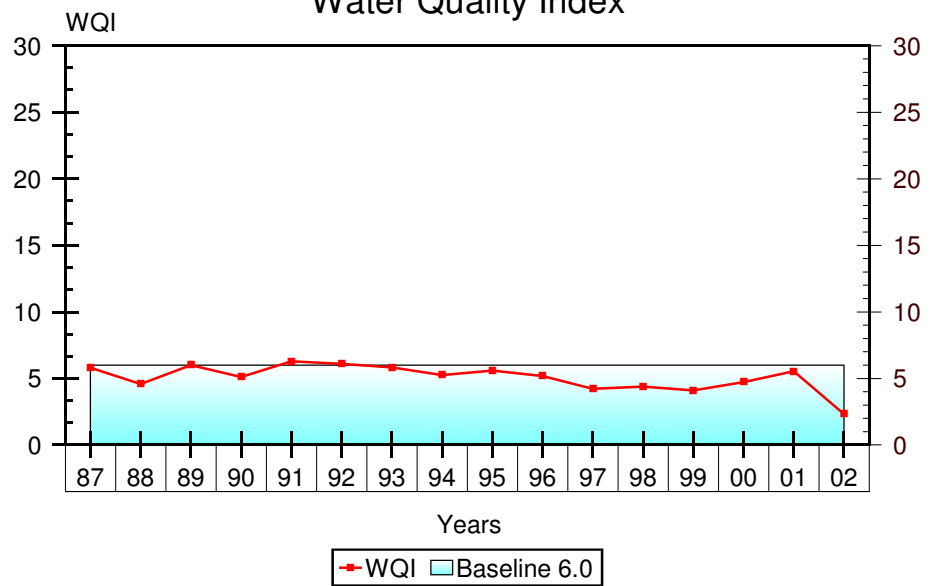
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

DEER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Deeson		AliasName:	
S-T-R: 29-27-24	Lat/Lon 280648 / 815601	Surface Area(Acres): 117	Bottom Contour: <input type="checkbox"/>
LocationCity East Of Lakeland		Elevation: 134.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lakeland Ridge		Lake Depth: 12.50	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.90	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Lake was pumped for flooding purposes during 1997 - 1998.			

Historical and set lake level Information

10 Yr Flood: 129.50	Max Desireable	Rec High: 135.49 Date: 09/28/54
100 Yr Flood: 133.10	Min Low:	Rec Low: 117.63 Date: 6/25/01
Min Flood:	Min Ext Low:	Lk Lvl POR: 7/30/1954 - Present

Current year water quality and lake levels

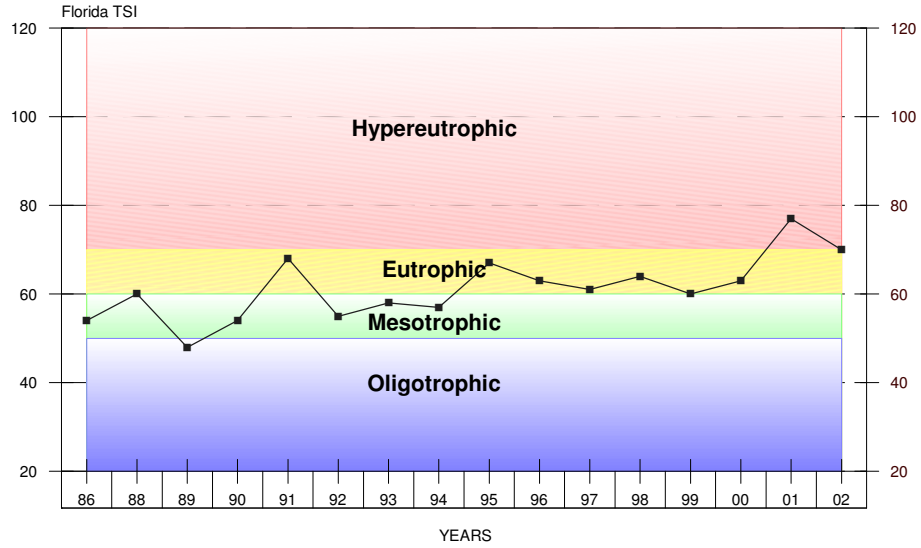
Year <u>2002</u>		Lake Level Mean: 122.15
Impaired Waterbody <input type="checkbox"/>	TSI: <u>69.50</u>	LakeLevel Max: 125.2
	WQI: <u>6.59</u>	LakeLevel Min: 119.85

Water Quality Comments Water quality is poor. Poor trend since 1995.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	46.07	56.55	35.59
Chlorophyll a (Corrected) mg/m3	44.97	56.55	33.38
Color Pt-Co	21	22	20
Conductivity @ 25C umhos/cm	204	228	180
Dissolved Oxygen (DO) mg/l	9.17	9.48	8.85
Nitrogen Ammonia (NH3) mg/l	0.001	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.285	2.970	1.600
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.004	0.000
Nitrogen Total (TN) mg/l	2.29	2.97	1.60
pH Std Unit	8.72	9.52	7.92
Phosphorus Total (TP) mg/l	0.077	0.112	0.041
Secchi Disk (SD) m	0.43	0.56	0.30
Temperature Deg C	25.91	28.33	23.49
Turbidity NTU	12.3	17.4	7.2

DEESON

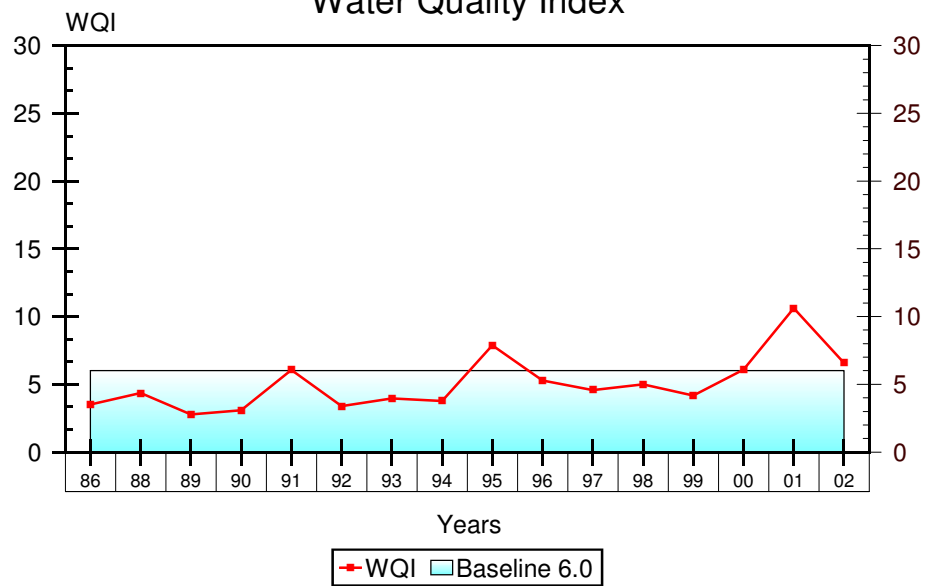
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

DEESON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Dexter		AliasName:	
S-T-R: 2-29-26	Lat/Lon 275935 / 814059	Surface Area(Acres): 153	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 132.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 18.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.75	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 132.20	Max Desireable 131.50	Rec High: 131.38 Date: 12/19/97
100 Yr Flood: 132.70	Min Low: 129.00	Rec Low: 126.68 Date: 7/27/01
Min Flood: 132.00	Min Ext Low: 127.50	Lk Lvl POR: 9/13/1989 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 130.01

Impaired Waterbody **TSI:** 29.30 **WQI:** 1.62 **LakeLevel Max:** 130.6

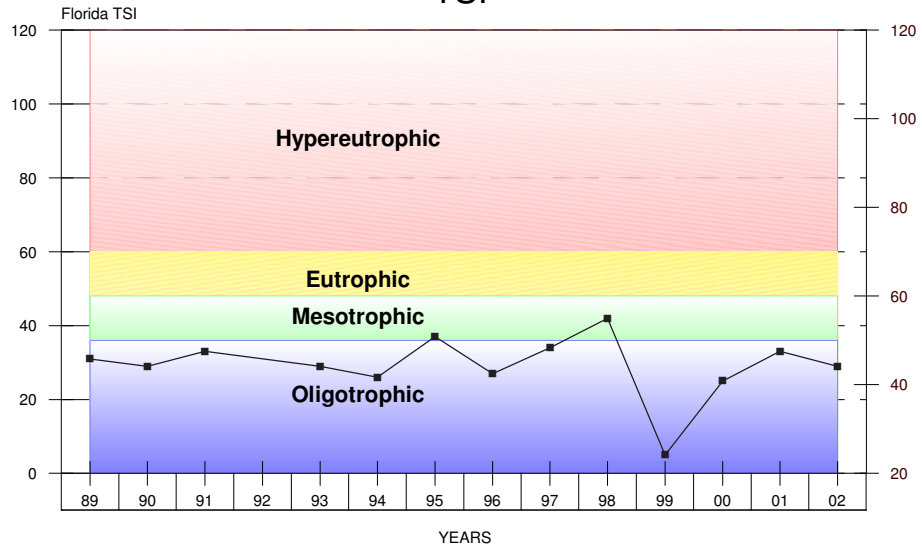
LakeLevel Min: 128.84

Water Quality Comments Water quality is very good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	1.93	2.44	1.42
Chlorophyll a (Corrected) mg/m3	1.62	2.44	0.80
Color Pt-Co	10	10	10
Conductivity @ 25C umhos/cm	251	269	232
Dissolved Oxygen (DO) mg/l	7.25	8.63	5.87
Nitrogen Ammonia (NH3) mg/l	0.002	0.003	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.621	0.641	0.600
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.004	0.006	0.002
Nitrogen Total (TN) mg/l	0.62	0.65	0.60
pH Std Unit	7.07	7.16	6.98
Phosphorus Total (TP) mg/l	0.012	0.014	0.009
Secchi Disk (SD) m	3.6	4.0	3.2
Temperature Deg C	22.71	28.62	16.80
Total Suspended Solids (TSS) mg/l	0.80	0.80	0.80
Turbidity NTU	0.80	0.82	0.77

DEXTER

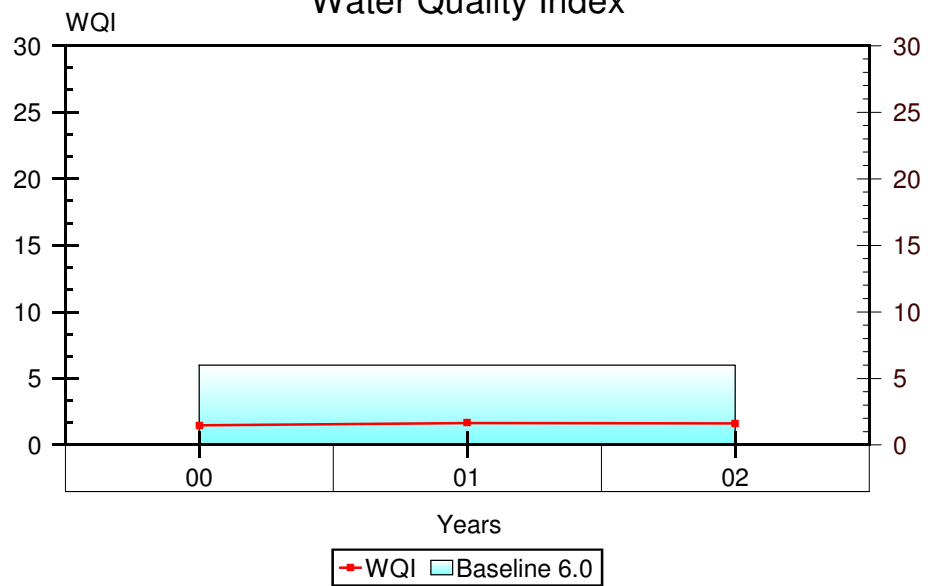
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

DEXTER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Eagle		AliasName:	
S-T-R: 1-29-25	Lat/Lon 275910 / 814607	Surface Area(Acres): 651	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Eagle Lake		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 24.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 2.06	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Lake level altured in 1997 - 1998 due to flooding / pumping in connection with Grassey Lake			

Historical and set lake level Information

10 Yr Flood: 131.00	Max Desireable 130.50	Rec High: 131.50 Date: 09/23/96
100 Yr Flood: 131.90	Min Low: 128.50	Rec Low: 118.76 Date: 05/10/76
Min Flood: 130.75	Min Ext Low: 126.50	Lk Lvl POR: 6/11/1965 - Present

Current year water quality and lake levels

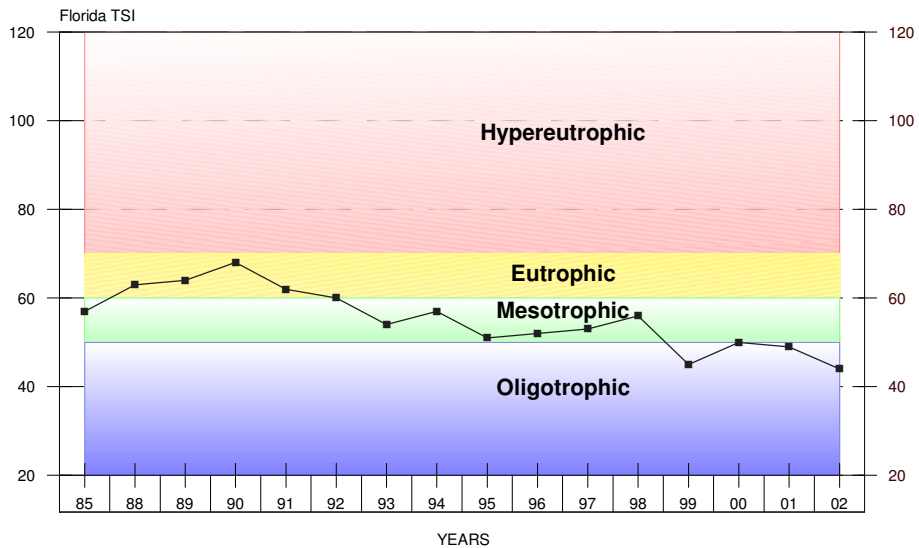
Year <u>2002</u>		Lake Level Mean: 125.85
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>44.17</u>	LakeLevel Max: 126.5
	WQI: <u>2.30</u>	LakeLevel Min: 125.2

Water Quality Comments Water quality is good. Good trend since 1990. FDEP classifies lake as Impaired Water for TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	12.72	15.23	10.20
Chlorophyll a (Corrected) mg/m3	11.22	14.42	8.01
Color Pt-Co	9	10	7
Conductivity @ 25C umhos/cm	268	277	258
Dissolved Oxygen (DO) mg/l	8.19	8.84	7.54
Nitrogen Ammonia (NH3) mg/l	0.008	0.015	0.001
Nitrogen Kjeldahl (TKN) mg/l	0.810	0.851	0.769
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.027	0.053	0.000
Nitrogen Total (TN) mg/l	0.84	0.85	0.82
pH Std Unit	6.43	6.85	6.00
Phosphorus Total (TP) mg/l	0.013	0.021	0.004
Secchi Disk (SD) m	1.53	1.55	1.50
Temperature Deg C	23.41	28.78	18.04
Turbidity NTU	2.45	2.70	2.20

EAGLE

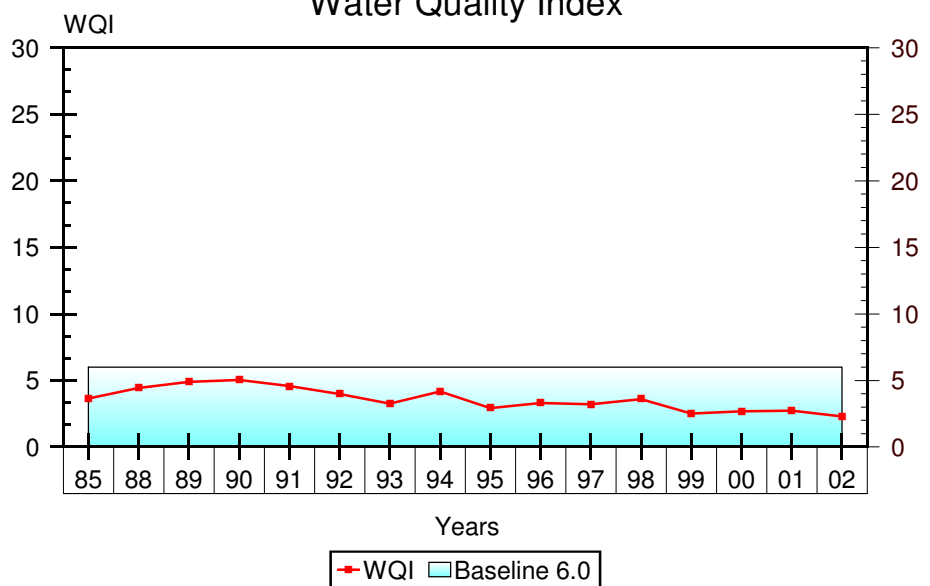
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

EAGLE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Echo		AliasName:	
S-T-R: 5-28-26	Lat/Lon 280458 / 814404	Surface Area(Acres): 69	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lake Alfred		Elevation: 130.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NO DAT Rated By FFWCC 3/97			
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 132.30	Max Desireable 130.50	Rec High: 130.65 Date: 08/14/90
100 Yr Flood: 134.00	Min Low: 128.00	Rec Low: 126.06 Date: 5/25/01
Min Flood: 131.00	Min Ext Low: 126.00	Lk Lvl POR: 1/13/1990 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 128.44

Impaired Waterbody **TSI:** 60.56 **WQI:** 3.68 **LakeLevel Max:** 129.2

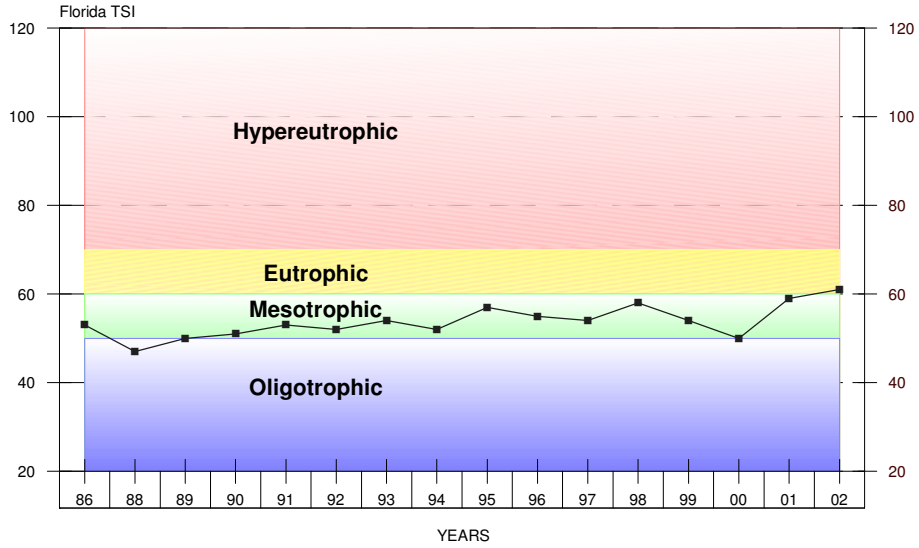
LakeLevel Min: 127.06

Water Quality Comments Water quality is fair. Stable trend since 1991.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	26.62	39.28	13.96
Chlorophyll a (Corrected) mg/m3	26.31	39.79	12.82
Color Pt-Co	14	15	13
Conductivity @ 25C umhos/cm	272	274	270
Dissolved Oxygen (DO) mg/l	9.02	10.33	7.71
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.164	1.396	0.932
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	1.16	1.40	0.93
pH Std Unit	8.39	8.52	8.25
Phosphorus Total (TP) mg/l	0.031	0.040	0.021
Secchi Disk (SD) m	0.70	0.90	0.50
Temperature Deg C	24.82	30.63	19.00
Turbidity NTU	5.30	7.40	3.20

ECHO

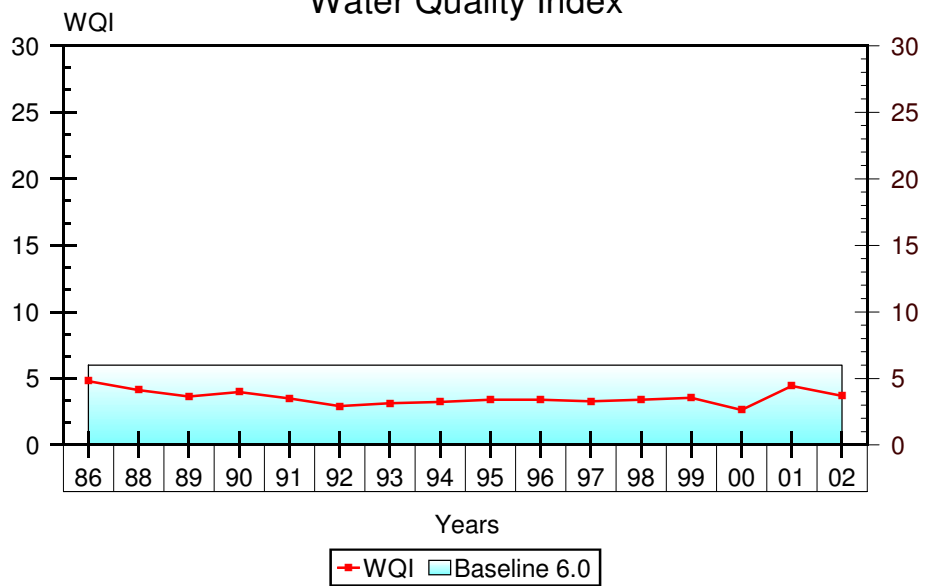
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ECHO

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Elbert		AliasName:	
S-T-R: 22-28-26	Lat/Lon 280136 / 814232	Surface Area(Acres): 173	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 135.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 1.05	Water Quality Data: Current	POR: 1977 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 137.50	Max Desireable 135.00	Rec High: 136.36 Date: 03/26/98
100 Yr Flood: 138.60	Min Low: 133.00	Rec Low: 128.78 Date: 06/19/89
Min Flood: 135.50	Min Ext Low: 131.50	Lk Lvl POR: 11/21/1985 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 131.14

Impaired Waterbody **TSI:** 29.57 **WQI:** 1.43 **LakeLevel Max:** 131.86

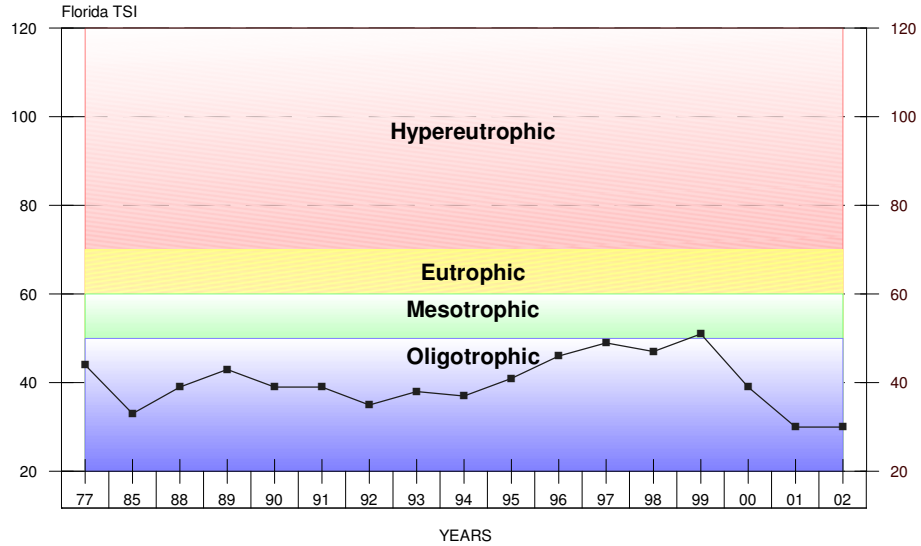
LakeLevel Min: 129.84

Water Quality Comments Water quality is very good, it has a stable trend. FDEP lists it as a potentially Impaired Water for TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	2.58	3.46	1.37
Chlorophyll a (Corrected) mg/m3	2.27	3.46	0.81
Color Pt-Co	8	10	5
Conductivity @ 25C umhos/cm	176	189	159
Dissolved Oxygen (DO) mg/l	8.03	9.51	6.99
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.433	0.574	0.346
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.007	0.000
Nitrogen Total (TN) mg/l	0.44	0.58	0.35
pH Std Unit	7.26	7.47	7.01
Phosphorus Total (TP) mg/l	0.010	0.014	0.002
Secchi Disk (SD) m	3.34	4.0	2.55
Temperature Deg C	24.07	30.73	17.15
Total Suspended Solids (TSS) mg/l	1.0	1.2	0.8
Turbidity NTU	0.83	1.03	0.58

ELBERT

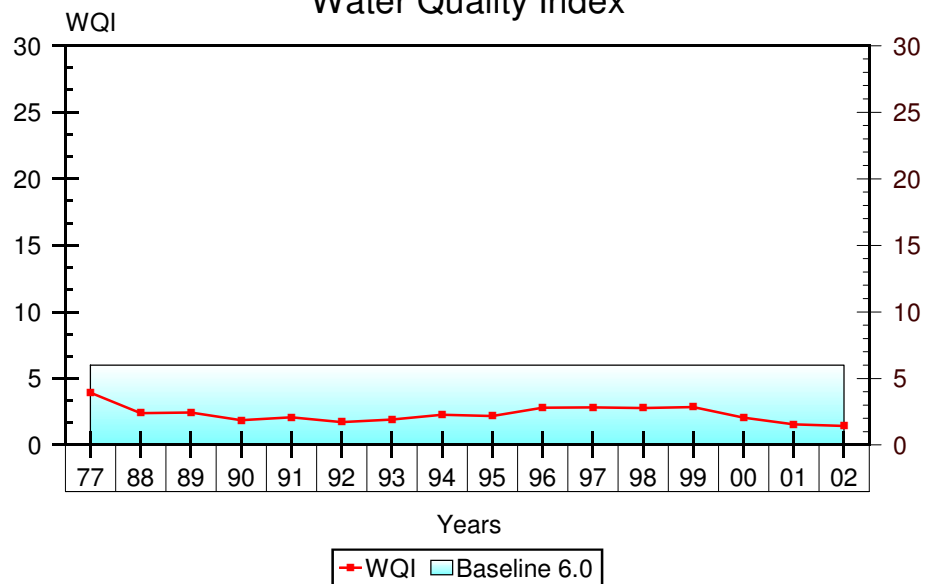
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ELBERT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Elizabeth		AliasName:	
S-T-R: 34-28-26	Lat/Lon /	Surface Area(Acres): 1	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1996 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood: 135.00	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR:	N A

Current year water quality and lake levels

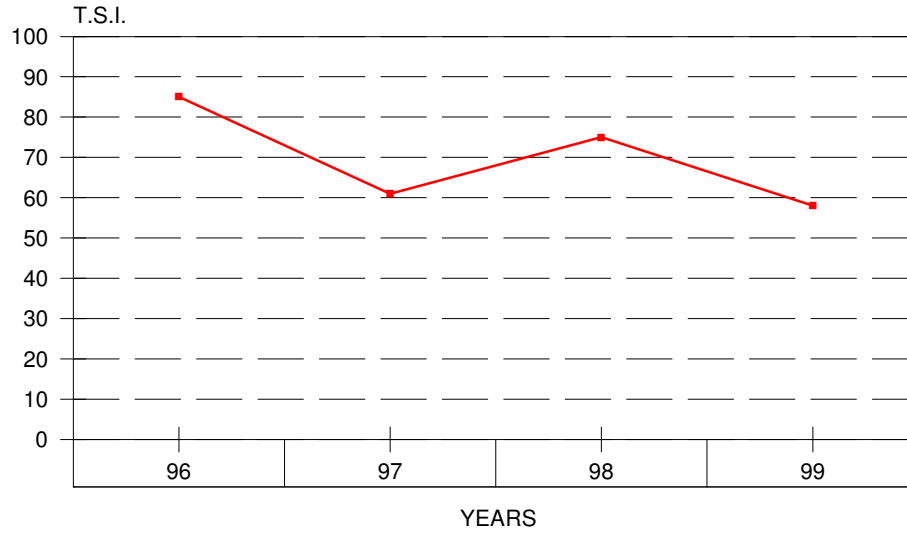
Year <u>2002</u>		Lake Level Mean:	0
Impaired Waterbody <input type="checkbox"/>	TSI:	LakeLevel Max:	0
	WQI:	LakeLevel Min:	0

Water Quality Comments There was no access to this lake.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

ELIZABETH

TSI

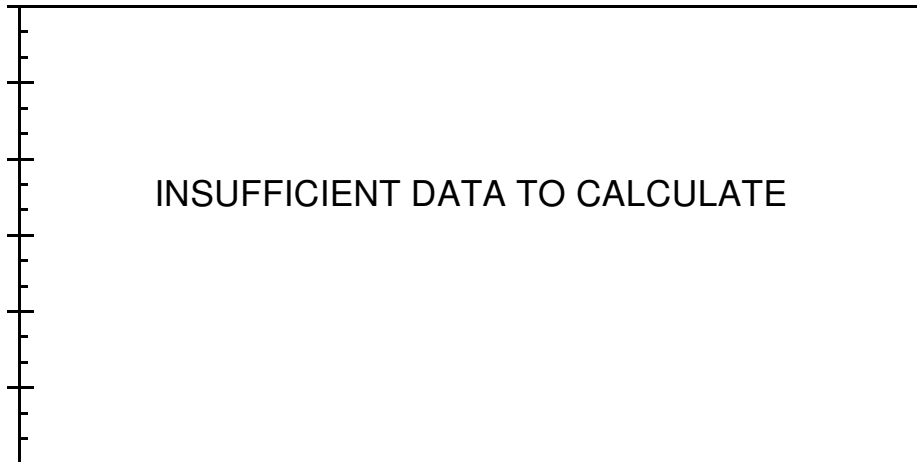


Starting 2001-Secchi disk not used in calculation-see Section II

ELIZABETH

Water Quality Index

WQI



Years

Annual Lake Water Quality Data

Waterbody: Eloise		AliasName:	
S-T-R: 3-29-26	Lat/Lon 275905 / 815214	Surface Area(Acres): 1,160	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 16.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 3.40	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 2/1946 - Present [Howard] 7/1/1984

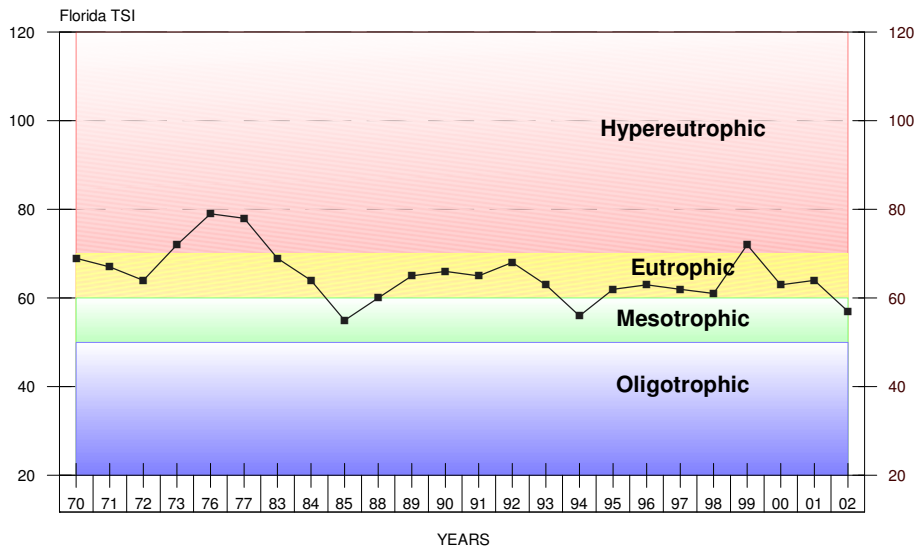
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 130.57
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>57.39</u>	LakeLevel Max: 131.93
	WQI: <u>3.55</u>	LakeLevel Min: 129.38
Water Quality Comments Water quality is fair to poor. Classified as an Impaired Water.		

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	26.00	31.09	15.94
Chlorophyll a (Corrected) mg/m3	24.08	29.08	15.94
Color Pt-Co	13	20	10
Conductivity @ 25C umhos/cm	306	321	289
Dissolved Oxygen (DO) mg/l	9.44	9.54	9.30
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.356	1.512	1.231
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.004	0.002
Nitrogen Total (TN) mg/l	1.36	1.51	1.23
pH Std Unit	8.53	9.02	7.59
Phosphorus Total (TP) mg/l	0.025	0.027	0.022
Secchi Disk (SD) m	0.92	1.6	0.45
Temperature Deg C	24.85	28.88	18.39
Turbidity NTU	5.27	5.90	4.00

ELOISE

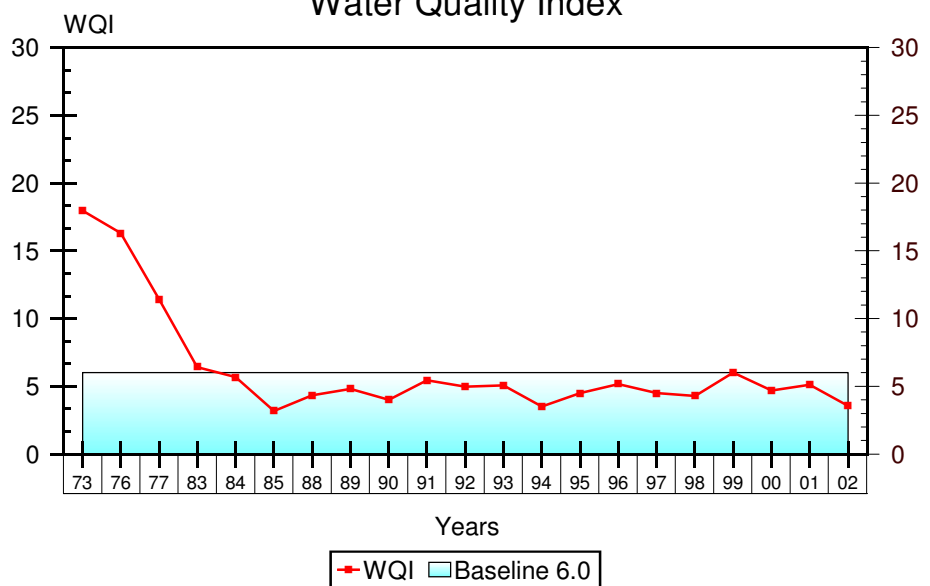
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ELOISE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Eva North		AliasName: EvaIn = Eva N; EvaIs = Eva S	
S-T-R: 32-27-27	Lat/Lon 280544 / 813748	Surface Area(Acres): 173	Bottom Contour: <input type="checkbox"/>
LocationCity Haines City		Elevation: 121.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge-Main Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Due To The Fact That Lake Eva Has Separated; Starting In 1993 There Will Be A North And Lake Eva.			

Historical and set lake level information

10 Yr Flood: 124.20	Max Desireable	Rec High: 119.48 Date: 10/04/92
100 Yr Flood: 125.00	Min Low:	Rec Low: 114.62 Date: 02/26/91
Min Flood:	Min Ext Low:	Lk Lvl POR: 7/6/1988 - 5/17/1993

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 60.88 **WQI:** 4.19 **LakeLevel Max:** 0

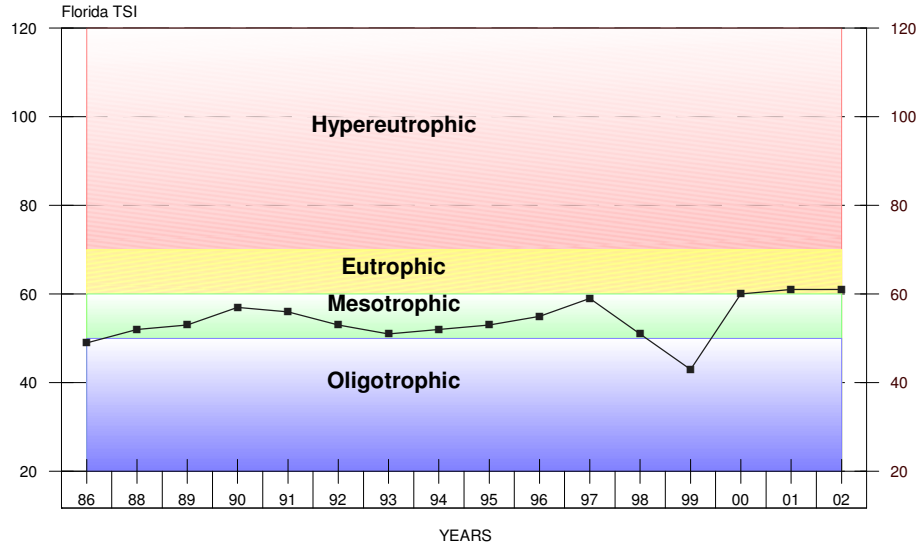
LakeLevel Min: 0

Water Quality Comments Water quality is fair to poor.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	27.43	29.07	25.78
Chlorophyll a (Corrected) mg/m3	26.23	26.83	25.62
Color Pt-Co	16	17	15
Conductivity @ 25C umhos/cm	197	199	195
Dissolved Oxygen (DO) mg/l	8.56	9.34	7.78
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.371	1.405	1.337
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.37	1.41	1.34
pH Std Unit	8.15	8.25	8.04
Phosphorus Total (TP) mg/l	0.048	0.049	0.047
Secchi Disk (SD) m	0.60	0.60	0.60
Temperature Deg C	24.40	29.11	19.69
Turbidity NTU	5.3	5.5	5.1

EVA N

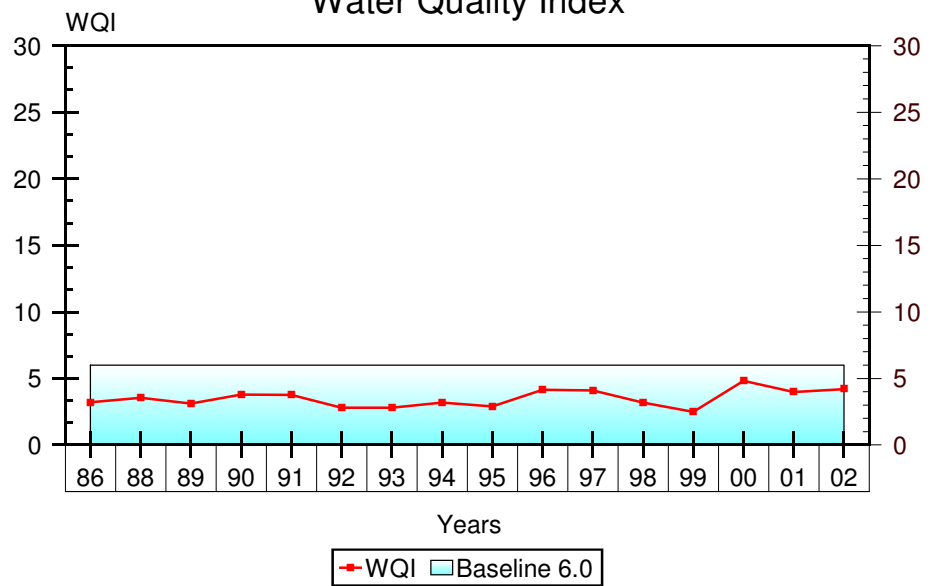
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

EVA N

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Eva South		AliasName: EvaIn = Eva N; EvaIs = Eva S	
S-T-R: 32-27-27	Lat/Lon 280544 / 813748	Surface Area(Acres): 173	Bottom Contour: <input type="checkbox"/>
LocationCity Haines City		Elevation: 121.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge-Main Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Due To The Fact That Lake Eva Has Separated; Starting In 1993 There Will Be A North And Lake Eva.			

Historical and set lake level information

10 Yr Flood: 124.20	Max Desireable	Rec High: 119.48 Date: 10/04/92
100 Yr Flood: 125.00	Min Low:	Rec Low: 114.62 Date: 02/26/91
Min Flood:	Min Ext Low:	Lk Lvl POR: 7/6/1988 - 5/17/1993

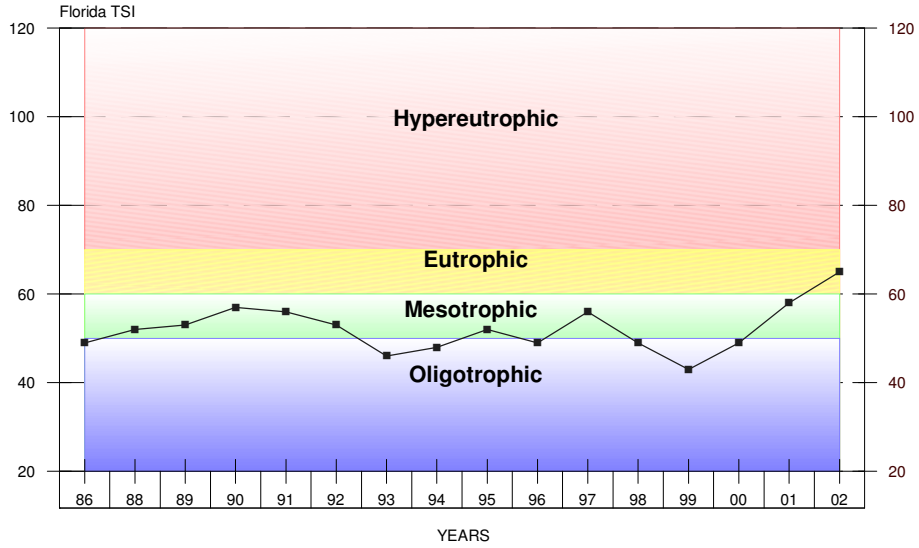
Current year water quality and lake levels

Year <u>2002</u>			Lake Level Mean: 0
Impaired Waterbody <input type="checkbox"/>	TSI: <u>65.37</u>	WQI: <u>4.24</u>	LakeLevel Max: 0
			LakeLevel Min: 0
Water Quality Comments Water quality is fair to poor.			

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	27.51	32.65	22.37
Chlorophyll a (Corrected) mg/m3	26.84	31.24	22.43
Color Pt-Co	18	18	17
Conductivity @ 25C umhos/cm	196	197	194
Dissolved Oxygen (DO) mg/l	9.12	10.07	8.16
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.448	1.557	1.338
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.45	1.56	1.34
pH Std Unit	8.38	8.54	8.21
Phosphorus Total (TP) mg/l	0.046	0.047	0.042
Secchi Disk (SD) m	0.58	0.65	0.50
Temperature Deg C	24.07	28.77	19.37
Turbidity NTU	6.25	6.50	6.00

EVA S

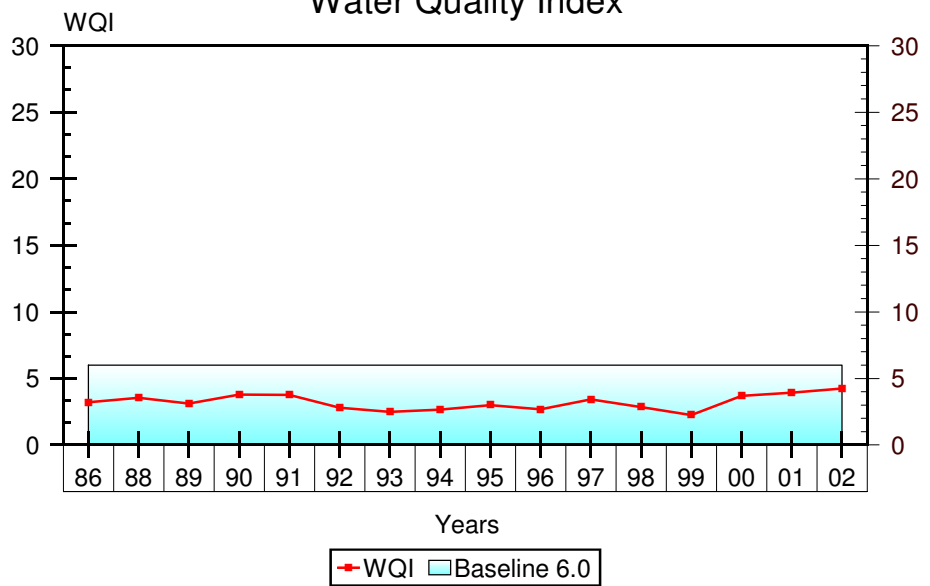
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

EVA S

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Fannie		AliasName:	
S-T-R: 11-28-26	Lat/Lon 280336 / 814125	Surface Area(Acres): 829	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 125.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 6.20	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 23.70	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:		NOTE: The access to this lake is NOT a "ramp"; it is merely access off of the side of the road. LRLMD is building a ramp and should be completed.	

Historical and set lake level information

10 Yr Flood: 127.00	Max Desireable 125.50	Rec High: 126.16 Date: 02/24/98
100 Yr Flood: 128.10	Min Low: 123.50	Rec Low: 118.67 Date: 05/27/77
Min Flood: 125.75	Min Ext Low: 120.00	Lk Lvl POR: 4/1996 - Present

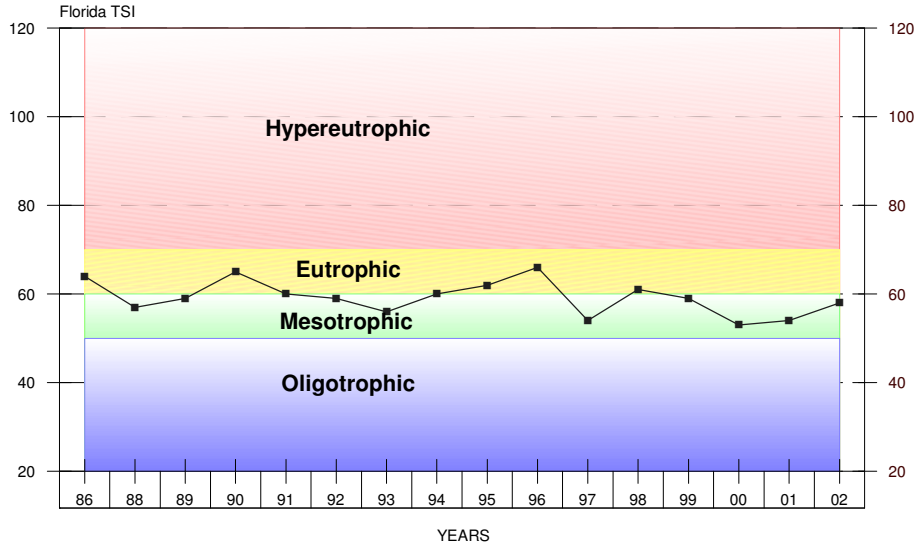
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 0
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 0
TSI: <u>58.33</u>	LakeLevel Min: 0
WQI: <u>4.75</u>	
Water Quality Comments Water quality is good, there is no trend.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	17.83	25.71	10.19
Chlorophyll a (Corrected) mg/m3	13.96	20.55	7.21
Color Pt-Co	93	130	75
Conductivity @ 25C umhos/cm	312	368	257
Dissolved Oxygen (DO) mg/l	7.81	9.80	6.47
Nitrogen Ammonia (NH3) mg/l	0.020	0.046	0.008
Nitrogen Kjeldahl (TKN) mg/l	1.290	1.700	0.967
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.036	0.055	0.010
Nitrogen Total (TN) mg/l	1.33	1.75	1.02
pH Std Unit	6.72	6.82	6.59
Phosphorus Total (TP) mg/l	0.076	0.100	0.043
Secchi Disk (SD) m	0.41	0.70	0.25
Temperature Deg C	22.37	28.40	15.70
Total Suspended Solids (TSS) mg/l	12.7	19.8	5.6
Turbidity NTU	14.48	23.00	6.80

FANNIE

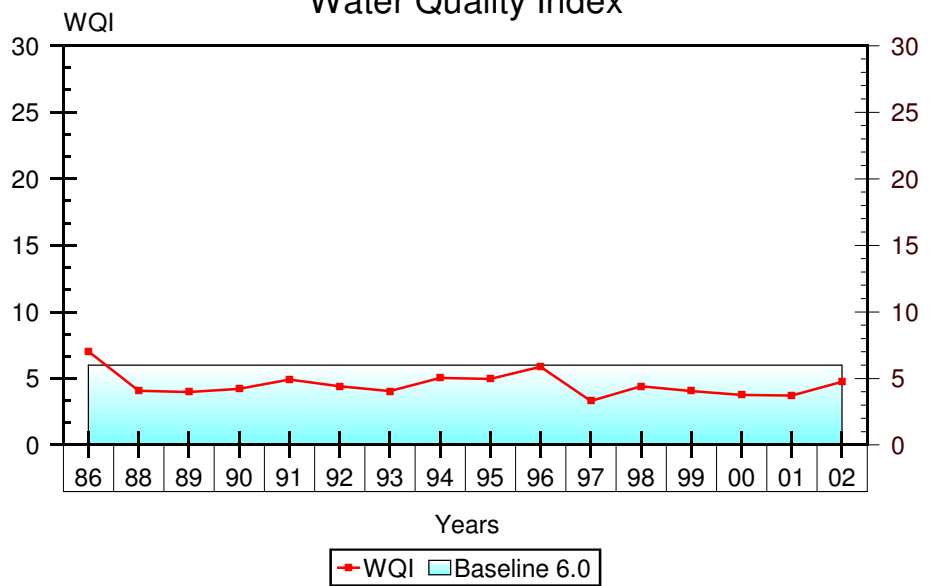
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

FANNIE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Florence		AliasName:	
S-T-R: 35-28-26	Lat/Lon 280006 / 814114	Surface Area(Acres): 74	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.54	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 128.80	Max Desireable 128.50	Rec High: 128.20 Date: 09/27/94
100 Yr Flood: 129.50	Min Low: 127.00	Rec Low: 124.74 Date: 6/26/01
Min Flood: 128.50	Min Ext Low: 125.00	Lk Lvl POR: 9/14/1989 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 127.18

Impaired Waterbody **TSI:** **WQI:** **LakeLevel Max:** 127.64

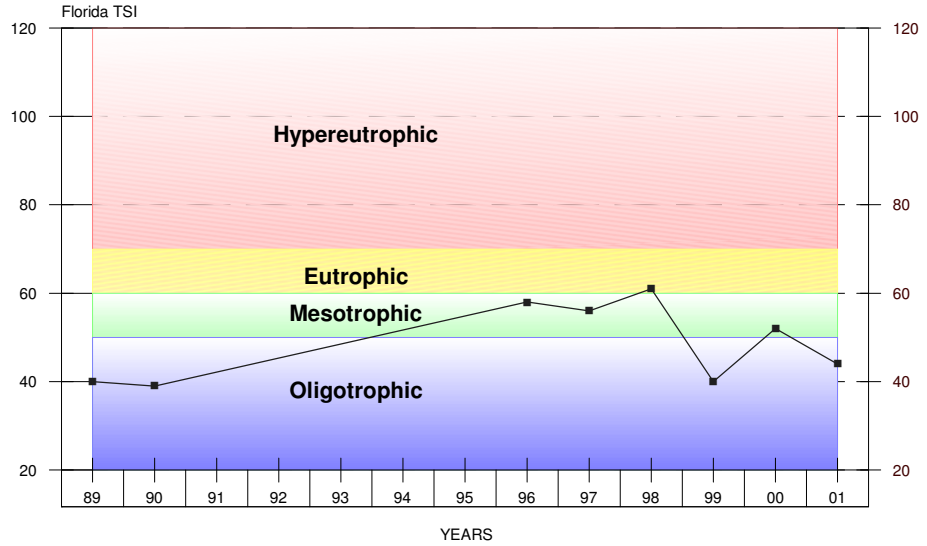
LakeLevel Min: 126.06

Water Quality Comments There was no access to this lake in 2002. The water quality was very good in 2000.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

FLORENCE

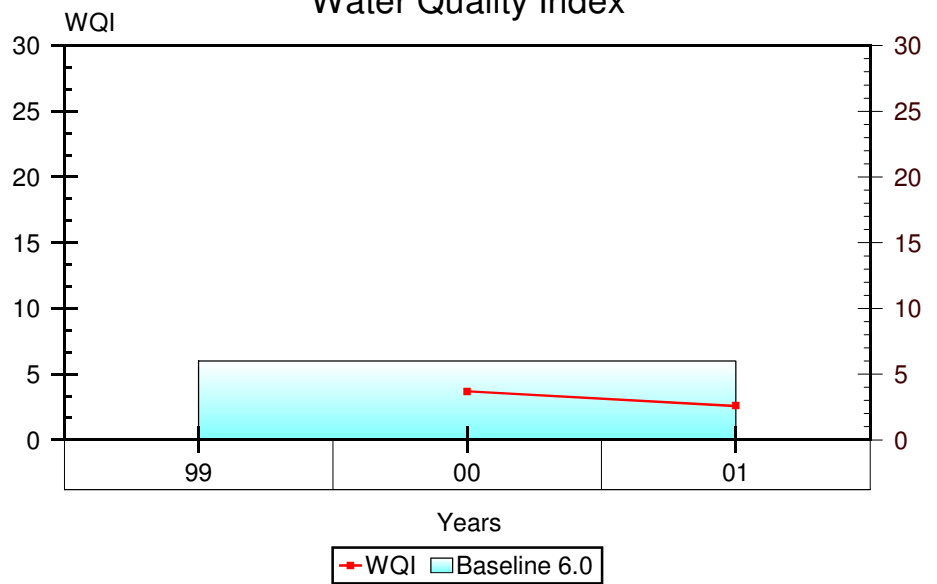
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

FLORENCE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Garfield		AliasName:	
S-T-R: 5-30-26	Lat/Lon: 275421 / 814400	Surface Area(Acres): 655	Bottom Contour: <input type="checkbox"/>
LocationCity: Alturas		Elevation: 100.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 3.60	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles): 18.00	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		
Misc Information about this waterbody: Lake Garfield Was Essentially Dry During The Period Of Late April To Mid May In 1976 Ar Similar Period In 1982.			

Historical and set lake level information

10 Yr Flood: 105.70	Max Desireable: 103.50	Rec High: 105.91 Date: 09/30/79
100 Yr Flood: 107.90	Min Low: 101.00	Rec Low: 97.38 Date: 6/26/01
Min Flood: 104.75	Min Ext Low: 100.00	Lk Lvl POR: 10/1969 - Present

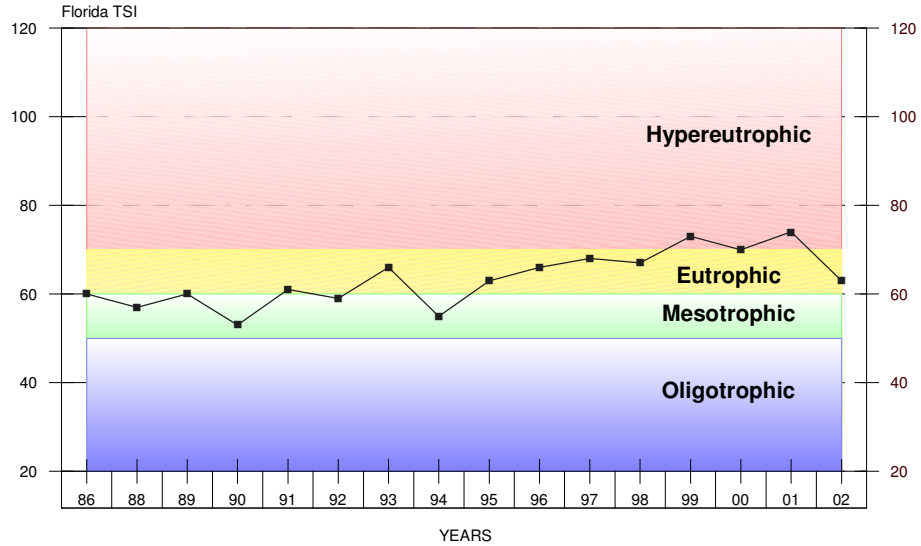
Current year water quality and lake levels

Year: <u>2002</u>	Lake Level Mean: 101.42
Impaired Waterbody: <input type="checkbox"/>	LakeLevel Max: 104.68
TSI: <u>62.83</u>	LakeLevel Min: 99.65
WQI: <u>5.02</u>	
Water Quality Comments: Water quality is fair to poor.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	21.13	37.30	6.42
Chlorophyll a (Corrected) mg/m3	18.96	35.24	5.61
Color Pt-Co	192	300	125
Conductivity @ 25C umhos/cm	180	191	169
Dissolved Oxygen (DO) mg/l	8.52	12.44	6.31
Nitrogen Ammonia (NH3) mg/l	0.006	0.017	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.625	1.803	1.486
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.038	0.115	0.000
Nitrogen Total (TN) mg/l	1.68	1.80	1.49
pH Std Unit	7.13	7.44	6.68
Phosphorus Total (TP) mg/l	0.097	0.155	0.049
Secchi Disk (SD) m	0.50	0.50	0.50
Temperature Deg C	25.58	32.07	16.90
Turbidity NTU	5.30	9.00	1.69

GARFIELD

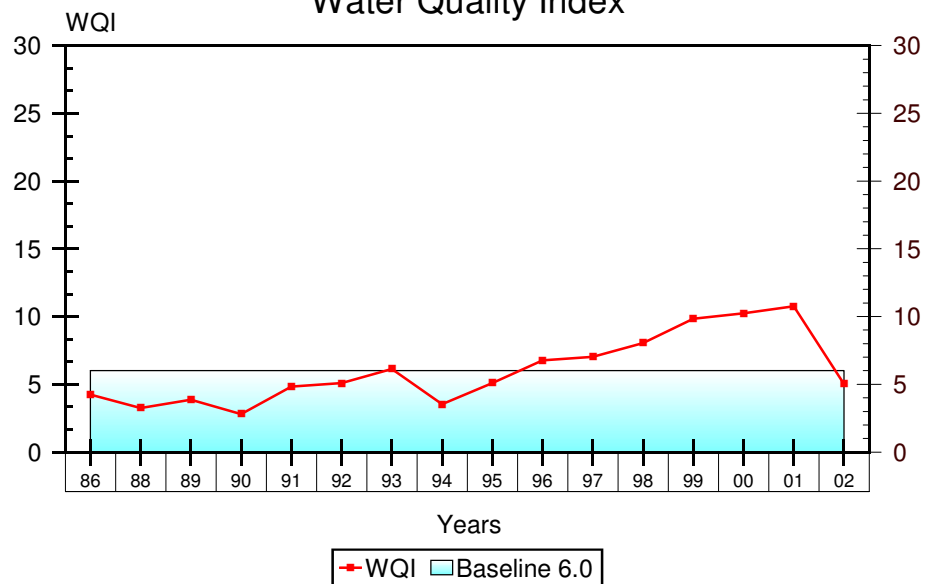
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

GARFIELD

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Gem		AliasName:	
S-T-R: 21-28-26	Lat/Lon /	Surface Area(Acres): 3	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 136.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 140.90	Max Desireable	Rec High: 139.20 Date: 08/13/90
100 Yr Flood: 143.10	Min Low:	Rec Low: 131.90 Date: 05/27/86
Min Flood:	Min Ext Low:	Lk Lvl POR: 11/21/1985 - 1/14/1993

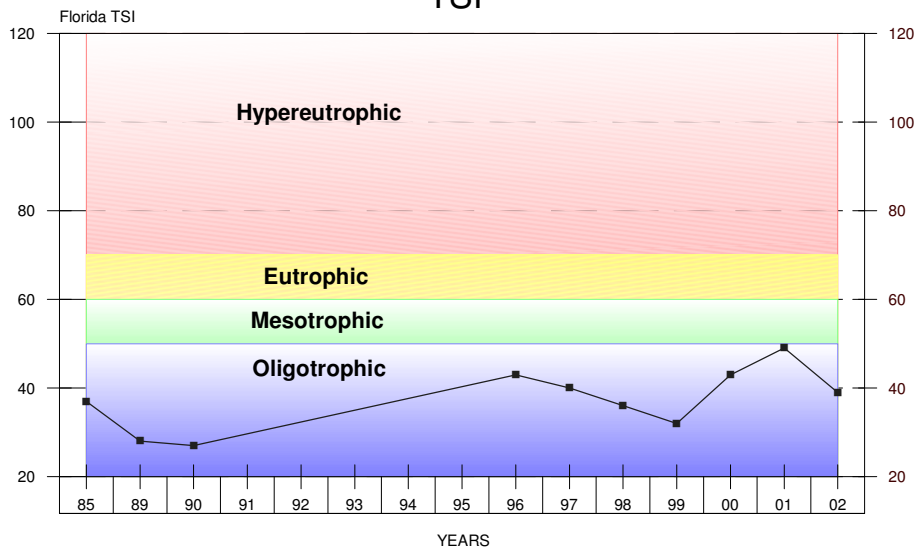
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 0
Impaired Waterbody <input type="checkbox"/>	TSI: <u>39.19</u>	LakeLevel Max: 0
	WQI: <u>2.25</u>	LakeLevel Min: 0

Water Quality Comments Water quality is very good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	5.00	5.00	5.00
Chlorophyll a (Corrected) mg/m3	4.81	4.81	4.81
Color Pt-Co	17	17	17
Conductivity @ 25C umhos/cm	76	76	76
Dissolved Oxygen (DO) mg/l	4.97	4.97	4.97
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.418	0.418	0.418
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.002	0.002
Nitrogen Total (TN) mg/l	0.42	0.42	0.42
pH Std Unit	7.24	7.24	7.24
Phosphorus Total (TP) mg/l	0.022	0.022	0.022
Secchi Disk (SD) m	2.4	2.4	2.4
Temperature Deg C	29.34	29.34	29.34
Total Suspended Solids (TSS) mg/l	2.4	2.4	2.4
Turbidity NTU	0.91	0.91	0.91

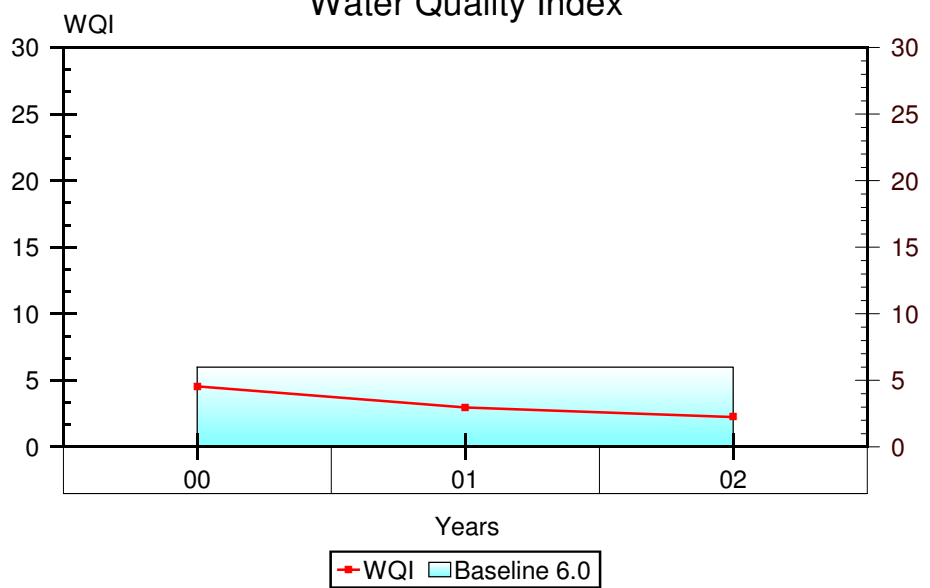
GEM TSI



Starting 1991-Secchi disk not used in calculation-see Section II

GEM

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Gibson		AliasName:	
S-T-R: 25-27-23	Lat/Lon 280634 / 815735	Surface Area(Acres): 474	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity North Lakeland		Elevation: 142.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 10.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 4.30	Water Quality Data: Current	POR: 1969 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 144.20	Max Desireable 143.00	Rec High: 145.40 Date: 09/08/88
100 Yr Flood: 145.50	Min Low: 141.50	Rec Low: 140.40 Date: 06/06/85
Min Flood: 143.50	Min Ext Low: 141.50	Lk Lvl POR: 7/30/1954 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 142.67

Impaired Waterbody **TSI:** 60.60 **WQI:** 6.09 **LakeLevel Max:** 143.05

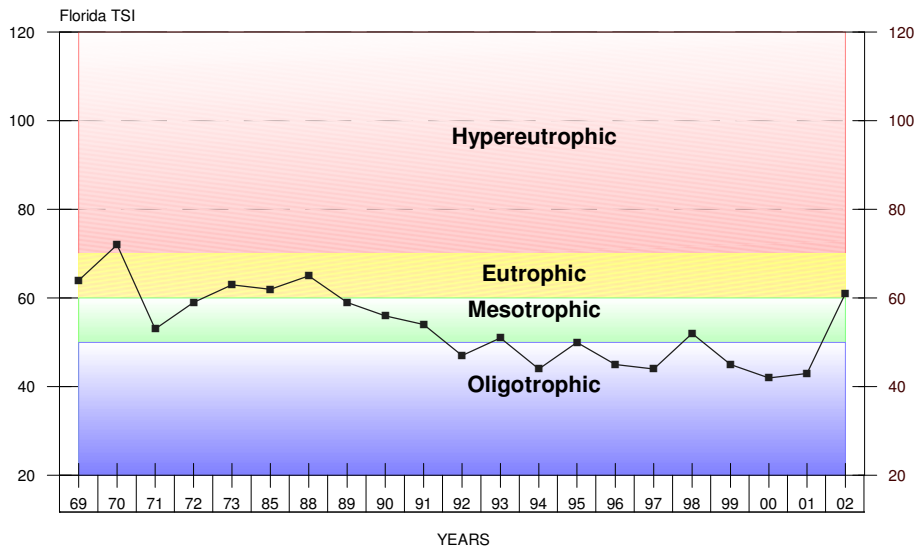
LakeLevel Min: 142.21

Water Quality Comments Water quality is fair. Slightly improving trend. FDEP lists it as an Impaired Water for lead.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	28.88	33.63	21.30
Chlorophyll a (Corrected) mg/m3	20.87	23.43	16.82
Color Pt-Co	33	40	30
Conductivity @ 25C umhos/cm	175	197	131
Dissolved Oxygen (DO) mg/l	7.42	8.49	6.88
Nitrogen Ammonia (NH3) mg/l	0.002	0.003	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.042	1.276	0.766
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.012	0.019	0.000
Nitrogen Total (TN) mg/l	1.05	1.29	0.77
pH Std Unit	7.98	8.58	6.79
Phosphorus Total (TP) mg/l	0.158	0.175	0.145
Secchi Disk (SD) m	0.63	0.90	0.50
Temperature Deg C	26.61	28.22	23.40
Turbidity NTU	7.23	8.70	5.00

GIBSON

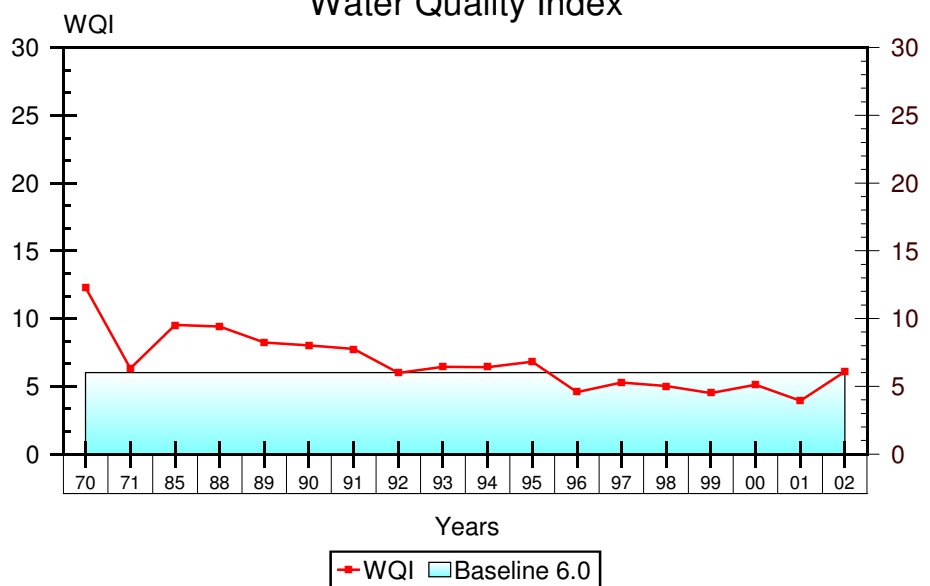
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

GIBSON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Gross		AliasName: Grassy / Grass	
S-T-R: 14-29-26	Lat/Lon: 275752 / 814137	Surface Area(Acres): 89	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Winter Haven		Elevation: 136.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 20.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.50	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By:		
Misc Information about this waterbody:		Also Known As Lake Grassy.	

Historical and set lake level Information

10 Yr Flood: 138.50	Max Desireable: 135.75	Rec High: 137.40	Date: 10/12/95
100 Yr Flood: 140.00	Min Low: 133.50	Rec Low: 130.56	Date: 6/26/01
Min Flood: 136.00	Min Ext Low: 132.00	Lk Lvl POR: 9/13/1989 - Present	

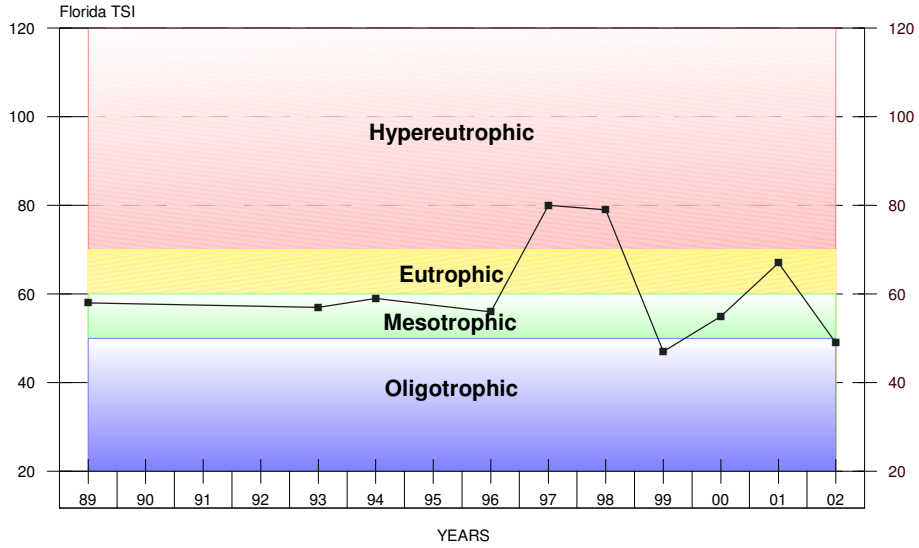
Current year water quality and lake levels

Year: 2002
Lake Level Mean: 132.42
Impaired Waterbody:
TSI: 49.33
WQI: 2.64
LakeLevel Max: 133
LakeLevel Min: 131.3

Water Quality Comments: Water quality is fair. Trend is fluxuating greatly over the last seven years.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	9.03	9.03	9.03
Chlorophyll a (Corrected) mg/m3	9.03	9.03	9.03
Color Pt-Co	27	27	27
Conductivity @ 25C umhos/cm	280	280	280
Dissolved Oxygen (DO) mg/l	7.38	7.38	7.38
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.802	0.802	0.802
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	0.80	0.80	0.80
pH Std Unit	6.24	6.24	6.24
Phosphorus Total (TP) mg/l	0.037	0.037	0.037
Secchi Disk (SD) m	2.4	2.4	2.4
Temperature Deg C	30.61	30.61	30.61
Total Suspended Solids (TSS) mg/l	1.8	1.8	1.8
Turbidity NTU	1.18	1.18	1.18

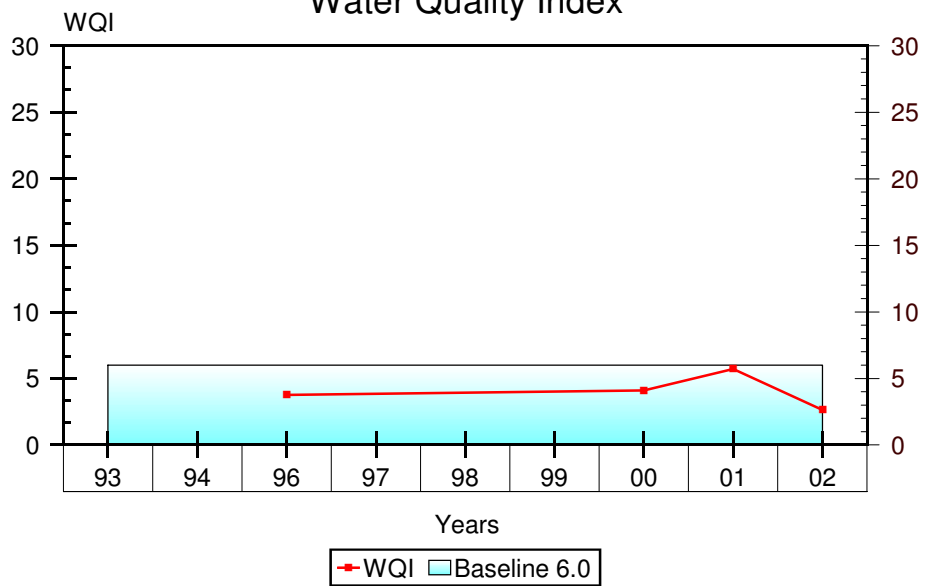
GROSS TSI



Starting 1991-Secchi disk not used in calculation-see Section II

GROSS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Haines		AliasName:	
S-T-R: 33-27-26	Lat/Lon 280530 / 814226	Surface Area(Acres): 716	Bottom Contour: <input type="checkbox"/>
LocationCity Lake Alfred		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 15.40	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 8.20	Water Quality Data: Current	POR: 1973 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record For 1951-1954 Also. Hydrologic Record; Record High And Low Are The As Lake Smart. Controlled By Structure Between Lakes Smart And Fannie.			

Historical and set lake level information

10 Yr Flood: 129.70	Max Desireable 128.50	Rec High: 129.32 Date: 08/25/66 Rec Low: 124.59 Date: 6/25/01
100 Yr Flood: 130.60	Min Low: 126.50	
Min Flood: 128.75	Min Ext Low: 124.50	
Lk Lvl POR: 6/91-6/91 (Lk Smart - 3/1946 - Present)		

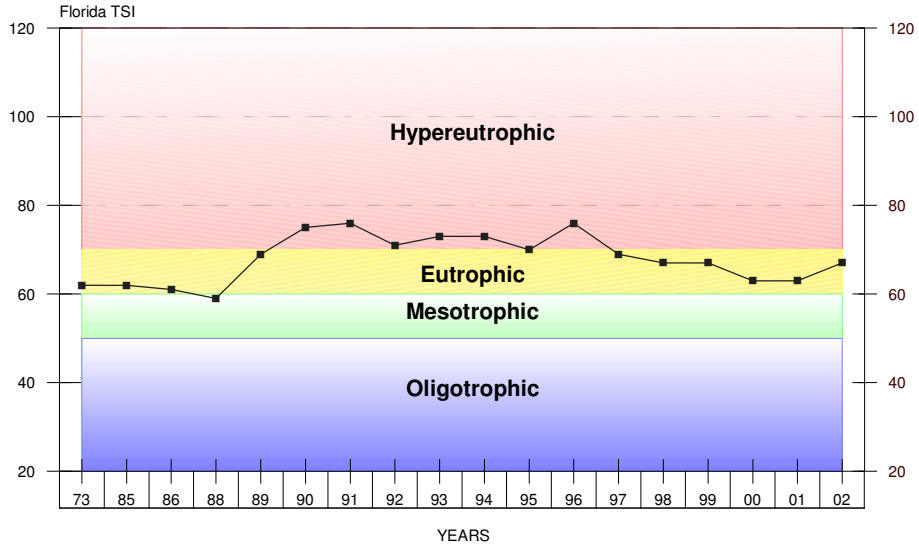
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 126.54
Impaired Waterbody <input checked="" type="checkbox"/>	LakeLevel Max: 127.83
TSI: <u>67.28</u>	LakeLevel Min: 125.52
WQI: <u>4.56</u>	
Water Quality Comments Water quality is fair to poor. The lake is listed as an Impaired Water for nutrients, bacteria and TSI.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	35.75	45.28	29.15
Chlorophyll a (Corrected) mg/m3	32.64	43.25	24.83
Color Pt-Co	35	60	22
Conductivity @ 25C umhos/cm	262	276	245
Dissolved Oxygen (DO) mg/l	8.85	9.96	6.03
Nitrogen Ammonia (NH3) mg/l	0.001	0.005	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.482	1.764	1.310
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	1.48	1.76	1.31
pH Std Unit	7.99	8.95	7.10
Phosphorus Total (TP) mg/l	0.048	0.060	0.040
Secchi Disk (SD) m	0.69	0.85	0.40
Temperature Deg C	23.66	30.97	16.94
Total Suspended Solids (TSS) mg/l	9.8	12.0	7.6
Turbidity NTU	5.80	7.00	4.40

HAINES

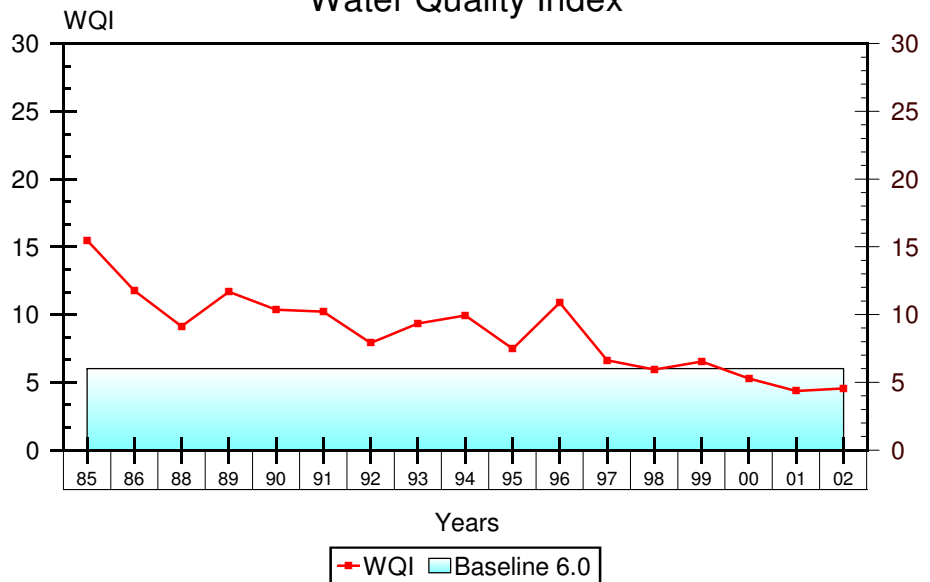
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HAINES

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hamilton		AliasName:	
S-T-R: 18-28-27	Lat/Lon: 280304 / 813918	Surface Area(Acres): 2,162	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Lake Hamilton		Elevation: 120.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 12.50	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles): 20.50	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 122.50	Max Desireable: 121.25	Rec High: 124.34 Date: 10/03/48
100 Yr Flood: 123.70	Min Low: 119.00	Rec Low: 116.69 Date: 6/18/01
Min Flood: 121.50	Min Ext Low: 117.25	Lk Lvl POR: 6/1944 - Present

Current year water quality and lake levels

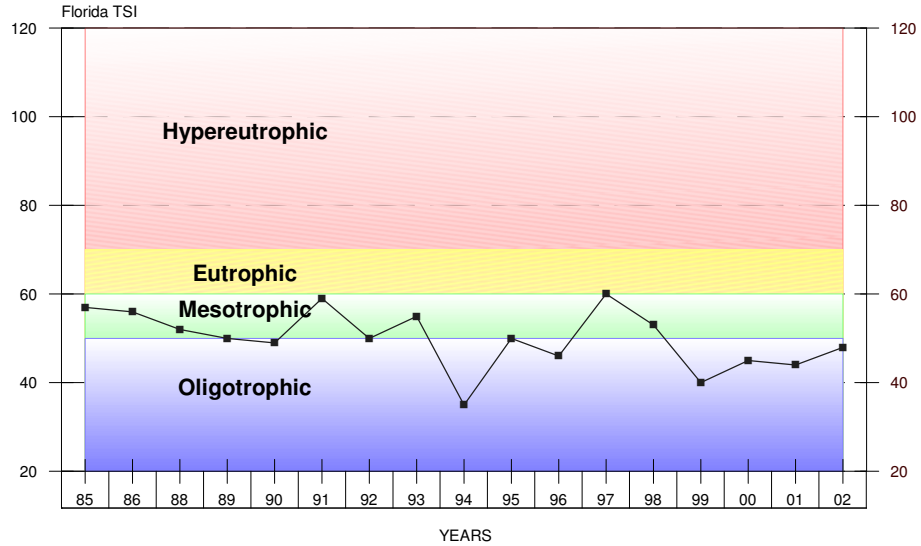
Year: <u>2002</u>	Lake Level Mean: 118.4
Impaired Waterbody: <input type="checkbox"/>	LakeLevel Max: 119.1
TSI: <u>48.20</u>	LakeLevel Min: 117.8
WQI: <u>11.71</u>	

Water Quality Comments: Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	4.61	5.45	3.77
Chlorophyll a (Corrected) mg/m3	4.01	4.81	3.20
Color Pt-Co	47	66	27
Conductivity @ 25C umhos/cm	312	315	308
Dissolved Oxygen (DO) mg/l	8.43	9.80	7.05
Nitrogen Ammonia (NH3) mg/l	0.007	0.009	0.005
Nitrogen Kjeldahl (TKN) mg/l	0.967	1.046	0.888
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.037	0.072	0.001
Nitrogen Total (TN) mg/l	1.00	1.12	0.89
pH Std Unit	7.42	7.46	7.38
Phosphorus Total (TP) mg/l	0.487	0.888	0.085
Secchi Disk (SD) m	1.08	1.25	0.90
Temperature Deg C	21.92	27.41	16.42
Turbidity NTU	6.80	8.70	4.90

HAMILTON

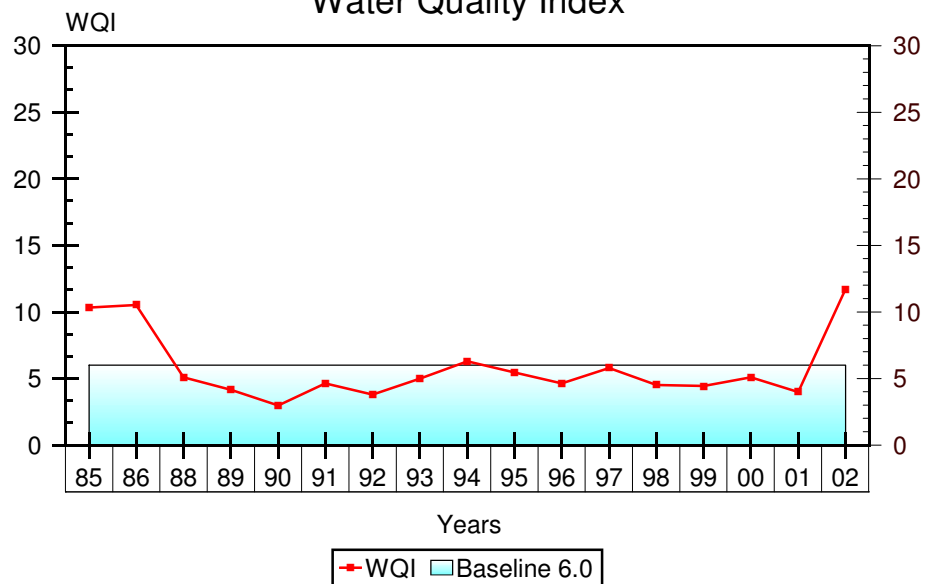
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HAMILTON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hancock		AliasName:	
S-T-R: 8-29-25	Lat/Lon 275830 / 815025	Surface Area(Acres): 4,519	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity West Of Winter Haven		Elevation: 97.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 4.90	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 131.00	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: POOR	Rated By FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 102.10	Max Desireable 95.50	Rec High: 101.88 Date: 09/16/60
100 Yr Flood: 102.40	Min Low: 96.00	Rec Low: 93.98 Date: 05/23/68
Min Flood: 99.00	Min Ext Low: 94.00	Lk Lvl POR: 1950-1951; 10/1958 - Present

Current year water quality and lake levels

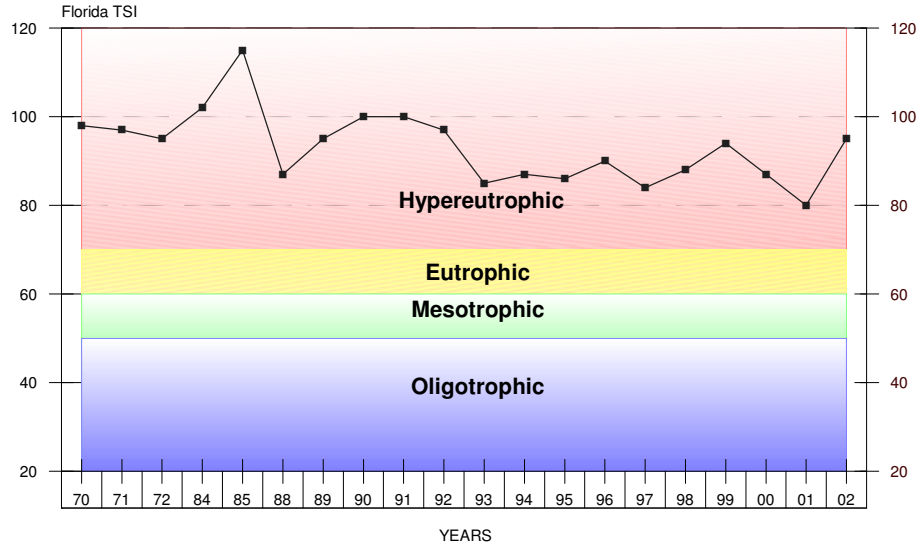
Year <u>2002</u>		Lake Level Mean: 98.13
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>94.89</u>	LakeLevel Max: 99.27
	WQI: <u>29.28</u>	LakeLevel Min: 97.11

Water Quality Comments Water quality is very poor. Excessive nutrients and algal populations. Impaired Water for nutrients, TSI and ar

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Alkalinity Total mg/l	70.29	74.12	65.40
Chlorophyll a mg/m3	224.04	560.00	5.10
Chlorophyll a (Corrected) mg/m3	202.68	558.00	3.20
Color Pt-Co	106	175	60
Conductivity @ 25C umhos/cm	232	273	184
Dissolved Oxygen (DO) mg/l	6.69	14.45	0.38
Nitrogen Ammonia (NH3) mg/l	0.010	0.296	0.000
Nitrogen Kjeldahl (TKN) mg/l	5.554	11.465	1.137
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.005	0.049	0.000
Nitrogen Total (TN) mg/l	5.56	11.48	1.19
Nitrogen, Kjeldahl Dissolved mg/l	2.021	3.088	0.972
pH Std Unit	8.66	10.27	6.40
Phosphorus Ortho mg/l	0.075	0.469	0.007
Phosphorus Total (TP) mg/l	0.611	1.085	0.304
Phosphorus Total Dissolved mg/l	0.103	0.471	0.023
Secchi Disk (SD) m	0.19	0.65	0.0
Temperature Deg C	23.08	29.55	14.73
Turbidity NTU	44.98	138	2.4

HANCOCK

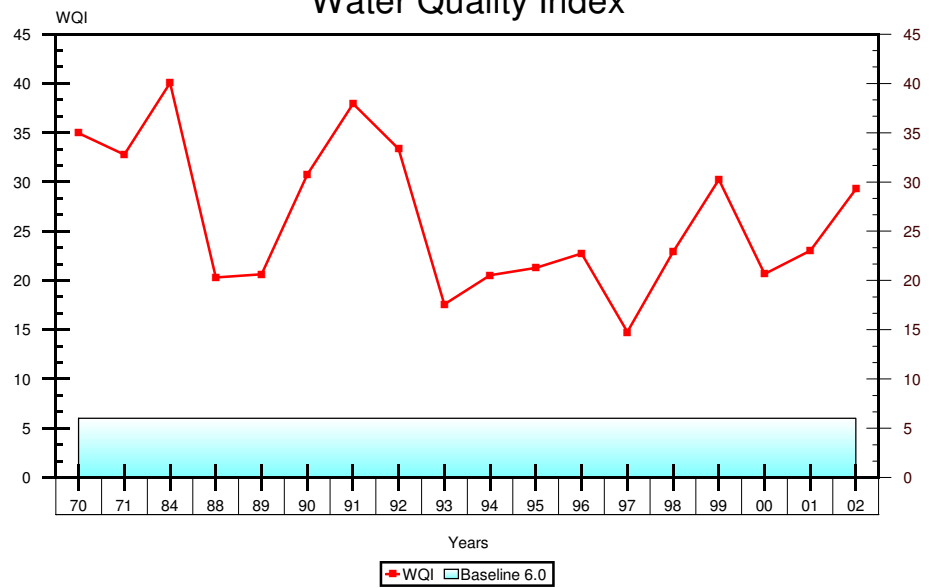
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HANCOCK

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hartridge		AliasName:	
S-T-R: 8-28-26	Lat/Lon 280324 / 814433	Surface Area(Acres): 434	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 12.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 1.33	Water Quality Data: Current	POR: 1976 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 2/76-5/80 (Lk Howard - 2/1946 - Present)

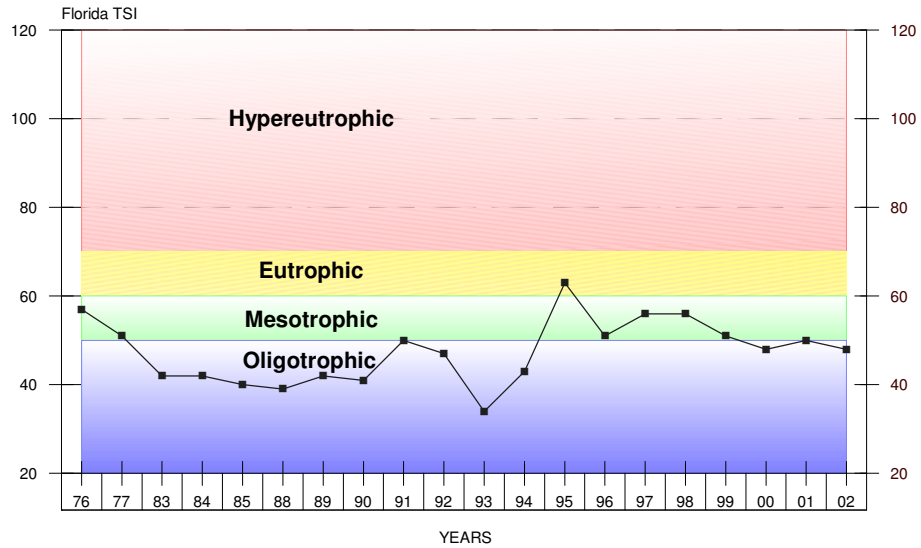
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 130.57
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>47.61</u>	LakeLevel Max: 131.93
	WQI: <u>2.35</u>	LakeLevel Min: 129.38
Water Quality Comments Water quality is fair. Trend indicates declining water quality. Listed potentially Impaired Water by FDEP for T		

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	10.17	12.23	6.78
Chlorophyll a (Corrected) mg/m3	9.71	12.02	6.78
Color Pt-Co	16	17	15
Conductivity @ 25C umhos/cm	182	188	173
Dissolved Oxygen (DO) mg/l	8.01	9.25	7.31
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.831	0.914	0.727
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.005	0.000
Nitrogen Total (TN) mg/l	0.83	0.92	0.73
pH Std Unit	7.36	7.72	6.89
Phosphorus Total (TP) mg/l	0.019	0.031	0.000
Secchi Disk (SD) m	1.28	1.7	1.1
Temperature Deg C	25.86	29.16	17.20
Turbidity NTU	2.95	4.20	2.30

HARTRIDGE

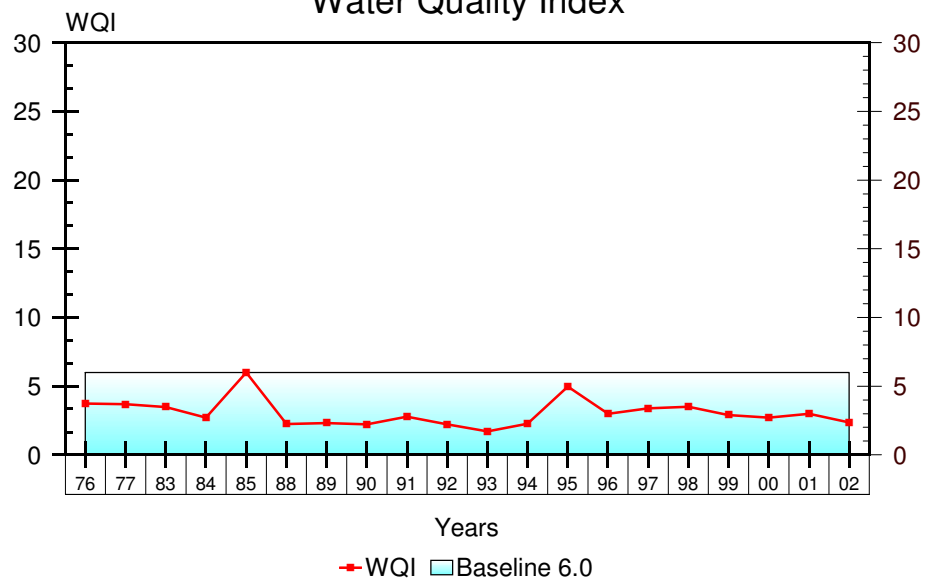
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HARTRIDGE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hatchineha		AliasName:	
S-T-R: 27-28-29	Lat/Lon 275119 / 812242	Surface Area(Acres): 6,665	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity East Of Lake Hamilton		Elevation: 52.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Osceola Plain		Lake Depth:	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 743680	Water Quality Data: current	POR: 1978- present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: Good	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High: 53.49 Date: 02/21/98
100 Yr Flood: 56.80	Min Low:	Rec Low: 48.07 Date: 06/25/87
Min Flood:	Min Ext Low:	Lk Lvl POR: 10/12/1982 present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 64.70 **WQI:** 4.58 **LakeLevel Max:** 0

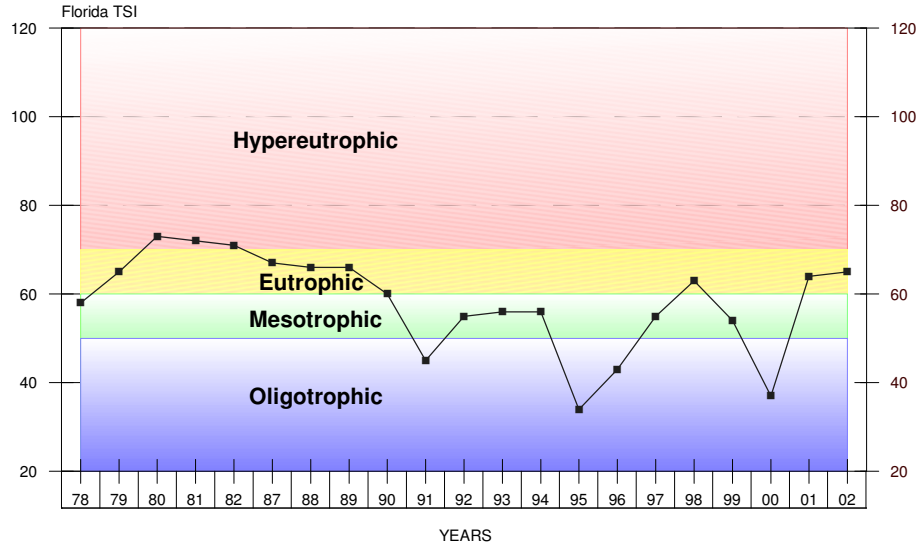
LakeLevel Min: 0

Water Quality Comments Water quality is fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	26.67	30.82	22.51
Chlorophyll a (Corrected) mg/m3	23.63	27.23	20.03
Color Pt-Co	285	350	220
Conductivity @ 25C umhos/cm	179	193	164
Dissolved Oxygen (DO) mg/l	8.63	10.67	6.58
Nitrogen Ammonia (NH3) mg/l	0.023	0.043	0.003
Nitrogen Kjeldahl (TKN) mg/l	1.890	2.204	1.575
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.124	0.248	0.000
Nitrogen Total (TN) mg/l	2.01	2.45	1.58
pH Std Unit	7.53	8.04	7.01
Phosphorus Total (TP) mg/l	0.047	0.059	0.035
Secchi Disk (SD) m	0.45	0.50	0.40
Temperature Deg C	19.83	28.08	11.58
Turbidity NTU	4.95	6.70	3.20

HATCHINEHA

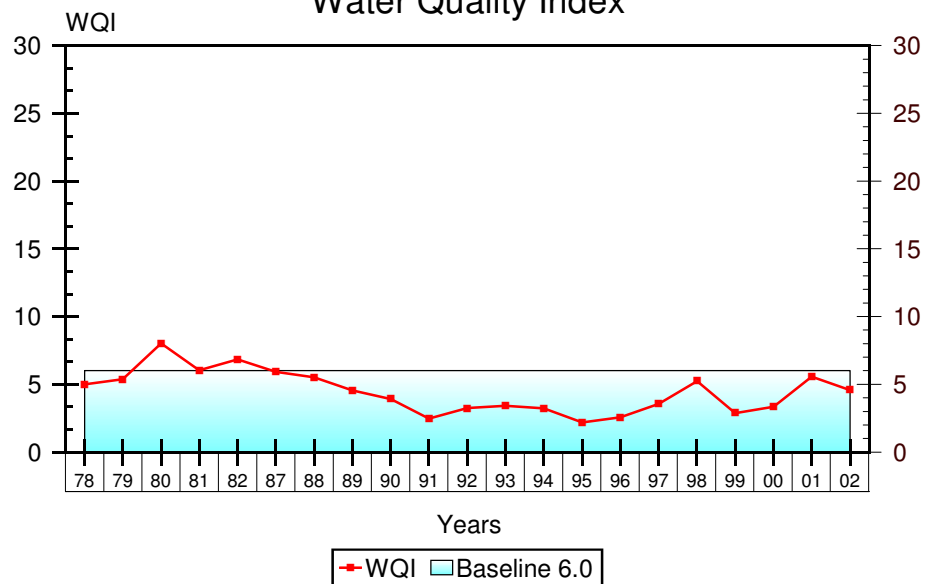
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HATCHINEHA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Henry (HC)		AliasName: Drane	
S-T-R: 36-27-26	Lat/Lon 280530 / 814007	Surface Area(Acres): 857	Bottom Contour: <input type="checkbox"/>
LocationCity Haines City		Elevation: 126.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 10.50	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 4.12	Water Quality Data: Historical	POR: 1986; 1990; 19	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 127.00	Max Desireable 126.00	Rec High: 127.03 Date: 08/26/67
100 Yr Flood: 127.50	Min Low: 124.00	Rec Low: 121.12 Date: 6/18/01
Min Flood: 126.50	Min Ext Low: 122.50	Lk Lvl POR: 4/1965 - Present

Current year water quality and lake levels

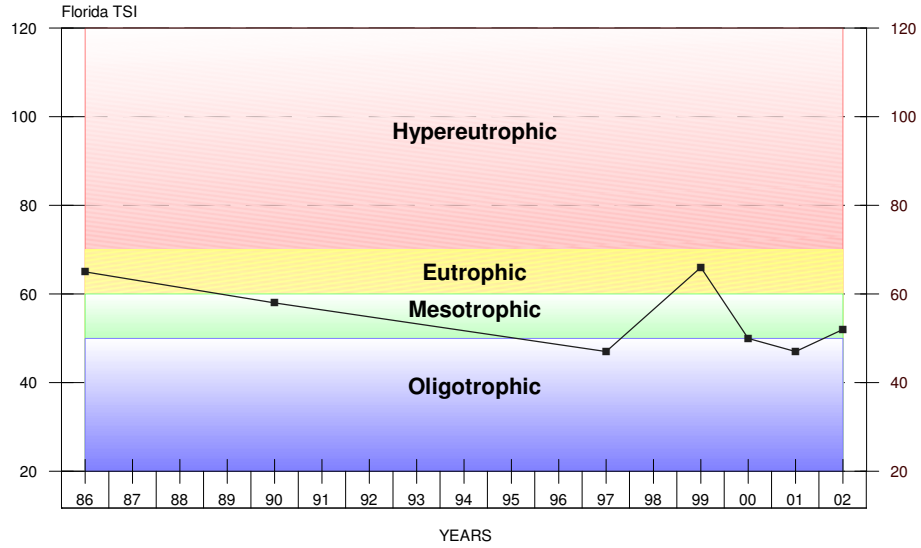
Year 2002
Lake Level Mean: 123.9
Impaired Waterbody
TSI: 51.71
WQI: 4.19
LakeLevel Max: 124.95
LakeLevel Min: 123.06

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	7.52	11.14	6.06
Chlorophyll a (Corrected) mg/m3	5.83	10.25	4.01
Color Pt-Co	180	220	150
Conductivity @ 25C umhos/cm	255	263	248
Dissolved Oxygen (DO) mg/l	7.20	8.44	5.77
Nitrogen Ammonia (NH3) mg/l	0.010	0.013	0.007
Nitrogen Kjeldahl (TKN) mg/l	1.234	1.339	1.149
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.029	0.057	0.000
Nitrogen Total (TN) mg/l	1.26	1.40	1.15
pH Std Unit	5.98	6.40	5.67
Phosphorus Total (TP) mg/l	0.075	0.089	0.069
Secchi Disk (SD) m	0.36	0.40	0.35
Temperature Deg C	23.94	28.79	19.07
Turbidity NTU	13.0	14.3	11.3

HENRY

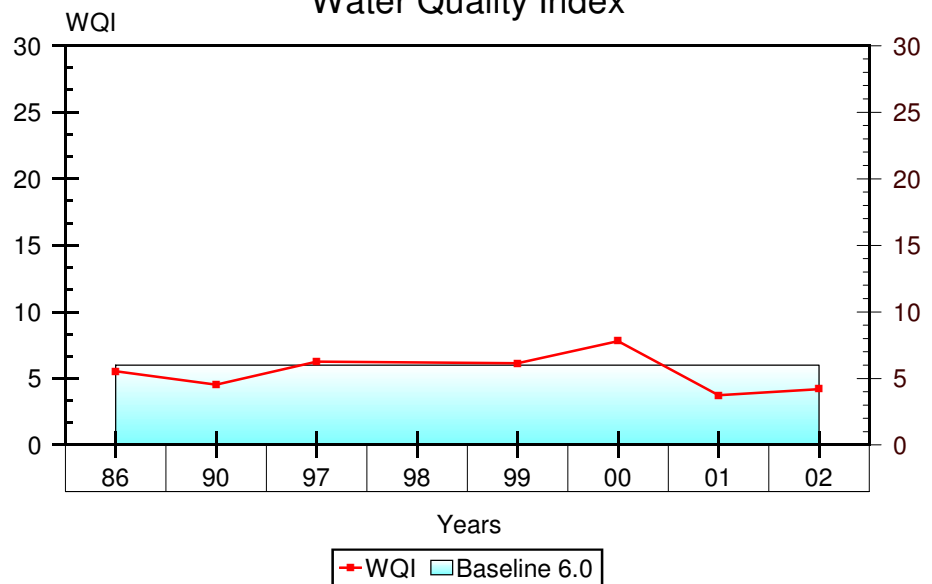
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HENRY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hickory (FP)		AliasName:	
S-T-R: 17-32-28	Lat/Lon /	Surface Area(Acres): 100	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity S Of Frostproof		Elevation: 98.00	Public Access: <input type="checkbox"/>
Physiographic Unit:		Lake Depth:	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.88	Water Quality Data: Current	POR: 1997 - present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: Rated By			
Misc Information about this waterbody: Started testing this lake for the Environmental Lands Program in November 1997. Outlet - r invert 97.04' - culvert invert 93.20'			

Historical and set lake level information

10 Yr Flood: 98.50	Max Desireable 98.00	Rec High: 98.01 Date: 08/30/95
100 Yr Flood: 99.30	Min Low: 96.00	Rec Low: 90.74 Date: 6/19/01
Min Flood: 98.50	Min Ext Low: 94.00	Lk Lvl POR: 5/1/1983 - Present

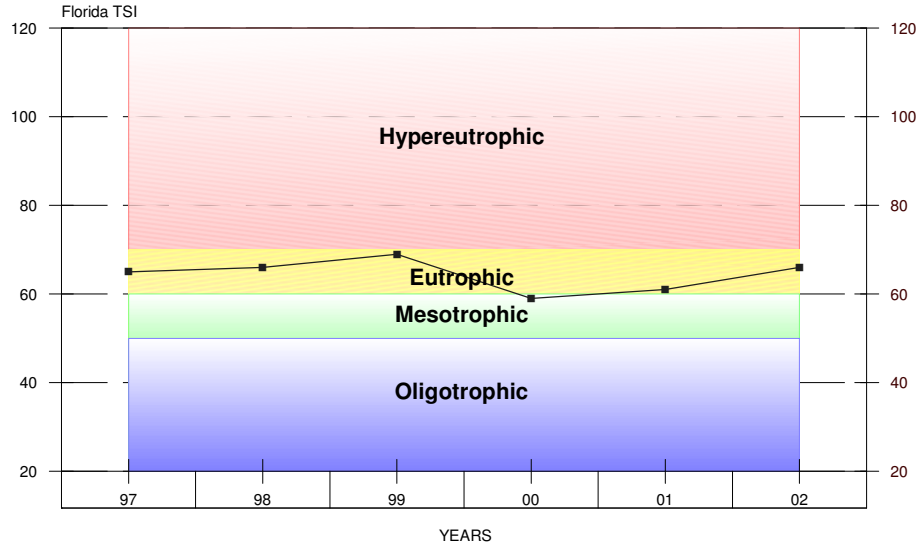
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 96.8
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 96.89
TSI: <u>65.80</u>	LakeLevel Min: 96.74
WQI: <u>9.72</u>	
Water Quality Comments Water quality is fair to poor. May have seasonal algal blooms.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	65.89	88.68	43.09
Chlorophyll a (Corrected) mg/m3	64.28	87.31	41.25
Color Pt-Co	24	25	23
Conductivity @ 25C umhos/cm	383	391	375
Dissolved Oxygen (DO) mg/l	10.82	11.02	10.62
Nitrogen Ammonia (NH3) mg/l	0.254	0.508	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.929	3.093	2.765
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.531	0.931	0.131
Nitrogen Total (TN) mg/l	3.46	4.02	2.90
pH Std Unit	8.17	8.88	7.46
Phosphorus Total (TP) mg/l	0.028	0.036	0.019
Secchi Disk (SD) m	0.39	0.50	0.28
Temperature Deg C	22.53	30.85	14.21
Turbidity NTU	23.5	25.0	22.0

HICKORY

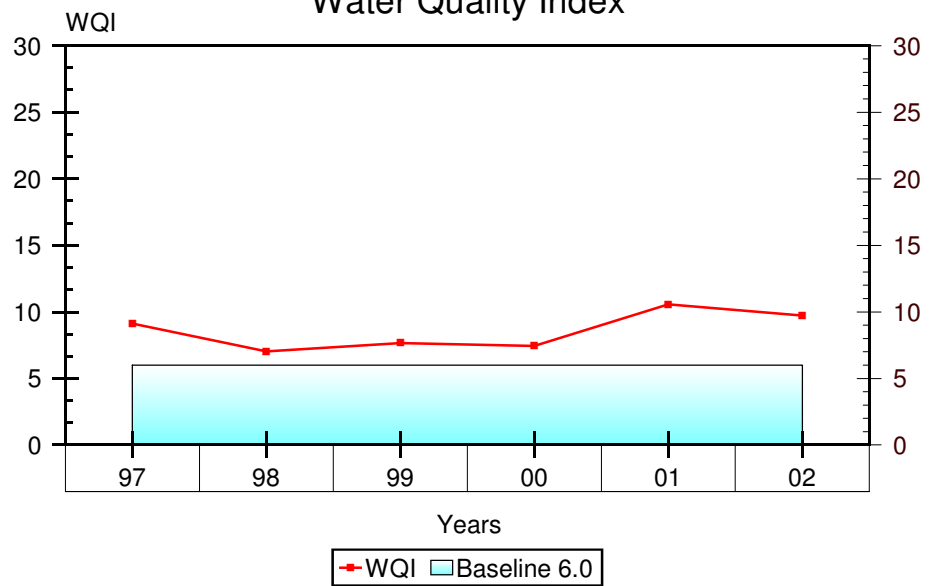
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HICKORY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hollingsworth		AliasName:	
S-T-R: 30-28-24	Lat/Lon 280124 / 815645	Surface Area(Acres): 356	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lakeland		Elevation: 133.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 8.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 1.90	Water Quality Data: Current	POR: 1977 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: POOR	Rated By FFWCC 3/97		
Misc Information about this waterbody: **** Bottom Contouring Will Change Due to the Fact That the Lake Is Currently Being Dredged to Be Finished in 1999 ****			

Historical and set lake level information

10 Yr Flood: 134.20	Max Desireable	Rec High: 133.21 Date: 07/13/91
100 Yr Flood: 134.80	Min Low:	Rec Low: 125.72 Date: 6/9/00
Min Flood:	Min Ext Low:	Lk Lvl POR: 7/27/1954 - Present

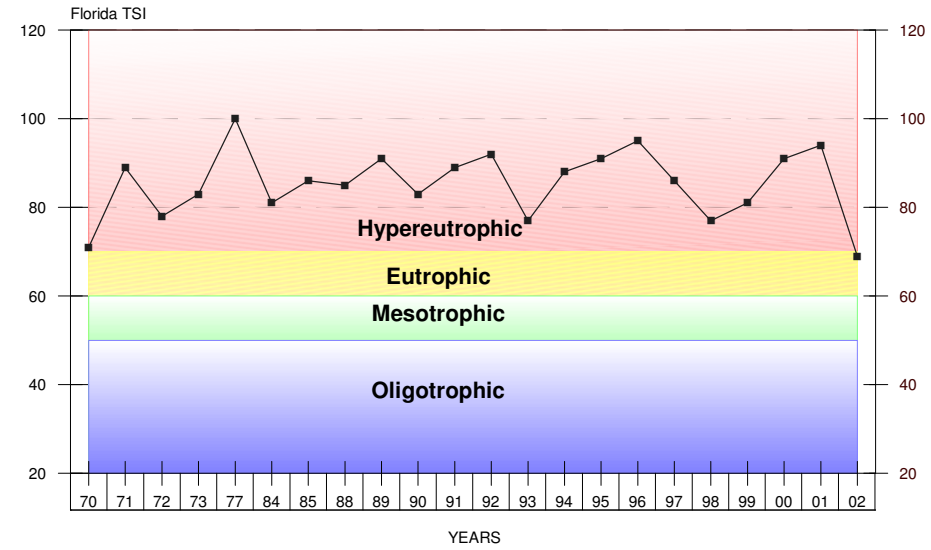
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 130.7
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>69.38</u>	WQI: <u>6.44</u>
		LakeLevel Max: 131.68
		LakeLevel Min: 129.64
Water Quality Comments Water quality is poor. Impaired Water for bacteria, lead, turbidity & nutrients. Lake dredged within last three y		

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	44.93	55.01	27.92
Chlorophyll a (Corrected) mg/m3	41.83	53.4	27.23
Color Pt-Co	20	23	17
Conductivity @ 25C umhos/cm	173	193	154
Dissolved Oxygen (DO) mg/l	9.15	9.57	8.45
Nitrogen Ammonia (NH3) mg/l	0.001	0.003	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.095	2.720	1.640
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.003	0.000
Nitrogen Total (TN) mg/l	2.10	2.72	1.64
pH Std Unit	8.90	9.22	8.66
Phosphorus Total (TP) mg/l	0.092	0.129	0.045
Secchi Disk (SD) m	0.43	0.50	0.35
Temperature Deg C	27.92	31.40	23.88
Turbidity NTU	8.93	11.10	4.70

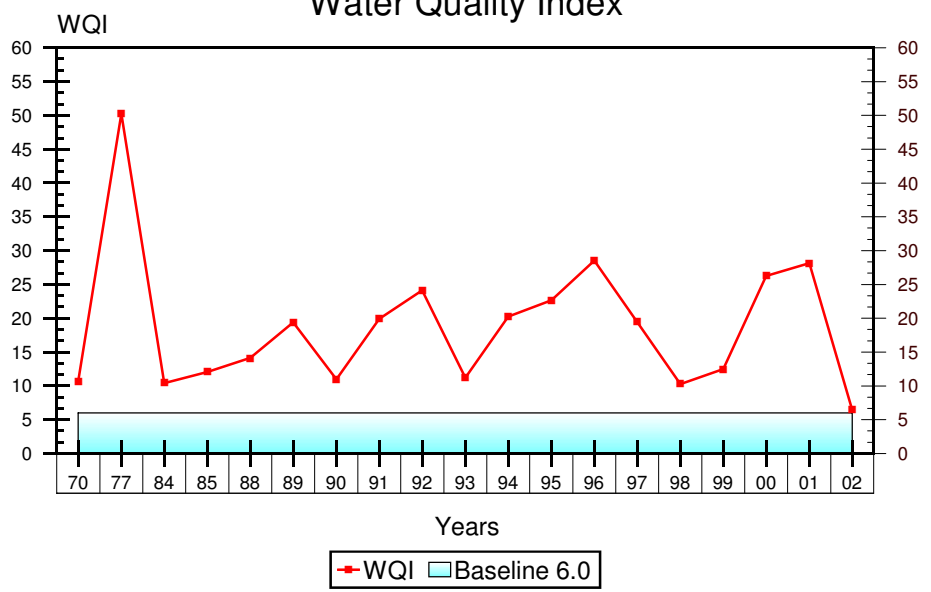
HOLLINGSWORTH

TSI



HOLLINGSWORTH

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Howard		AliasName:	
S-T-R: 30-28-26	Lat/Lon 280130 / 814440	Surface Area(Acres): 628	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 14.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 1.20	Water Quality Data: Current	POR: 1976 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Controlled By Structure On Lake Lulu.			

Historical and set lake level Information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60 Rec Low: 127.69 Date: 5/30/01
100 Yr Flood: 133.40	Min Low: 129.50	
Min Flood: 132.00	Min Ext Low: 127.00	
		Lk Lvl POR: 2/1946 - Present

Current year water quality and lake levels

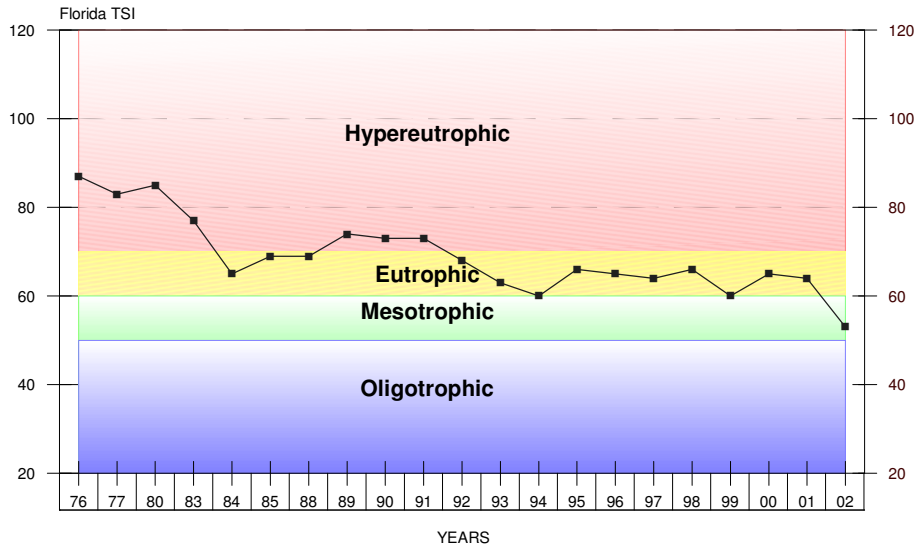
Year 2002 **Lake Level Mean:** 130.57
Impaired Waterbody **TSI:** 52.57 **WQI:** 3.47 **LakeLevel Max:** 131.93
LakeLevel Min: 129.38

Water Quality Comments Water quality is fair. Impaired Water for nutrients and TSI. No significant trend in last 10 years.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	23.93	30.69	18.94
Chlorophyll a (Corrected) mg/m3	23.20	29.04	18.94
Color Pt-Co	12	15	10
Conductivity @ 25C umhos/cm	247	262	234
Dissolved Oxygen (DO) mg/l	8.81	9.27	8.11
Nitrogen Ammonia (NH3) mg/l	0.002	0.007	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.374	1.399	1.326
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.008	0.000
Nitrogen Total (TN) mg/l	1.38	1.41	1.33
pH Std Unit	8.44	9	7.59
Phosphorus Total (TP) mg/l	0.017	0.030	0.002
Secchi Disk (SD) m	0.58	0.70	0.50
Temperature Deg C	24.66	28.73	16.94
Turbidity NTU	6.97	8.00	5.90

HOWARD

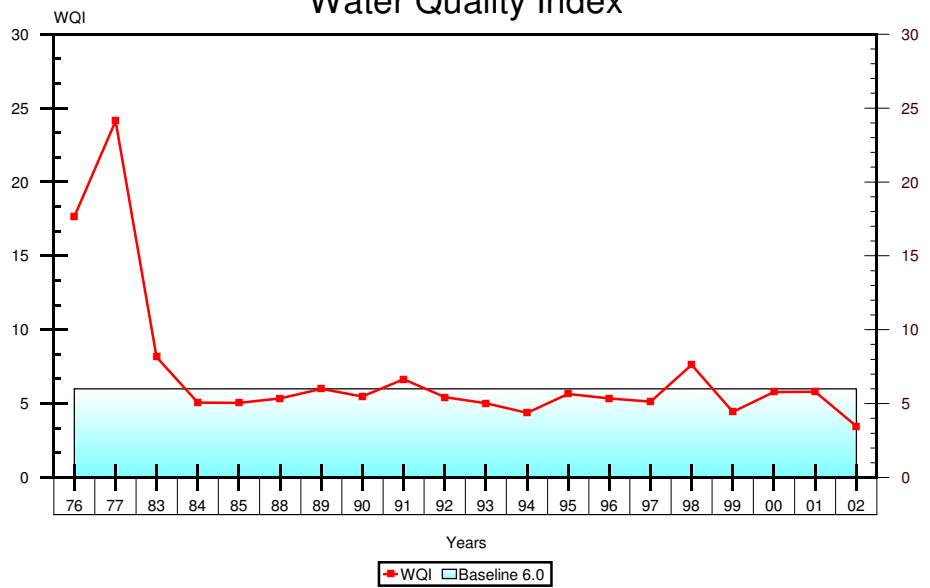
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HOWARD

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Hunter		AliasName:	
S-T-R: 24-28-23	Lat/Lon 280206 / 815800	Surface Area(Acres): 100	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lakeland		Elevation: 160.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lakeland Ridge		Lake Depth: 6.00	Meandered: <input type="checkbox"/>
Drainage Basin: Hillsborough River		Lake Type: Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 0.80	Water Quality Data: Current	POR: 1978 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Record Low - Near Dry During Restoration			

Historical and set lake level Information

10 Yr Flood: 162.30	Max Desireable 162.25	Rec High: 163.25 Date: 12/13/02
100 Yr Flood: 163.00	Min Low: 160.25	Rec Low: 159.59 Date: 02/23/96
Min Flood: 162.75	Min Ext Low: 159.00	Lk Lvl POR: 5/26/1954 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 161.58

Impaired Waterbody **TSI:** 86.62 **WQI:** 18.25 **LakeLevel Max:** 162.12

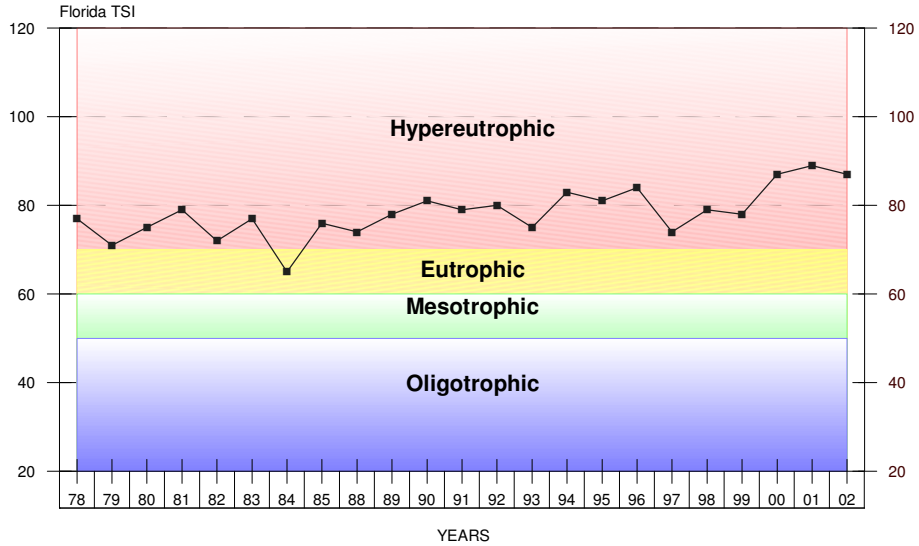
LakeLevel Min: 160.89

Water Quality Comments Water quality is poor. Excessive nutrients and major algal blooms. Not listed as impaired but should be.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	179.71	224.40	140.06
Chlorophyll a (Corrected) mg/m3	164.21	200.30	132.17
Color Pt-Co	23	25	20
Conductivity @ 25C umhos/cm	158	169	155
Dissolved Oxygen (DO) mg/l	9.10	11.63	5.16
Nitrogen Ammonia (NH3) mg/l	0.000	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	3.506	4.910	1.697
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	3.51	4.91	1.70
pH Std Unit	9.08	9.54	8.72
Phosphorus Total (TP) mg/l	0.261	0.364	0.191
Secchi Disk (SD) m	0.18	0.20	0.15
Temperature Deg C	27.69	31.20	23.86
Turbidity NTU	35.6	44.0	28.0

HUNTER

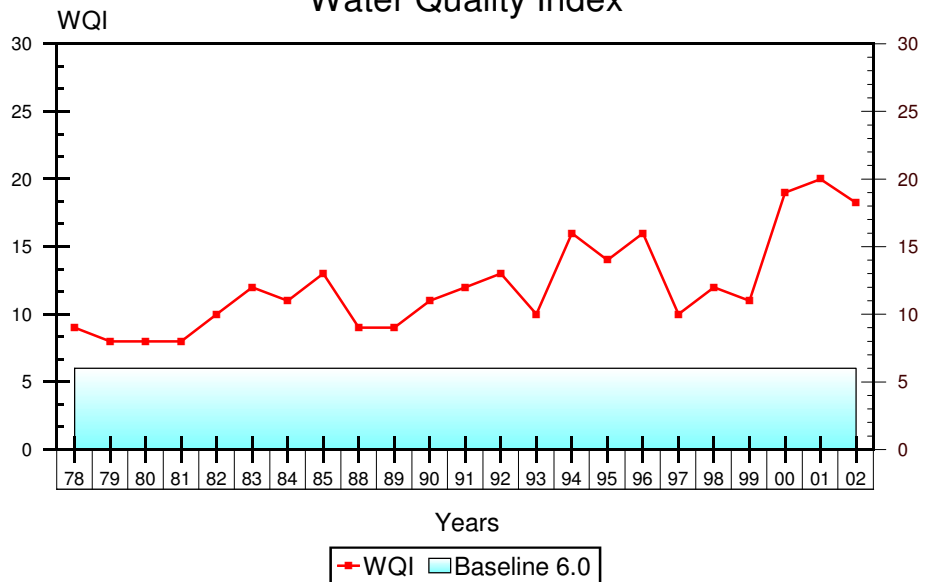
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

HUNTER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Ida (WH)		AliasName:	
S-T-R: 17-28-26	Lat/Lon 280304 / 814358	Surface Area(Acres): 17	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 134.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.20	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 136.70	Max Desireable 135.00	Rec High: 136.17 Date: 08/14/92
100 Yr Flood: 137.90	Min Low: 132.00	Rec Low: 130.84 Date: 5/25/01
Min Flood: 135.25	Min Ext Low: 130.50	Lk Lvl POR: 1/3/1990 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 134.22

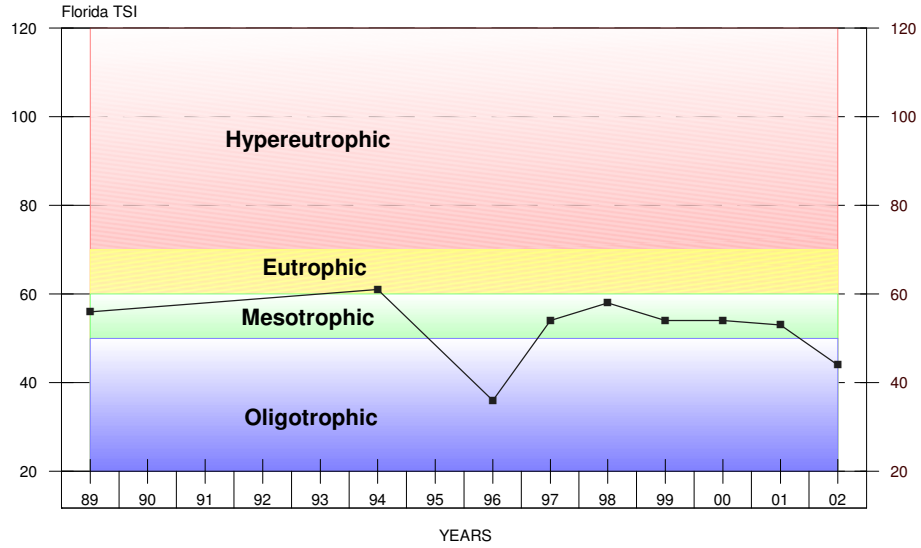
Impaired Waterbody **TSI:** 44.03 **WQI:** 2.55 **LakeLevel Max:** 134.64

LakeLevel Min: 133.04

Water Quality Comments Water quality is good to fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	20.71	20.71	20.71
Chlorophyll a (Corrected) mg/m3	20.09	20.09	20.09
Color Pt-Co	25	25	25
Conductivity @ 25C umhos/cm	262	262	262
Dissolved Oxygen (DO) mg/l	8.2	8.2	8.2
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.736	0.736	0.736
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	0.74	0.74	0.74
pH Std Unit	7.81	7.81	7.81
Phosphorus Total (TP) mg/l	0.009	0.009	0.009
Secchi Disk (SD) m	2.3	2.3	2.3
Temperature Deg C	28.89	28.89	28.89
Total Suspended Solids (TSS) mg/l	5.2	5.2	5.2
Turbidity NTU	2.0	2.0	2.0

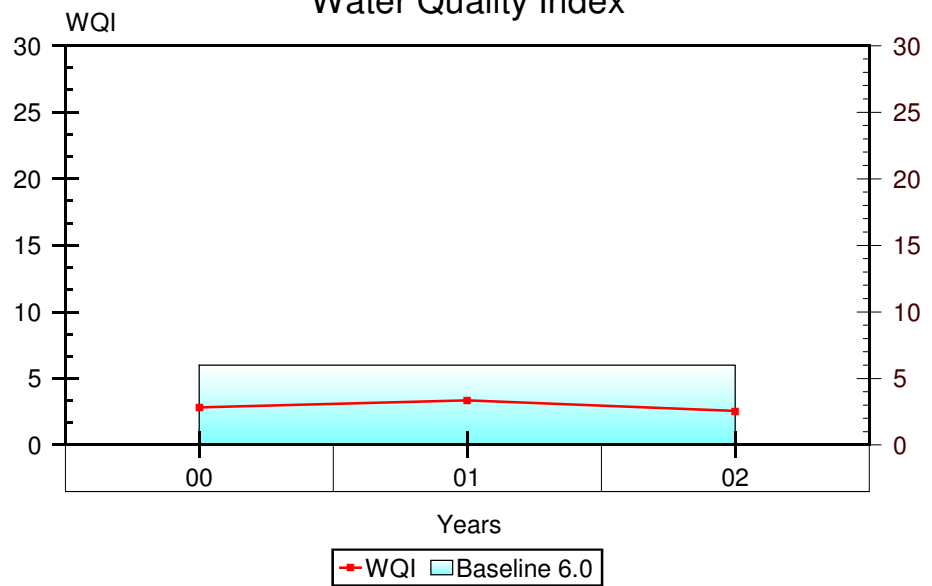
IDA TSI



Starting 1991-Secchi disk not used in calculation-see Section II

IDA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Idyl		AliasName:	
S-T-R: 16-28-26	Lat/Lon: 280230 / 814246	Surface Area(Acres): 20	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Winter Haven		Elevation: 134.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 12.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.45	Water Quality Data: Current	POR: 1990 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By:		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 134.90	Max Desireable: 133.50	Rec High: 133.26	Date: 07/13/91
100 Yr Flood: 136.90	Min Low: 133.50	Rec Low: 131.28	Date: 06/28/00
Min Flood: 134.00	Min Ext Low: 131.50	Lk Lvl POR: 9/27/1989 - Present	

Current year water quality and lake levels

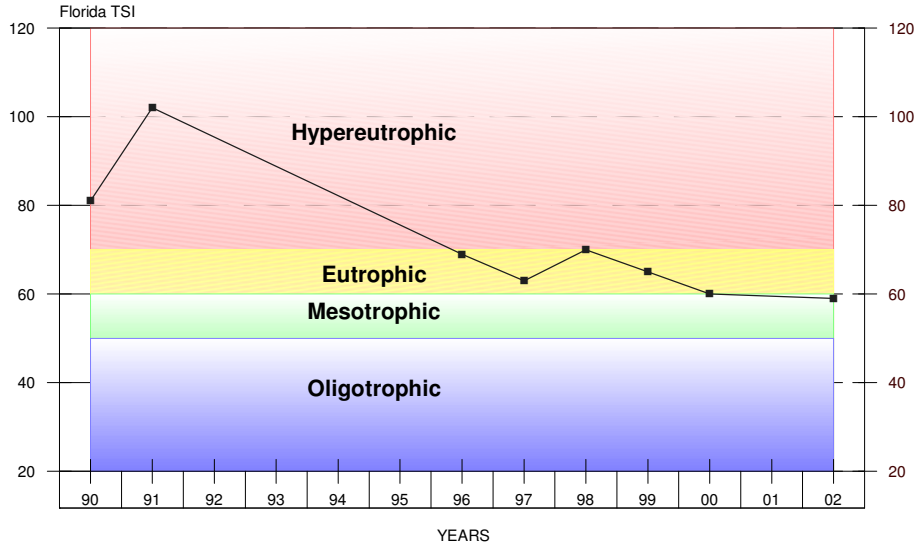
Year: 2002
Lake Level Mean: 132.38
Impaired Waterbody:
TSI: 58.50
WQI: 3.30
LakeLevel Max: 133.22
LakeLevel Min: 131.86

Water Quality Comments

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	23.70	23.70	23.70
Chlorophyll a (Corrected) mg/m3	20.83	20.83	20.83
Color Pt-Co	20	20	20
Conductivity @ 25C umhos/cm	246	246	246
Dissolved Oxygen (DO) mg/l	7.41	7.41	7.41
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.944	0.944	0.944
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.003	0.003
Nitrogen Total (TN) mg/l	0.95	0.95	0.95
pH Std Unit	7.42	7.42	7.42
Phosphorus Total (TP) mg/l	0.030	0.030	0.030
Secchi Disk (SD) m	1.0	1.0	1.0
Temperature Deg C	28.91	28.91	28.91
Total Suspended Solids (TSS) mg/l	6.8	6.8	6.8
Turbidity NTU	3.6	3.6	3.6

IDYL

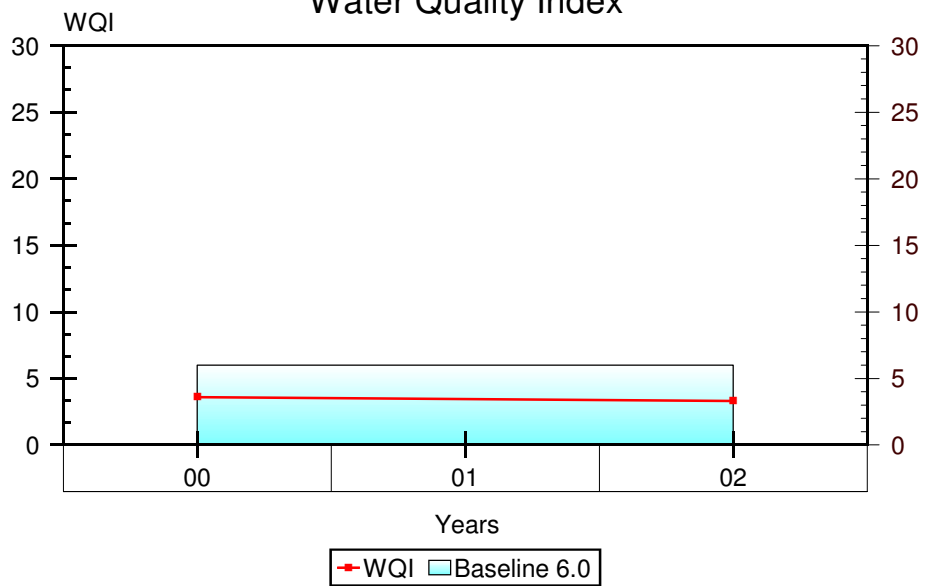
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

IDYL

Water Quality Index



WQI Baseline 6.0

Annual Lake Water Quality Data

Waterbody: Idylwild		AliasName:	
S-T-R: 18-28-26	Lat/Lon 280300 / 814525	Surface Area(Acres): 102	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 6.20	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10	Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69	Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]	

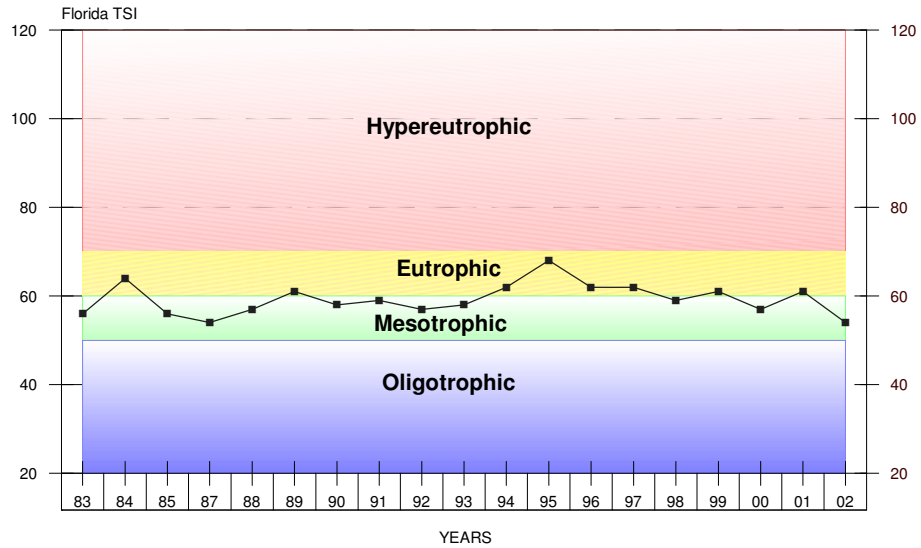
Current year water quality and lake levels

Year 2002	Lake Level Mean: 130.57
Impaired Waterbody <input checked="" type="checkbox"/>	LakeLevel Max: 131.93
TSI: 53.90	LakeLevel Min: 129.38
WQI: 3.29	
Water Quality Comments Water quality is fair. May have periodic algal blooms. Listed as a potential Impaired Water by FDEP.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Alkalinity Total mg/l	29.76	33.33	27.81
Chlorophyll a mg/m3	22.40	28.88	16.61
Chlorophyll a (Corrected) mg/m3	21.38	28.88	14.42
Color Pt-Co	22	27	20
Conductivity @ 25C umhos/cm	213	231	195
Dissolved Oxygen (DO) mg/l	8.58	9.70	6.98
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.165	1.566	0.792
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.17	1.57	0.79
pH Std Unit	8.13	9.30	7.05
Phosphorus Total (TP) mg/l	0.020	0.033	0.000
Secchi Disk (SD) m	0.70	0.95	0.50
Temperature Deg C	25.22	30.08	16.96
Turbidity NTU	6.0	8.0	4.8

IDYLWILD

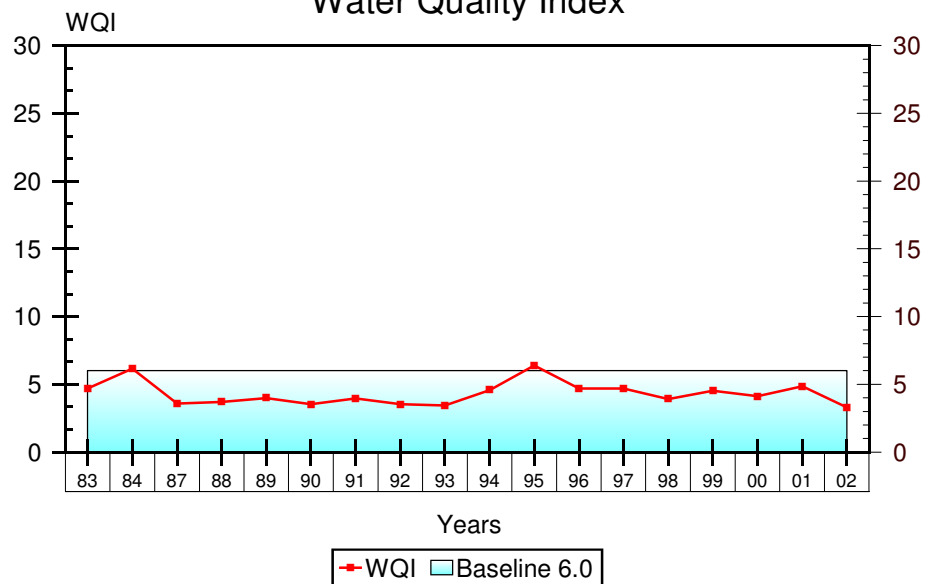
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

IDYLWILD

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Ina		AliasName:	
S-T-R: 34-28-26	Lat/Lon /	Surface Area(Acres): 7	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 129.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1988 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

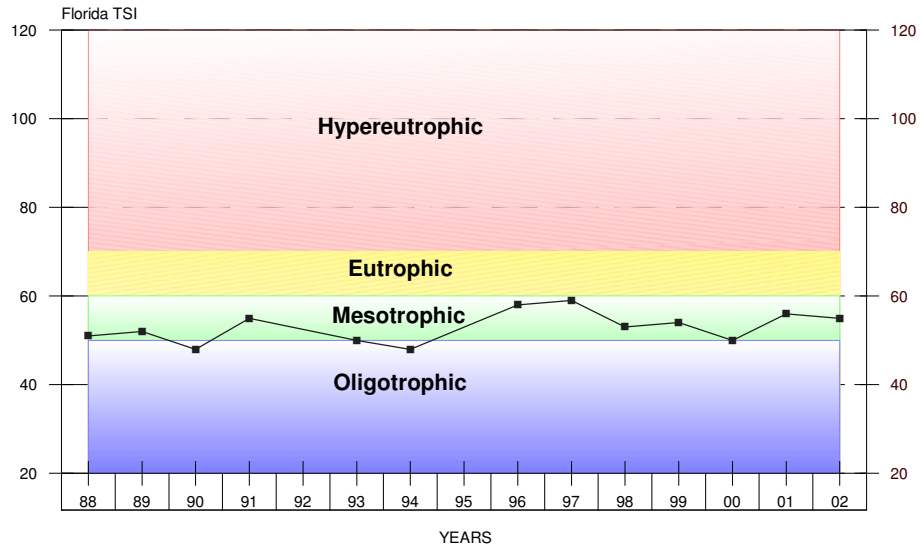
10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood:	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR: 5/16/96 - 5/16/96	

Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean:	0
Impaired Waterbody <input type="checkbox"/>	TSI: <u>54.92</u>	WQI: <u>2.76</u>	LakeLevel Max: 0
			LakeLevel Min: 0
Water Quality Comments Water quality is good.			

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	12.89	12.89	12.89
Chlorophyll a (Corrected) mg/m3	12.02	12.02	12.02
Color Pt-Co	17	17	17
Conductivity @ 25C umhos/cm	284	284	284
Dissolved Oxygen (DO) mg/l	8.41	8.41	8.41
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.033	1.033	1.033
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.001	0.001
Nitrogen Total (TN) mg/l	1.03	1.03	1.03
pH Std Unit	8.37	8.37	8.37
Phosphorus Total (TP) mg/l	0.031	0.031	0.031
Secchi Disk (SD) m	1.2	1.2	1.2
Temperature Deg C	30.98	30.98	30.98
Total Suspended Solids (TSS) mg/l	4.4	4.4	4.4
Turbidity NTU	2.0	2.0	2.0

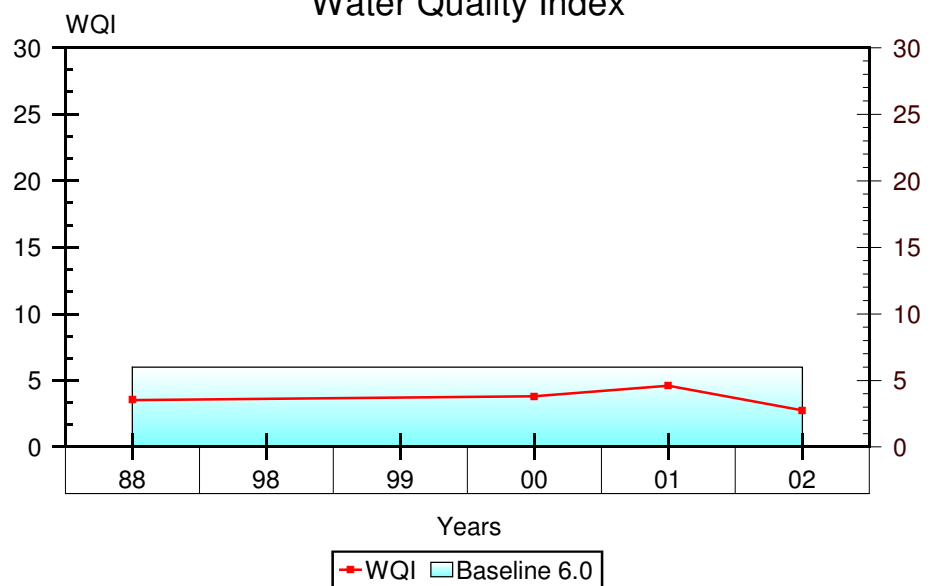
INA TSI



Starting 1991-Secchi disk not used in calculation-see Section II

INA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Jessie			AliasName:		
S-T-R: 12-28-25	Lat/Lon 280330 / 814549	Surface Area(Acres): 190	Bottom Contour: <input checked="" type="checkbox"/>		
LocationCity Winter Haven	Elevation: 130.00		Public Access: <input checked="" type="checkbox"/>		
Physiographic Unit: Winter Haven Ridge	Lake Depth: 12.00		Meandered: <input type="checkbox"/>		
Drainage Basin: Peace River	Lake Type: Inflow & Outflow		Control Structure: <input type="checkbox"/>		
Drainage Basin (Sq. Miles) 4.50	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input type="checkbox"/>		
Sport Fisheries: GOOD	Rated By FFWCC 3/97				
Misc Information about this waterbody: Hydrologic; Record High And Low Are The Same As Lake Howard. Controlled By Structure (Lake Lulu.					

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]

Current year water quality and lake levels

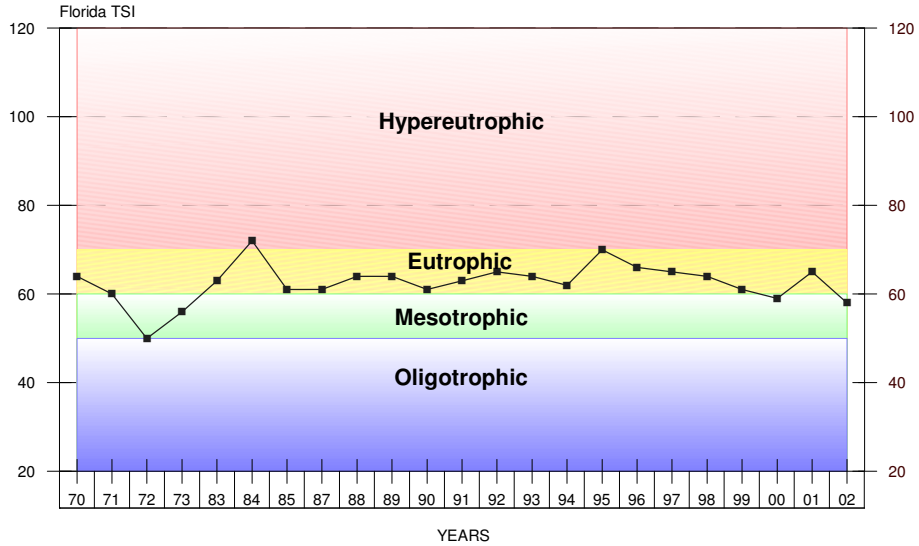
Year <u>2002</u>	Lake Level Mean: 130.57
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 131.93
TSI: <u>57.54</u>	LakeLevel Min: 129.38
WQI: <u>3.04</u>	

Water Quality Comments Water quality is fair. No trend over last ten years.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	18.24	23.08	13.91
Chlorophyll a (Corrected) mg/m3	16.42	20.83	11.62
Color Pt-Co	19	20	18
Conductivity @ 25C umhos/cm	219	234	197
Dissolved Oxygen (DO) mg/l	8.64	9.82	7.43
Nitrogen Ammonia (NH3) mg/l	0.000	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.966	1.061	0.784
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	0.97	1.06	0.78
pH Std Unit	8.03	8.57	7.08
Phosphorus Total (TP) mg/l	0.032	0.060	0.000
Secchi Disk (SD) m	0.88	1.10	0.55
Temperature Deg C	24.54	28.93	16.80
Turbidity NTU	4.07	5.20	3.00

JESSIE

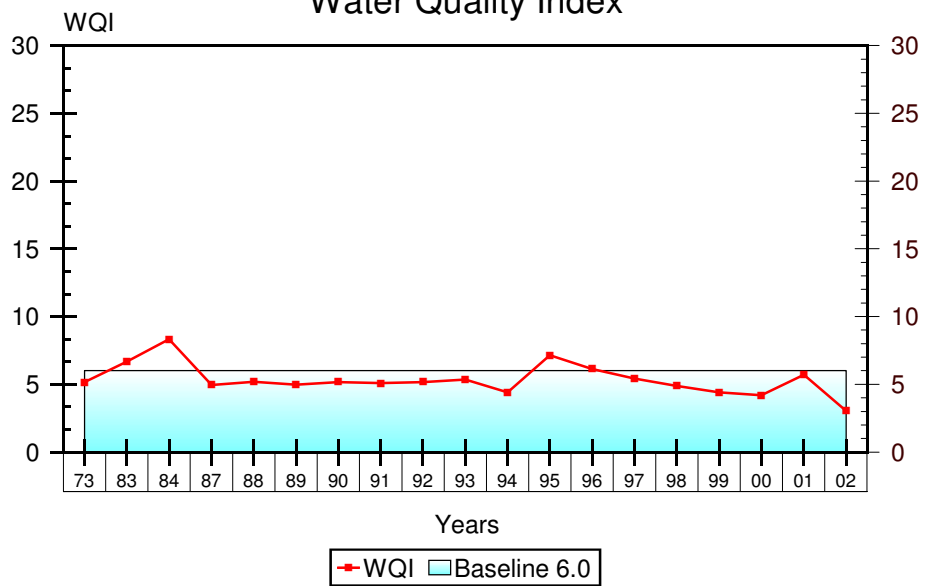
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

JESSIE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: John		AliasName:	
S-T-R: 32-28-24	Lat/Lon /	Surface Area(Acres): 34	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lakeland		Elevation:	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit:		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Pit	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: City Of Lake	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By CITY OF LAKE		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High: 111.00 Date: 11/14/91
100 Yr Flood: 112.60	Min Low:	Rec Low: 107.28 Date: 4/16/99
Min Flood:	Min Ext Low:	Lk Lvl POR: 11/23/1987 - Present

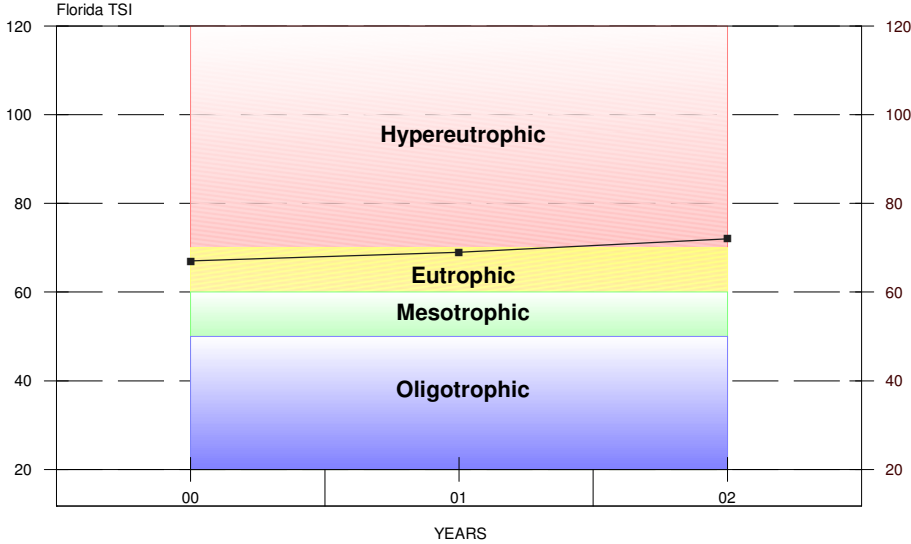
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 108.51
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 109.24
TSI: <u>72.00</u>	LakeLevel Min: 107.82
WQI: <u>11.21</u>	

Water Quality Comments Water quality is fair to poor. The lake may have seasonal algal blooms.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	69.01	83.89	54.12
Chlorophyll a (Corrected) mg/m3	59.68	74.72	44.64
Color Pt-Co	25	30	20
Conductivity @ 25C umhos/cm	212	231	192
Dissolved Oxygen (DO) mg/l	7.20	7.47	6.93
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.501	1.919	1.082
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.50	1.92	1.08
pH Std Unit	8.44	9.16	7.72
Phosphorus Total (TP) mg/l	0.297	0.329	0.264
Secchi Disk (SD) m	0.66	0.77	0.55
Temperature Deg C	26.55	29.16	23.93
Turbidity NTU	8.25	10.3	6.20

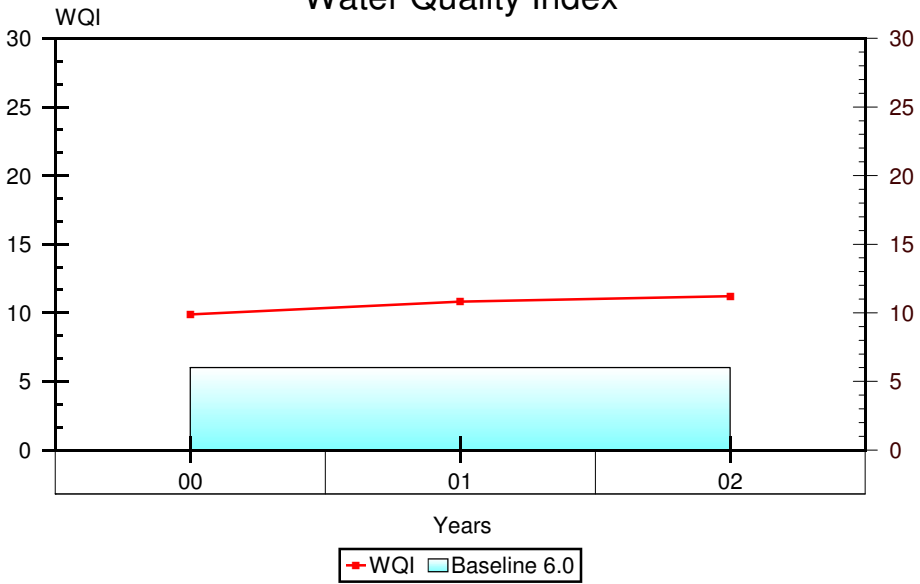
JOHN TSI



Starting 1991-Secchi disk not used in calculation-see Section II

JOHN

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Juliana		AliasName:	
S-T-R: 15-27-25	Lat/Lon 280754 / 814810	Surface Area(Acres): 926	Bottom Contour: <input type="checkbox"/>
LocationCity Auburndale		Elevation: 132.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 17.10	Meandered: <input type="checkbox"/>
Drainage Basin: Withlacoochee River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 5.40	Water Quality Data: Current	POR: 1969 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 134.70	Max Desireable 132.00	Rec High: 134.10 Date: 03/21/98
100 Yr Flood: 136.30	Min Low: 130.00	Rec Low: 126.20 Date: 05/07/76
Min Flood: 132.50	Min Ext Low: 127.50	Lk Lvl POR: 12/1961 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 129.62

Impaired Waterbody **TSI:** 65.93 **WQI:** 5.73 **LakeLevel Max:** 131.58

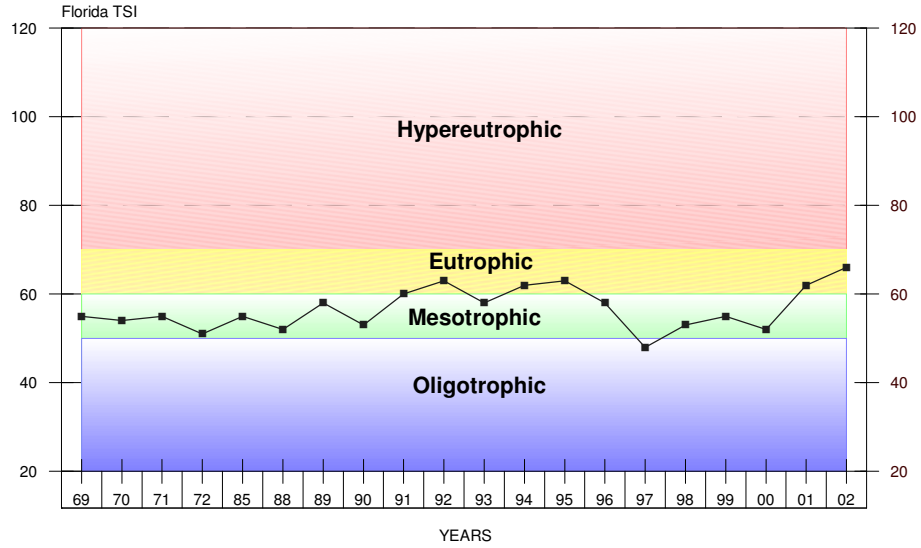
LakeLevel Min: 128.39

Water Quality Comments Water quality is fair to poor. The lake may have periodic algal blooms.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	50.53	56.14	44.92
Chlorophyll a (Corrected) mg/m3	47.66	51.26	44.06
Color Pt-Co	16	17	15
Conductivity @ 25C umhos/cm	265	274	255
Dissolved Oxygen (DO) mg/l	7.42	7.74	7.10
Nitrogen Ammonia (NH3) mg/l	0.002	0.003	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.923	1.990	1.855
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.004	0.002
Nitrogen Total (TN) mg/l	1.93	1.99	1.86
pH Std Unit	7.86	8.45	7.27
Phosphorus Total (TP) mg/l	0.034	0.043	0.024
Secchi Disk (SD) m	0.41	0.42	0.40
Temperature Deg C	25.76	27.62	23.9
Turbidity NTU	11.15	11.9	10.4

JULIANA

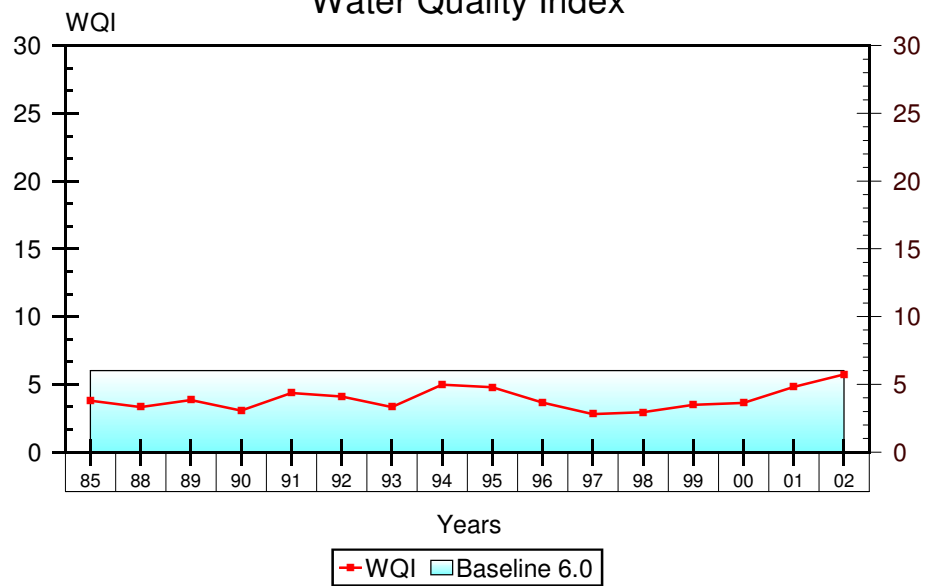
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

JULIANA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Lena		AliasName:	
S-T-R: 9-28-25	Lat/Lon 280358 / 814835	Surface Area(Acres): 207	Bottom Contour: <input type="checkbox"/>
LocationCity Auburndale		Elevation: 130.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 12.50	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 0.75	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: POOR	Rated By FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 137.10	Max Desireable 136.75	Rec High: 136.66 Date: 02/15/83
100 Yr Flood: 138.30	Min Low: 134.50	Rec Low: 131.85 Date: 05/05/76
Min Flood: 137.00	Min Ext Low: 132.50	Lk Lvl POR: 10/1969 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 133.55

Impaired Waterbody **TSI:** 71.00 **WQI:** 7.73 **LakeLevel Max:** 133.9

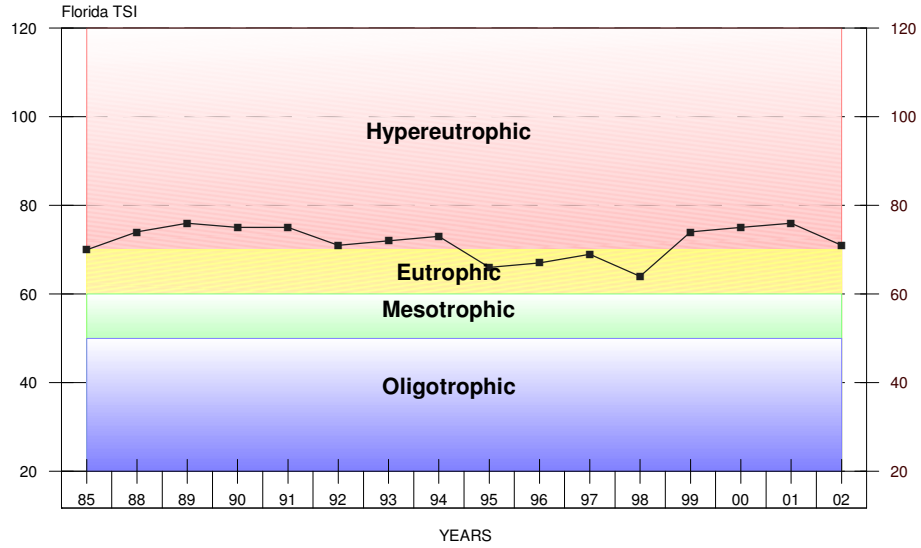
LakeLevel Min: 132.9

Water Quality Comments Water quality is poor. The lake may have persistant algal blooms. Listed as an Impaired Water for nutrients.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	70.54	71.04	69.78
Chlorophyll a (Corrected) mg/m3	68.15	69.42	66.93
Color Pt-Co	11	12	10
Conductivity @ 25C umhos/cm	233	247	219
Dissolved Oxygen (DO) mg/l	8.21	8.91	7.33
Nitrogen Ammonia (NH3) mg/l	0.001	0.002	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.740	2.880	2.588
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.007	0.000
Nitrogen Total (TN) mg/l	2.74	2.89	2.59
pH Std Unit	8.09	9.30	7.31
Phosphorus Total (TP) mg/l	0.042	0.050	0.036
Secchi Disk (SD) m	0.28	0.30	0.25
Temperature Deg C	27.60	29.91	24.9
Turbidity NTU	18.37	19.5	17.2

LENA

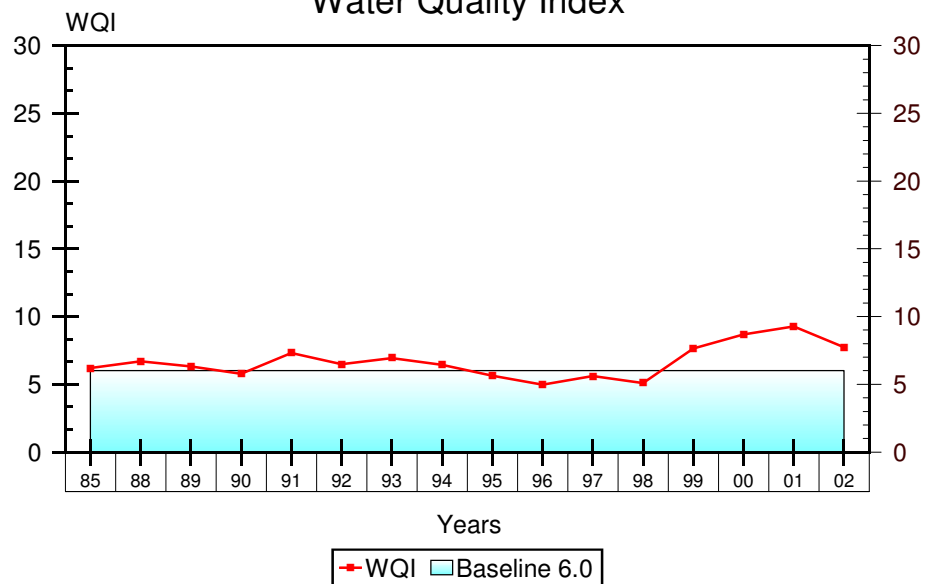
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LENA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Link		AliasName:	
S-T-R: 27-28-26	Lat/Lon 280102 / 814223	Surface Area(Acres): 27	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 9.20	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody: Hydrologic Record High And Low Are The Same As Lake Otis.			

Historical and set lake level Information

10 Yr Flood: 128.70	Max Desireable 127.00	Rec High: 127.32 Date: 10/24/95
100 Yr Flood: 129.90	Min Low: 125.00	Rec Low: 120.28 Date: 6/12/01
Min Flood: 128.00	Min Ext Low: 123.00	Lk Lvl POR: 11/1985 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 124.19

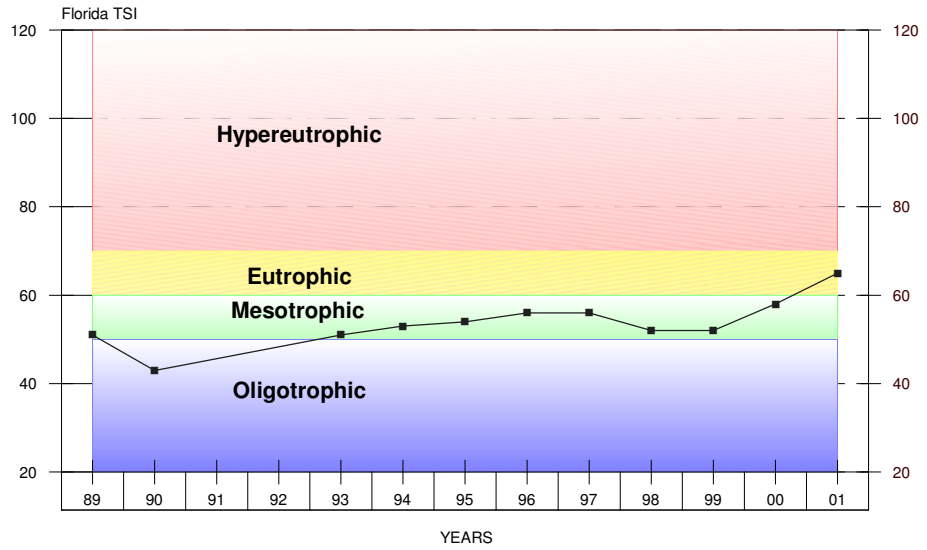
Impaired Waterbody **TSI:** **WQI:** **LakeLevel Max:** 126.19

LakeLevel Min: 122.45

Water Quality Comments There was no access to this lake in 2002.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

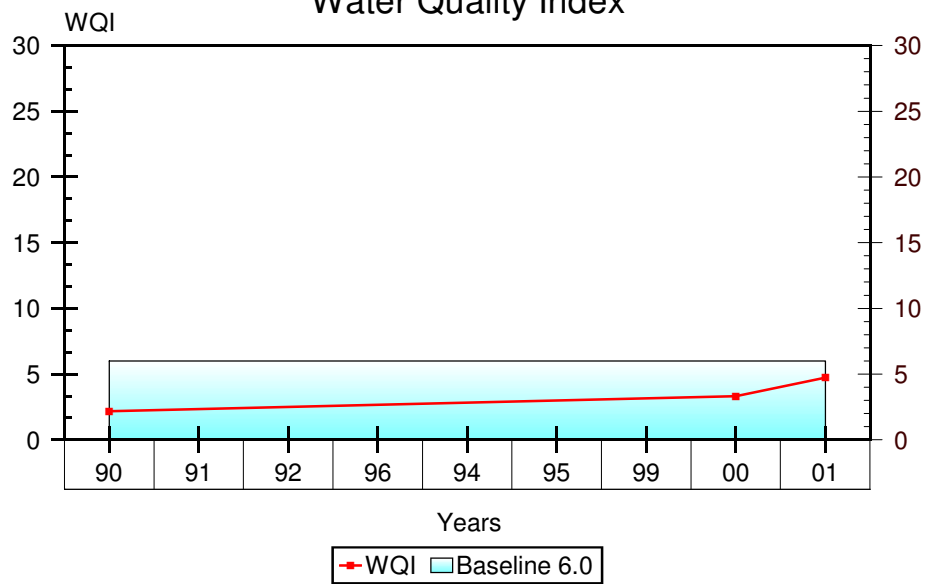
LINK TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LINK

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Little Crooked		AliasName:	
S-T-R: 23-31-27	Lat/Lon /	Surface Area(Acres):	Bottom Contour: <input type="checkbox"/>
LocationCity Hillcrest Heights		Elevation: 118.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 7.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Control Structure On Crooked Lake			

Historical and set lake level Information

10 Yr Flood: 122.60	Max Desireable	Rec High: 119.00 Date: 10/18/99
100 Yr Flood: 125.80	Min Low:	Rec Low: 112.80 Date: 06/13/91
Min Flood:	Min Ext Low:	Lk Lvl POR: 5/4/1981- Present

Current year water quality and lake levels

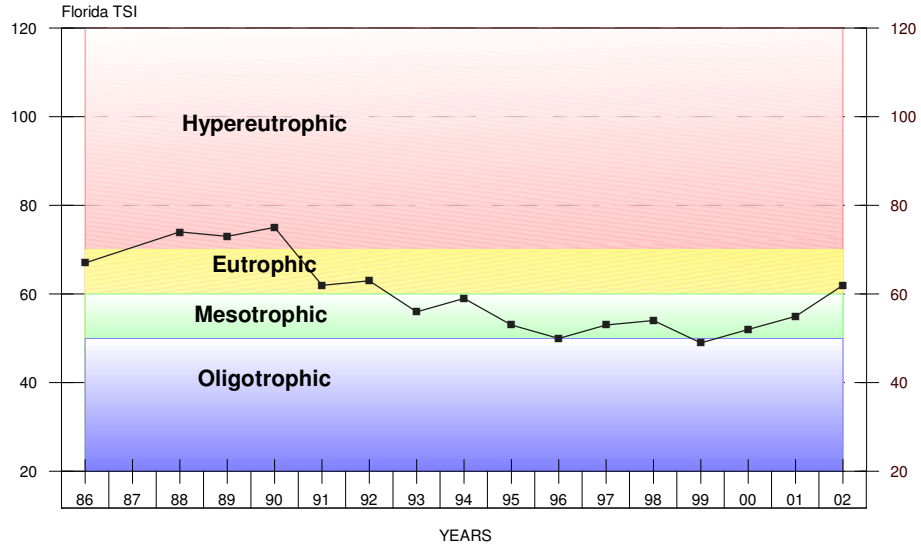
Year <u>2002</u>		Lake Level Mean: 115.93
Impaired Waterbody <input type="checkbox"/>	TSI: <u>61.74</u>	LakeLevel Max: 116.02
	WQI: <u>4.41</u>	LakeLevel Min: 115.78

Water Quality Comments Water quality is fair. Trend indicates improving water quality.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	18.09	24.31	14.98
Chlorophyll a (Corrected) mg/m3	14.15	20.83	9.61
Color Pt-Co	140	150	120
Conductivity @ 25C umhos/cm	121	134	112
Dissolved Oxygen (DO) mg/l	8.22	10.24	6.87
Nitrogen Ammonia (NH3) mg/l	0.008	0.019	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.593	2.073	1.252
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.044	0.132	0.000
Nitrogen Total (TN) mg/l	1.63	2.20	1.25
pH Std Unit	7.07	7.95	6.51
Phosphorus Total (TP) mg/l	0.050	0.063	0.030
Secchi Disk (SD) m	0.32	0.45	0.15
Temperature Deg C	23.04	28.64	12.16
Turbidity NTU	16.5	32	6.1

LITTLE CROOKED

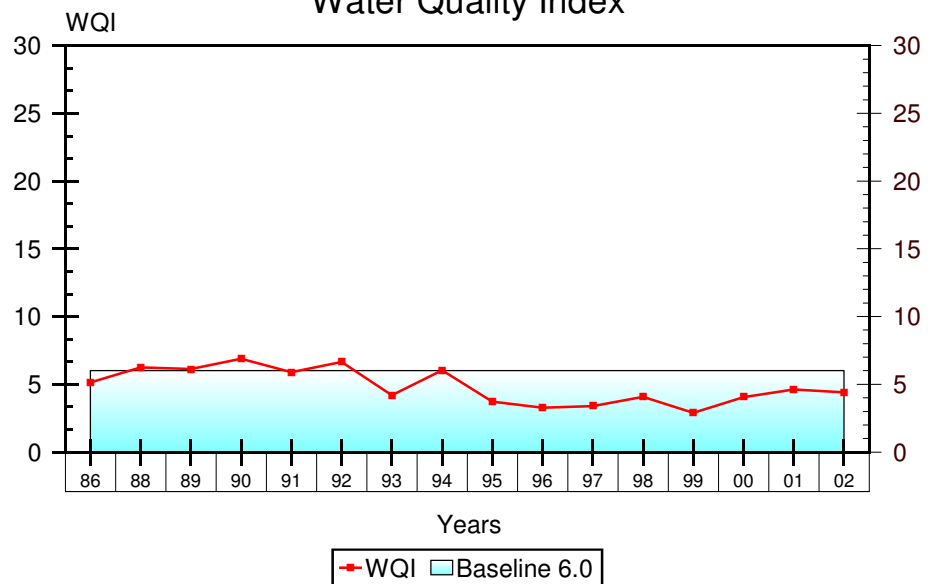
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LITTLE CROOKED

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Little Eagle		AliasName: Eagle	
S-T-R: 1-29-25	Lat/Lon /	Surface Area(Acres):	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Eagle Lake		Elevation:	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1992 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:		This lake is being listed separate from Eagle Lake because it dropped in level during drought conditions. It has since come back up. Hydrologic Record; Record High And Low Are The Sa Eagle Lake. Controlled By Structure On Eagle Lake.	

Historical and set lake level information

10 Yr Flood: 131.00	Max Desireable 130.50	Rec High: 131.50	Date: 09/23/96
100 Yr Flood: 133.80	Min Low:	Rec Low: 118.76	Date: 05/10/76
Min Flood: 130.75	Min Ext Low:	Lk Lvl POR: Eagle Lk 6/1965 - Present	

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 125.85

Impaired Waterbody **TSI:** 41.57 **WQI:** 2.28 **LakeLevel Max:** 126.5

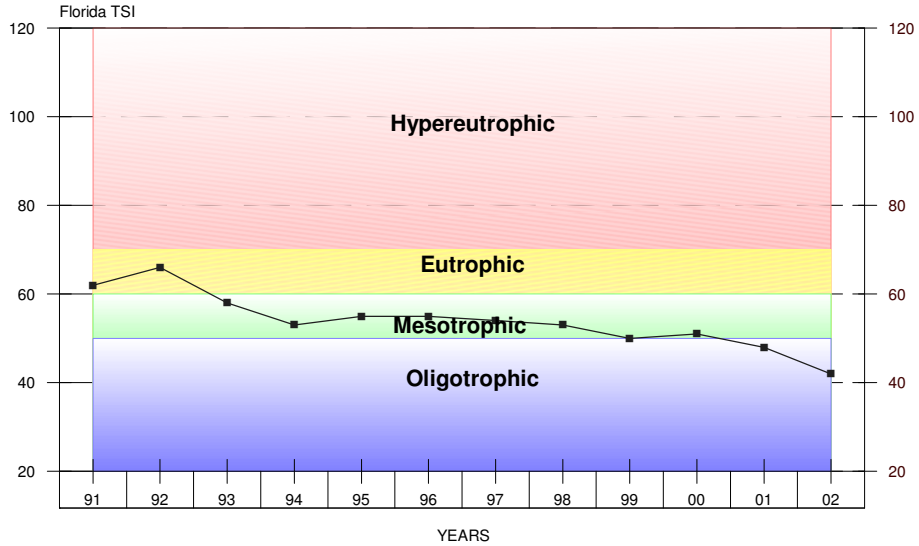
LakeLevel Min: 125.2

Water Quality Comments Water quality is good. Trend indicates improving water quality.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	13.20	13.45	12.94
Chlorophyll a (Corrected) mg/m3	12.02	12.82	11.21
Color Pt-Co	10	10	10
Conductivity @ 25C umhos/cm	271	283	259
Dissolved Oxygen (DO) mg/l	8.28	8.70	7.85
Nitrogen Ammonia (NH3) mg/l	0.014	0.028	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.782	0.898	0.666
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.024	0.048	0.000
Nitrogen Total (TN) mg/l	0.81	0.90	0.71
pH Std Unit	6.88	7.36	6.39
Phosphorus Total (TP) mg/l	0.010	0.019	0.001
Secchi Disk (SD) m	1.38	1.50	1.25
Temperature Deg C	23.53	29.02	18.03
Turbidity NTU	2.15	2.2	2.1

LITTLE EAGLE

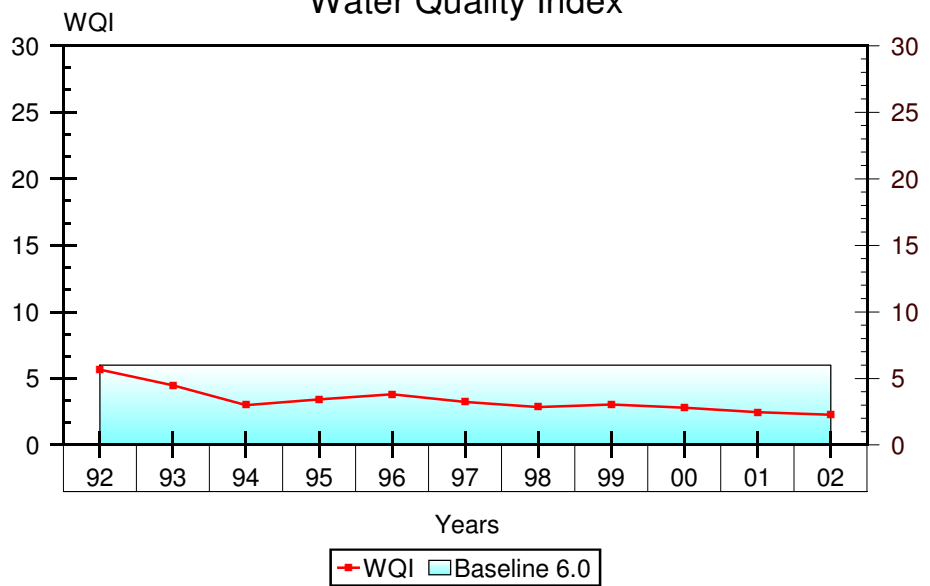
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LITTLE EAGLE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Little Elbert		AliasName: Elbert	
S-T-R: 22-28-26	Lat/Lon /	Surface Area(Acres):	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 135.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 25.60	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:		This lake is being listed separate from Eagle Lake because it dropped in level during drought conditions. It has since come back up. Hydrologic Record; Record High And Low Are The Sa Lake Elbert. Controlled By Structure On Lake Elbert.	

Historical and set lake level Information

10 Yr Flood: 137.50	Max Desireable 135.00	Rec High: 136.10	Date: 11/17/95
100 Yr Flood: 138.60	Min Low:	Rec Low: 128.78	Date: 06/19/89
Min Flood: 135.50	Min Ext Low:	Lk Lvl POR: Lk Elbert 11/1985 - Present	

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 131.14

Impaired Waterbody **TSI:** 44.49 **WQI:** 2.16 **LakeLevel Max:** 131.86

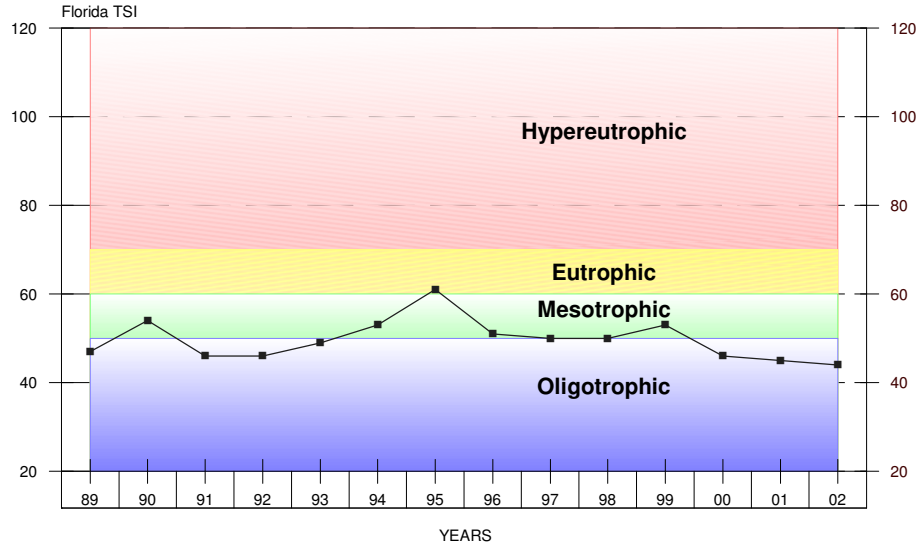
LakeLevel Min: 129.84

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	8.96	12.54	5.76
Chlorophyll a (Corrected) mg/m3	7.89	11.21	4.01
Color Pt-Co	14	15	12
Conductivity @ 25C umhos/cm	165	178	146
Dissolved Oxygen (DO) mg/l	8.09	8.68	7.00
Nitrogen Ammonia (NH3) mg/l	0.013	0.067	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.538	0.581	0.488
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.013	0.060	0.000
Nitrogen Total (TN) mg/l	0.55	0.58	0.49
pH Std Unit	7.37	7.92	6.81
Phosphorus Total (TP) mg/l	0.024	0.030	0.020
Secchi Disk (SD) m	2.08	3.4	1.3
Temperature Deg C	23.18	30.86	17.4
Total Suspended Solids (TSS) mg/l	1.8	2	1.6
Turbidity NTU	1.66	1.92	1.42

LITTLE ELBERT

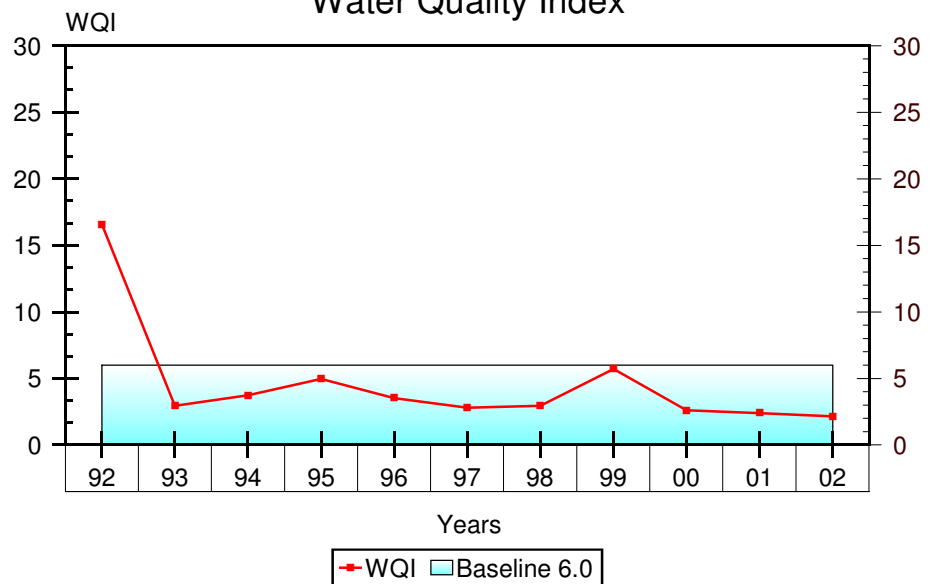
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LITTLE ELBERT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Little Hamilton		AliasName:	
S-T-R: 5-28-27	Lat/Lon 280420 / 813806	Surface Area(Acres): 367	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lake Hamilton		Elevation: 120.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 14.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1988 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Hamilton			

Historical and set lake level Information

10 Yr Flood: 122.50	Max Desireable 121.25	Rec High: 124.34 Date: 10/03/48
100 Yr Flood: 123.70	Min Low: 119.00	Rec Low: 116.69 Date: 6/18/01
Min Flood: 121.50	Min Ext Low: 117.25	Lk Lvl POR: [6/1944-Present- Hamilton] 6/91-5/12/95

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 118.4

Impaired Waterbody **TSI:** 63.25 **WQI:** 3.99 **LakeLevel Max:** 119.1

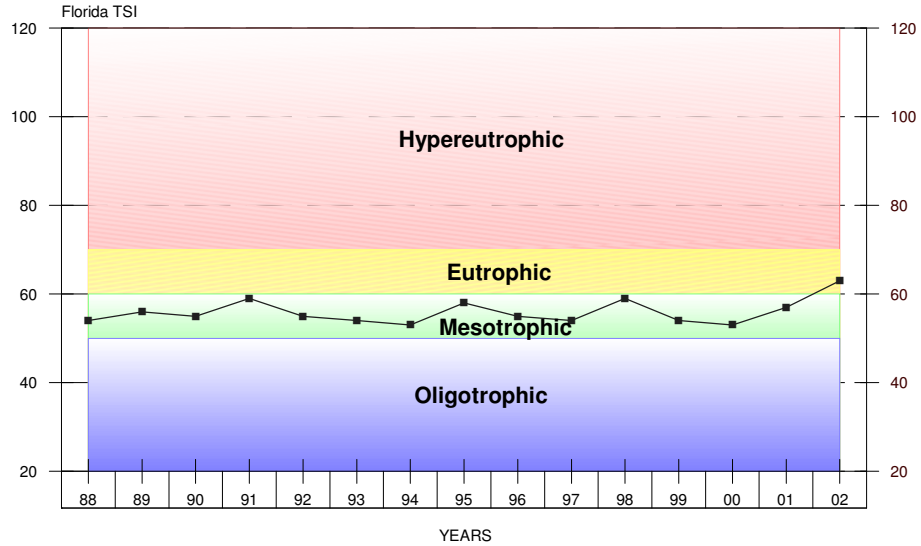
LakeLevel Min: 117.8

Water Quality Comments Water quality is fair. No trend in water quality.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	23.13	25.47	20.78
Chlorophyll a (Corrected) mg/m3	20.75	23.07	18.42
Color Pt-Co	26	32	20
Conductivity @ 25C umhos/cm	273	280	265
Dissolved Oxygen (DO) mg/l	8.17	9.45	6.89
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.479	1.574	1.384
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.006	0.000
Nitrogen Total (TN) mg/l	1.48	1.58	1.38
pH Std Unit	7.83	8.14	7.52
Phosphorus Total (TP) mg/l	0.045	0.048	0.041
Secchi Disk (SD) m	0.65	0.70	0.60
Temperature Deg C	22.96	28.58	17.33
Turbidity NTU	5.9	6.0	5.8

LITTLE HAMILTON

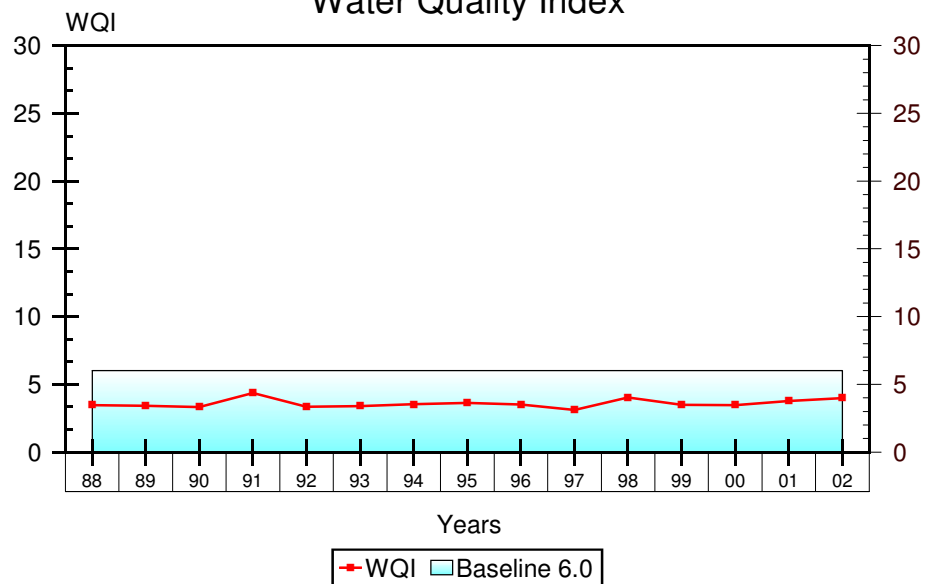
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LITTLE HAMILTON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Livingston		AliasName:	
S-T-R: 21-32-28	Lat/Lon 274114 / 813113	Surface Area(Acres): 1,203	Bottom Contour: <input type="checkbox"/>
LocationCity South Of Frostproof		Elevation: 87.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Intra Ridge Valley		Lake Depth: 4.60	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High: 88.74 Date: 8/1974
100 Yr Flood:	Min Low:	Rec Low: 84.30 Date: 4/1982
Min Flood:	Min Ext Low:	Lk Lvl POR: N A

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 52.54 **WQI:** 11.40 **LakeLevel Max:** 0

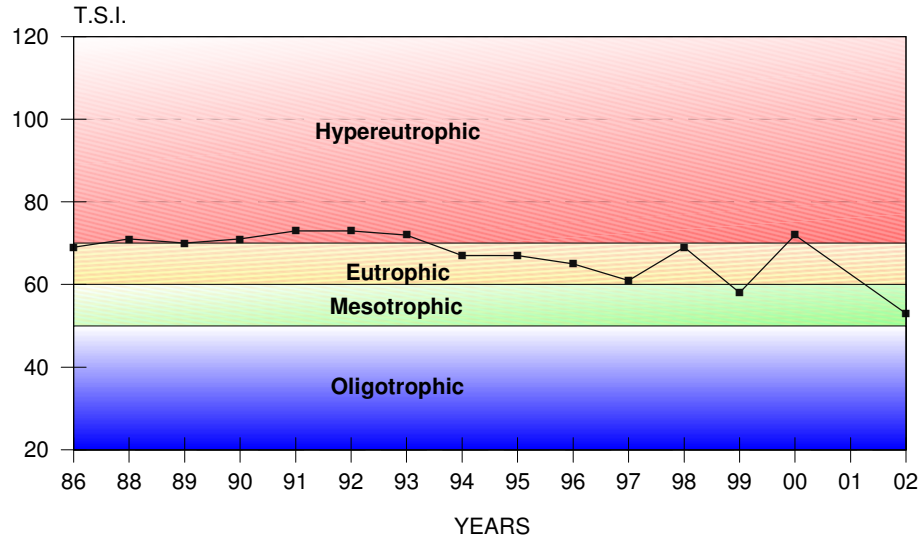
LakeLevel Min: 0

Water Quality Comments Water quality is good. There was no access to lake in July 2002 due to low water levels.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	2.70	2.70	2.70
Chlorophyll a (Corrected) mg/m3	1.60	1.60	1.60
Color Pt-Co	750	750	750
Conductivity @ 25C umhos/cm	148	148	148
Dissolved Oxygen (DO) mg/l	8.17	8.17	8.17
Nitrogen Ammonia (NH3) mg/l	0.054	0.054	0.054
Nitrogen Kjeldahl (TKN) mg/l	2.591	2.591	2.591
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.182	0.182	0.182
Nitrogen Total (TN) mg/l	2.77	2.77	2.77
pH Std Unit	6.18	6.18	6.18
Phosphorus Total (TP) mg/l	0.403	0.403	0.403
Secchi Disk (SD) m	0.20	0.20	0.20
Temperature Deg C	21.88	21.88	21.88
Turbidity NTU	5.4	5.4	5.4

LIVINGSTON

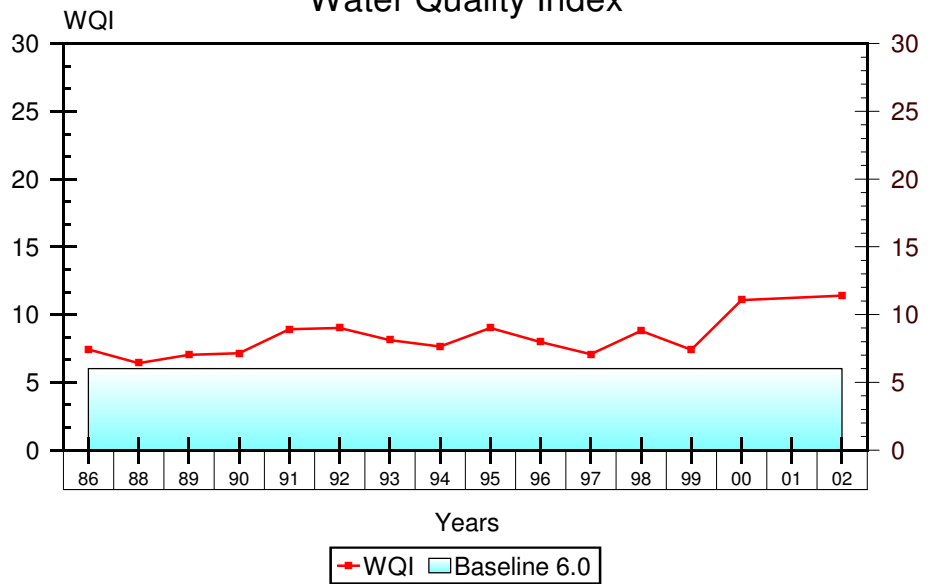
TSI



Starting 2001-Secchi disk not used in calculation-see Section II

LIVINGSTON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Lowery		AliasName:	
S-T-R: 14-27-26	Lat/Lon: 280745 / 814053	Surface Area(Acres): 903	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: N E Of Haines City		Elevation: 130.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 12.00	Meandered: <input type="checkbox"/>
Drainage Basin: Oklawaha River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 5.40	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By:		
Misc Information about this waterbody: Lake level altured in 1997 - 1998 due to flooding / pumping.			

Historical and set lake level Information

10 Yr Flood: 132.00	Max Desireable:	Rec High: 133.32 Date: 06/11/60
100 Yr Flood: 134.80	Min Low:	Rec Low: 125.12 Date: 05/24/77
Min Flood:	Min Ext Low:	Lk Lvl POR: 6/1/1960 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 0

Impaired Waterbody: **TSI:** 53.69 **WQI:** 3.08 **LakeLevel Max:** 0

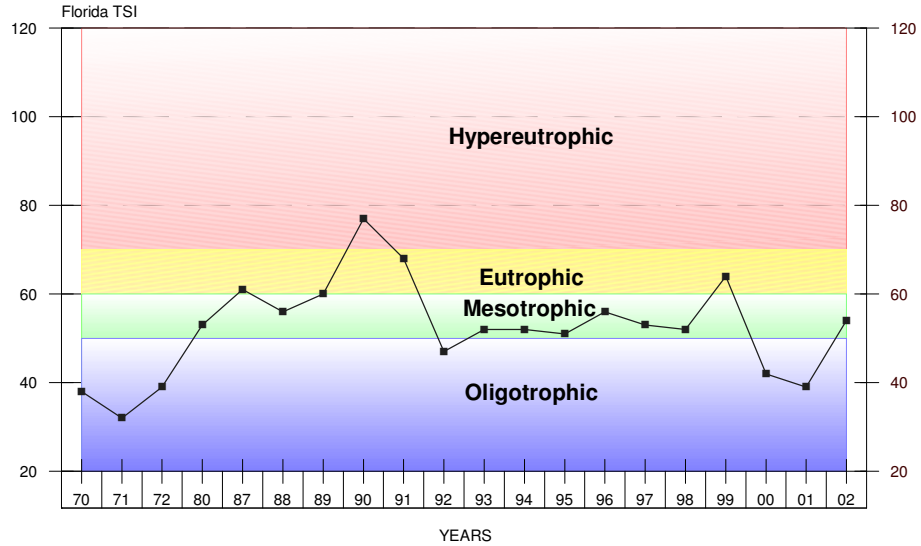
LakeLevel Min: 0

Water Quality Comments: Water quality is good. There is no trend in the water quality.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	11.84	15.44	6.38
Chlorophyll a (Corrected) mg/m3	10.68	13.67	6.41
Color Pt-Co	53	60	50
Conductivity @ 25C umhos/cm	199	199	198
Dissolved Oxygen (DO) mg/l	7.86	9.27	7.15
Nitrogen Ammonia (NH3) mg/l	0.006	0.017	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.445	1.475	1.401
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.022	0.066	0.000
Nitrogen Total (TN) mg/l	1.47	1.54	1.40
pH Std Unit	6.95	7.49	6.68
Phosphorus Total (TP) mg/l	0.030	0.038	0.022
Secchi Disk (SD) m	1.33	1.60	1.20
Temperature Deg C	25.80	28.81	19.79
Turbidity NTU	3.07	3.50	2.30

LOWERY

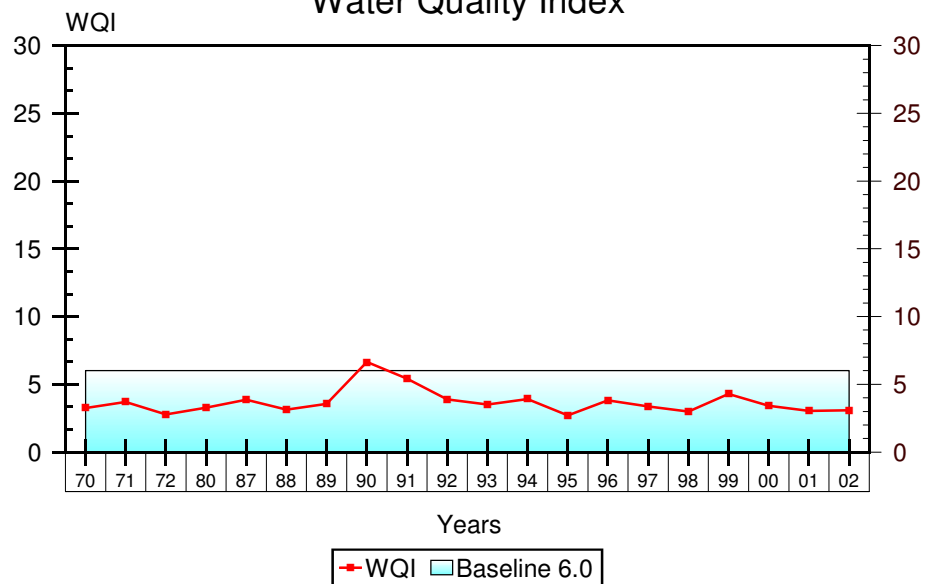
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LOWERY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Lulu		AliasName:	
S-T-R: 4-29-26	Lat/Lon 275950 / 814323	Surface Area(Acres): 301	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 8.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 20.50	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard.			

Historical and set lake level Information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 7/91-7/91 [Lk Howard - 2/1946 - Present]

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 130.57

Impaired Waterbody **TSI:** 64.50 **WQI:** 4.43 **LakeLevel Max:** 131.93

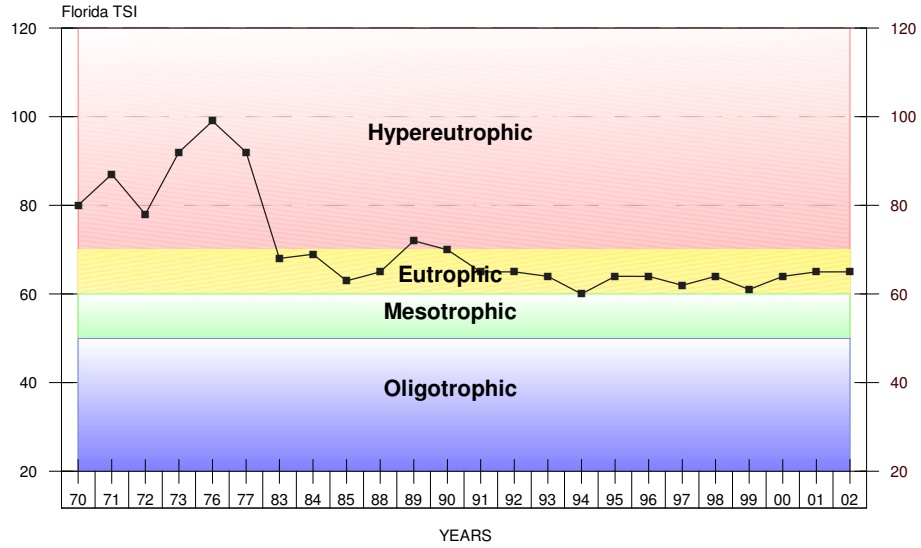
LakeLevel Min: 129.38

Water Quality Comments Water quality is fair. May have occasionally algal blooms.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	30.75	33.93	27.17
Chlorophyll a (Corrected) mg/m3	28.75	32.84	24.03
Color Pt-Co	18	20	15
Conductivity @ 25C umhos/cm	282	304	264
Dissolved Oxygen (DO) mg/l	8.42	9.87	7.06
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.486	1.653	1.380
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.008	0.000
Nitrogen Total (TN) mg/l	1.49	1.66	1.38
pH Std Unit	8.30	8.76	7.78
Phosphorus Total (TP) mg/l	0.041	0.055	0.020
Secchi Disk (SD) m	0.55	0.60	0.45
Temperature Deg C	24.44	29.54	16.42
Turbidity NTU	8.47	8.60	8.40

LULU

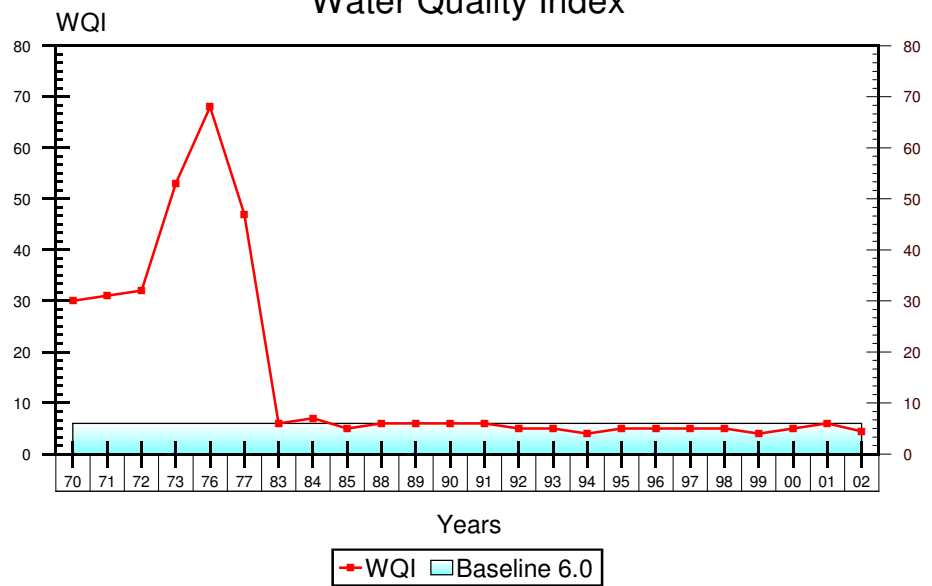
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

LULU

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Mariam		AliasName:	
S-T-R: 27-28-26	Lat/Lon 280056 / 814150	Surface Area(Acres): 199	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 127.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 7.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NO DAT Rated By FFWCC 3/97			
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 125.60	Max Desireable 124.50	Rec High: 125.80 Date: 08/13/95
100 Yr Flood: 126.30	Min Low: 122.75	Rec Low: 120.72 Date: 05/10/90
Min Flood: 124.75	Min Ext Low: 121.00	Lk Lvl POR: 2/26/1980 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 123.04

Impaired Waterbody **TSI:** 61.83 **WQI:** 4.98 **LakeLevel Max:** 124.02

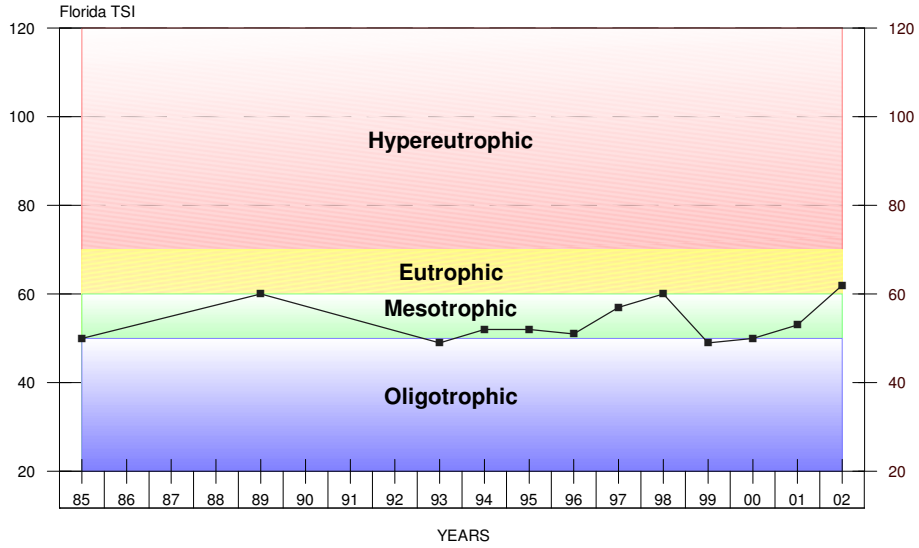
LakeLevel Min: 121.72

Water Quality Comments Water quality is fair. The lake can have periodic algal blooms.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	28.40	73.68	4.69
Chlorophyll a (Corrected) mg/m3	26.34	70.06	3.20
Color Pt-Co	150	250	100
Conductivity @ 25C umhos/cm	263	269	253
Dissolved Oxygen (DO) mg/l	7.29	8.34	6.65
Nitrogen Ammonia (NH3) mg/l	0.008	0.019	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.360	2.251	1.003
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.023	0.068	0.000
Nitrogen Total (TN) mg/l	1.38	2.25	1.01
pH Std Unit	6.86	7.31	6.7
Phosphorus Total (TP) mg/l	0.058	0.063	0.052
Secchi Disk (SD) m	0.42	0.80	0.28
Temperature Deg C	26.80	30.40	18.42
Total Suspended Solids (TSS) mg/l	4	4	4
Turbidity NTU	14.0	25.0	7.5

MARIAM

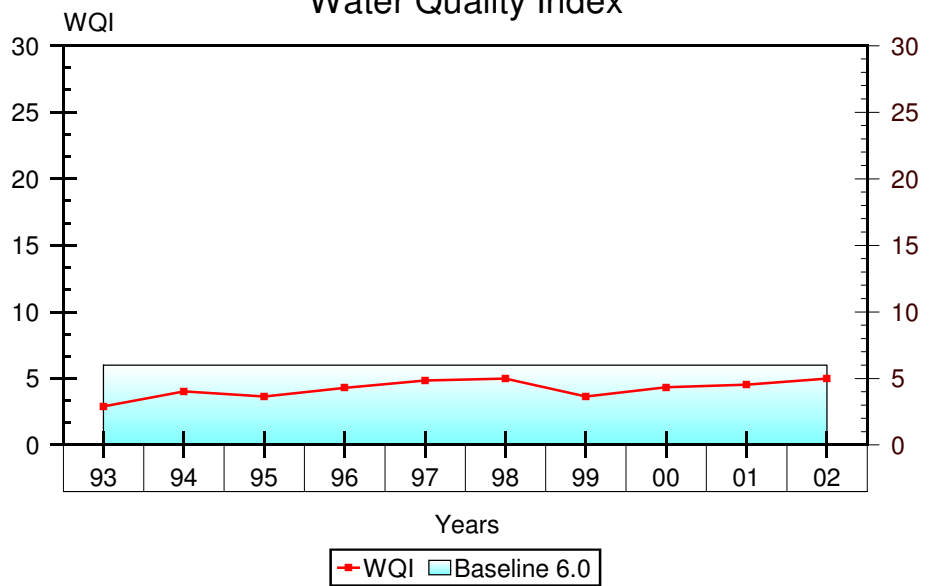
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MARIAM

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Mariana		AliasName: Sanitary	
S-T-R: 1-28-25	Lat/Lon 280432 / 814552	Surface Area(Acres): 503	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Auburndale		Elevation: 130.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 2.80	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Former Lake Name Sanitary.			

Historical and set lake level Information

10 Yr Flood: 138.60	Max Desireable 137.00	Rec High: 138.58 Date: 09/15/60
100 Yr Flood: 139.60	Min Low: 135.00	Rec Low: 133.90 Date: 07/01/56
Min Flood: 137.50	Min Ext Low: 133.00	Lk Lvl POR: 2/26/1946 - Present

Current year water quality and lake levels

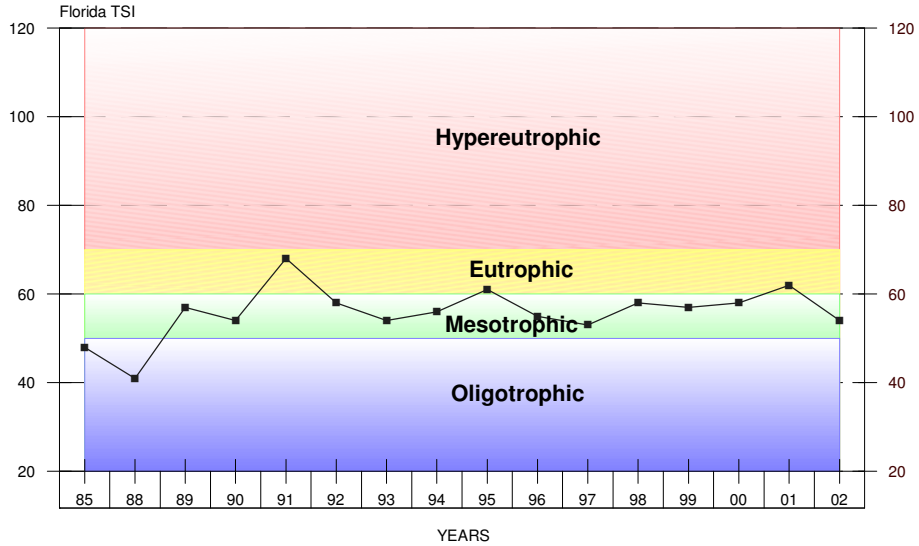
Year <u>2002</u>		Lake Level Mean: 136.55
Impaired Waterbody <input type="checkbox"/>	TSI: <u>53.52</u>	WQI: <u>2.95</u>
		LakeLevel Max: 137.56
		LakeLevel Min: 135.68

Water Quality Comments Water quality is fair. The lake is listed as a potential Impaired Water for TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	17.05	22.06	13.16
Chlorophyll a (Corrected) mg/m3	15.05	19.22	10.55
Color Pt-Co	15	20	12
Conductivity @ 25C umhos/cm	232	262	193
Dissolved Oxygen (DO) mg/l	7.94	10.39	5.36
Nitrogen Ammonia (NH3) mg/l	0.002	0.006	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.058	1.361	0.824
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.009	0.032	0.000
Nitrogen Total (TN) mg/l	1.07	1.36	0.86
pH Std Unit	7.42	8.51	6.77
Phosphorus Total (TP) mg/l	0.024	0.028	0.021
Secchi Disk (SD) m	0.98	1.2	0.70
Temperature Deg C	24.53	28.01	16.98
Total Suspended Solids (TSS) mg/l	4.8	5.6	4.0
Turbidity NTU	4.65	6.2	3.7

MARIANA

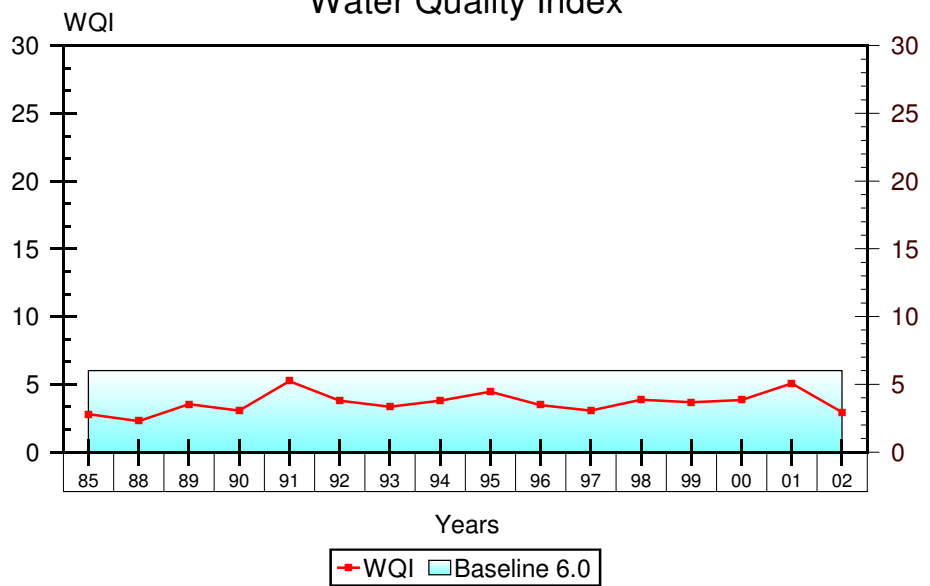
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MARIANA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Marie North		AliasName: MarieIn = Marie N; MarieIs = Marie S	
S-T-R: 27-28-27	Lat/Lon 280110 / 813630	Surface Area(Acres): 50	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Dundee		Elevation: 117.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge-Main Ridge		Lake Depth: 15.40	Meandered: <input type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NO DAT Rated By FFWCC 3/97			
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 122.30	Max Desireable 120.00	Rec High: 114.48 Date: 11/28/95
100 Yr Flood: 124.30	Min Low: 118.00	Rec Low: 104.82 Date: 6/25/01
Min Flood: 121.00	Min Ext Low: 116.00	Lk Lvl POR: 7/25/1991 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 109.71

Impaired Waterbody **TSI:** 60.38 **WQI:** 3.95 **LakeLevel Max:** 111.8

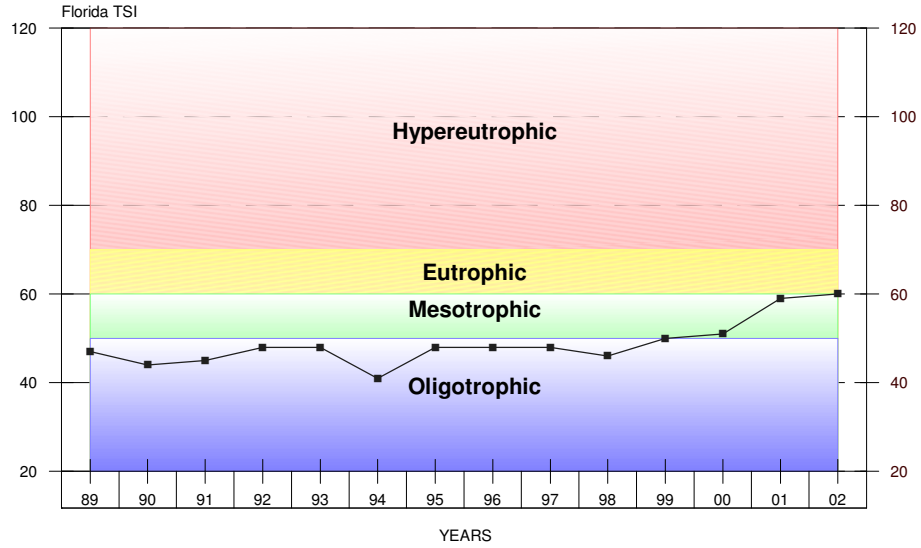
LakeLevel Min: 107.76

Water Quality Comments Water quality is fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	26.14	28.08	24.19
Chlorophyll a (Corrected) mg/m3	22.03	23.23	20.83
Color Pt-Co	26	28	23
Conductivity @ 25C umhos/cm	151	153	148
Dissolved Oxygen (DO) mg/l	8.11	9.21	7.00
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.424	1.563	1.285
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.004	0.008	0.000
Nitrogen Total (TN) mg/l	1.43	1.56	1.29
pH Std Unit	7.40	7.43	7.37
Phosphorus Total (TP) mg/l	0.034	0.040	0.028
Secchi Disk (SD) m	0.60	0.70	0.50
Temperature Deg C	23.41	29.34	17.47
Turbidity NTU	8.65	9.40	7.90

MARIE N

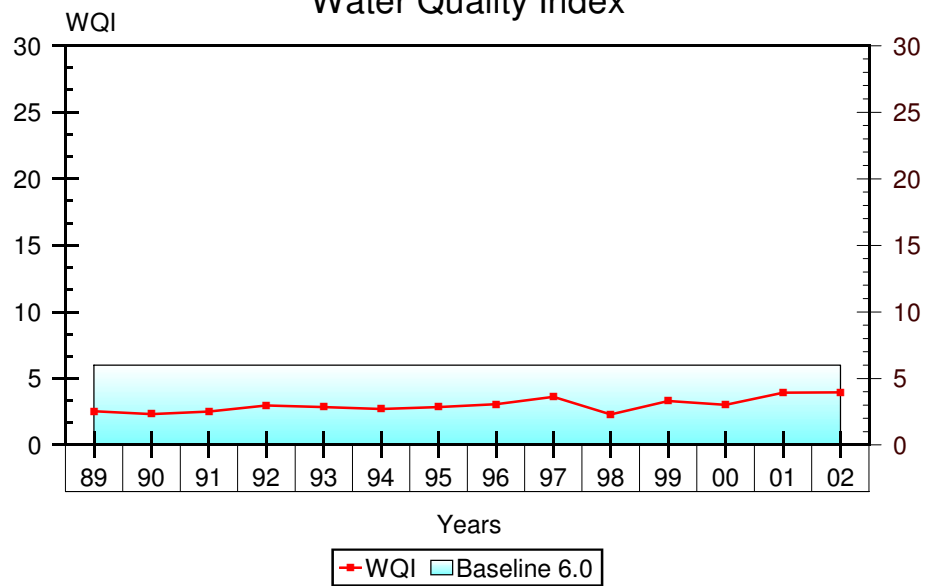
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MARIE N

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Marie South		AliasName: MarieIn = Marie N; MarieIs = Marie S	
S-T-R: 27-28-27	Lat/Lon 280110 / 813630	Surface Area(Acres): 50	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Dundee		Elevation: 117.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge-Main Ridge		Lake Depth: 15.40	Meandered: <input type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NO DAT Rated By FFWCC 3/97			
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 122.30	Max Desireable 120.00	Rec High: 114.48 Date: 11/28/95
100 Yr Flood: 124.30	Min Low: 118.00	Rec Low: 104.82 Date: 6/25/01
Min Flood: 121.00	Min Ext Low: 116.00	Lk Lvl POR: 7/25/1991 - Present

Current year water quality and lake levels

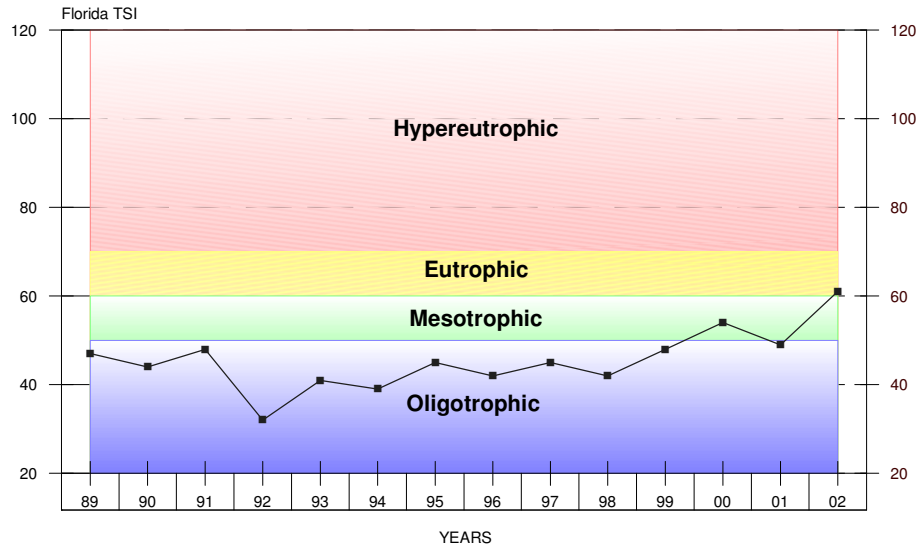
Year 2002 **Lake Level Mean:** 109.71
Impaired Waterbody **TSI:** 60.61 **WQI:** 3.74 **LakeLevel Max:** 111.8
LakeLevel Min: 107.76

Water Quality Comments Water quality is fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	20.72	22.37	19.36
Chlorophyll a (Corrected) mg/m3	18.96	20.83	17.62
Color Pt-Co	25	30	23
Conductivity @ 25C umhos/cm	141	145	139
Dissolved Oxygen (DO) mg/l	7.70	8.65	7.22
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.419	1.569	1.165
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.007	0.000
Nitrogen Total (TN) mg/l	1.42	1.57	1.17
pH Std Unit	7.35	7.48	7.08
Phosphorus Total (TP) mg/l	0.038	0.071	0.014
Secchi Disk (SD) m	0.87	1.20	0.70
Temperature Deg C	25.40	29.38	17.45
Turbidity NTU	5.40	6.10	4.10

MARIE S

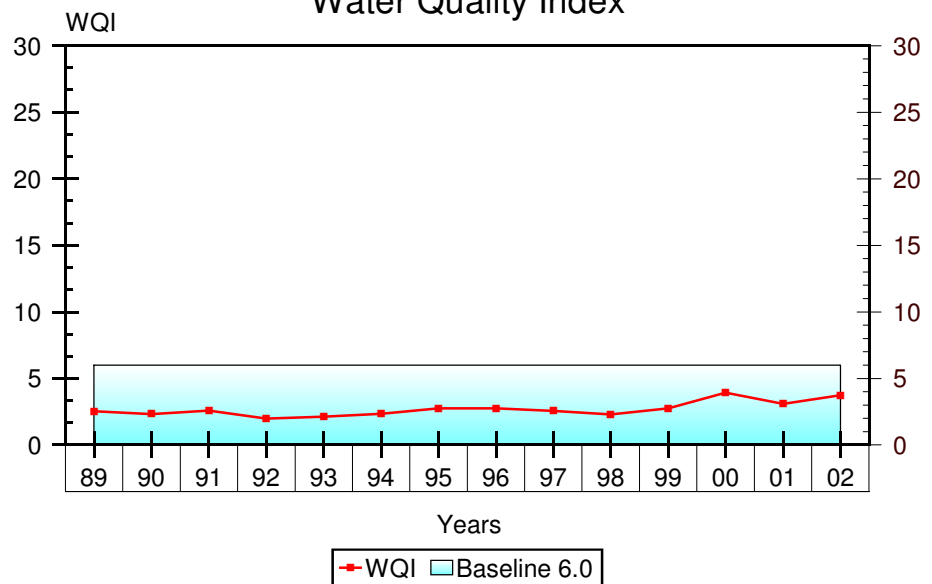
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MARIE S

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Marion		AliasName:	
S-T-R: 5-28-28	Lat/Lon 280448 / 813159	Surface Area(Acres): 2,990	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity E Of Lake Hamilton		Elevation: 67.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge		Lake Depth: 11.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 35.69	Water Quality Data: Current	POR: 1973 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 67.30	Max Desireable	Rec High: 67.52 Date: 09/12/60
100 Yr Flood: 72.00	Min Low:	Rec Low: 64.86 Date: 06/01/67
Min Flood:	Min Ext Low:	Lk Lvl POR: 9/1/58 - 2/29/92

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 72.86 **WQI:** 6.90 **LakeLevel Max:** 0

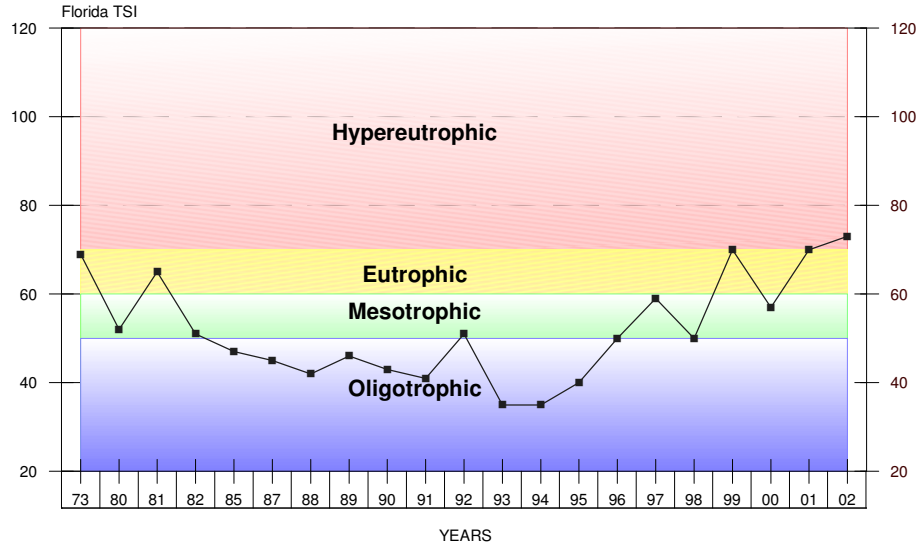
LakeLevel Min: 0

Water Quality Comments Water quality is poor. The lake is listed as a potential Impaired Water for TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	59.01	77.42	34.19
Chlorophyll a (Corrected) mg/m3	55.09	76.10	30.44
Color Pt-Co	89	100	76
Conductivity @ 25C umhos/cm	180	192	163
Dissolved Oxygen (DO) mg/l	8.97	11.75	7.34
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.266	2.737	1.962
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.078	0.232	0.000
Nitrogen Total (TN) mg/l	2.34	2.74	2.10
pH Std Unit	7.86	7.90	7.79
Phosphorus Total (TP) mg/l	0.056	0.061	0.051
Secchi Disk (SD) m	0.39	0.53	0.30
Temperature Deg C	22.49	28.37	11.25
Turbidity NTU	15.20	22	9.70

MARION

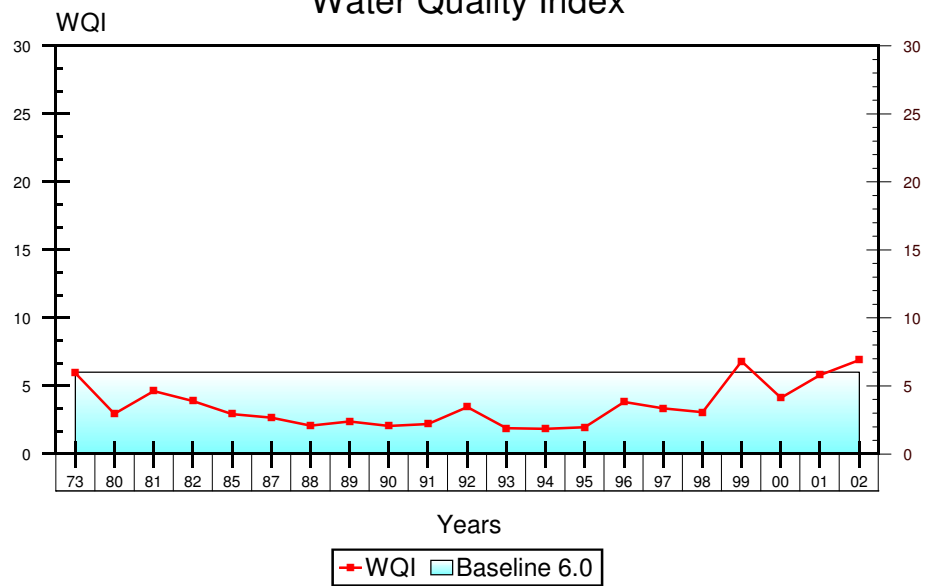
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MARION

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Martha		AliasName:	
S-T-R: 21-28-26	Lat/Lon 280154 / 814317	Surface Area(Acres): 85	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 142.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.28	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 142.50	Max Desireable 141.50	Rec High: 142.62 Date: 10/27/95
100 Yr Flood: 143.80	Min Low: 139.00	Rec Low: 137.05 Date: 6/20/01
Min Flood: 142.00	Min Ext Low: 137.00	Lk Lvl POR: 11/21/1985 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 139.63

Impaired Waterbody **TSI:** 22.39 **WQI:** 1.67 **LakeLevel Max:** 141.15

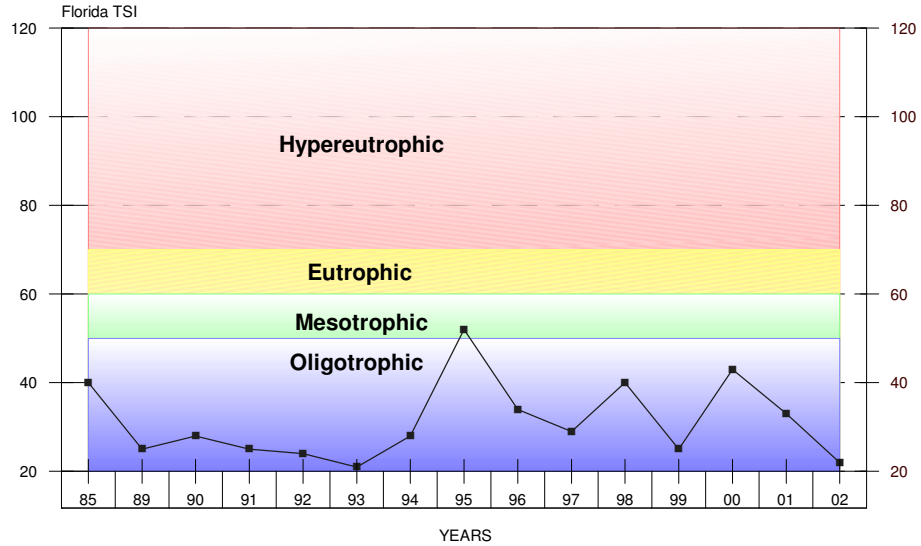
LakeLevel Min: 138.53

Water Quality Comments Water quality is very good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	6.25	7.84	3.42
Chlorophyll a (Corrected) mg/m3	6.02	7.21	3.42
Color Pt-Co	9	12	7
Conductivity @ 25C umhos/cm	249	264	236
Dissolved Oxygen (DO) mg/l	8.13	8.79	7.05
Nitrogen Ammonia (NH3) mg/l	0.007	0.019	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.064	0.655	0.618
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.015	0.041	0.000
Nitrogen Total (TN) mg/l	0.65	0.67	0.64
pH Std Unit	7.56	8.34	7.13
Phosphorus Total (TP) mg/l	0.003	0.012	0.000
Secchi Disk (SD) m	2.43	3.1	2.0
Temperature Deg C	22.44	29.33	17.39
Total Suspended Solids (TSS) mg/l	1.4	2.0	0.8
Turbidity NTU	1.68	2.0	1.3

MARTHA

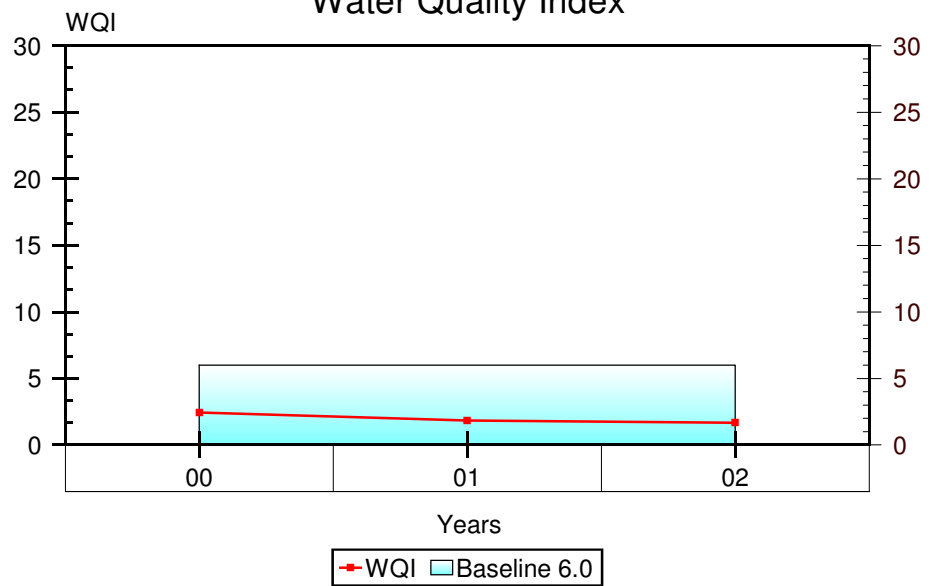
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MARTHA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Mattie		AliasName:	
S-T-R: 14-27-25	Lat/Lon 280810 / 814703	Surface Area(Acres): 1,078	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Polk City		Elevation: 132.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 12.00	Meandered: <input type="checkbox"/>
Drainage Basin: Withlacoochee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 14.70	Water Quality Data: Current	POR: 1971 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Juliana			

Historical and set lake level Information

10 Yr Flood: 133.00	Max Desireable 132.00	Rec High: 133.42 Date: 12/27/97 Rec Low: 127.90 Date: 6/18/01
100 Yr Flood: 134.70	Min Low: 130.00	
Min Flood: 132.50	Min Ext Low: 127.50	
		Lk Lvl POR: 4/17/1962 - Present

Current year water quality and lake levels

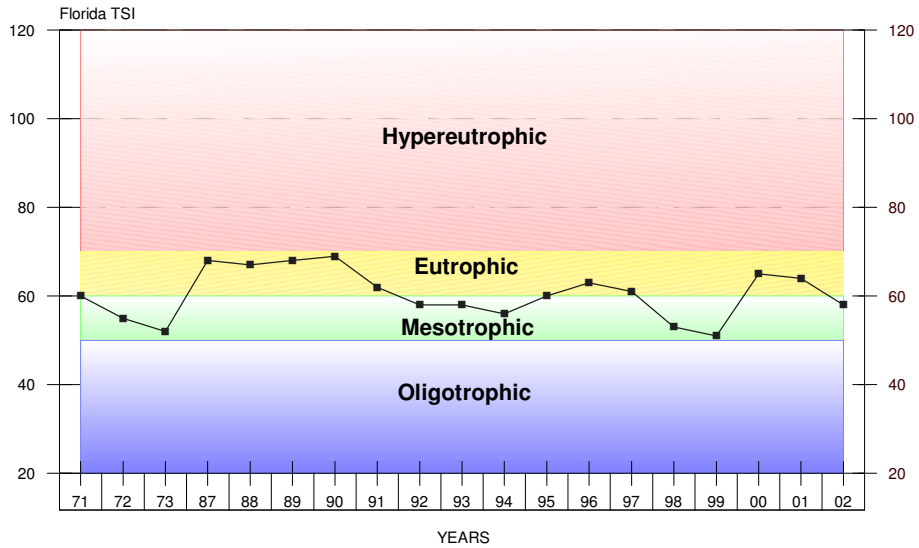
Year 2002
Lake Level Mean: 129.71
Impaired Waterbody
TSI: 58.43
WQI: 5.02
LakeLevel Max: 131.76
LakeLevel Min: 128.13

Water Quality Comments Water quality is fair to good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	18.25	18.25	18.25
Chlorophyll a (Corrected) mg/m3	12.02	12.02	12.02
Color Pt-Co	175	175	175
Conductivity @ 25C umhos/cm	244	244	244
Dissolved Oxygen (DO) mg/l	7.47	7.47	7.47
Nitrogen Ammonia (NH3) mg/l	0.069	0.069	0.069
Nitrogen Kjeldahl (TKN) mg/l	1.531	1.531	1.531
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.043	0.043	0.043
Nitrogen Total (TN) mg/l	1.57	1.57	1.57
pH Std Unit	7.09	7.09	7.09
Phosphorus Total (TP) mg/l	0.082	0.082	0.082
Secchi Disk (SD) m	0.4	0.4	0.4
Temperature Deg C	23.28	23.28	23.28
Turbidity NTU	8.2	8.2	8.2

MATTIE

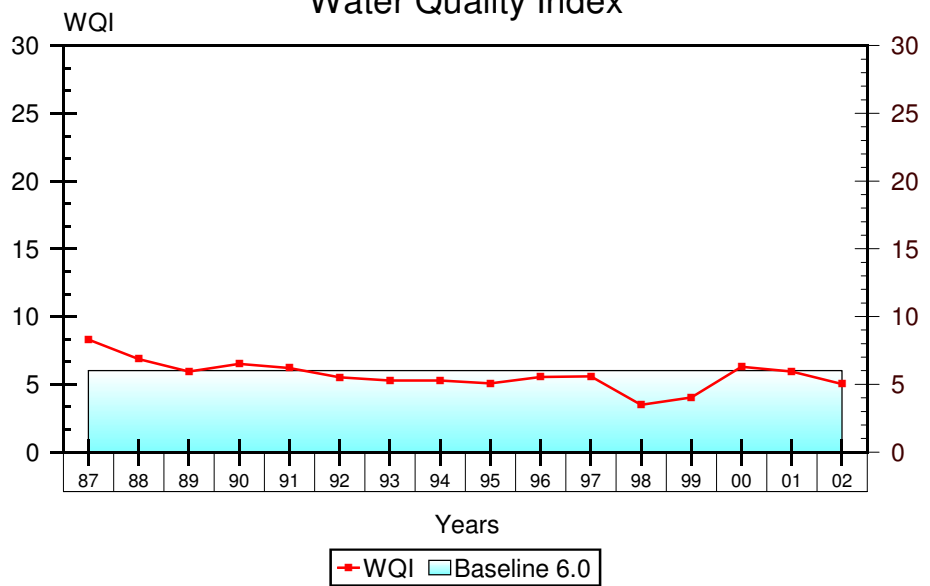
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MATTIE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Maude		AliasName:	
S-T-R: 21-28-26	Lat/Lon 280224 / 814317	Surface Area(Acres): 55	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 140.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 0.55	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NO DAT	Rated By FFWCC 3/97		
Misc Information about this waterbody: The park is owned by the city. The LRLMD plans on putting in a pier and renovating the ra			

Historical and set lake level Information

10 Yr Flood: 141.70	Max Desireable 140.00	Rec High: 140.08 Date: 2/19/99
100 Yr Flood: 143.30	Min Low: 137.50	Rec Low: 136.00 Date: 5/25/01
Min Flood: 140.50	Min Ext Low: 136.00	Lk Lvl POR: 11/21/1985 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 138.9

Impaired Waterbody **TSI:** 50.21 **WQI:** 2.54 **LakeLevel Max:** 139.4

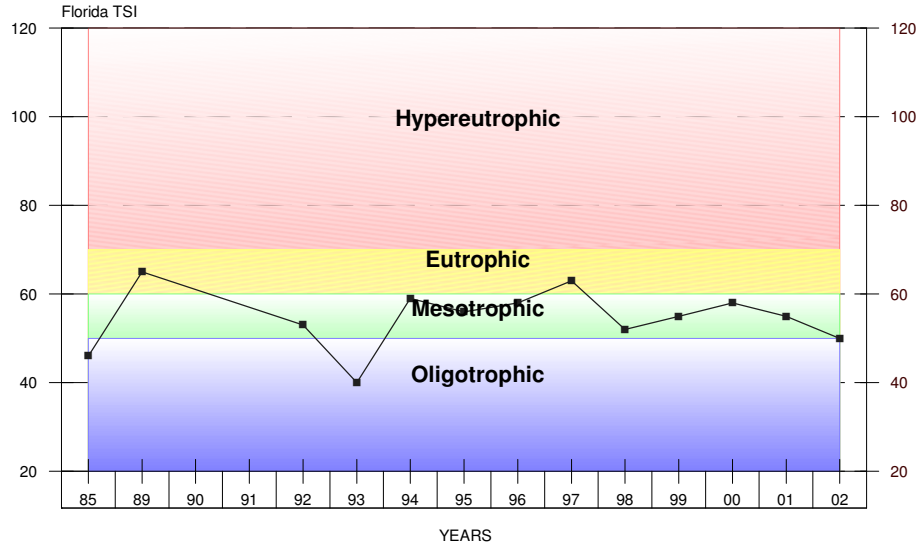
LakeLevel Min: 137.7

Water Quality Comments Water quality is good. Listed by FDEP as a potential Impaired Water for TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	12.21	14.62	10.14
Chlorophyll a (Corrected) mg/m3	10.95	12.82	8.81
Color Pt-Co	15	15	15
Conductivity @ 25C umhos/cm	238	261	214
Dissolved Oxygen (DO) mg/l	7.70	8.75	7.09
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.867	1.012	0.715
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.015	0.045	0.000
Nitrogen Total (TN) mg/l	0.88	1.01	0.76
pH Std Unit	7.75	8.16	7.37
Phosphorus Total (TP) mg/l	0.022	0.031	0.013
Secchi Disk (SD) m	1.33	1.80	0.90
Temperature Deg C	25.47	29.05	18.63
Total Suspended Solids (TSS) mg/l	5.2	5.2	5.2
Turbidity NTU	3.04	4.20	1.93

MAUDE

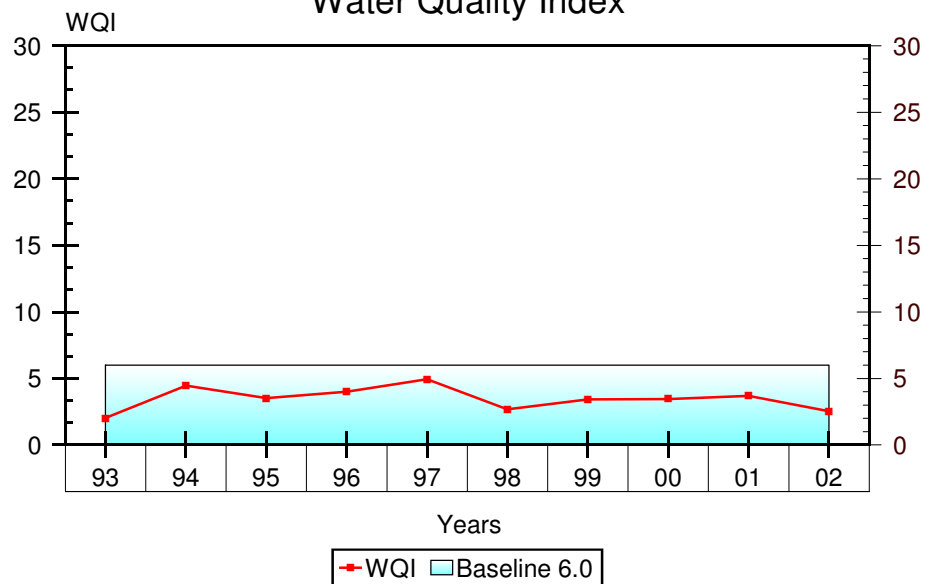
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MAUDE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: May		AliasName:	
S-T-R: 29-28-26	Lat/Lon 280048 / 814413	Surface Area(Acres): 44	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 6.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 13.60	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10	Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69	Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]	

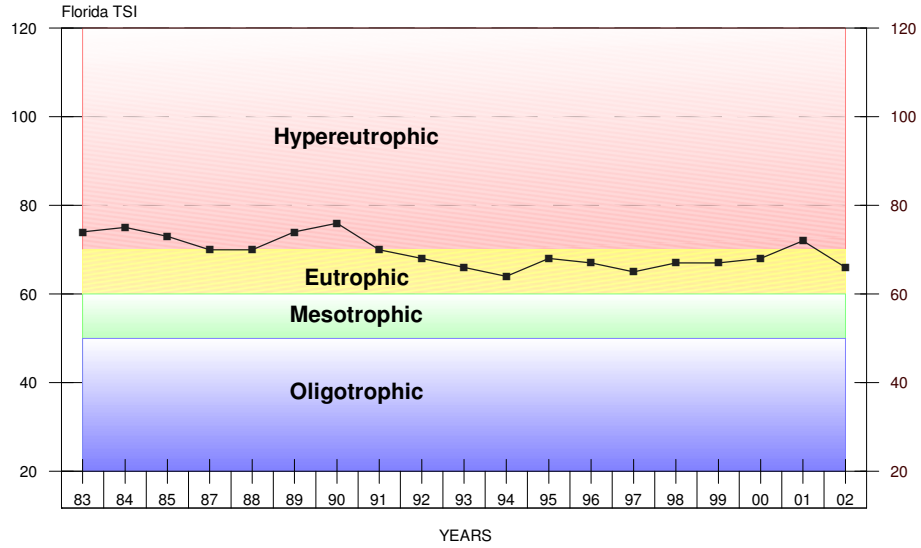
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 130.57
Impaired Waterbody <input checked="" type="checkbox"/>	LakeLevel Max: 131.93
TSI: <u>65.64</u>	LakeLevel Min: 129.38
WQI: <u>5.50</u>	
Water Quality Comments Water quality is poor. Listed by FDEP as a potential Impaired Water for nutrients and TSI.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	40.50	47.98	30.30
Chlorophyll a (Corrected) mg/m3	38.18	44.06	28.04
Color Pt-Co	20	22	15
Conductivity @ 25C umhos/cm	261	280	242
Dissolved Oxygen (DO) mg/l	8.77	9.55	7.31
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.709	1.872	1.463
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.005	0.000
Nitrogen Total (TN) mg/l	1.71	1.88	1.46
pH Std Unit	8.12	8.71	7.47
Phosphorus Total (TP) mg/l	0.059	0.094	0.015
Secchi Disk (SD) m	0.48	0.60	0.35
Temperature Deg C	24.66	29.21	16.21
Turbidity NTU	10.87	12.40	9.60

MAY

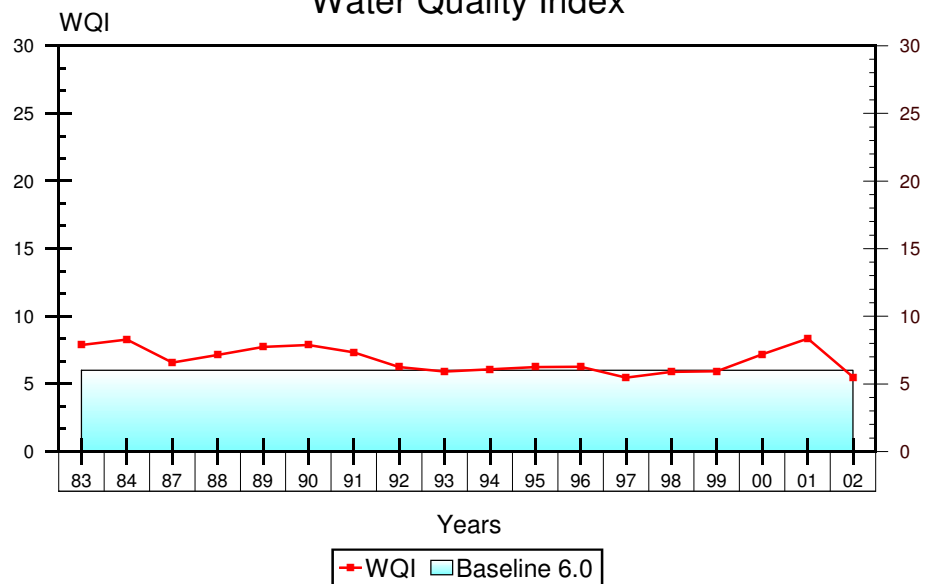
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MAY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Mc Leod		AliasName:	
S-T-R: 7-29-26	Lat/Lon 275800 / 814518	Surface Area(Acres): 512	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Eagle Lake		Elevation: 133.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 22.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 1.50	Water Quality Data: Current	POR: 1985; 1990; 19	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 133.10	Max Desireable 131.50	Rec High: 131.98 Date: 09/28/98
100 Yr Flood: 134.60	Min Low: 129.50	Rec Low: 115.11 Date: 05/12/76
Min Flood: 132.00	Min Ext Low: 128.00	Lk Lvl POR: 3/13/1965 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 125.42

Impaired Waterbody **TSI:** 45.88 **WQI:** 2.28 **LakeLevel Max:** 126.15

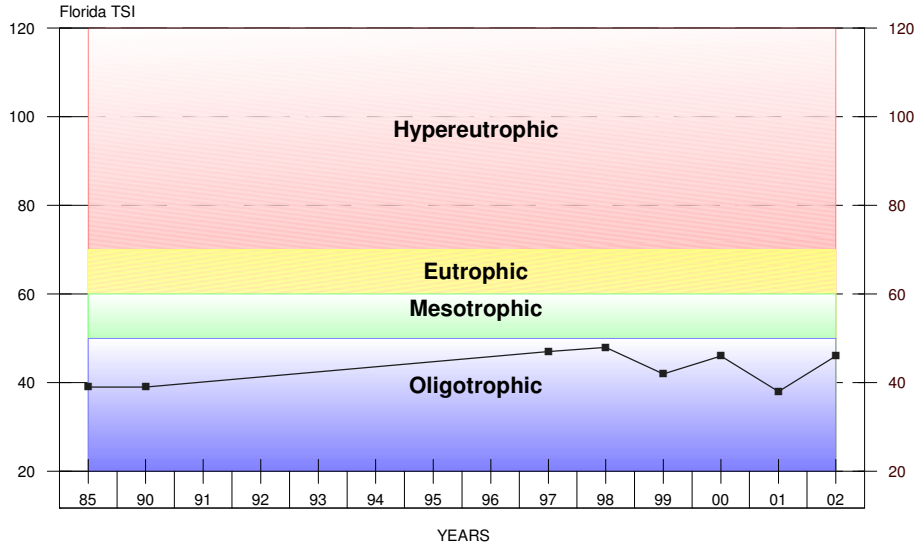
LakeLevel Min: 124.58

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	9.23	16.54	5.36
Chlorophyll a (Corrected) mg/m3	7.82	12.42	5.25
Color Pt-Co	11	15	9
Conductivity @ 25C umhos/cm	227	240	200
Dissolved Oxygen (DO) mg/l	7.66	8.86	7.06
Nitrogen Ammonia (NH3) mg/l	0.000	0.001	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.659	0.952	0.470
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.005	0.014	0.000
Nitrogen Total (TN) mg/l	0.66	0.97	0.47
pH Std Unit	6.70	7.18	5.74
Phosphorus Total (TP) mg/l	0.027	0.039	0.019
Secchi Disk (SD) m	1.67	1.90	1.20
Temperature Deg C	24.99	28.48	18.02
Turbidity NTU	1.70	2.20	1.41

McLEOD

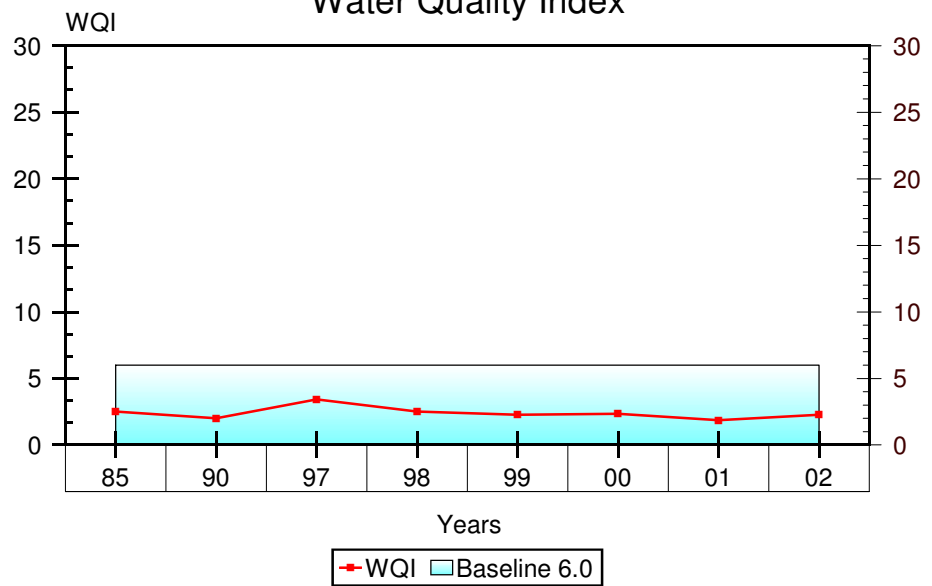
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

McLEOD

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Menzie		AliasName:	
S-T-R: 28-28-27	Lat/Lon 280108 / 813712	Surface Area(Acres): 22	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Dundee		Elevation: 148.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 22.30	Meandered: <input type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NA	Rated By FFWCC 3/97		
Misc Information about this waterbody: Lots of hydrilla in the lake.			

Historical and set lake level Information

10 Yr Flood: 127.00	Max Desireable 121.75	Rec High: 123.38 Date: 10/12/95
100 Yr Flood: 128.80	Min Low: 120.00	Rec Low: 114.70 Date: 6/25/01
Min Flood: 122.00	Min Ext Low: 118.00	Lk Lvl POR: 7/25/1991 - Present

Current year water quality and lake levels

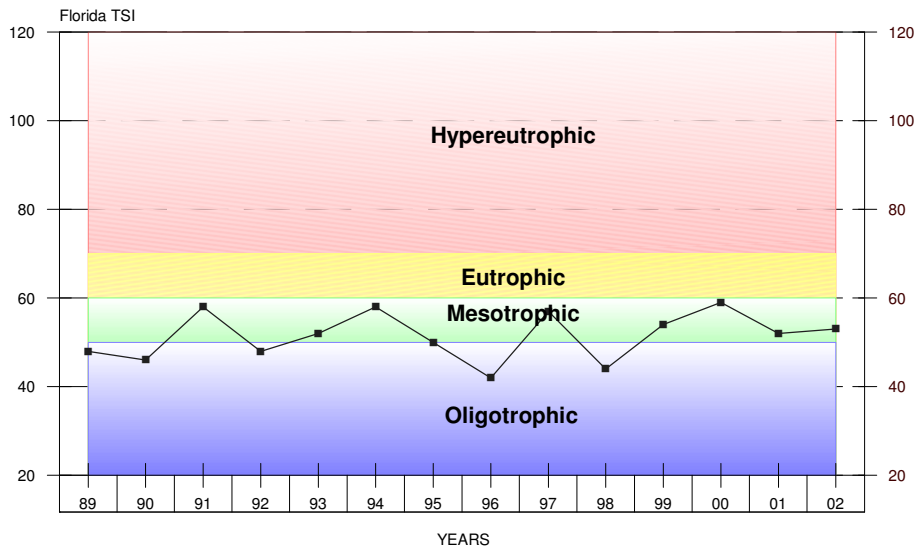
Year 2002
Lake Level Mean: 119.56
Impaired Waterbody
TSI: 53.01
WQI: 2.80
LakeLevel Max: 121.52
LakeLevel Min: 118

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	15.97	18.29	13.65
Chlorophyll a (Corrected) mg/m3	14.02	16.82	11.21
Color Pt-Co	29	30	28
Conductivity @ 25C umhos/cm	214	230	197
Dissolved Oxygen (DO) mg/l	8.05	8.84	7.26
Nitrogen Ammonia (NH3) mg/l	0.003	0.005	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.063	1.064	1.063
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	1.06	1.07	1.06
pH Std Unit	7.96	8.32	7.60
Phosphorus Total (TP) mg/l	0.024	0.028	0.019
Secchi Disk (SD) m	1.03	1.2	0.85
Temperature Deg C	23.66	29.31	18.0
Turbidity NTU	2.93	4.00	1.85

MENZIE

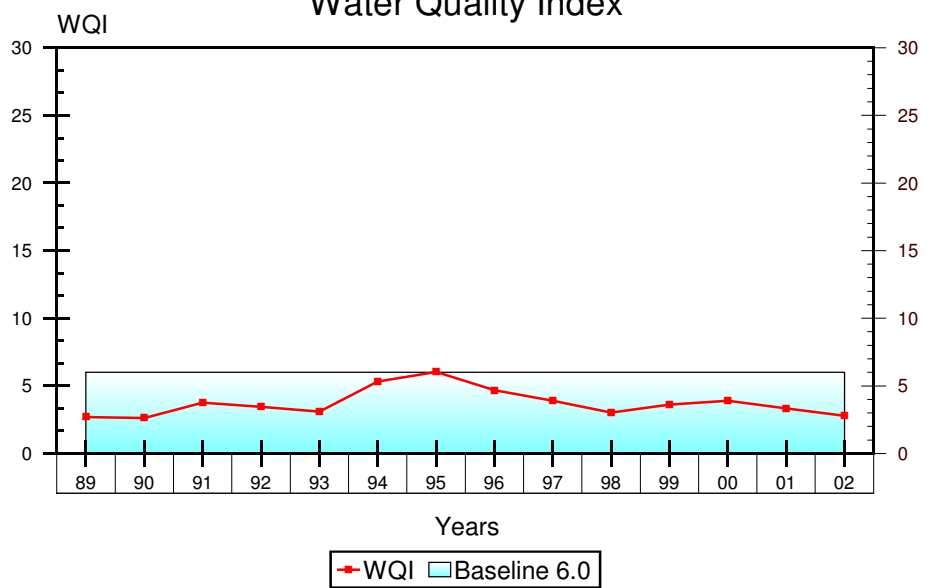
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MENZIE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Middle Hamilton		AliasName:	
S-T-R: 7-28-27	Lat/Lon 280050 / 813855	Surface Area(Acres): 106	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lake Hamilton		Elevation: 120.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 8.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1988 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Hamilton.			

Historical and set lake level Information

10 Yr Flood: 122.50	Max Desireable 121.25	Rec High: 124.34 Date: 10/03/48
100 Yr Flood: 123.70	Min Low: 119.00	Rec Low: 116.69 Date: 6/18/01
Min Flood: 121.50	Min Ext Low: 117.25	Lk Lvl POR: 6/91-6/91[Lk Hamilton - 6/44 - Present]

Current year water quality and lake levels

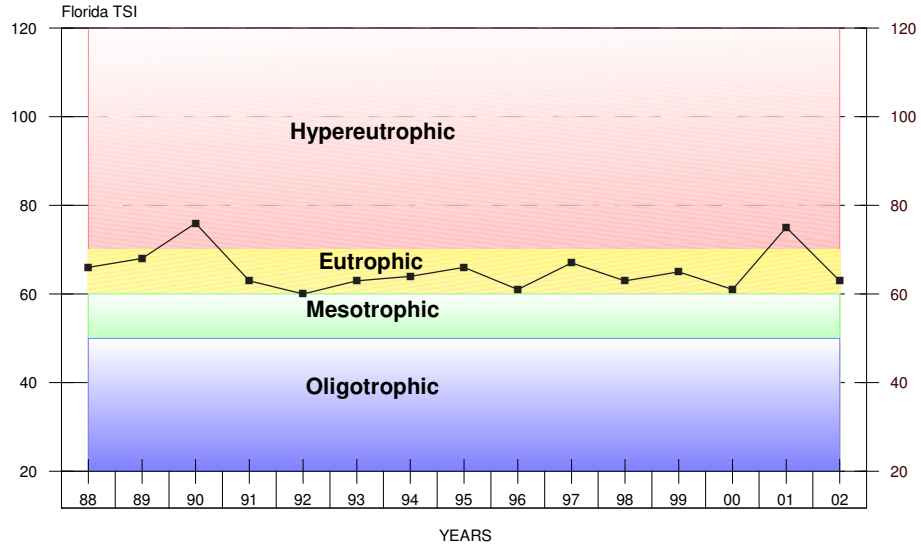
Year 2002
Lake Level Mean: 118.4
Impaired Waterbody
TSI: 63.32
WQI: 5.26
LakeLevel Max: 119.1
LakeLevel Min: 117.8

Water Quality Comments Water quality is poor.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	20.69	37.65	3.72
Chlorophyll a (Corrected) mg/m3	18.02	32.84	3.20
Color Pt-Co	210	250	170
Conductivity @ 25C umhos/cm	237	269	204
Dissolved Oxygen (DO) mg/l	7.48	8.62	6.33
Nitrogen Ammonia (NH3) mg/l	0.018	0.036	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.162	2.200	2.124
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.131	0.261	0.000
Nitrogen Total (TN) mg/l	2.29	2.46	2.12
pH Std Unit	6.73	7.24	6.21
Phosphorus Total (TP) mg/l	0.084	0.086	0.081
Secchi Disk (SD) m	0.75	0.90	0.60
Temperature Deg C	22.55	28.07	17.02
Turbidity NTU	4.23	6.60	1.86

MIDDLE HAMILTON

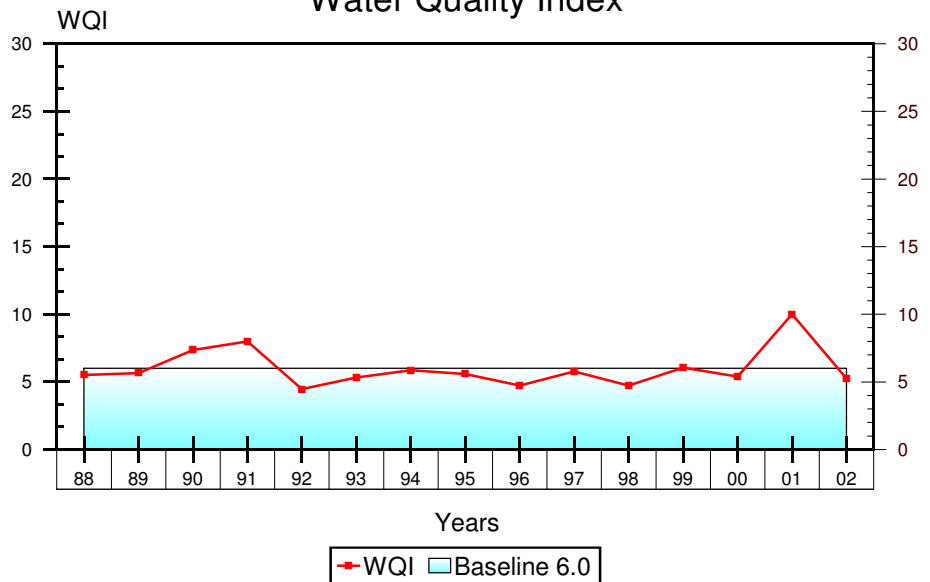
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MIDDLE HAMILTON

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Mirror (WH)		AliasName:	
S-T-R: 20-28-27	Lat/Lon 280216 / 814431	Surface Area(Acres): 123	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 14.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.50	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]

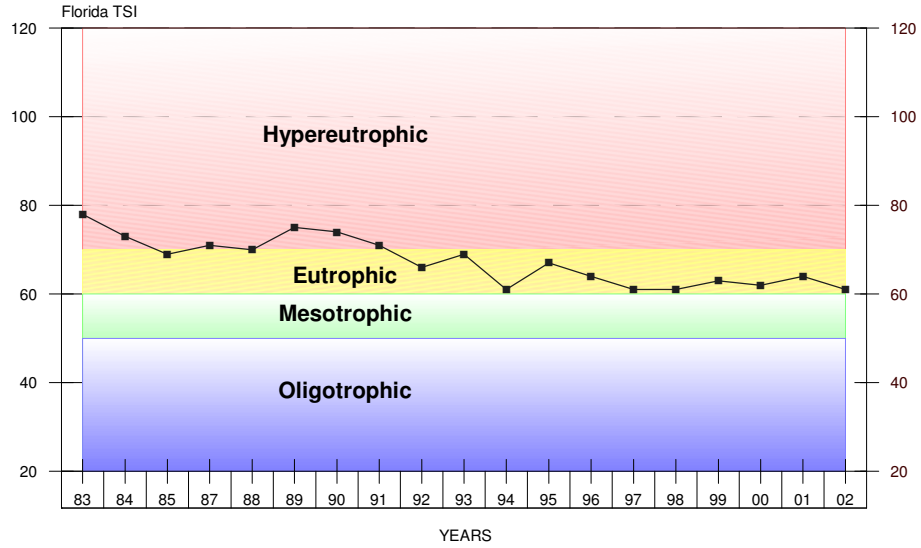
Current year water quality and lake levels

Year <u>2002</u>		Lake Level Mean: 130.57
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>60.66</u>	LakeLevel Max: 131.93
	WQI: <u>4.59</u>	LakeLevel Min: 129.38
Water Quality Comments Water quality is poor. Slow improving trend for water quality. FDEP listed as Impaired Water for nutrients.		

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	36.92	42.54	32.29
Chlorophyll a (Corrected) mg/m3	35.59	39.25	32.29
Color Pt-Co	18	20	15
Conductivity @ 25C umhos/cm	228	240	215
Dissolved Oxygen (DO) mg/l	9.49	9.60	9.37
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.823	1.975	1.679
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.003	0.006	0.000
Nitrogen Total (TN) mg/l	1.83	1.98	1.68
pH Std Unit	8.55	9.36	7.11
Phosphorus Total (TP) mg/l	0.026	0.046	0.009
Secchi Disk (SD) m	0.48	0.60	0.40
Temperature Deg C	24.72	28.62	17.21
Turbidity NTU	8.07	9.20	7.20

MIRROR

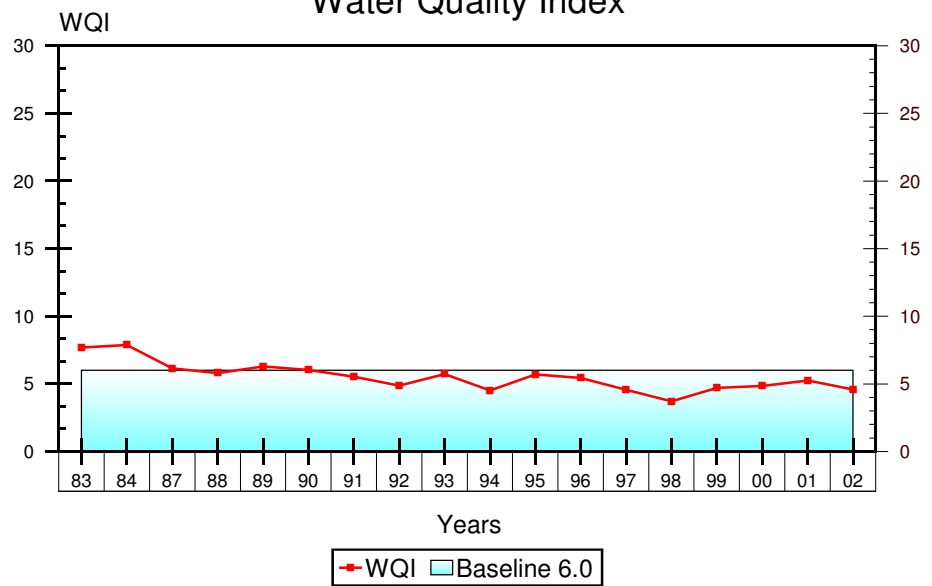
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MIRROR

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Mud (PC)		AliasName: Margaret	
S-T-R: 6-27-25	Lat/Lon 281010 / 815038	Surface Area(Acres): 133	Bottom Contour: <input type="checkbox"/>
LocationCity W Of Polk City		Elevation: 138.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 6.90	Meandered: <input type="checkbox"/>
Drainage Basin: Withlacoochee River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 1.77	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		
Misc Information about this waterbody: Also Known As Lake Margaret.			

Historical and set lake level Information

10 Yr Flood: 141.80	Max Desireable 141.00	Rec High: 141.28	Date: 12/17/02
100 Yr Flood: 142.50	Min Low: 137.75	Rec Low: 136.85	Date: 5/30/01
Min Flood: 141.50	Min Ext Low: 136.00	Lk Lvl POR: 4/26/1979 - Present	

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 140.09

Impaired Waterbody **TSI:** 66.19 **WQI:** 6.39 **LakeLevel Max:** 141.28

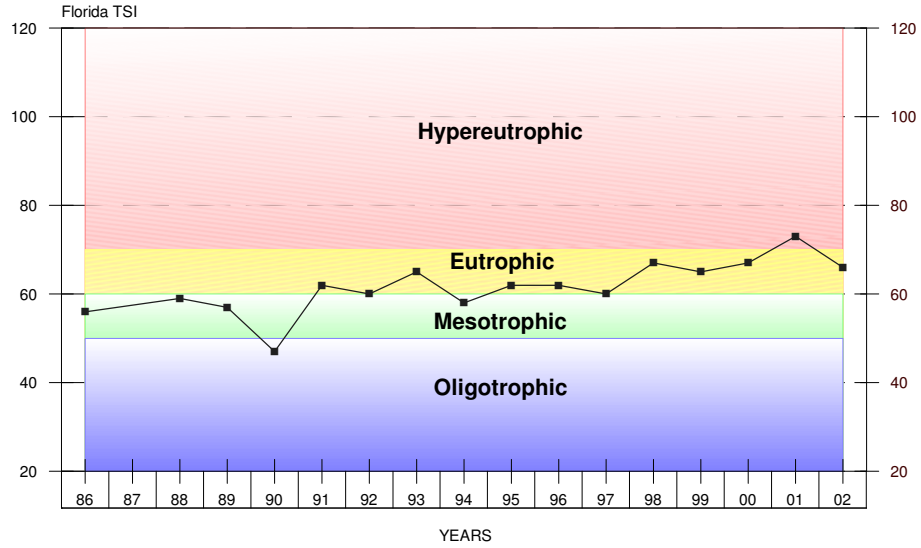
LakeLevel Min: 138.6

Water Quality Comments Water quality is poor. Algal blooms can be persistent.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	40.88	45.28	38.09
Chlorophyll a (Corrected) mg/m3	34.62	39.73	31.24
Color Pt-Co	60	70	50
Conductivity @ 25C umhos/cm	125	146	110
Dissolved Oxygen (DO) mg/l	7.36	8.13	6.85
Nitrogen Ammonia (NH3) mg/l	0.112	0.337	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.849	2.124	1.567
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.005	0.000
Nitrogen Total (TN) mg/l	1.85	2.12	1.57
pH Std Unit	6.99	7.29	6.75
Phosphorus Total (TP) mg/l	0.071	0.086	0.060
Secchi Disk (SD) m	0.51	0.54	0.50
Temperature Deg C	27.55	30.27	23.34
Turbidity NTU	7.03	7.80	6.30

MUD

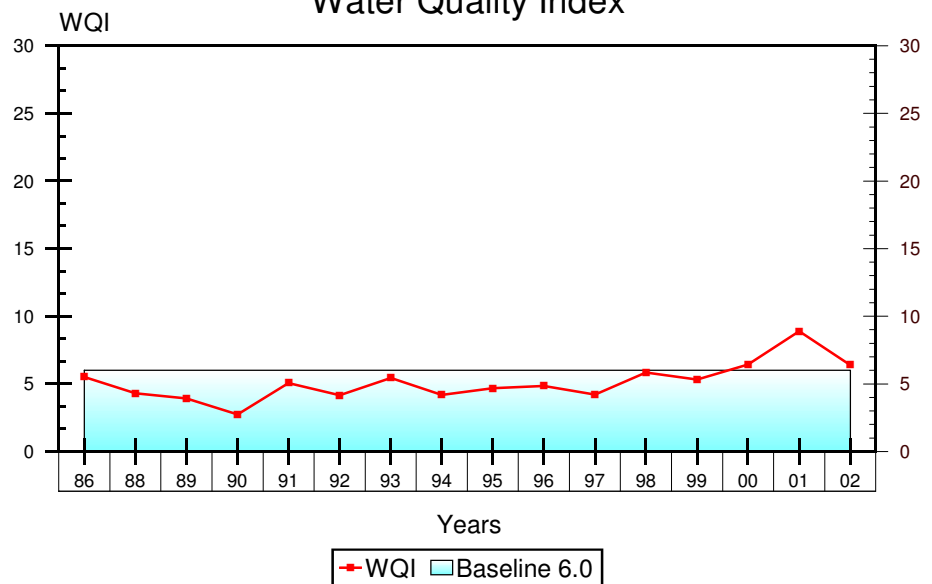
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

MUD

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Ned		AliasName:	
S-T-R: 1-29-26	Lat/Lon: 275951 / 814020	Surface Area(Acres): 74	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Winter Haven		Elevation: 131.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles): 0.40	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NA	Rated By:		
Misc Information about this waterbody: ***** Park area next to boat access is ***** PRIVATE ***** This park is NOT for the pub Parking area is very limited only room for maybe three trailers.			

Historical and set lake level information

10 Yr Flood: 130.60	Max Desireable: 127.75	Rec High: 129.50	Date: 10/22/98
100 Yr Flood: 130.90	Min Low: 126.00	Rec Low: 124.04	Date: 6/25/01
Min Flood: 128.50	Min Ext Low: 124.00	Lk Lvl POR: 9/13/1989 - Present	

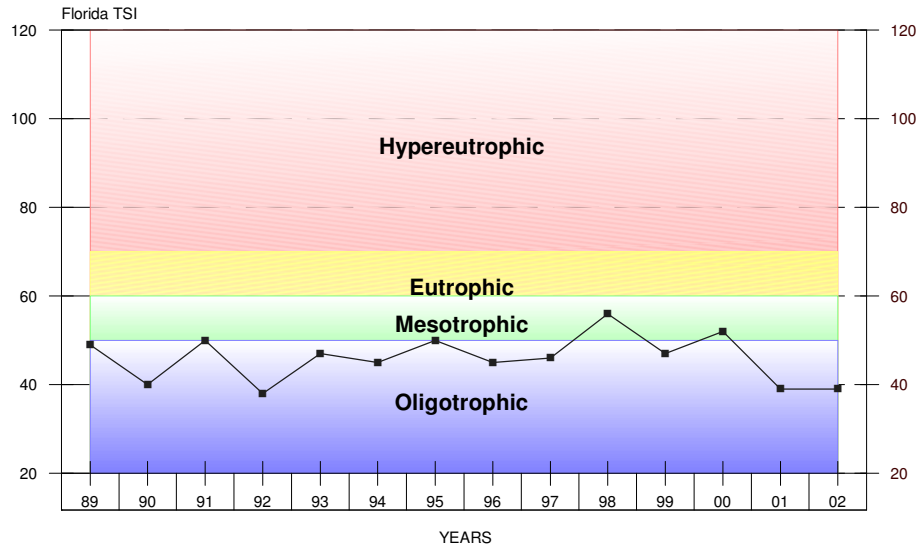
Current year water quality and lake levels

Year: <u>2002</u>	Lake Level Mean: 127.23
Impaired Waterbody: <input type="checkbox"/>	LakeLevel Max: 127.8
TSI: <u>39.49</u>	LakeLevel Min: 126.06
WQI: <u>1.86</u>	

Water Quality Comments: Water quality is good. Trend consistant for last ten years.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	3.26	5.14	2.04
Chlorophyll a (Corrected) mg/m3	2.89	5.14	1.60
Color Pt-Co	24	25	20
Conductivity @ 25C umhos/cm	260	288	230
Dissolved Oxygen (DO) mg/l	7.85	10.0	5.71
Nitrogen Ammonia (NH3) mg/l	0.002	0.007	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.691	0.752	0.607
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.046	0.168	0.002
Nitrogen Total (TN) mg/l	0.74	0.78	0.67
pH Std Unit	7.22	7.72	6.75
Phosphorus Total (TP) mg/l	0.020	0.027	0.013
Secchi Disk (SD) m	3.08	3.40	2.80
Temperature Deg C	23.91	31.76	16.53
Total Suspended Solids (TSS) mg/l	1.4	2.0	0.8
Turbidity NTU	0.77	1.10	0.55

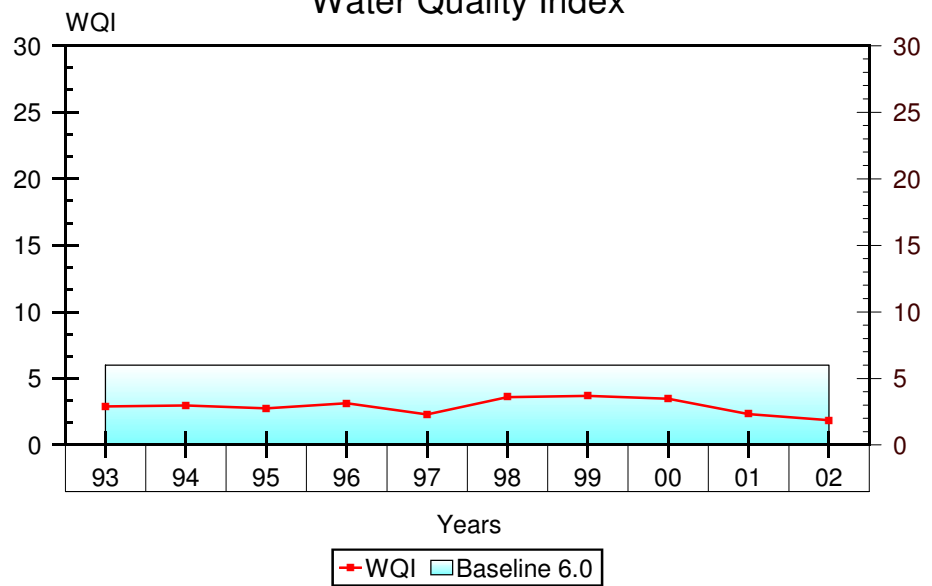
NED TSI



Starting 1991-Secchi disk not used in calculation-see Section II

NED

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Otis		AliasName:	
S-T-R: 28-28-26	Lat/Lon 280054 / 814239	Surface Area(Acres): 143	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 11.80	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 1.00	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 128.70	Max Desireable 127.00	Rec High: 129.12 Date: 09/10/60
100 Yr Flood: 133.70	Min Low: 125.00	Rec Low: 119.58 Date: 05/15/76
Min Flood: 128.00	Min Ext Low: 123.00	Lk Lvl POR: 8/4/1954 - Present

Current year water quality and lake levels

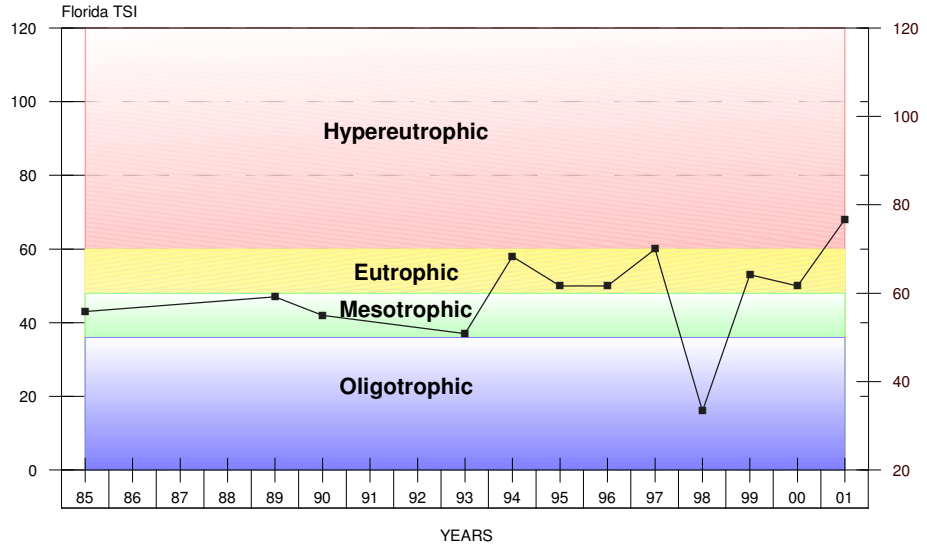
Year <u>2002</u>		Lake Level Mean: 124.19
Impaired Waterbody <input type="checkbox"/>	TSI:	LakeLevel Max: 126.19
	WQI:	LakeLevel Min: 122.45

Water Quality Comments There was no access to this lake in 2002.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

OTIS

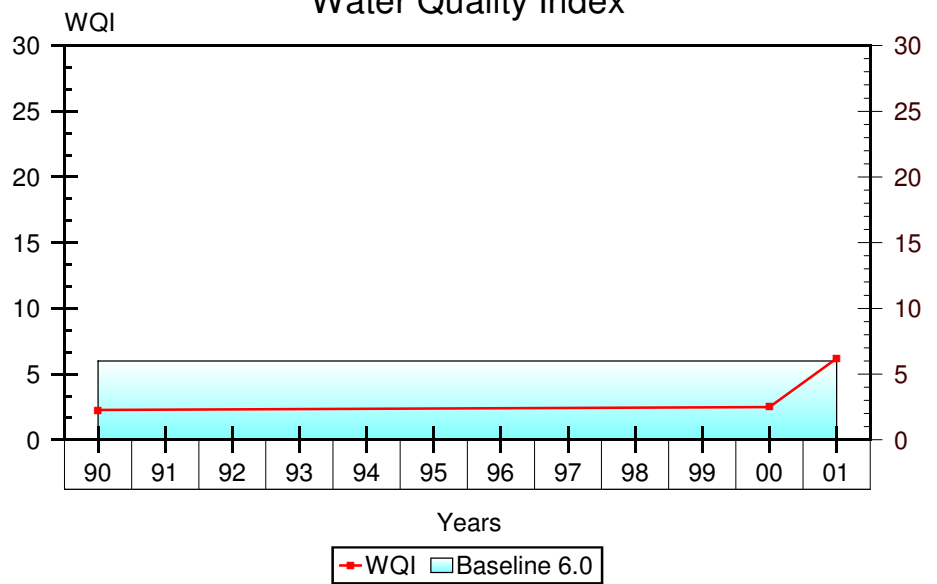
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

OTIS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Pansy		AliasName:	
S-T-R: 8-28-26	Lat/Lon: 280406 / 814436	Surface Area(Acres): 50	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Winter Haven		Elevation: 129.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.33	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: NO DAT Rated By: FFWCC 3/97			
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 130.00	Max Desireable: 128.50	Rec High: 129.70 Date: 07/15/91
100 Yr Flood: 130.60	Min Low: 126.50	Rec Low: 124.46 Date: 5/25/01
Min Flood: 129.00	Min Ext Low: 124.50	Lk Lvl POR: 11/21/1985 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 127.43

Impaired Waterbody: **TSI:** 48.01 **WQI:** 2.51 **LakeLevel Max:** 128.26

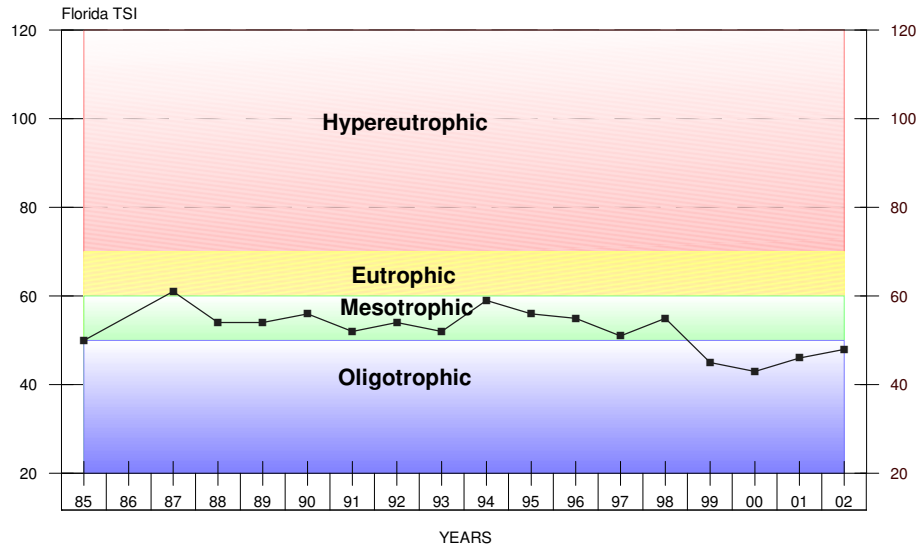
LakeLevel Min: 126.02

Water Quality Comments: Water quality is good. Improving water quality trend last eight years, but listed by FDEP as Impaired Water for

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	12.62	13.80	11.52
Chlorophyll a (Corrected) mg/m3	11.21	12.82	10.41
Color Pt-Co	53	60	50
Conductivity @ 25C umhos/cm	147	159	138
Dissolved Oxygen (DO) mg/l	7.11	7.54	6.52
Nitrogen Ammonia (NH3) mg/l	0.001	0.002	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.843	0.990	0.756
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	0.85	0.99	0.76
pH Std Unit	7.17	7.57	6.91
Phosphorus Total (TP) mg/l	0.018	0.028	0.012
Secchi Disk (SD) m	1.05	1.40	0.75
Temperature Deg C	27.49	29.12	25.22
Total Suspended Solids (TSS) mg/l	2.80	2.8	2.8
Turbidity NTU	3.3	4.7	2.4

PANSY

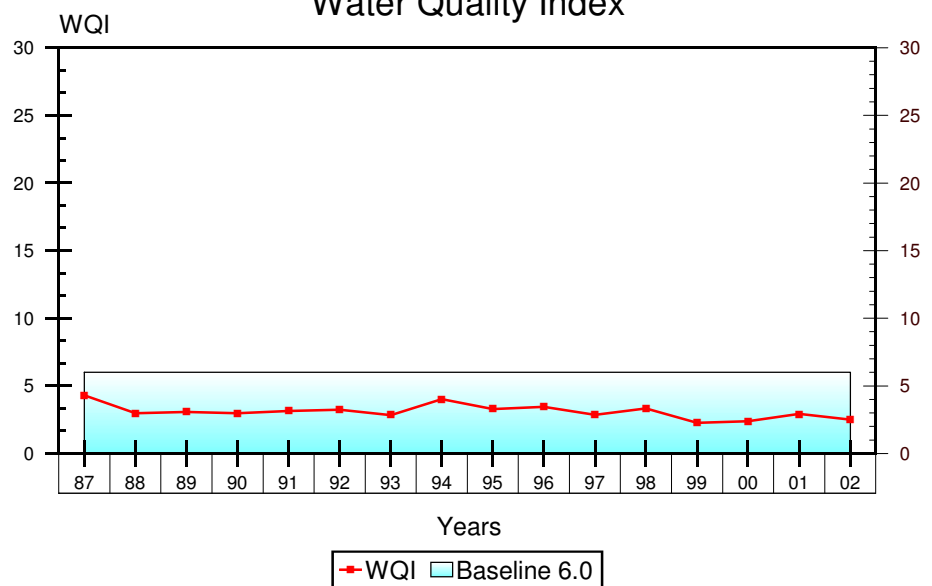
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

PANSY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Parker (Lkld)		AliasName:	
S-T-R: 8-28-24	Lat/Lon 280400 / 815552	Surface Area(Acres): 2,272	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lakeland		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 10.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 23.60	Water Quality Data: Current	POR: 1969 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 131.60	Max Desireable 130.75	Rec High: 131.91 Date: 06/26/82
100 Yr Flood: 133.50	Min Low: 128.75	Rec Low: 126.86 Date: 6/25/01
Min Flood: 131.00	Min Ext Low: 127.50	Lk Lvl POR: 5/1949 - Present; 1/1989 - 2/1994

Current year water quality and lake levels

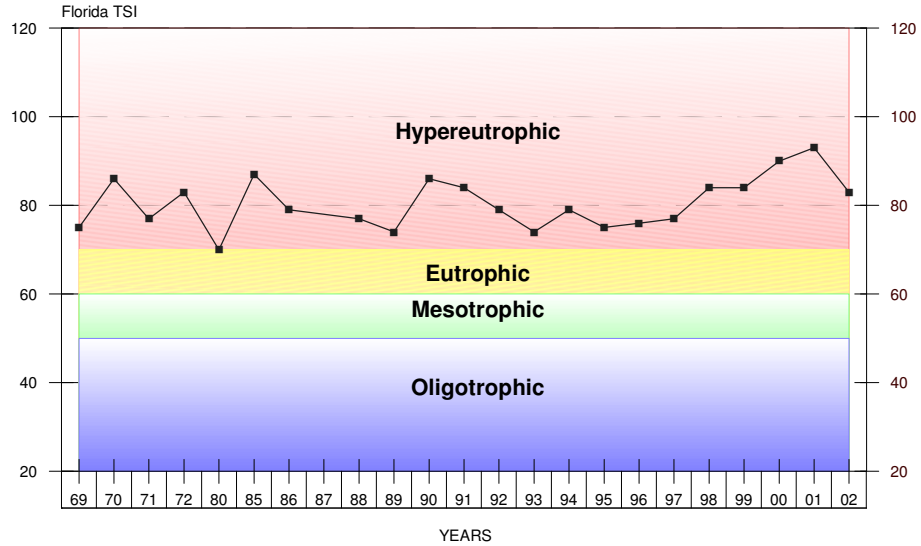
Year <u>2002</u>		Lake Level Mean: 130.27
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>83.29</u>	LakeLevel Max: 131.2
	WQI: <u>12.75</u>	LakeLevel Min: 128.9

Water Quality Comments Water quality is poor. Lake has persistant algal blooms. Listed as an Impaired Water for nutrients, lead, and tur

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	148.90	203.74	114.75
Chlorophyll a (Corrected) mg/m3	139.11	192.24	104.13
Color Pt-Co	30	32	27
Conductivity @ 25C umhos/cm	218	241	196
Dissolved Oxygen (DO) mg/l	8.7	10.33	7.13
Nitrogen Ammonia (NH3) mg/l	0.003	0.004	0.001
Nitrogen Kjeldahl (TKN) mg/l	4.178	5.421	3.127
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.003	0.000
Nitrogen Total (TN) mg/l	4.18	5.42	3.13
pH Std Unit	9.05	9.46	8.56
Phosphorus Total (TP) mg/l	0.077	0.095	0.060
Secchi Disk (SD) m	0.29	0.35	0.20
Temperature Deg C	27.64	31.05	23.11
Turbidity NTU	15.1	21.0	10.3

PARKER

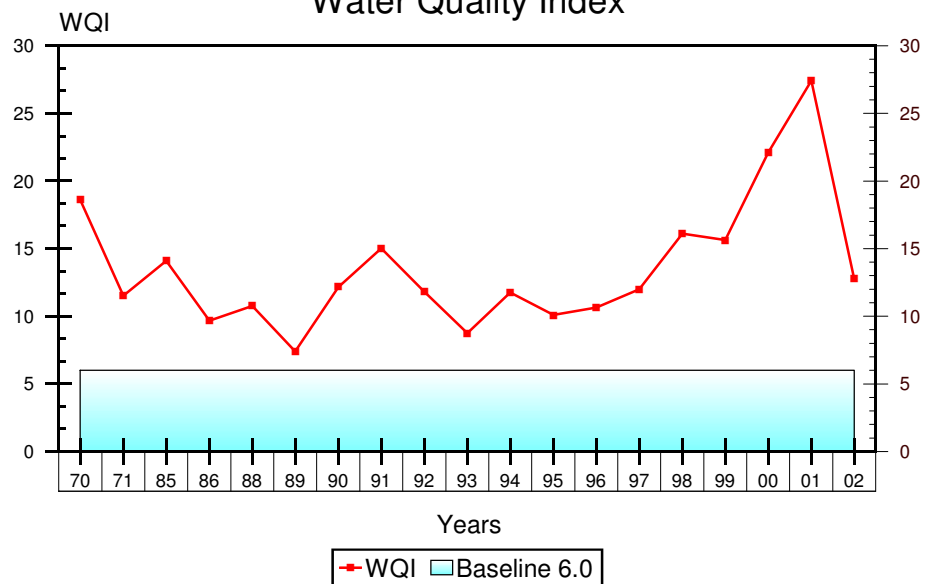
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

PARKER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Pierce		AliasName:	
S-T-R: 9-29-28	Lat/Lon 275830 / 813136	Surface Area(Acres): 3,729	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Dundee		Elevation: 76.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge		Lake Depth: 11.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 58.88	Water Quality Data: Current	POR: 1969 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 78.20	Max Desireable	Rec High: 78.09 Date: 10/1969
100 Yr Flood: 79.00	Min Low:	Rec Low: 75.52 Date: 5/1967
Min Flood:	Min Ext Low:	Lk Lvl POR: 1947 - 1/1961

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 48.48 **WQI:** 3.44 **LakeLevel Max:** 0

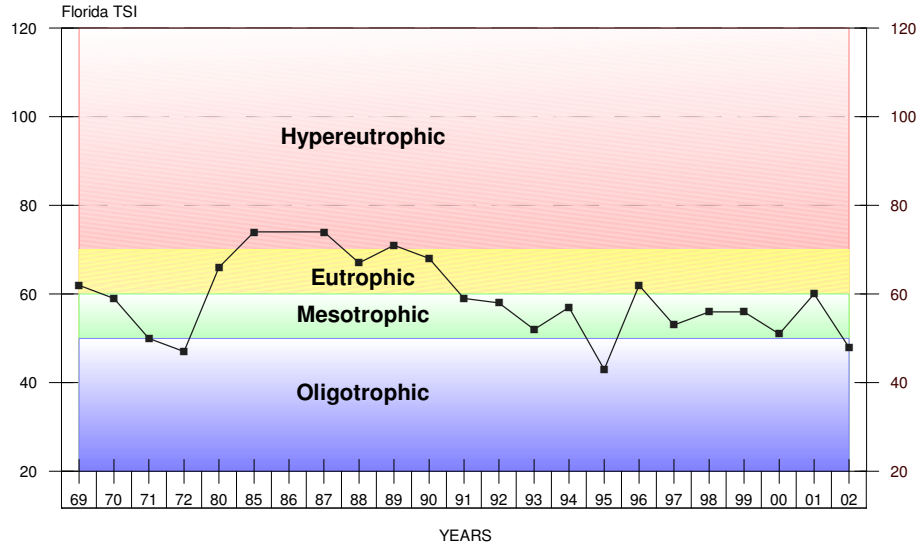
LakeLevel Min: 0

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	21.71	28.80	14.62
Chlorophyll a (Corrected) mg/m3	20.40	27.18	13.62
Color Pt-Co	34	40	28
Conductivity @ 25C umhos/cm	183	185	181
Dissolved Oxygen (DO) mg/l	8.52	9.11	7.92
Nitrogen Ammonia (NH3) mg/l	0.015	0.030	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.406	1.437	1.375
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.088	0.176	0.000
Nitrogen Total (TN) mg/l	1.49	1.55	1.44
pH Std Unit	8.01	8.95	7.06
Phosphorus Total (TP) mg/l	0.013	0.015	0.010
Secchi Disk (SD) m	0.88	1.20	0.55
Temperature Deg C	20.00	27.86	12.13
Turbidity NTU	6.95	7.3	6.60

PIERCE

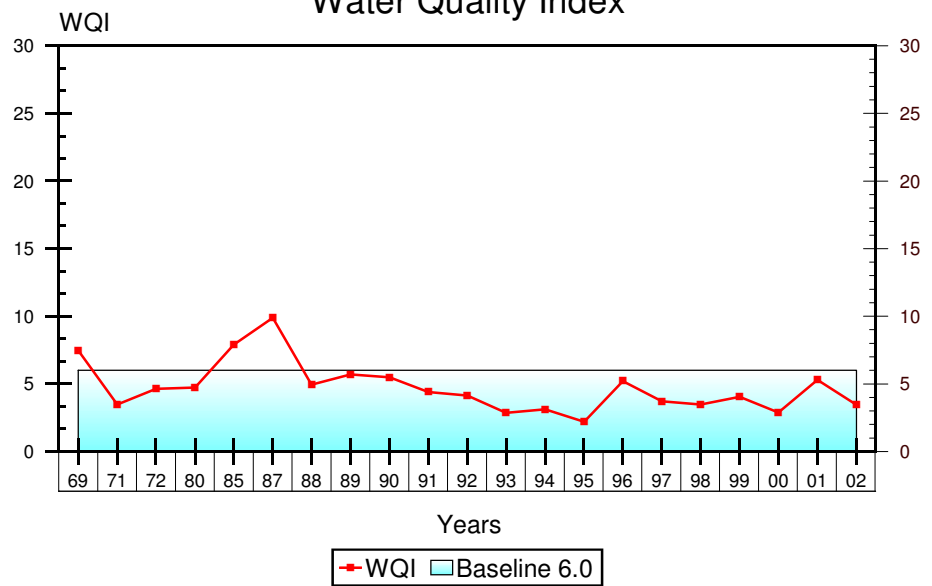
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

PIERCE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Reedy		AliasName:	
S-T-R: 35-31-28	Lat/Lon 274431 / 812958	Surface Area(Acres): 3,486	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Frostproof		Elevation: 78.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge		Lake Depth: 14.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 60.90	Water Quality Data: Current	POR: 1969 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 80.00	Max Desireable 79.50	Rec High: 80.66 Date: 10/01/60
100 Yr Flood: 81.10	Min Low: 77.25	Rec Low: 76.89 Date: 06/01/67
Min Flood: 79.75	Min Ext Low: 75.25	Lk Lvl POR: 1/1/1947 - 1998

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 78.24

Impaired Waterbody **TSI:** 51.97 **WQI:** 4.75 **LakeLevel Max:** 78.62

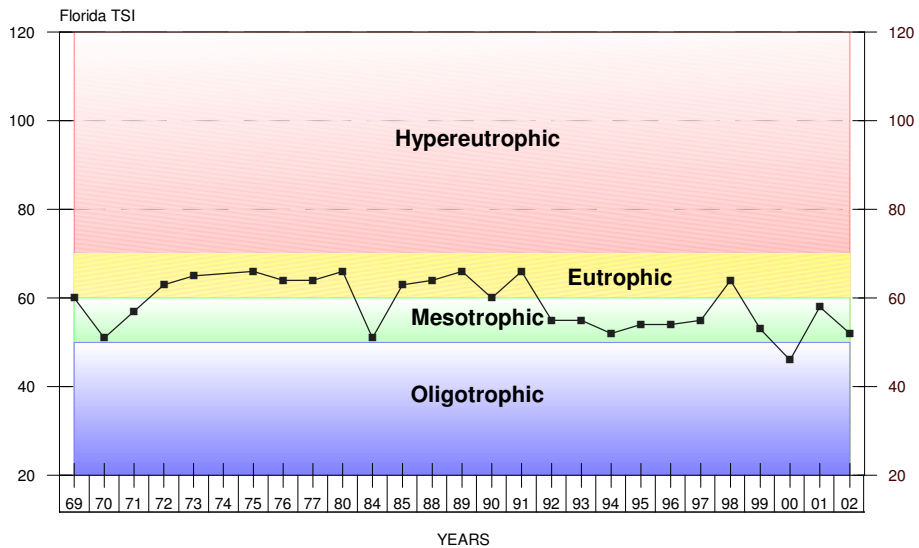
LakeLevel Min: 77.34

Water Quality Comments Water quality is fair to good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	34.52	52.51	13.55
Chlorophyll a (Corrected) mg/m3	33.11	50.46	12.82
Color Pt-Co	18	23	10
Conductivity @ 25C umhos/cm	265	272	261
Dissolved Oxygen (DO) mg/l	9.72	10.96	7.23
Nitrogen Ammonia (NH3) mg/l	0.048	0.073	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.089	2.720	0.929
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.109	0.164	0.000
Nitrogen Total (TN) mg/l	2.20	2.88	0.93
pH Std Unit	7.64	7.72	7.48
Phosphorus Total (TP) mg/l	0.013	0.017	0.008
Secchi Disk (SD) m	0.55	0.85	0.40
Temperature Deg C	18.88	29.09	13.78
Turbidity NTU	7.77	9.90	4.90

REEDY

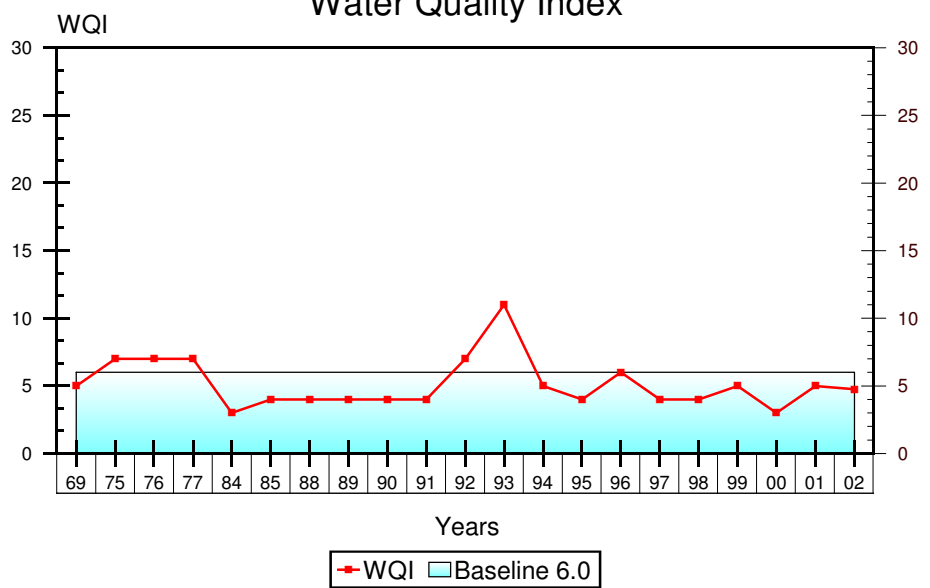
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

REEDY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Ring		AliasName:	
S-T-R: 34-28-26	Lat/Lon /	Surface Area(Acres): 3	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 129.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1996 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High: 130.72 Date: 06/19/80
100 Yr Flood: 138.00	Min Low:	Rec Low: 130.26 Date: 07/22/80
Min Flood:	Min Ext Low:	Lk Lvl POR: 6/19/1980 - 7/22/1980

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** **WQI:** **LakeLevel Max:** 0

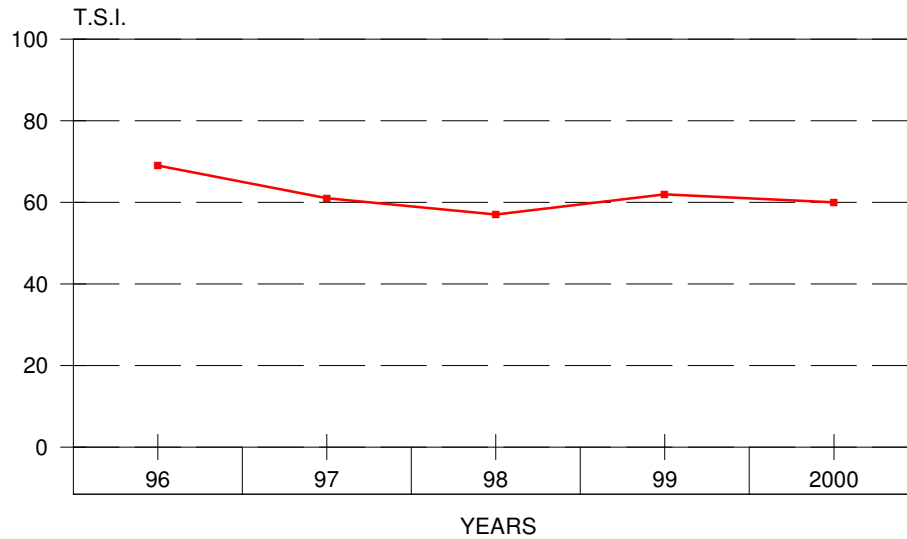
LakeLevel Min: 0

Water Quality Comments There was no access to this lake in 2002.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

RING

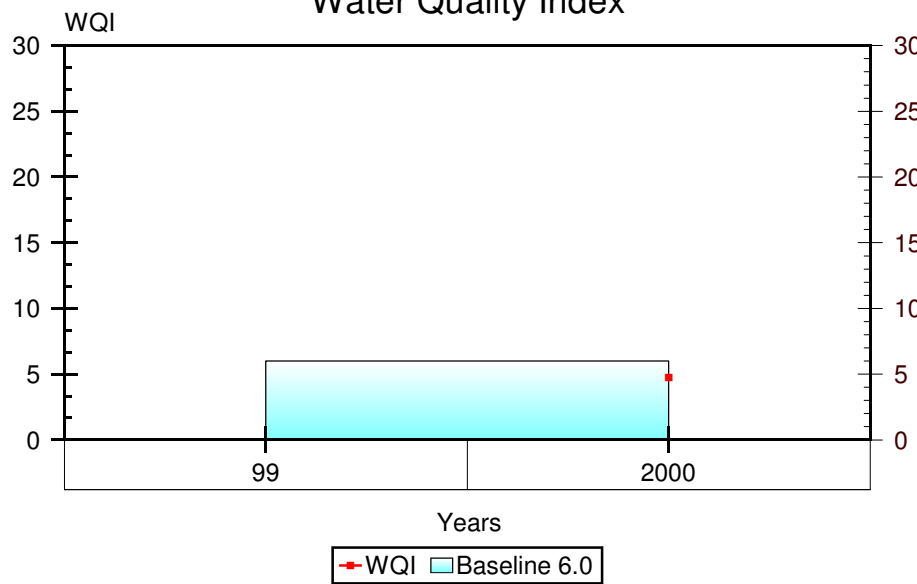
TSI



Starting 2001-Secchi disk not used in calculation-see Section II

RING

Water Quality Index



Annual Lake Water Quality Data

Waterbody: River		AliasName:	
S-T-R: 1-29-26	Lat/Lon 275902 / 814018	Surface Area(Acres): 26	Bottom Contour: <input type="checkbox"/>
LocationCity Winter Haven		Elevation: 137.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.26	Water Quality Data: Current	POR: 1990 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody: Lake level altured in 1997 - 1998 due to flooding / pumping.			

Historical and set lake level Information

10 Yr Flood: 141.60	Max Desireable 139.00	Rec High: 140.56	Date: 11/28/95
100 Yr Flood: 142.60	Min Low: 136.00	Rec Low: 131.39	Date: 6/20/01
Min Flood: 139.50	Min Ext Low: 134.00	Lk Lvl POR: 9/13/1989 - Present	

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 135.98

Impaired Waterbody **TSI:** **WQI:** **LakeLevel Max:** 136.94

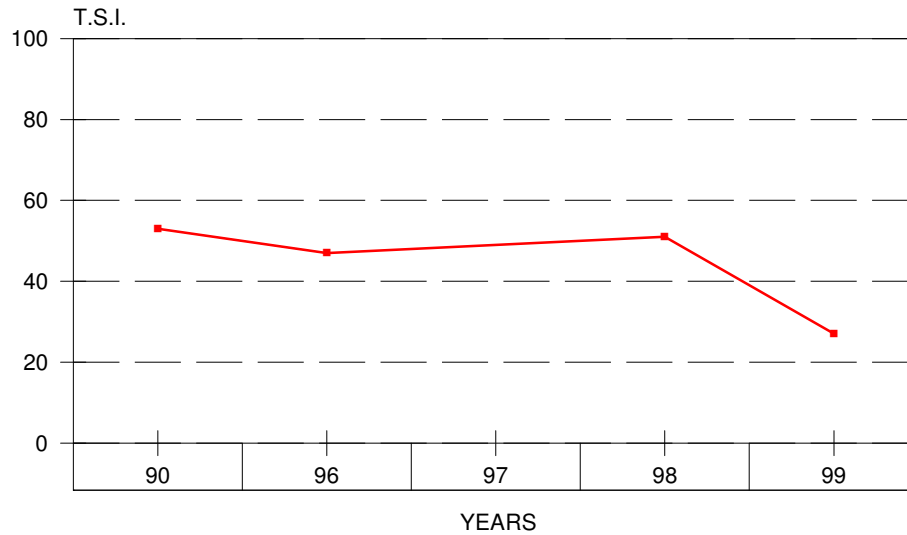
LakeLevel Min: 134.91

Water Quality Comments There was no access to this lake in 2002.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

RIVER

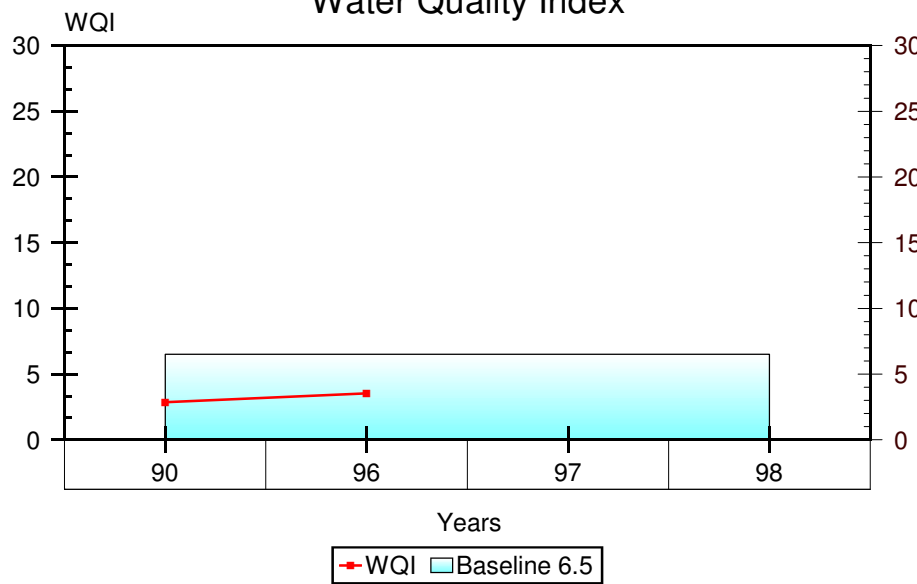
TSI



Starting 2001-Secchi disk not used in calculation-see Section II

RIVER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Rochelle		AliasName:	
S-T-R: 4-28-26	Lat/Lon 280418 / 814315	Surface Area(Acres): 578	Bottom Contour: <input type="checkbox"/>
LocationCity Lake Alfred		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 17.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 15.50	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Smart. Controlled By Stru On Lake Smart.			

Historical and set lake level information

10 Yr Flood: 129.70	Max Desireable 128.50	Rec High: 130.05 Date: 09/16/60
100 Yr Flood: 130.60	Min Low: 126.50	Rec Low: 124.11 Date: 5/30/01
Min Flood: 128.75	Min Ext Low: 124.60	Lk Lvl POR: 3/2/1946 - 5/8/1995; 4/1966-Present - Smart]

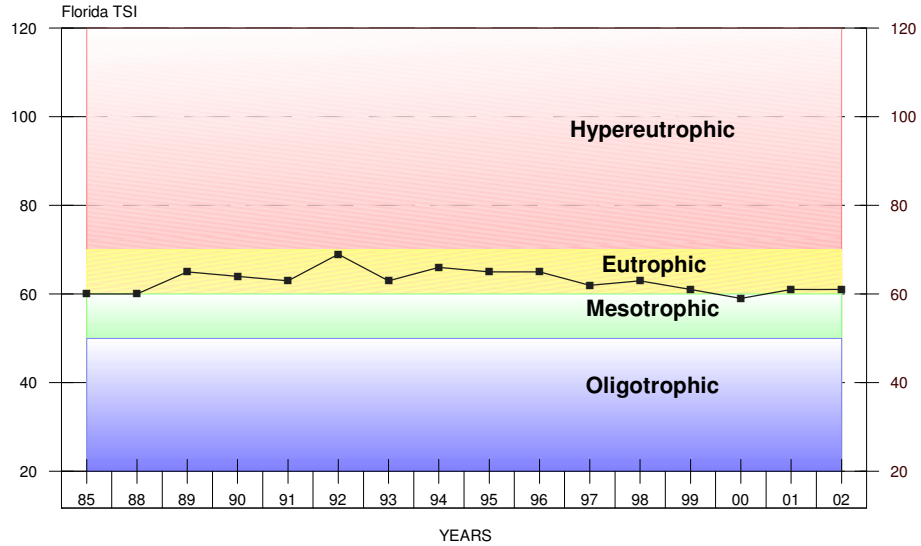
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 125.69
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 127.55
TSI: <u>61.44</u>	LakeLevel Min: 124.58
WQI: <u>4.30</u>	
Water Quality Comments Water quality is fair. Listed as potentially Impaired Water for TSI.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	32.02	34.84	25.78
Chlorophyll a (Corrected) mg/m3	28.08	32.22	20.83
Color Pt-Co	23	40	15
Conductivity @ 25C umhos/cm	238	253	227
Dissolved Oxygen (DO) mg/l	8.97	11.22	6.42
Nitrogen Ammonia (NH3) mg/l	0.001	0.004	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.382	1.703	1.169
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.001	0.002	0.000
Nitrogen Total (TN) mg/l	1.39	1.71	1.17
pH Std Unit	8.07	8.87	7.66
Phosphorus Total (TP) mg/l	0.048	0.073	0.035
Secchi Disk (SD) m	0.65	0.70	0.50
Temperature Deg C	23.57	30.68	17.16
Total Suspended Solids (TSS) mg/l	10.8	13.6	8.0
Turbidity NTU	6.68	8.40	6.10

ROCHELLE

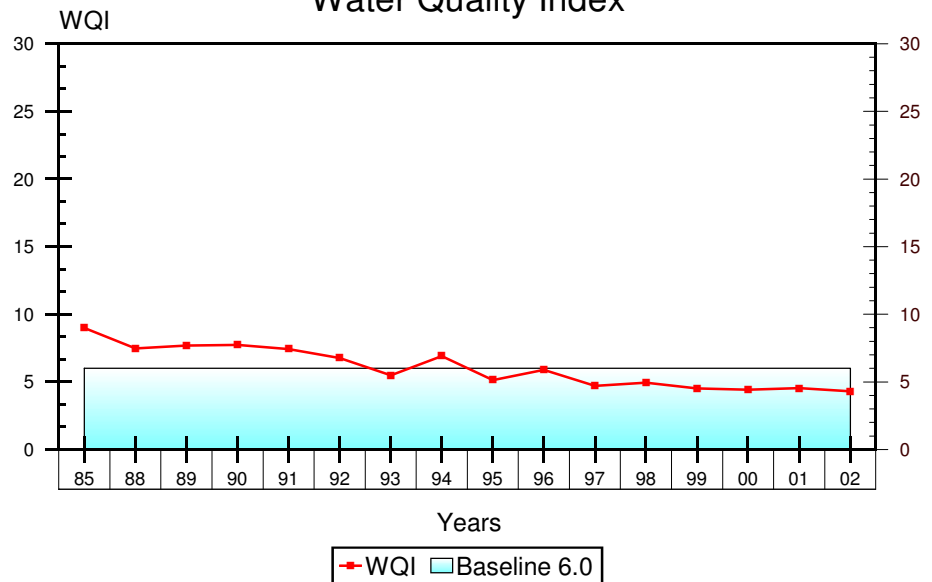
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ROCHELLE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Rosalie		AliasName:	
S-T-R: 27-29-29	Lat/Lon 275604 / 812418	Surface Area(Acres): 4,597	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity E Of Lake Wales		Elevation: 53.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Osceola Plain		Lake Depth: 16.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 132.96	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Call 665-2283 for more information about park area.			

Historical and set lake level Information

10 Yr Flood: 55.50	Max Desireable	Rec High: 55.48 Date: 10/04/69
100 Yr Flood: 56.20	Min Low:	Rec Low: 50.30 Date: 06/02/67
Min Flood:	Min Ext Low:	Lk Lvl POR: 5/1/67 - 1998

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 51.98 **WQI:** 2.63 **LakeLevel Max:** 0

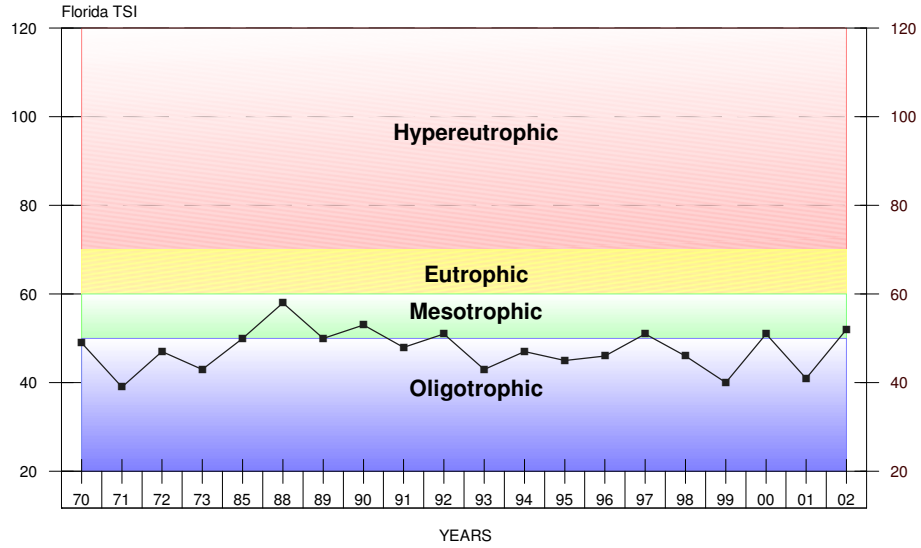
LakeLevel Min: 0

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	11.92	13.95	9.88
Chlorophyll a (Corrected) mg/m3	10.02	12.02	8.01
Color Pt-Co	88	100	75
Conductivity @ 25C umhos/cm	179	181	176
Dissolved Oxygen (DO) mg/l	9.00	11.41	6.58
Nitrogen Ammonia (NH3) mg/l	0.002	0.004	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.068	1.093	1.043
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.042	0.083	0.000
Nitrogen Total (TN) mg/l	1.11	1.18	1.04
pH Std Unit	7.21	7.36	7.06
Phosphorus Total (TP) mg/l	0.027	0.028	0.026
Secchi Disk (SD) m	0.9	1.1	0.7
Temperature Deg C	24.08	28.07	20.09
Turbidity NTU	3.25	4.10	2.40

ROSALIE

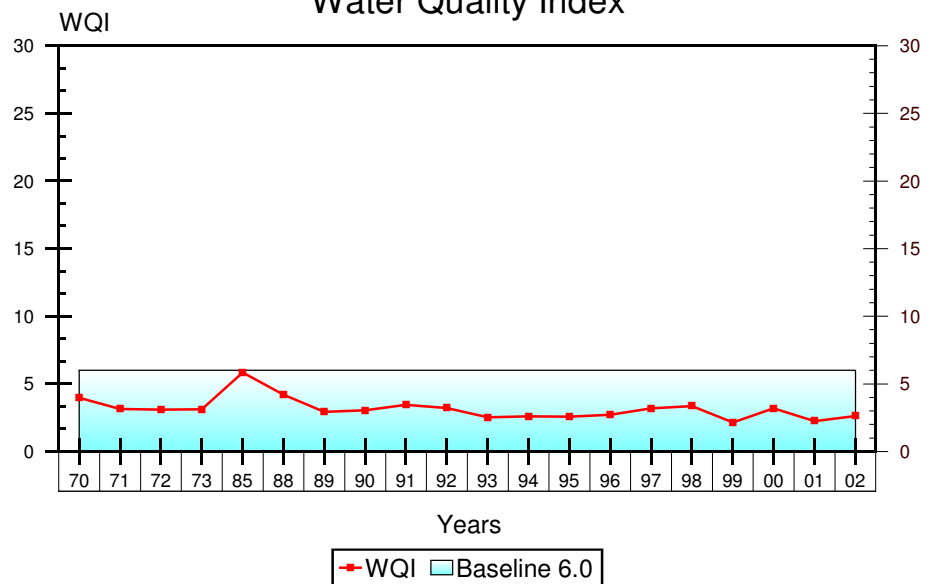
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ROSALIE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Round		AliasName:	
S-T-R: 13-29-26	Lat/Lon: 275750 / 814034	Surface Area(Acres): 28	Bottom Contour: <input type="checkbox"/>
LocationCity: Winter Haven		Elevation: 129.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.19	Water Quality Data: Current	POR: 1996 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By:		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 129.40	Max Desireable: 129.00	Rec High: 132.21 Date: 11/1995
100 Yr Flood: 130.50	Min Low: 126.50	Rec Low: 124.74 Date: 05/20/86
Min Flood: 129.25	Min Ext Low: 124.50	Lk Lvl POR: 4/23/1985 - 6/22/1988

Current year water quality and lake levels

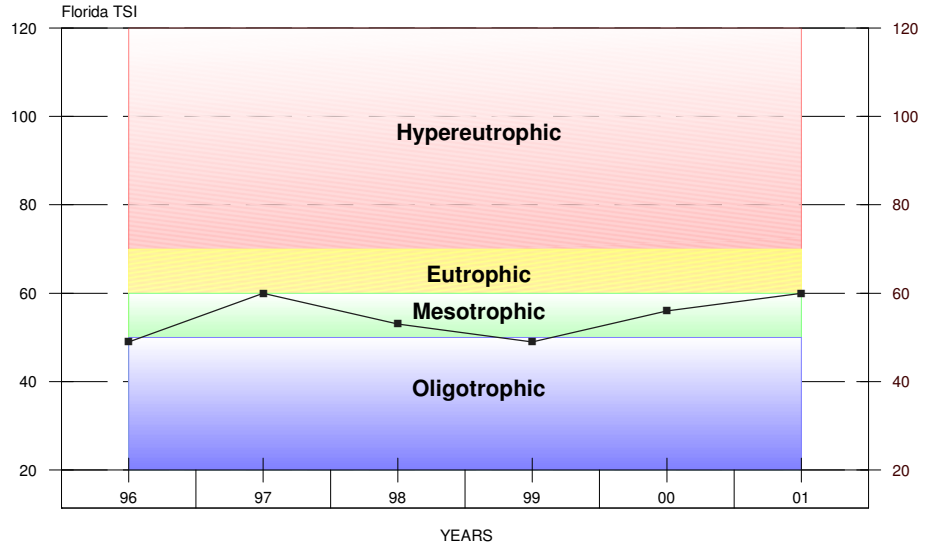
Year: <u>2002</u>		Lake Level Mean:
Impaired Waterbody: <input type="checkbox"/>	TSI:	LakeLevel Max:
	WQI:	LakeLevel Min:

Water Quality Comments: There was no access to this lake in 2002. The past years the water quality was fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Secchi Disk (SD) m			
Temperature Deg C			
Total Suspended Solids (TSS) mg/l			
Turbidity NTU			

ROUND

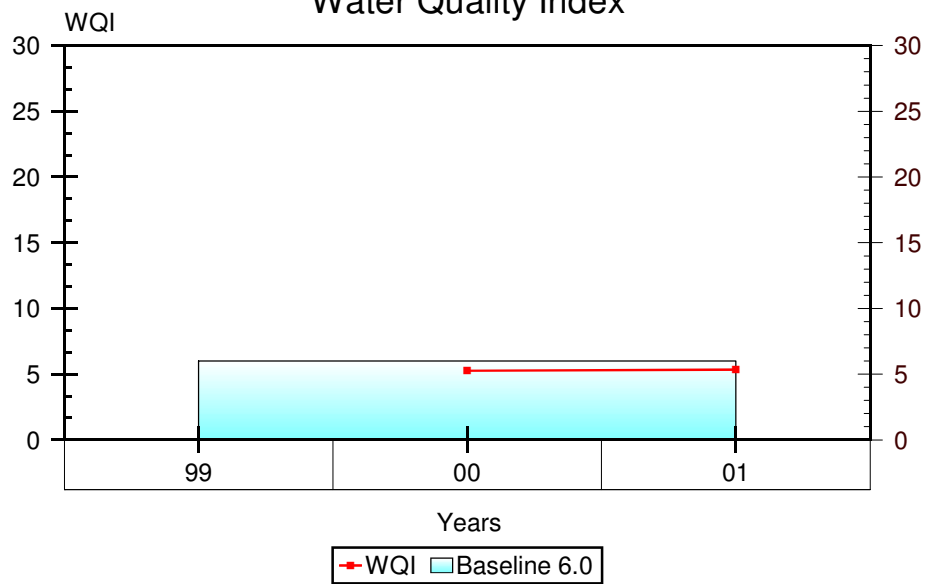
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ROUND

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Roy		AliasName:	
S-T-R: 34-28-26	Lat/Lon 280004 / 814228	Surface Area(Acres): 78	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 20.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.50	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10	Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69	Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]	

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 130.57

Impaired Waterbody **TSI:** 54.03 **WQI:** 3.36 **LakeLevel Max:** 131.93

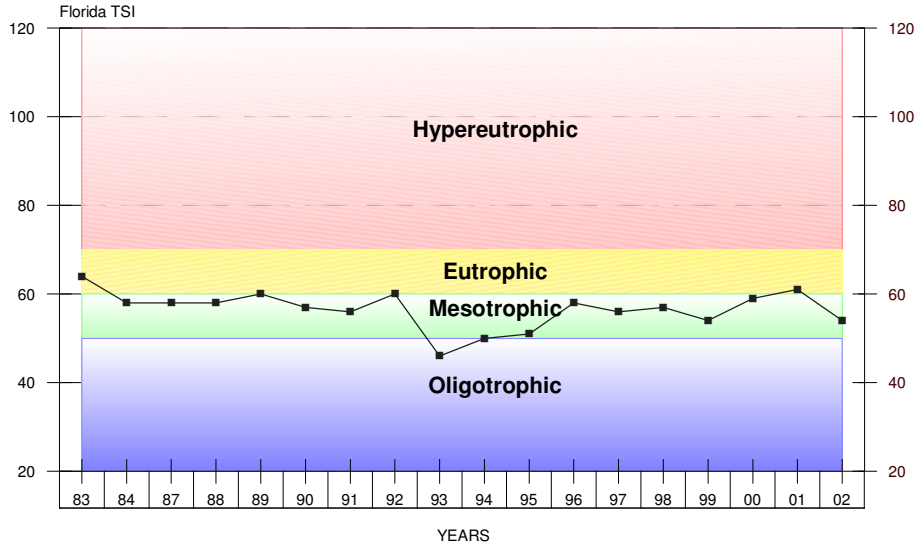
LakeLevel Min: 129.38

Water Quality Comments Water quality is good to fair. May be impacted by ammonia.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	22.96	31.27	18.39
Chlorophyll a (Corrected) mg/m3	21.77	31.27	16.82
Color Pt-Co	14	17	10
Conductivity @ 25C umhos/cm	289	302	278
Dissolved Oxygen (DO) mg/l	9.44	10.21	8.63
Nitrogen Ammonia (NH3) mg/l	0.014	0.042	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.354	1.703	0.987
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.004	0.007	0.000
Nitrogen Total (TN) mg/l	1.36	1.71	0.99
pH Std Unit	8.70	9.37	7.66
Phosphorus Total (TP) mg/l	0.020	0.030	0.005
Secchi Disk (SD) m	0.99	1.50	0.55
Temperature Deg C	25.18	29.65	18.08
Turbidity NTU	4.47	6.90	3.20

ROY

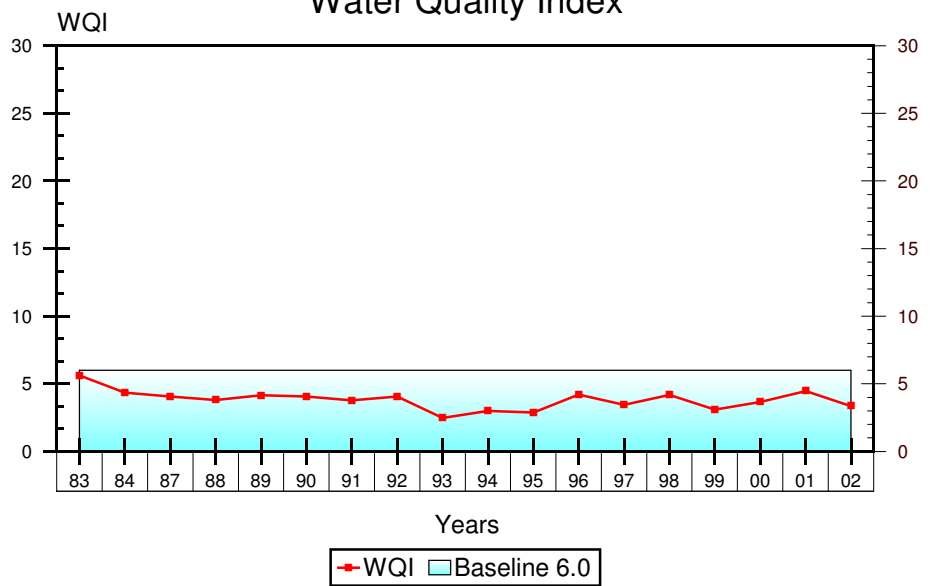
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

ROY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Ruby		AliasName:	
S-T-R: 12-29-26	Lat/Lon 275819 / 813948	Surface Area(Acres): 255	Bottom Contour: <input type="checkbox"/>
LocationCity Garden Grove		Elevation: 125.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 15.10	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.93	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 125.50	Max Desireable 125.00	Rec High: 125.62 Date: 09/22/94
100 Yr Flood: 126.20	Min Low: 123.00	Rec Low: 117.41 Date: 05/04/76
Min Flood: 125.25	Min Ext Low: 121.00	Lk Lvl POR: 6/1971 - Present

Current year water quality and lake levels

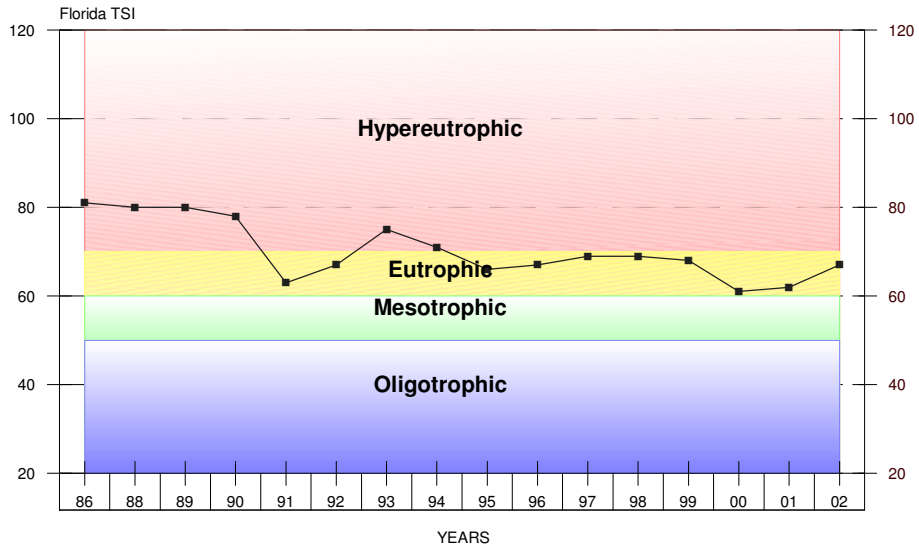
Year 2002
Lake Level Mean: 124.03
Impaired Waterbody
TSI: 67.23
WQI: 6.22
LakeLevel Max: 125.08
LakeLevel Min: 122.66

Water Quality Comments Water quality is fair to poor.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	48.06	54.55	41.57
Chlorophyll a (Corrected) mg/m3	45.60	51.14	40.05
Color Pt-Co	13	15	10
Conductivity @ 25C umhos/cm	371	378	364
Dissolved Oxygen (DO) mg/l	9.73	9.81	9.65
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.304	2.341	2.266
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.006	0.009	0.003
Nitrogen Total (TN) mg/l	2.31	2.35	2.27
pH Std Unit	8.12	8.66	7.57
Phosphorus Total (TP) mg/l	0.039	0.039	0.039
Secchi Disk (SD) m	0.3	0.35	0.25
Temperature Deg C	24.64	31.58	17.7
Turbidity NTU	19.25	22.0	16.5

RUBY

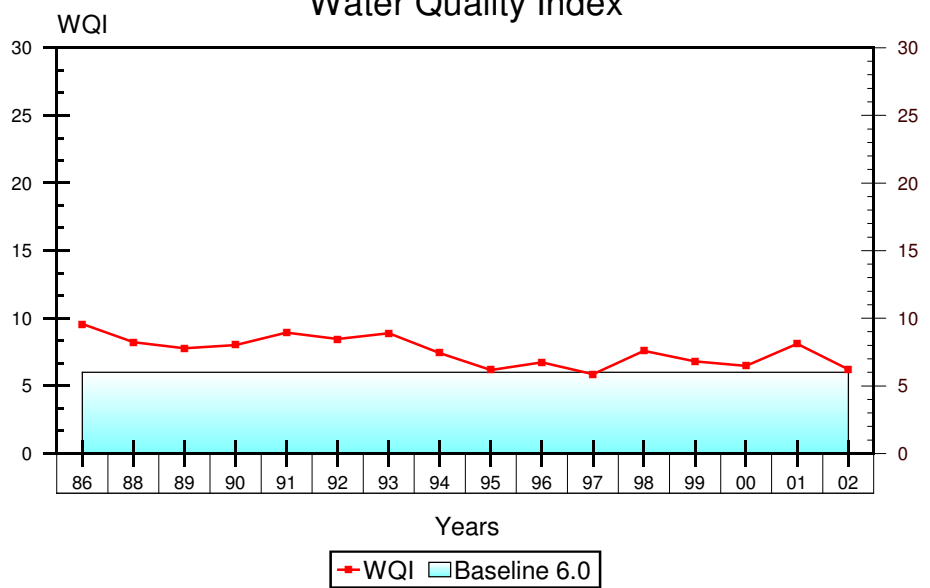
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

RUBY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Sears		AliasName:	
S-T-R: 36-28-25	Lat/Lon 280026 / 814625	Surface Area(Acres): 82	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 140.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 30.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.47	Water Quality Data: Current	POR: 1992 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: FAIR	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 143.20	Max Desireable 140.50	Rec High: 142.48 Date: 09/20/95
100 Yr Flood: 144.30	Min Low: 138.00	Rec Low: 134.40 Date: 6/12/01
Min Flood: 141.00	Min Ext Low: 136.00	Lk Lvl POR: 9/16/1987 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 136.37

Impaired Waterbody **TSI:** 27.91 **WQI:** 1.70 **LakeLevel Max:** 137

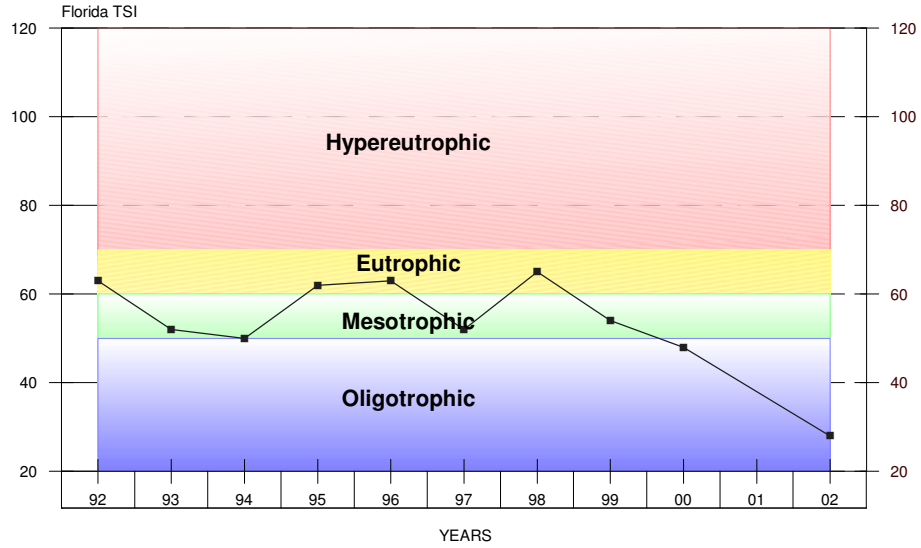
LakeLevel Min: 135.56

Water Quality Comments Detection Limit used for TP calculations. Listed by FDEP as Impaired Water for DO.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	7.89	7.89	7.89
Chlorophyll a (Corrected) mg/m3	5.61	5.61	5.61
Color Pt-Co	15	15	15
Conductivity @ 25C umhos/cm	179	179	179
Dissolved Oxygen (DO) mg/l	8.8	8.8	8.8
Nitrogen Ammonia (NH3) mg/l	0.018	0.018	0.018
Nitrogen Kjeldahl (TKN) mg/l	0.613	0.613	0.613
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.034	0.034	0.034
Nitrogen Total (TN) mg/l	0.65	0.65	0.65
pH Std Unit	6.47	6.47	6.47
Phosphorus Total (TP) mg/l	0.000	0.000	0.000
Secchi Disk (SD) m	1.85	1.85	1.85
Temperature Deg C	18.3	18.3	18.3
Turbidity NTU	1.36	1.36	1.36

SEARS

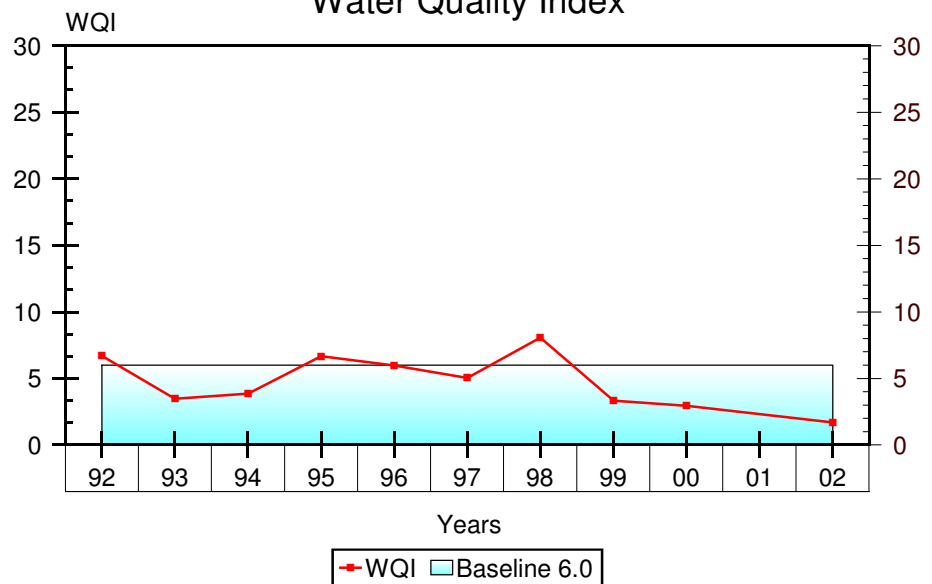
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SEARS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Shipp		AliasName:	
S-T-R: 32-28-26	Lat/Lon 280012 / 814436	Surface Area(Acres): 283	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 10.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 14.90	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record Record High And Low Are The Same As Lake Howard. Controlled By Str On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 132.28 Date: 12/22/97
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.72 Date: 5/25/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 5/1983 - Present [Lk Howard 2/1946]

Current year water quality and lake levels

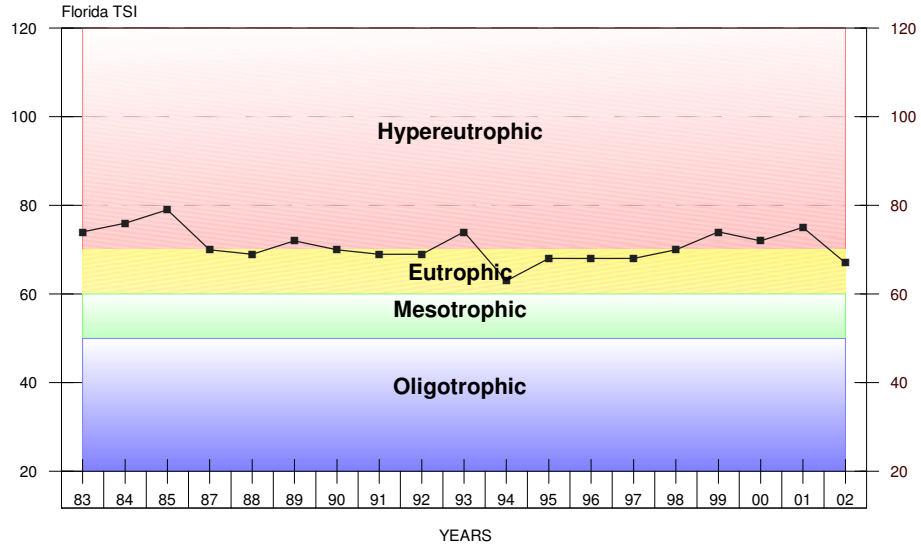
Year <u>2002</u>		Lake Level Mean: 130.45
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>66.50</u>	WQI: <u>5.69</u>
		LakeLevel Max: 131.08
		LakeLevel Min: 129.44

Water Quality Comments Water quality is poor. Seasonal algal blooms. Listed as Impaired Water for nutrients and TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	49.81	64.38	42.53
Chlorophyll a (Corrected) mg/m3	46.96	63.28	39.05
Color Pt-Co	18	25	15
Conductivity @ 25C umhos/cm	262	291	248
Dissolved Oxygen (DO) mg/l	8.56	9.34	7.01
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.039	2.477	1.782
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.005	0.000
Nitrogen Total (TN) mg/l	2.04	2.48	1.78
pH Std Unit	8.27	9.29	7.61
Phosphorus Total (TP) mg/l	0.036	0.054	0.015
Secchi Disk (SD) m	0.42	0.50	0.30
Temperature Deg C	23.61	29.11	16.43
Turbidity NTU	10.36	11.70	9.50

SHIPP

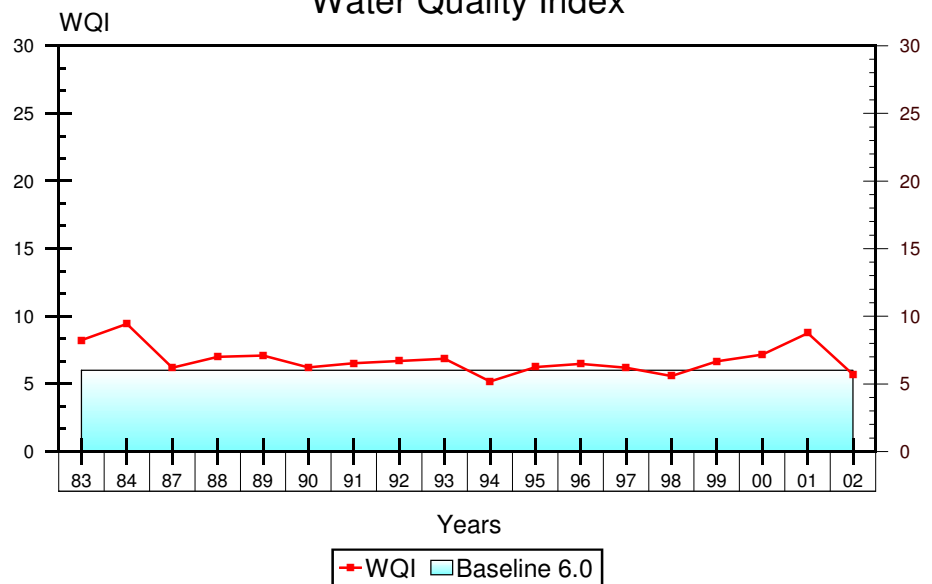
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SHIPP

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Silver (WH)		AliasName:	
S-T-R: 20-28-26	Lat/Lon 280154 / 814342	Surface Area(Acres): 52	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 145.00	Public Access: <input type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 30.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.23	Water Quality Data: Current	POR: 1984 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries:	Rated By		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 147.10	Max Desireable 146.00	Rec High: 146.80 Date: 08/29/95
100 Yr Flood: 147.90	Min Low: 144.00	Rec Low: 139.90 Date: 5/25/01
Min Flood: 146.50	Min Ext Low: 142.00	Lk Lvl POR: 11/21/85 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 143.52

Impaired Waterbody **TSI:** 52.30 **WQI:** 2.79 **LakeLevel Max:** 144.8

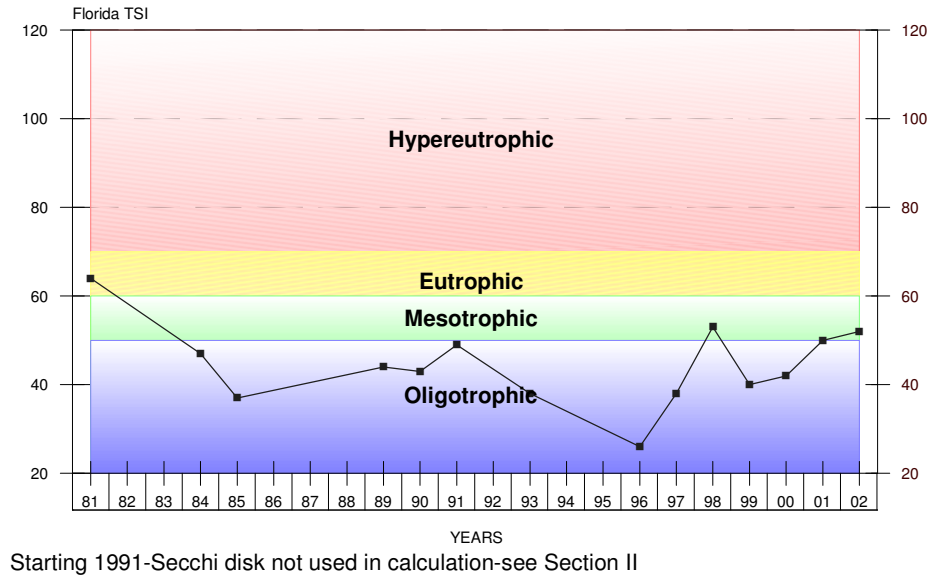
LakeLevel Min: 141.69

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	13.91	13.91	13.91
Chlorophyll a (Corrected) mg/m3	13.62	13.62	13.62
Color Pt-Co	8	8	8
Conductivity @ 25C umhos/cm	174	174	174
Dissolved Oxygen (DO) mg/l	8.05	8.05	8.05
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.092	1.092	1.092
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.09	1.09	1.09
pH Std Unit	8.49	8.49	8.49
Phosphorus Total (TP) mg/l	0.023	0.023	0.023
Secchi Disk (SD) m	1.3	1.3	1.3
Temperature Deg C	28.87	28.87	28.87
Total Suspended Solids (TSS) mg/l	2.8	2.8	2.8
Turbidity NTU	2.8	2.8	2.8

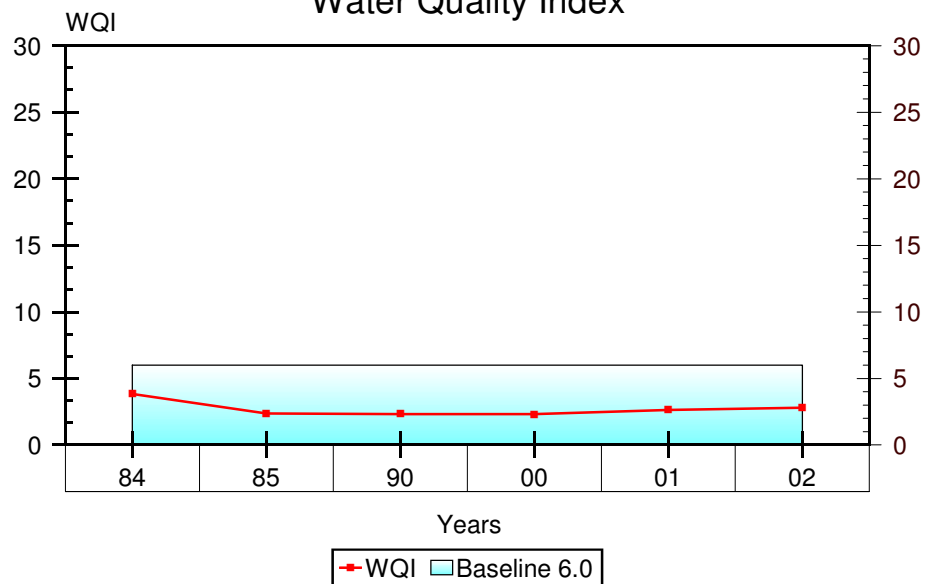
SILVER

TSI



SILVER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Smart		AliasName:	
S-T-R: 9-28-26	Lat/Lon 280330 / 814241	Surface Area(Acres): 275	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 128.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 16.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input checked="" type="checkbox"/>
Drainage Basin (Sq. Miles) 17.90	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood: 129.70	Max Desireable 128.50	Rec High: 129.62 Date: 09/11/47
100 Yr Flood: 130.50	Min Low: 126.50	Rec Low: 123.36 Date: 6/20/01
Min Flood: 128.75	Min Ext Low: 124.50	Lk Lvl POR: 3/1946 - Present

Current year water quality and lake levels

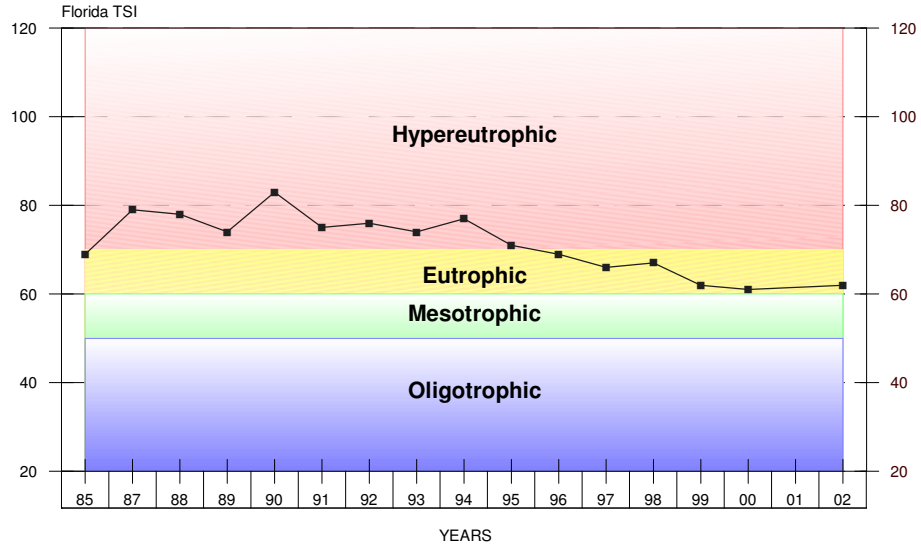
Year <u>2002</u>		Lake Level Mean: 124.63
Impaired Waterbody <input checked="" type="checkbox"/>	TSI: <u>61.51</u>	LakeLevel Max: 124.88
	WQI: <u>5.01</u>	LakeLevel Min: 124.22

Water Quality Comments Water quality is poor. Listed as Impaired Water for nutrients, ammonia and TSI.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	48.82	48.82	48.82
Chlorophyll a (Corrected) mg/m3	45.66	45.66	45.66
Color Pt-Co	30	30	30
Conductivity @ 25C umhos/cm	268	268	268
Dissolved Oxygen (DO) mg/l	11.52	11.52	11.52
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.813	1.813	1.813
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.030	0.030	0.030
Nitrogen Total (TN) mg/l	1.84	1.84	1.84
pH Std Unit	8.23	8.23	8.23
Phosphorus Total (TP) mg/l	0.024	0.024	0.024
Secchi Disk (SD) m	0.60	0.60	0.60
Temperature Deg C	17.36	17.36	17.36
Total Suspended Solids (TSS) mg/l	11.4	11.4	11.4
Turbidity NTU	9.3	9.3	9.3

SMART

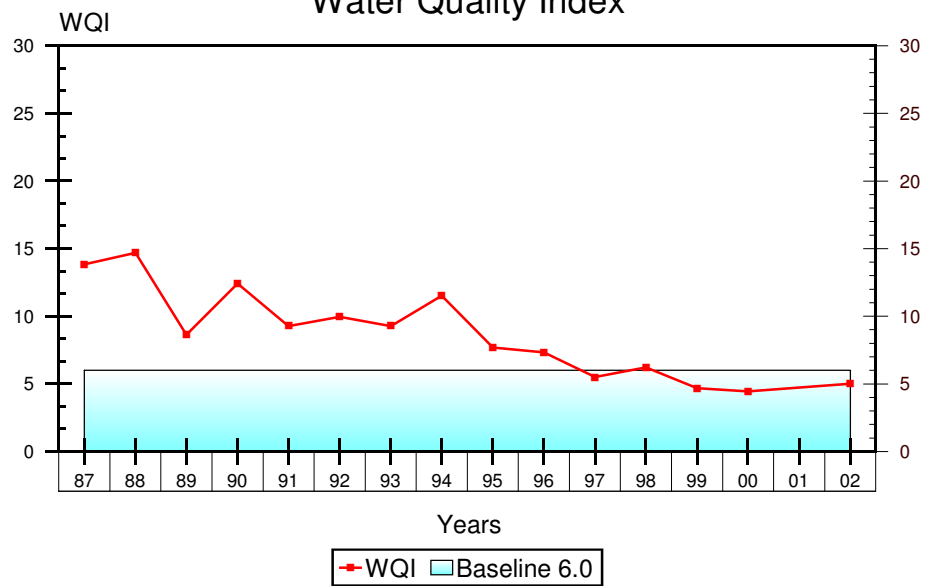
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SMART

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Somerset		AliasName:	
S-T-R: 32-28-24	Lat/Lon /	Surface Area(Acres): 54	Bottom Contour: <input type="checkbox"/>
LocationCity Lakeland		Elevation:	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit:		Lake Depth:	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Pit	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Historical	POR: 1989	Staff Gage: <input type="checkbox"/>
Sport Fisheries: NO DAT Rated By FFWCC 3/97			
Misc Information about this waterbody: The park is open from sunrise to sunset. Very bad potholes and very bad hydrilla.			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood:	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR: N A	

Current year water quality and lake levels

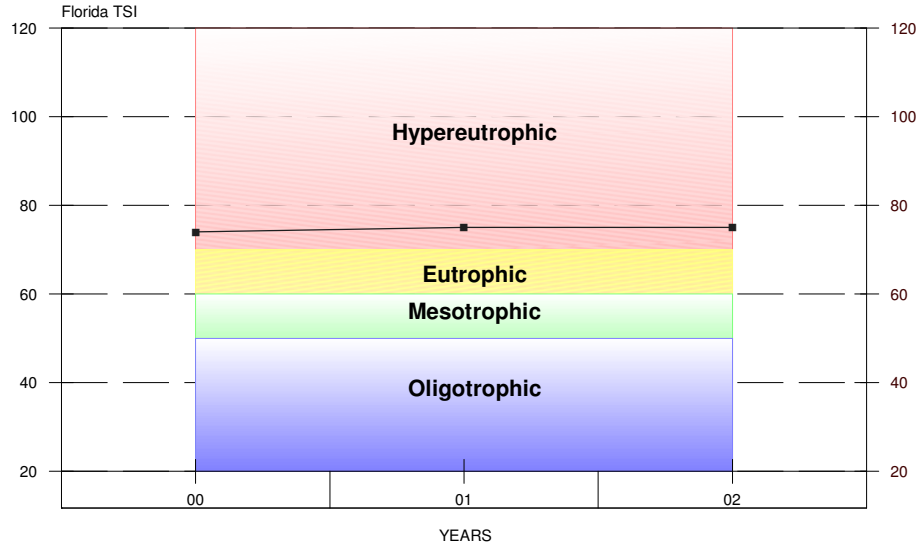
Year <u>2002</u>		Lake Level Mean: 0
Impaired Waterbody <input type="checkbox"/>	TSI: <u>75.47</u>	LakeLevel Max: 0
	WQI: <u>14.22</u>	LakeLevel Min: 0

Water Quality Comments Water quality is poor. Ammonia is a concern.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	84.70	100.40	68.99
Chlorophyll a (Corrected) mg/m3	72.39	82.30	62.48
Color Pt-Co	20	22	18
Conductivity @ 25C umhos/cm	215	228	202
Dissolved Oxygen (DO) mg/l	8.70	8.87	8.52
Nitrogen Ammonia (NH3) mg/l	0.057	0.114	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.797	1.823	1.771
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.024	0.047	0.000
Nitrogen Total (TN) mg/l	1.82	1.87	1.77
pH Std Unit	8.43	9.10	7.75
Phosphorus Total (TP) mg/l	0.393	0.434	0.352
Secchi Disk (SD) m	0.57	0.60	0.54
Temperature Deg C	26.86	29.38	24.33
Turbidity NTU	8.1	8.4	7.8

SOMERSET

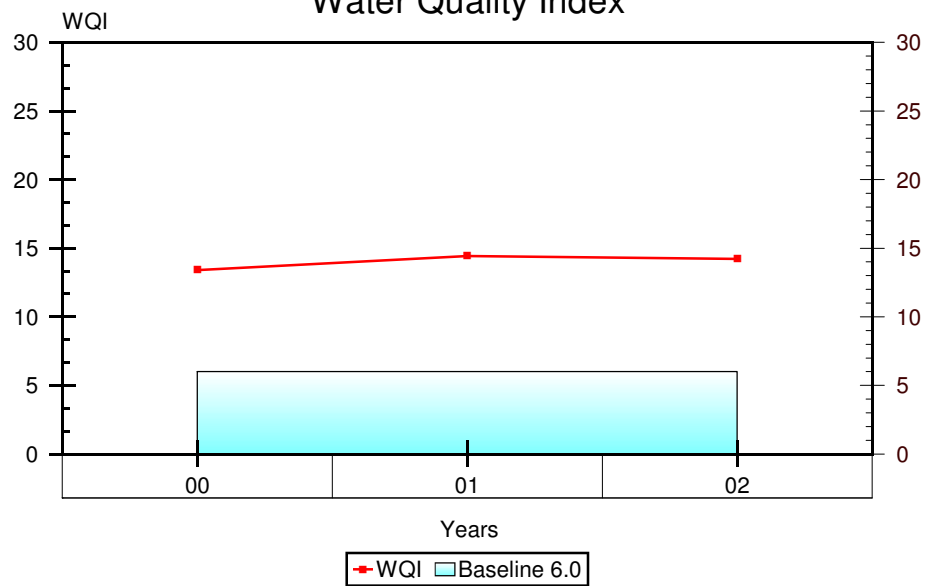
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SOMERSET

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Spring		AliasName:	
S-T-R: 20-28-27	Lat/Lon 280218 / 814406	Surface Area(Acres): 25	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 20.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.04	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.19	Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69	Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]	

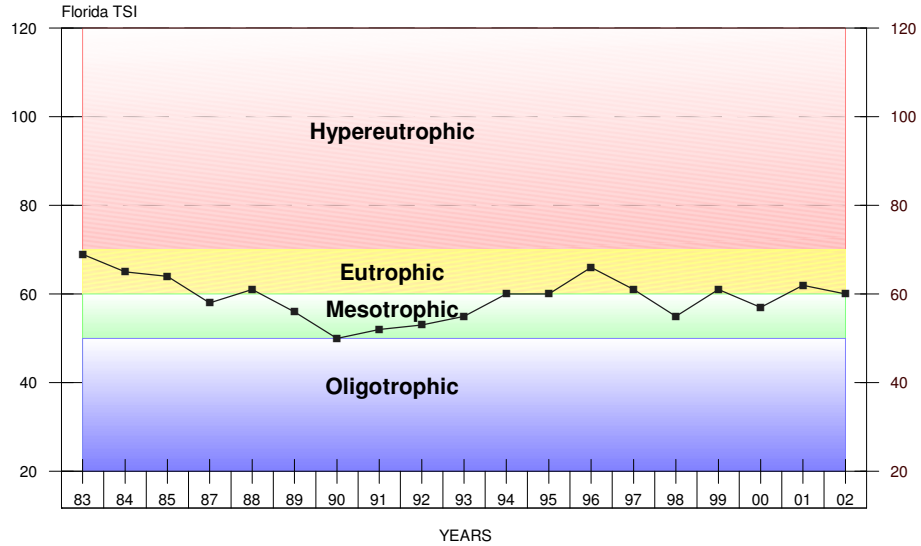
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 130.57
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 131.93
TSI: <u>60.38</u>	LakeLevel Min: 129.38
WQI: <u>3.91</u>	
Water Quality Comments Water quality is fair to poor.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	22.78	28.57	14.97
Chlorophyll a (Corrected) mg/m3	21.01	28.57	13.62
Color Pt-Co	17	20	15
Conductivity @ 25C umhos/cm	225	244	208
Dissolved Oxygen (DO) mg/l	8.39	10.18	6.91
Nitrogen Ammonia (NH3) mg/l	0.032	0.096	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.369	1.786	1.149
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.052	0.144	0.001
Nitrogen Total (TN) mg/l	1.42	1.80	1.15
pH Std Unit	8.25	9.23	6.89
Phosphorus Total (TP) mg/l	0.035	0.045	0.014
Secchi Disk (SD) m	0.8	0.9	0.6
Temperature Deg C	25.30	29.35	18.03
Turbidity NTU	5.03	7.40	2.70

SPRING

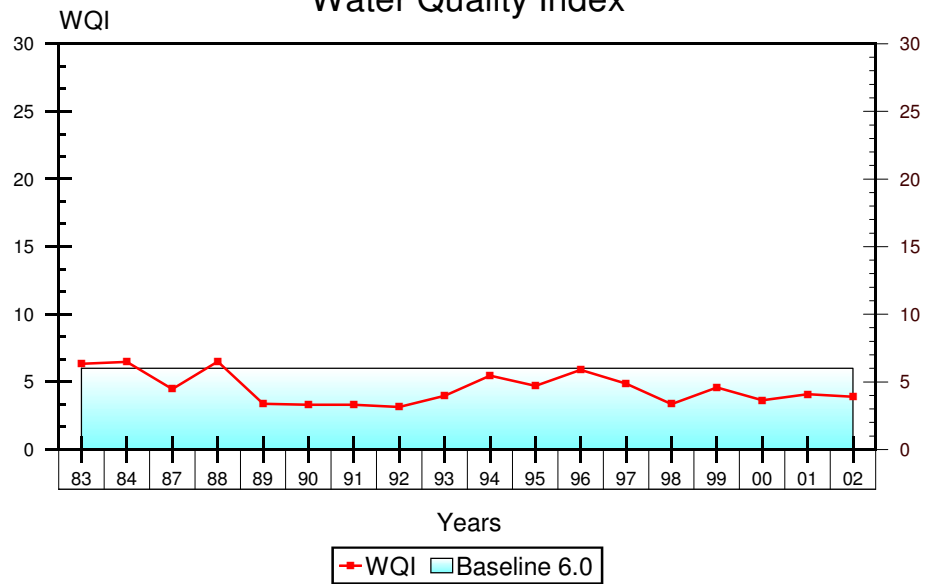
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SPRING

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Star		AliasName:	
S-T-R: 16-30-26	Lat/Lon: 275236 / 814301	Surface Area(Acres): 84	Bottom Contour: <input type="checkbox"/>
LocationCity: Alturas	Elevation:	Public Access: <input checked="" type="checkbox"/>	
Physiographic Unit:	Lake Depth:	Meandered: <input type="checkbox"/>	
Drainage Basin:	Lake Type: Landlocked	Control Structure: <input type="checkbox"/>	
Drainage Basin (Sq. Miles)	Water Quality Data:	POR:	Staff Gage: <input type="checkbox"/>
Sport Fisheries:	Rated By:		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High:	Date:
100 Yr Flood:	Min Low:	Rec Low:	Date:
Min Flood:	Min Ext Low:	Lk Lvl POR:	

Current year water quality and lake levels

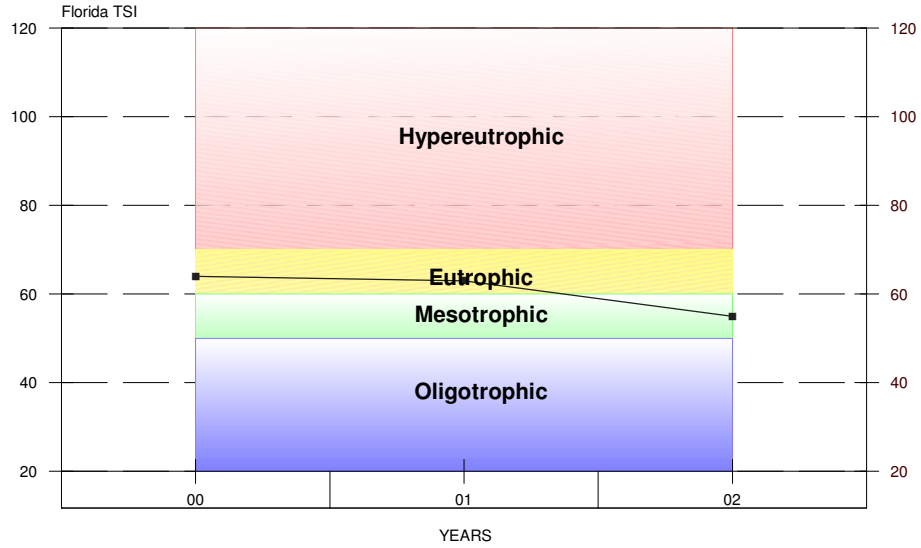
Year: <u>2002</u>	Impaired Waterbody: <input type="checkbox"/>	TSI: <u>55.04</u>	WQI: <u>2.97</u>	Lake Level Mean:
				LakeLevel Max:
				LakeLevel Min:

Water Quality Comments: Water quality is fair to good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	22.74	27.76	17.72
Chlorophyll a (Corrected) mg/m3	21.23	25.63	16.82
Color Pt-Co	22	23	20
Conductivity @ 25C umhos/cm	192	193	191
Dissolved Oxygen (DO) mg/l	10.56	12.53	8.59
Nitrogen Ammonia (NH3) mg/l	0.003	0.005	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.851	0.855	0.846
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.042	0.084	0.000
Nitrogen Total (TN) mg/l	0.89	0.94	0.85
pH Std Unit	8.37	8.66	8.08
Phosphorus Total (TP) mg/l	0.030	0.032	0.027
Secchi Disk (SD) m	1.18	1.20	1.15
Temperature Deg C	24.24	31.58	16.9
Turbidity NTU	2.50	2.60	2.40

STAR

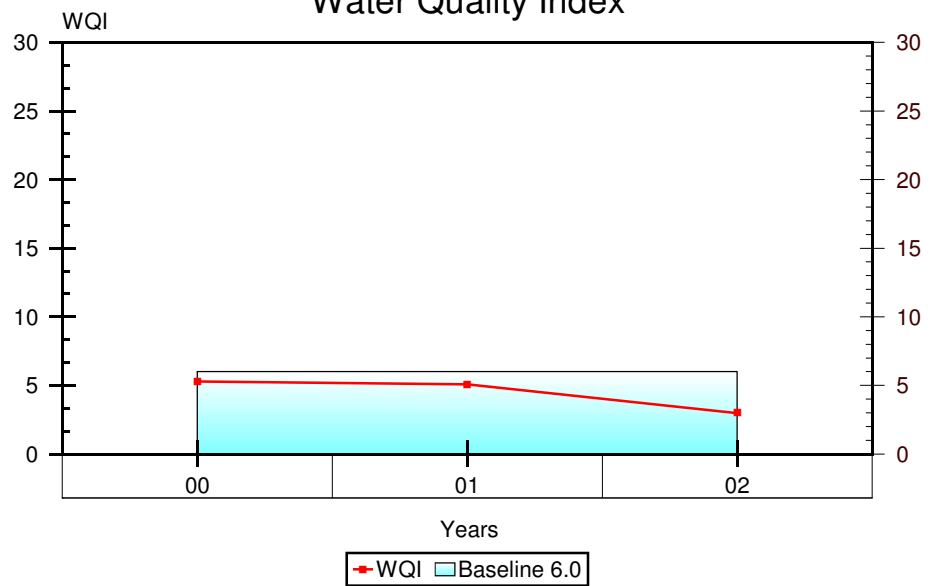
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

STAR

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Summit		AliasName:	
S-T-R: 34-28-26	Lat/Lon 280012 / 814152	Surface Area(Acres): 68	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 16.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.30	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By St On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable 131.50	Rec High: 133.10	Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50	Rec Low: 127.69	Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 - Present]	

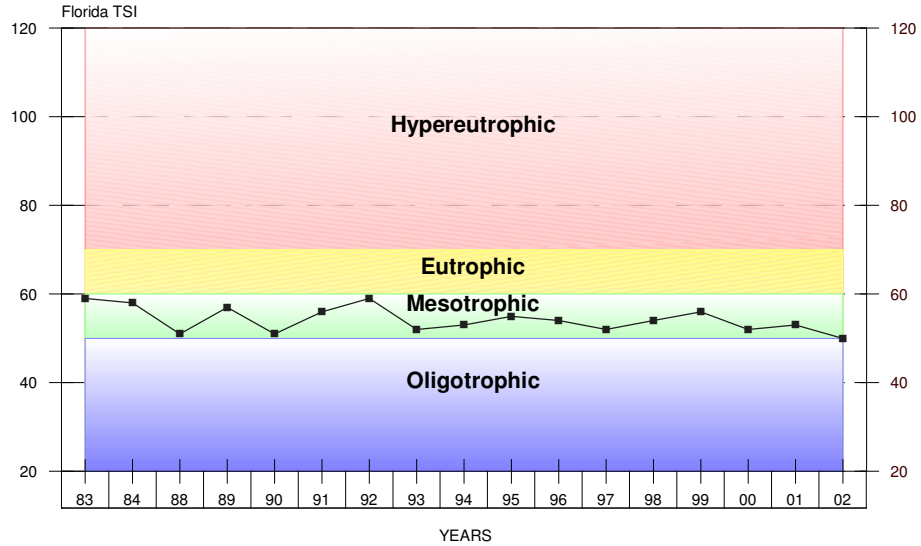
Current year water quality and lake levels

Year <u>2002</u>	Lake Level Mean: 130.57
Impaired Waterbody <input type="checkbox"/>	LakeLevel Max: 131.93
TSI: <u>50.16</u>	LakeLevel Min: 129.38
WQI: <u>2.70</u>	
Water Quality Comments Water quality is good.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	17.57	20.42	15.99
Chlorophyll a (Corrected) mg/m3	16.61	18.42	15.12
Color Pt-Co	16	18	12
Conductivity @ 25C umhos/cm	293	307	273
Dissolved Oxygen (DO) mg/l	9.54	9.70	9.39
Nitrogen Ammonia (NH3) mg/l	0.004	0.008	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.064	1.276	0.843
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.003	0.000
Nitrogen Total (TN) mg/l	1.07	1.28	0.84
pH Std Unit	8.60	9.10	7.66
Phosphorus Total (TP) mg/l	0.017	0.026	0.000
Secchi Disk (SD) m	0.87	1.1	0.50
Temperature Deg C	25.51	29.98	18.69
Turbidity NTU	3.17	3.40	2.80

SUMMIT

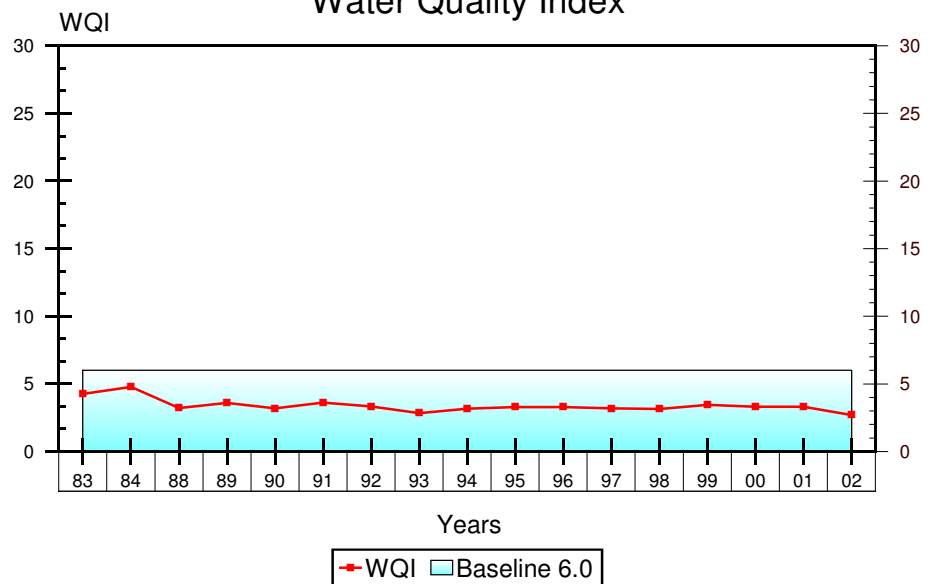
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SUMMIT

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Surveyors		AliasName:	
S-T-R: 26-30-26	Lat/Lon: 275014 / 814140	Surface Area(Acres): 293	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Alturas		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Polk Upland		Lake Depth: 16.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 1.99	Water Quality Data: Current	POR: 1990 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 133.60	Max Desireable: 132.75	Rec High: 132.68 Date: 04/01/87
100 Yr Flood: 134.70	Min Low: 130.75	Rec Low: 127.00 Date: 03/14/91
Min Flood: 133.00	Min Ext Low: 128.50	Lk Lvl POR: 3/22/1984 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 131

Impaired Waterbody: **TSI:** 58.64 **WQI:** 4.03 **LakeLevel Max:** 131.79

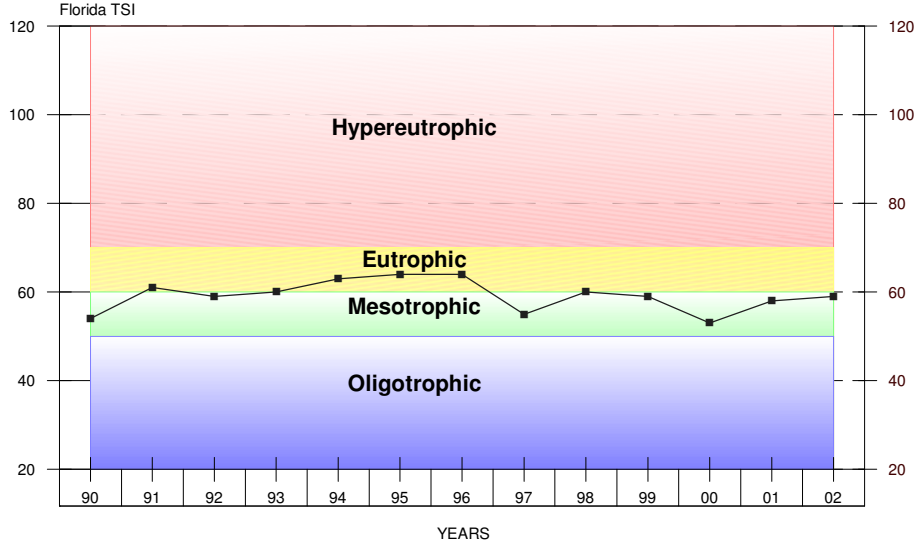
LakeLevel Min: 129.9

Water Quality Comments: Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	18.08	25.36	10.80
Chlorophyll a (Corrected) mg/m3	15.65	20.89	10.41
Color Pt-Co	113	125	100
Conductivity @ 25C umhos/cm	187	189	184
Dissolved Oxygen (DO) mg/l	9.13	10.96	7.29
Nitrogen Ammonia (NH3) mg/l	0.005	0.010	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.953	1.095	0.811
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.212	0.423	0.000
Nitrogen Total (TN) mg/l	1.17	1.24	1.10
pH Std Unit	6.73	6.80	6.66
Phosphorus Total (TP) mg/l	0.078	0.090	0.066
Secchi Disk (SD) m	0.75	0.80	0.70
Temperature Deg C	23.73	30.89	16.56
Turbidity NTU	4.15	4.90	3.40

SURVEYORS

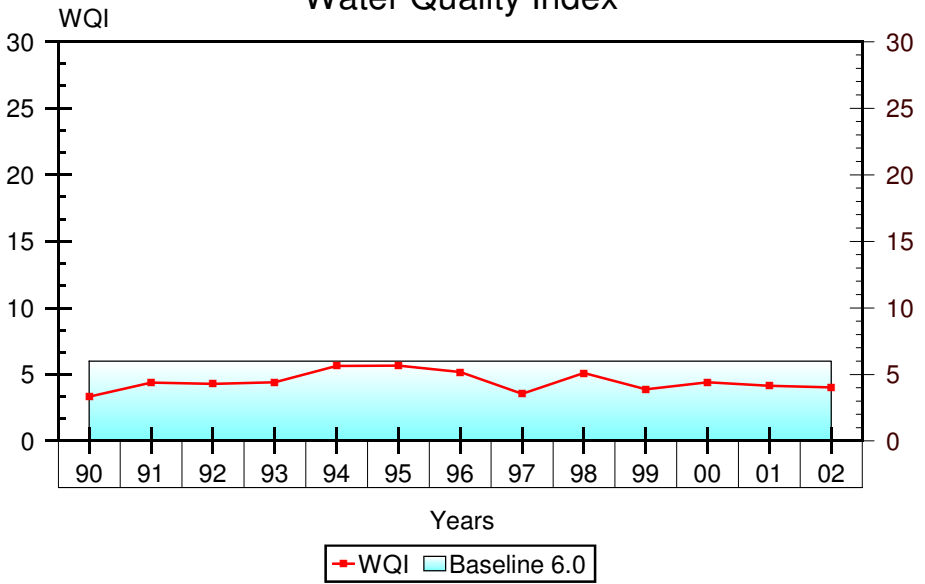
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SURVEYORS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Swoope North		AliasName: Swoope1n = Swoope N; Swoope1s = Swoope S	
S-T-R: 29-27-26	Lat/Lon 280610 / 814331	Surface Area(Acres): 88	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lake Alfred		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 11.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.90	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		
Misc Information about this waterbody: Dut to low water levels this lake is sampled in the northern and southern sections.			

Historical and set lake level Information

10 Yr Flood: 133.00	Max Desireable 132.00	Rec High: 133.56 Date: 02/16/98
100 Yr Flood: 133.50	Min Low: 130.00	Rec Low: 125.00 Date: 10/08/81
Min Flood: 132.50	Min Ext Low: 128.00	Lk Lvl POR: 5/22/1979 - Present

Current year water quality and lake levels

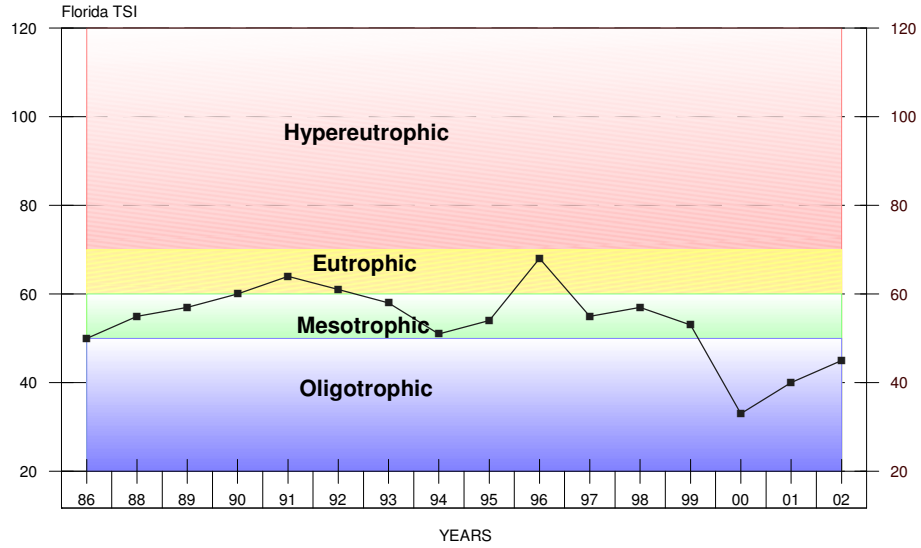
Year 2002
Lake Level Mean: 127.67
Impaired Waterbody
TSI: 44.54
WQI: 2.43
LakeLevel Max: 129.15
LakeLevel Min: 126.61

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	7.60	8.77	6.42
Chlorophyll a (Corrected) mg/m3	7.61	8.81	6.41
Color Pt-Co	27	30	23
Conductivity @ 25C umhos/cm	362	369	354
Dissolved Oxygen (DO) mg/l	8.13	9.06	7.19
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.202	1.259	1.144
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.003	0.000
Nitrogen Total (TN) mg/l	1.20	1.26	1.14
pH Std Unit	8.14	8.20	8.08
Phosphorus Total (TP) mg/l	0.017	0.020	0.013
Secchi Disk (SD) m	1.58	1.60	1.55
Temperature Deg C	24.64	30.51	18.77
Turbidity NTU	2.60	3.10	2.10

SWOOPE N

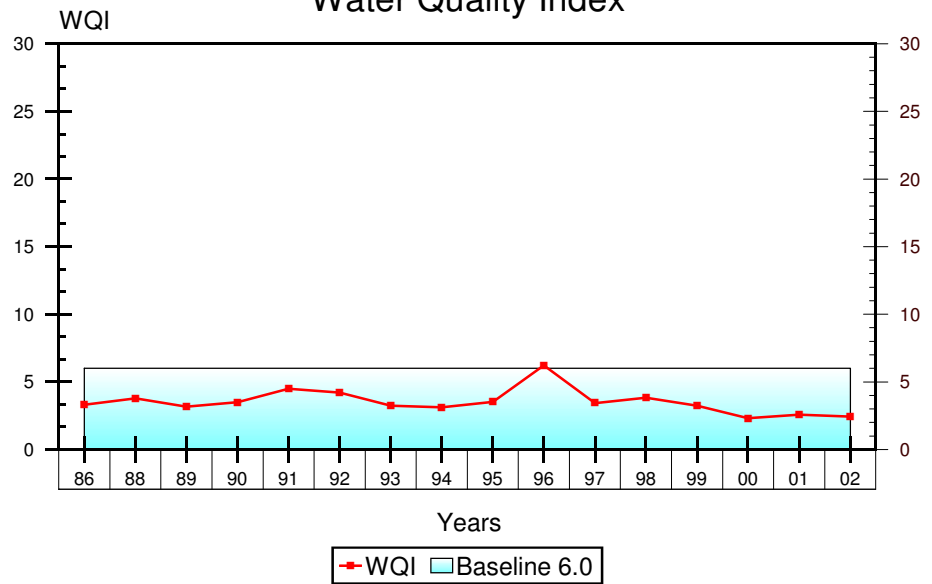
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SWOOPE N

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Swoope South		AliasName: Swoope1n = Swoope N; Swoope1s = Swoope S	
S-T-R: 29-27-26	Lat/Lon: 280610 / 814331	Surface Area(Acres): 88	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Lake Alfred		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 11.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.90	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		
Misc Information about this waterbody: Dut to low water levels this lake is sampled in the northern and southern sections.			

Historical and set lake level Information

10 Yr Flood: 133.00	Max Desireable: 132.00	Rec High: 133.56 Date: 02/16/98
100 Yr Flood: 133.50	Min Low: 130.00	Rec Low: 125.00 Date: 10/08/81
Min Flood: 132.50	Min Ext Low: 128.00	Lk Lvl POR: 5/22/1979 - Present

Current year water quality and lake levels

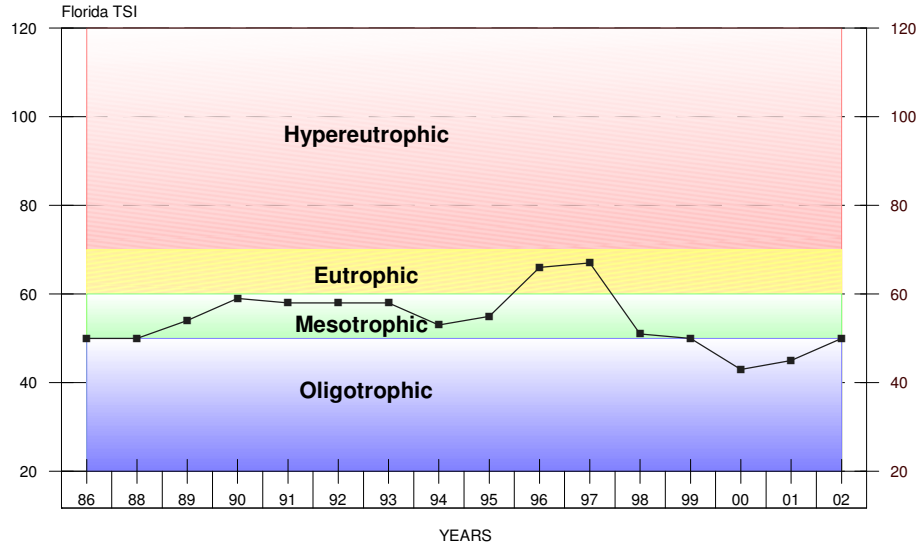
Year: <u>2002</u>	Impaired Waterbody: <input type="checkbox"/>	TSI: <u>49.56</u>	WQI: <u>2.44</u>	Lake Level Mean: 127.67
				LakeLevel Max: 129.15
				LakeLevel Min: 126.61

Water Quality Comments: Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	8.29	9.91	6.68
Chlorophyll a (Corrected) mg/m3	7.61	8.81	6.41
Color Pt-Co	24	25	23
Conductivity @ 25C umhos/cm	331	346	315
Dissolved Oxygen (DO) mg/l	7.07	9.83	4.31
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.912	0.926	0.897
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.006	0.011	0.000
Nitrogen Total (TN) mg/l	0.92	0.94	0.90
pH Std Unit	7.74	8.23	7.25
Phosphorus Total (TP) mg/l	0.026	0.027	0.025
Secchi Disk (SD) m	2.58	3.10	2.05
Temperature Deg C	24.65	30.42	18.88
Turbidity NTU	0.87	1.02	0.72

SWOOPE S

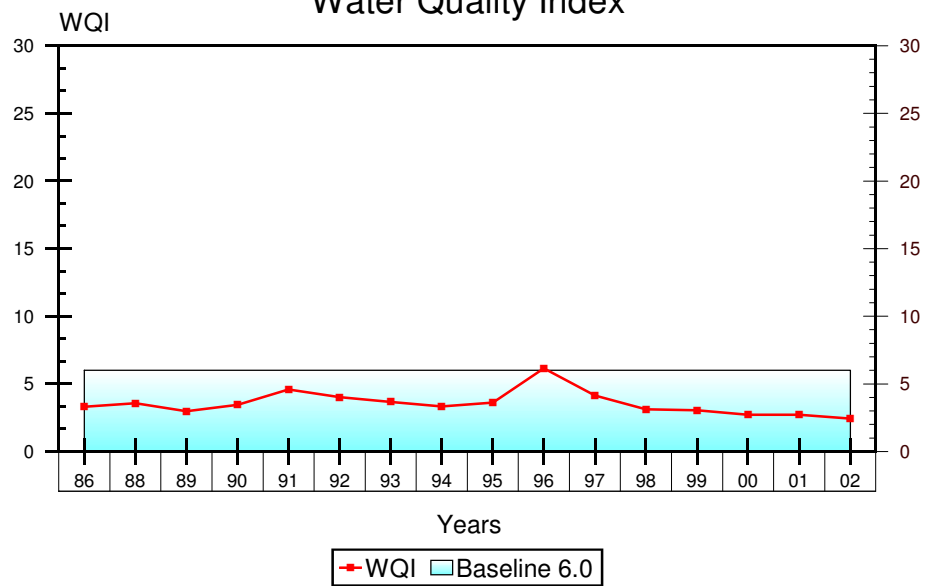
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

SWOOPE S

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Tennessee		AliasName:	
S-T-R: 9-27-25	Lat/Lon 280840 / 814848	Surface Area(Acres): 112	Bottom Contour: <input type="checkbox"/>
LocationCity Polk City		Elevation: 132.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 14.10	Meandered: <input type="checkbox"/>
Drainage Basin: Withlacoochee River		Lake Type: Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 0.57	Water Quality Data: Current	POR: 1986 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 134.70	Max Desireable 133.00	Rec High: 133.26 Date: 04/05/93
100 Yr Flood: 136.30	Min Low: 130.00	Rec Low: 127.96 Date: 6/18/01
Min Flood: 134.00	Min Ext Low: 128.00	Lk Lvl POR: 4/23/1979 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 130.02

Impaired Waterbody **TSI:** 62.31 **WQI:** 4.73 **LakeLevel Max:** 131.19

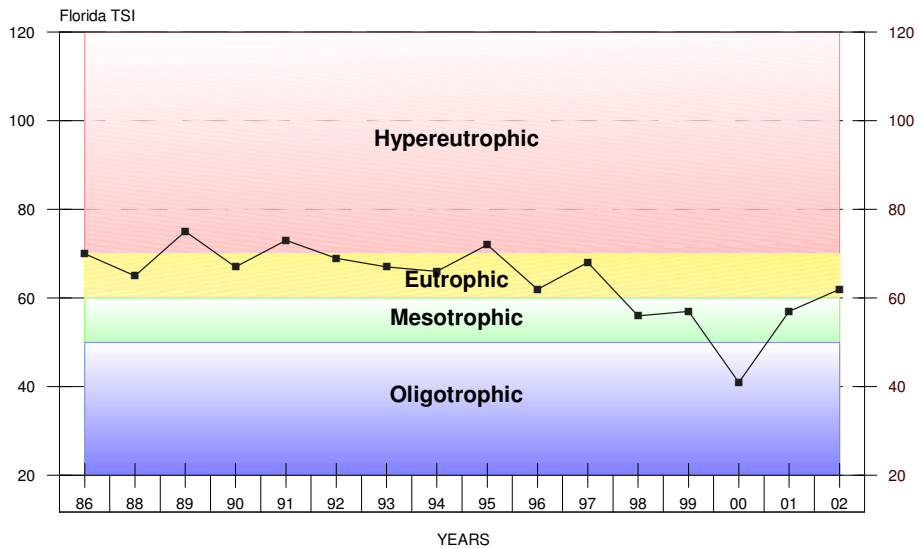
LakeLevel Min: 128.55

Water Quality Comments Water quality is fair. May have periodic algal blooms.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	34.78	36.68	31.63
Chlorophyll a (Corrected) mg/m3	33.51	36.05	31.63
Color Pt-Co	9	10	8
Conductivity @ 25C umhos/cm	267	279	244
Dissolved Oxygen (DO) mg/l	7.58	8.26	7.24
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.678	1.768	1.542
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.003	0.001
Nitrogen Total (TN) mg/l	1.68	1.77	1.54
pH Std Unit	8.15	8.54	7.36
Phosphorus Total (TP) mg/l	0.031	0.037	0.021
Secchi Disk (SD) m	0.43	0.48	0.40
Temperature Deg C	26.65	28.08	23.8
Turbidity NTU	9.67	10.8	8.4

TENNESSEE

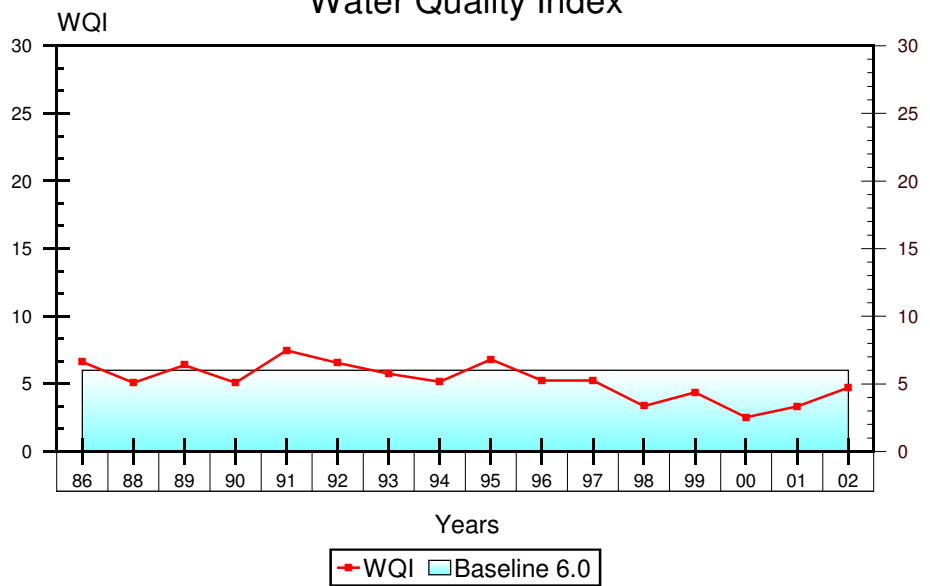
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

TENNESSEE

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Thomas (WH)		AliasName:	
S-T-R: 35-28-25	Lat/Lon: 280038 / 814656	Surface Area(Acres): 73	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Winter Haven		Elevation: 135.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 28.00	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 0.31	Water Quality Data: Current	POR: 1989 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 135.60	Max Desireable: 131.00	Rec High: 133.05 Date: 03/21/98
100 Yr Flood: 136.90	Min Low: 128.00	Rec Low: 123.34 Date: 6/20/01
Min Flood: 132.00	Min Ext Low: 126.00	Lk Lvl POR: 9/22/1987 - Present

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 125.25

Impaired Waterbody: **TSI:** 33.67 **WQI:** 1.87 **LakeLevel Max:** 126.12

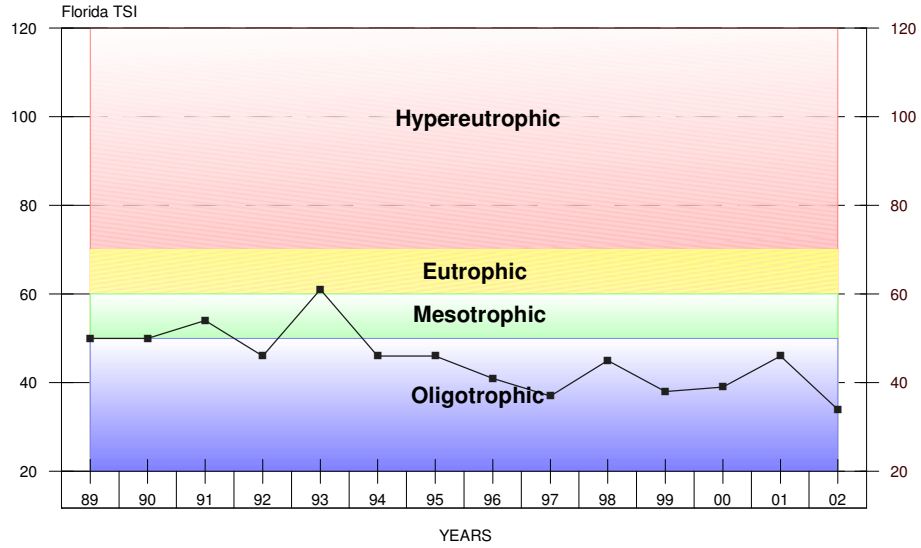
LakeLevel Min: 124.29

Water Quality Comments: Water quality is very good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	4.46	6.21	2.70
Chlorophyll a (Corrected) mg/m3	4.01	5.61	2.40
Color Pt-Co	23	23	22
Conductivity @ 25C umhos/cm	204	217	191
Dissolved Oxygen (DO) mg/l	8.17	8.61	7.72
Nitrogen Ammonia (NH3) mg/l	0.012	0.024	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.827	0.933	0.720
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.024	0.048	0.000
Nitrogen Total (TN) mg/l	0.85	0.93	0.77
pH Std Unit	7.63	8.42	6.83
Phosphorus Total (TP) mg/l	0.010	0.020	0.000
Secchi Disk (SD) m	2.33	2.85	1.8
Temperature Deg C	23.26	28.39	18.12
Turbidity NTU	1.47	2.1	0.84

THOMAS

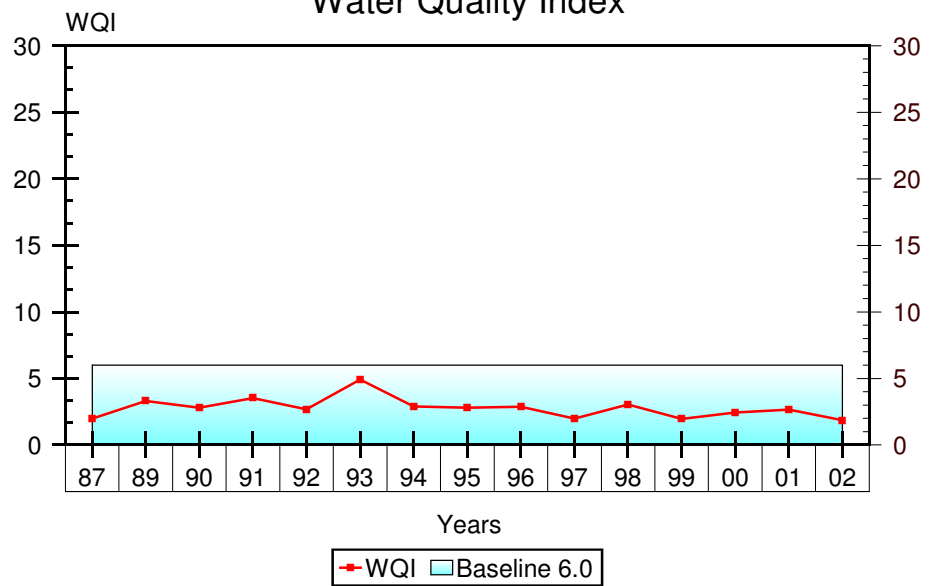
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

THOMAS

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Tiger		AliasName:	
S-T-R: 6-30-30	Lat/Lon: 275338 / 812128	Surface Area(Acres): 2,200	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: E Of Lake Wales		Elevation: 50.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Osceola Plain		Lake Depth: 9.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1985 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		
Misc Information about this waterbody:			

Historical and set lake level Information

10 Yr Flood:	Max Desireable	Rec High: 53.61 Date: 02/23/98
100 Yr Flood: 57.00	Min Low:	Rec Low: 47.78 Date: 05/06/91
Min Flood:	Min Ext Low:	Lk Lvl POR: 4/27/83 - 1998

Current year water quality and lake levels

Year: 2002 **Lake Level Mean:** 0

Impaired Waterbody: **TSI:** 61.06 **WQI:** 4.57 **LakeLevel Max:** 0

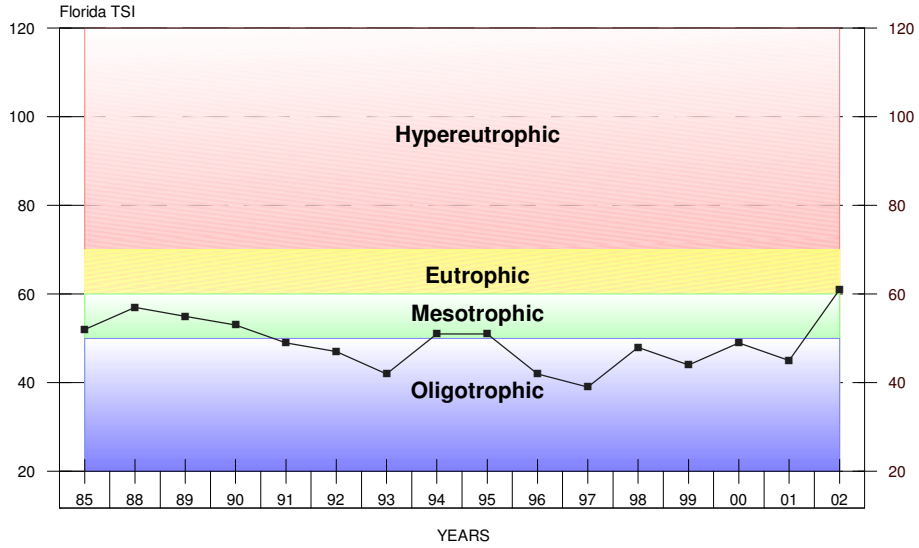
LakeLevel Min: 0

Water Quality Comments: Water quality is good to fair.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	24.02	41.56	6.47
Chlorophyll a (Corrected) mg/m3	20.27	36.53	4.01
Color Pt-Co	55	60	50
Conductivity @ 25C umhos/cm	170	170	169
Dissolved Oxygen (DO) mg/l	8.15	8.95	7.34
Nitrogen Ammonia (NH3) mg/l	0.003	0.004	0.001
Nitrogen Kjeldahl (TKN) mg/l	1.305	1.319	1.290
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.009	0.017	0.000
Nitrogen Total (TN) mg/l	1.31	1.34	1.29
pH Std Unit	7.02	7.23	6.80
Phosphorus Total (TP) mg/l	0.078	0.116	0.039
Secchi Disk (SD) m	0.75	1.0	0.5
Temperature Deg C	24.34	27.81	20.87
Turbidity NTU	7.2	9.9	4.5

TIGER

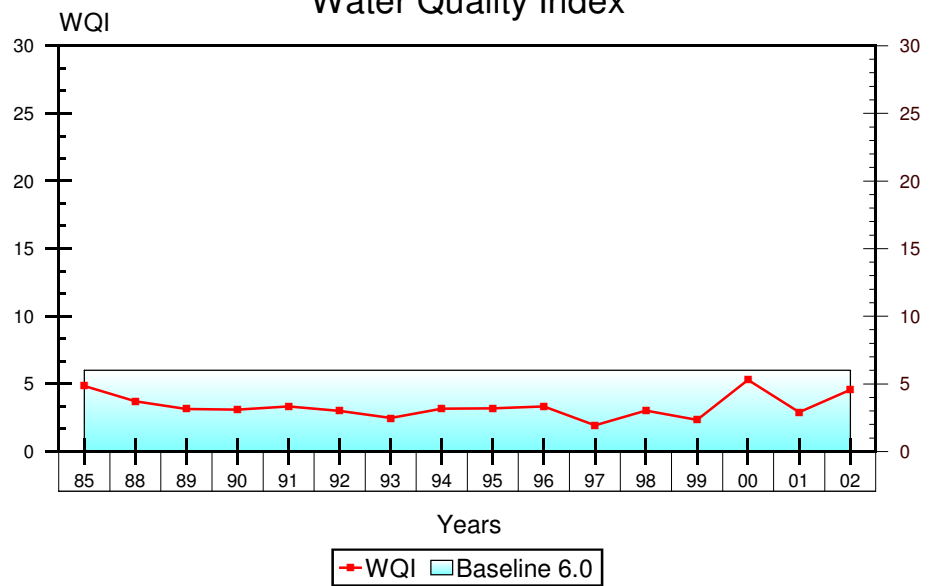
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

TIGER

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Tracy		AliasName:	
S-T-R: 29-27-27	Lat/Lon 280640 / 813804	Surface Area(Acres): 136	Bottom Contour: <input type="checkbox"/>
LocationCity Haines City		Elevation: 124.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 3.60	Meandered: <input type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles)	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 125.50	Max Desireable	Rec High: 123.75 Date: 02/24/93
100 Yr Flood: 126.40	Min Low:	Rec Low: 117.76 Date: 04/22/91
Min Flood:	Min Ext Low:	Lk Lvl POR: 7/6/1988 - 2/24/1993

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 0

Impaired Waterbody **TSI:** 58.78 **WQI:** 3.41 **LakeLevel Max:** 0

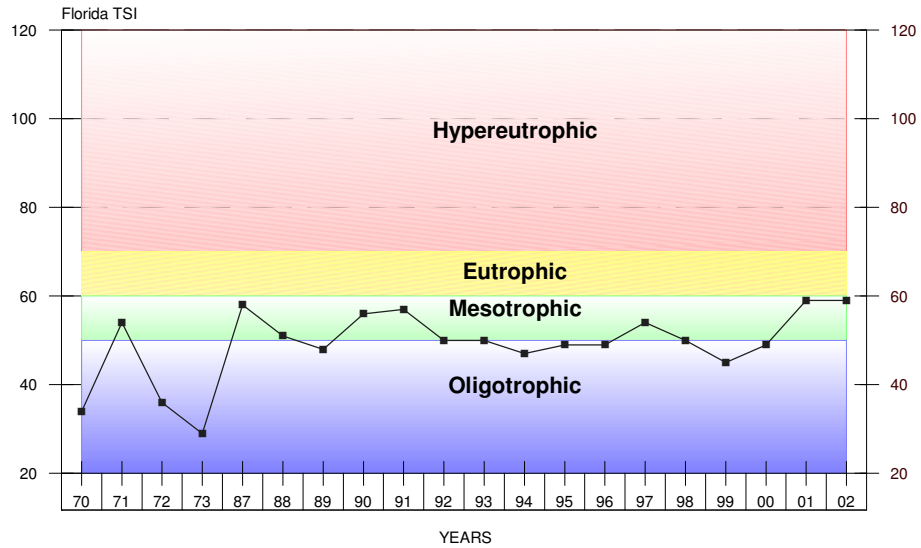
LakeLevel Min: 0

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	18.29	23.17	15.85
Chlorophyll a (Corrected) mg/m3	16.82	19.22	15.22
Color Pt-Co	21	22	20
Conductivity @ 25C umhos/cm	232	233	229
Dissolved Oxygen (DO) mg/l	9.36	10.19	7.70
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.484	1.794	1.310
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.48	1.79	1.31
pH Std Unit	8.42	8.49	8.38
Phosphorus Total (TP) mg/l	0.035	0.039	0.032
Secchi Disk (SD) m	0.75	0.75	0.75
Temperature Deg C	22.46	28.63	19.37
Turbidity NTU	4.0	4.5	3.4

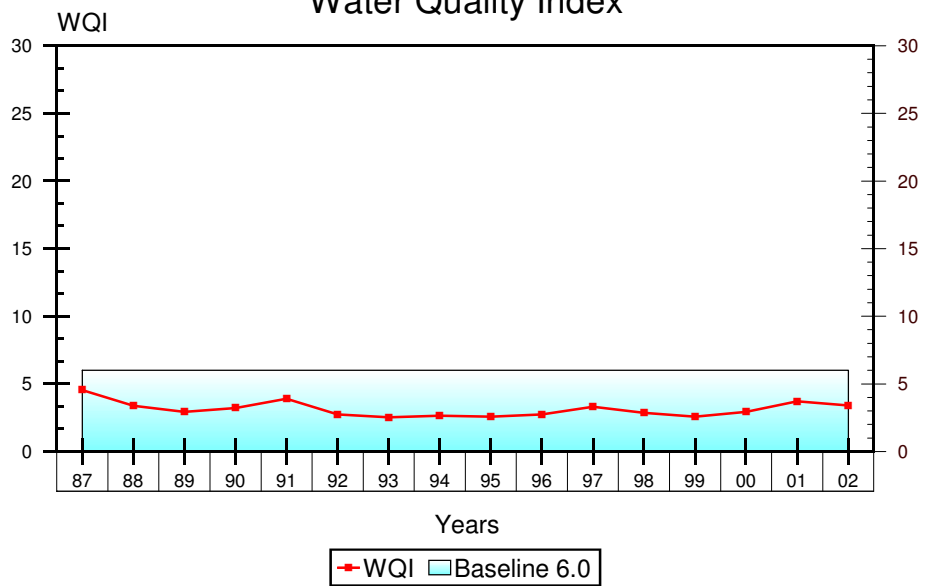
TRACY

TSI



TRACY

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Wailes		AliasName: Wales	
S-T-R: 1-30-27	Lat/Lon 275411 / 813430	Surface Area(Acres): 326	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity Lake Wales		Elevation: 112.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Lake Wales Ridge		Lake Depth: 10.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Landlocked	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 2.40	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input checked="" type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 114.10	Max Desireable 112.00	Rec High: 110.09 Date: 12/31/51
100 Yr Flood: 120.30	Min Low: 110.00	Rec Low: 97.09 Date: 05/21/90
Min Flood: 112.50	Min Ext Low: 108.00	Lk Lvl POR: 12/31/1951 - Present

Current year water quality and lake levels

Year 2002 **Lake Level Mean:** 100.12

Impaired Waterbody **TSI:** 50.85 **WQI:** 2.77 **LakeLevel Max:** 101.78

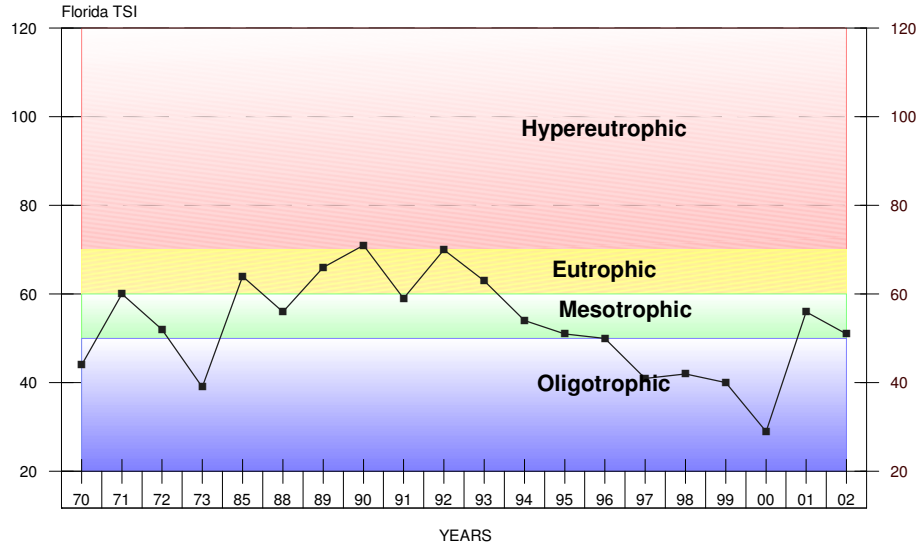
LakeLevel Min: 98.88

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	16.15	20.05	13.86
Chlorophyll a (Corrected) mg/m3	15.22	19.23	12.82
Color Pt-Co	12	15	10
Conductivity @ 25C umhos/cm	177	180	172
Dissolved Oxygen (DO) mg/l	8.83	10.53	7.98
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.124	1.376	0.902
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	1.12	1.37	0.90
pH Std Unit	7.91	8.14	7.45
Phosphorus Total (TP) mg/l	0.019	0.022	0.018
Secchi Disk (SD) m	0.80	0.85	0.71
Temperature Deg C	23.73	28.73	13.74
Turbidity NTU	3.37	3.60	3.0

WAILES

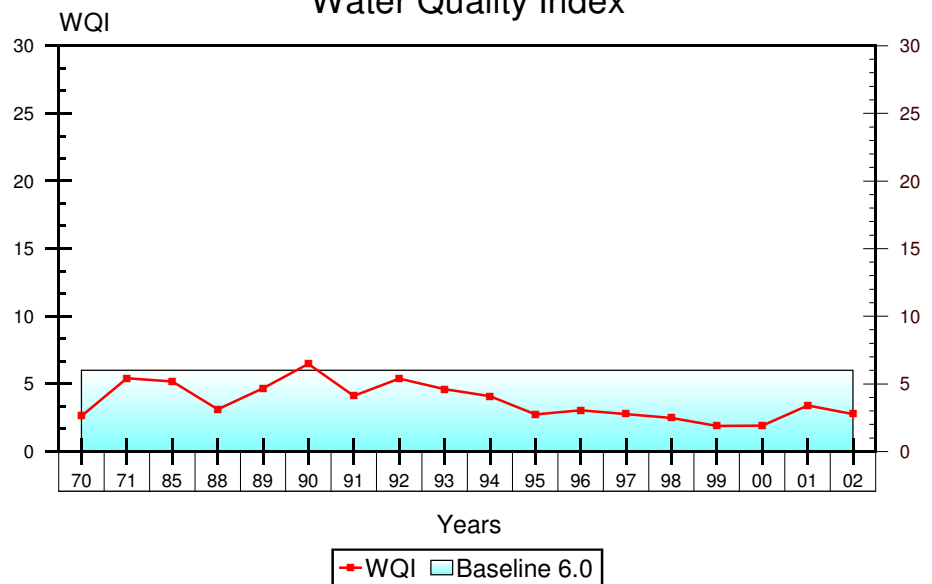
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

WAILES

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Weohyakapka		AliasName: Walk In Water	
S-T-R: 3-31-29	Lat/Lon 274906 / 812449	Surface Area(Acres): 7,532	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity E Of Lake Wales		Elevation: 62.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Osceola Plain		Lake Depth: 12.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Kissimmee River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles) 93.47	Water Quality Data: Current	POR: 1970 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By FFWCC 3/97		

Misc Information about this waterbody:

Historical and set lake level Information

10 Yr Flood: 63.10	Max Desireable	Rec High: 63.43 Date: 09/30/90
100 Yr Flood: 63.70	Min Low:	Rec Low: 58.90 Date: 07/25/81
Min Flood:	Min Ext Low:	Lk Lvl POR: 2/19/58 - 1998

Current year water quality and lake levels

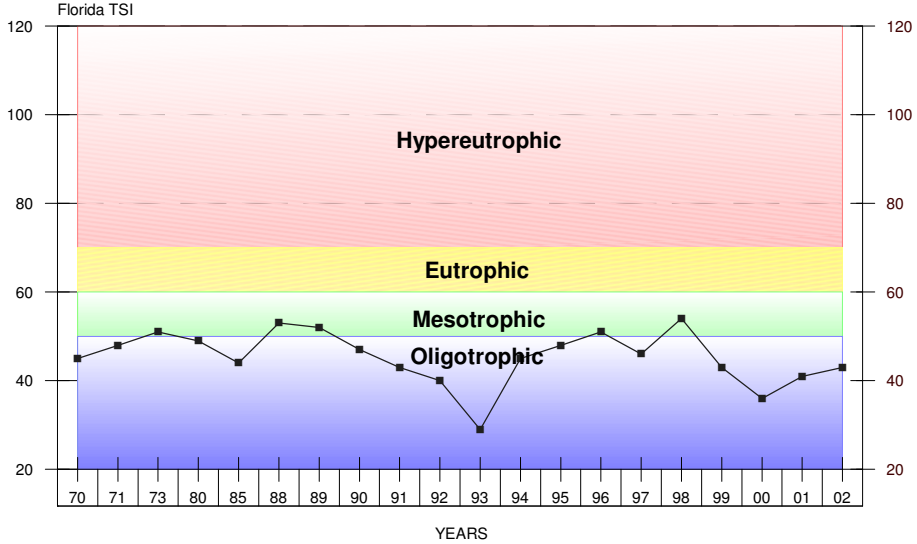
Year <u>2002</u>		Lake Level Mean: 61.48
Impaired Waterbody <input type="checkbox"/>	TSI: <u>43.02</u>	LakeLevel Max: 61.53
	WQI: <u>1.96</u>	LakeLevel Min: 61.42

Water Quality Comments Water quality is good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	6.11	9.22	3.01
Chlorophyll a (Corrected) mg/m3	5.61	8.81	2.40
Color Pt-Co	45	50	40
Conductivity @ 25C umhos/cm	155	156	153
Dissolved Oxygen (DO) mg/l	9.48	11.61	7.35
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.858	0.928	0.788
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.002	0.004	0.000
Nitrogen Total (TN) mg/l	0.86	0.93	0.79
pH Std Unit	8.00	8.77	7.22
Phosphorus Total (TP) mg/l	0.018	0.018	0.017
Secchi Disk (SD) m	2.2	2.2	2.2
Temperature Deg C	22.45	29.49	15.4
Turbidity NTU	1.42	1.72	1.11

WEOHYAKAPKA

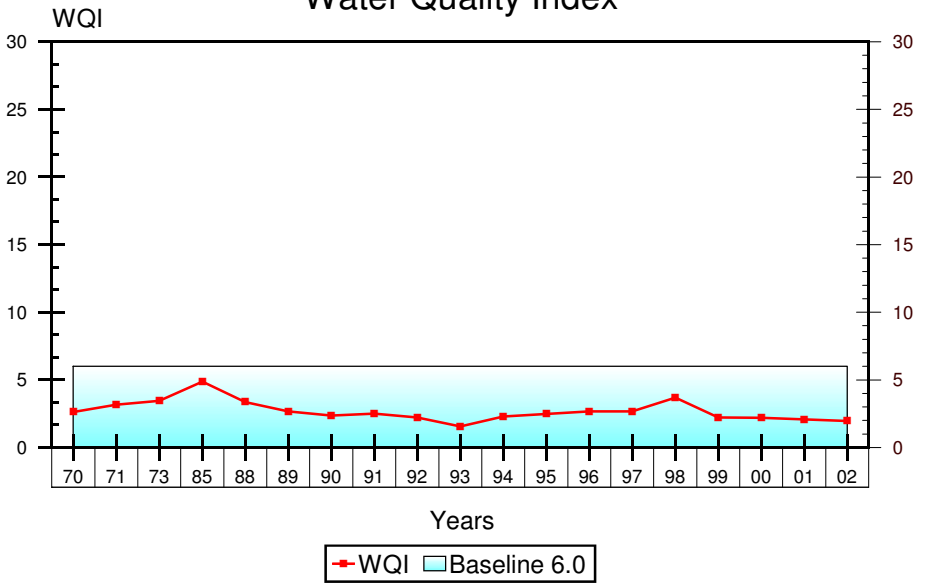
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

WEOHYAKAPKA

Water Quality Index



Annual Lake Water Quality Data

Waterbody: Winterset		AliasName:	
S-T-R: 11-29-26	Lat/Lon: 275834 / 814103	Surface Area(Acres): 548	Bottom Contour: <input checked="" type="checkbox"/>
LocationCity: Winter Haven		Elevation: 131.00	Public Access: <input checked="" type="checkbox"/>
Physiographic Unit: Winter Haven Ridge		Lake Depth: 26.00	Meandered: <input checked="" type="checkbox"/>
Drainage Basin: Peace River		Lake Type: Inflow & Outflow	Control Structure: <input type="checkbox"/>
Drainage Basin (Sq. Miles): 2.10	Water Quality Data: Current	POR: 1983 - Present	Staff Gage: <input type="checkbox"/>
Sport Fisheries: GOOD	Rated By: FFWCC 3/97		
Misc Information about this waterbody: Hydrologic Record; Record High And Low Are The Same As Lake Howard. Controlled By Sta On Lake Lulu.			

Historical and set lake level information

10 Yr Flood: 132.60	Max Desireable: 131.50	Rec High: 133.10 Date: 09/11/60
100 Yr Flood: 133.40	Min Low: 129.50		Rec Low: 127.69 Date: 5/30/01
Min Flood: 132.00	Min Ext Low: 127.00	Lk Lvl POR: 6/91-6/91 [Lk Howard - 2/1946 -Present]

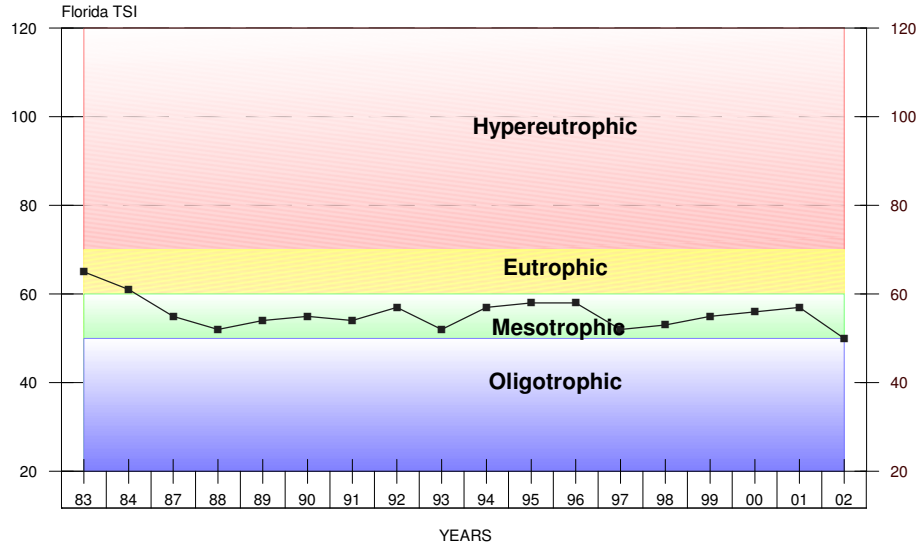
Current year water quality and lake levels

Year: <u>2002</u>	Lake Level Mean: 130.57
Impaired Waterbody: <input type="checkbox"/>	LakeLevel Max: 131.93
TSI: <u>49.73</u>	LakeLevel Min: 129.38
WQI: <u>2.82</u>	
Water Quality Comments: Water quality is good.	

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	16.99	25.57	10.07
Chlorophyll a (Corrected) mg/m3	15.64	22.43	10.07
Color Pt-Co	11	12	10
Conductivity @ 25C umhos/cm	316	328	301
Dissolved Oxygen (DO) mg/l	8.96	9.11	8.83
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.168	1.234	1.062
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.018	0.052	0.001
Nitrogen Total (TN) mg/l	1.19	1.24	1.11
pH Std Unit	8.38	8.96	7.34
Phosphorus Total (TP) mg/l	0.017	0.026	0.008
Secchi Disk (SD) m	0.83	1.1	0.5
Temperature Deg C	24.85	29.16	18.5
Turbidity NTU	3.83	4.8	2.7

WINTERSET

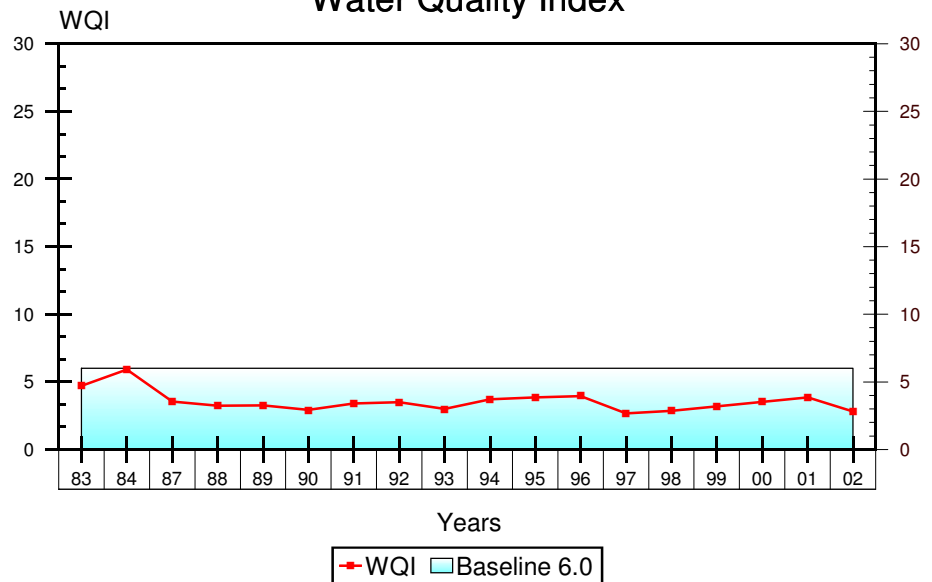
TSI



Starting 1991-Secchi disk not used in calculation-see Section II

WINTERSET

Water Quality Index



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APPENDIX B

STREAM WATER QUALITY

&

CHARTS



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Stream Segments

Alafia North Prong
Alafia South Prong
Blackwater Creek (Not sampled)
Gator Creek (Not sampled)
Horseshoe Creek
Itchepackesassa Creek
Lena Run Creek 1
Lena Run Creek 2
Marion Creek
Peace Creek 3
Peace Creek 4
Peace Creek 5
Peace Creek 6
Peace Creek 7
Peace Creek 8
Peace Creek 9
Peace Creek 10
Peace River 1
Poley Creek North
Poley Creek South
Reedy Creek
Saddle Creek Park Outfall (Not sampled)
Saddle Creek 1
Teneroc Outfall
Tiger Creek
Withlatchoochee River

Annual Stream Water Quality Data

Sampling Site: Alafia North Prong

River System: Alafia River

Sampling Site Location: N Prong @ Nichols Bridge On Hwy 676

S-T-R: -30-23 **Additional Name:** Alafia North Prong; South Prong

DrainsTo: Tampa Bay

Navigability: NO / Canoe only

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 89.55

Impaired Waterbody

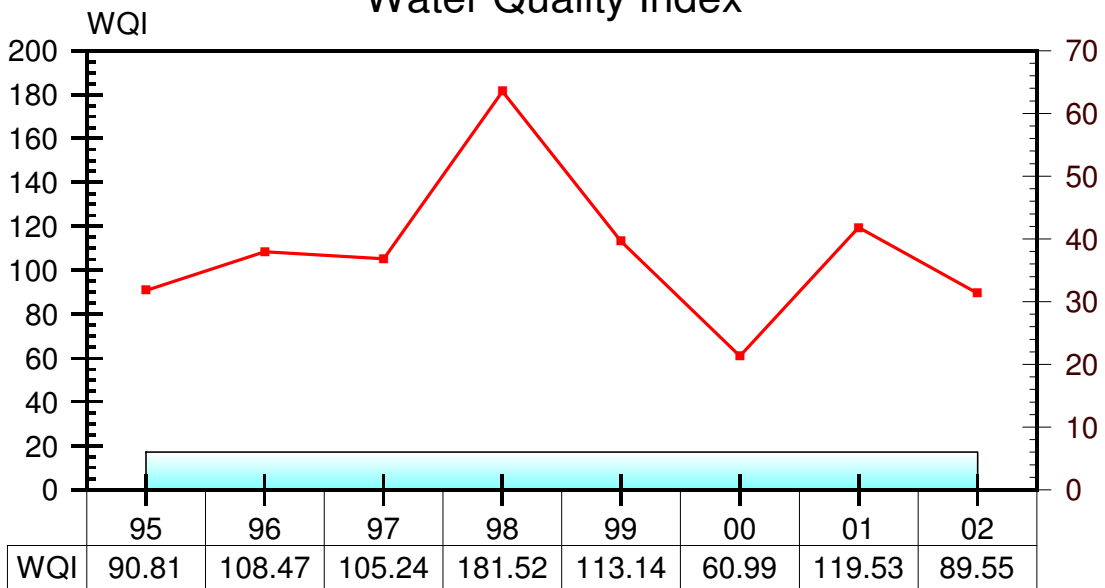
Water Quality Statements:

Impairment is not quantified at this itme. Assessment is on-going.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	2.72	3.05	2.39
Chlorophyll a (Corrected) mg/m3	2.00	2.40	1.60
Color Pt-Co	65	70	60
Conductivity @ 25C umhos/cm	1013	1417	608
Dissolved Oxygen (DO) mg/l	7.68	8.66	6.70
Enterococci (MF) CFU	73	100	46
Fecal Coliform (FC) CFU	110	160	60
Nitrogen Ammonia (NH3) mg/l	0.020	0.025	0.015
Nitrogen Kjeldahl (TKN) mg/l	0.834	0.856	0.812
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.293	0.319	0.267
Nitrogen Total (TN) mg/l	1.13	1.18	1.08
pH Std Unit	7.12	7.31	6.93
Phosphorus Total (TP) mg/l	4.377	4.555	4.199
Temperature Deg C	20.09	26.59	13.58
Turbidity NTU	4.45	4.60	4.30

ALAFIA NORTH PRONG NICHOLS

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : ALAFIA1N

Annual Stream Water Quality Data

Sampling Site: Alafia South Prong

River System: Alafia River

Sampling Site Location: S Prong Bridge On Sr37 S 9.3 miles S Of Hwy 60

S-T-R: -30-23 **Additional Name:** Alafia North Prong; South Prong

DrainsTo: Tampa Bay

Navigability: NO / Canoe only

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 35.85

Impaired Waterbody

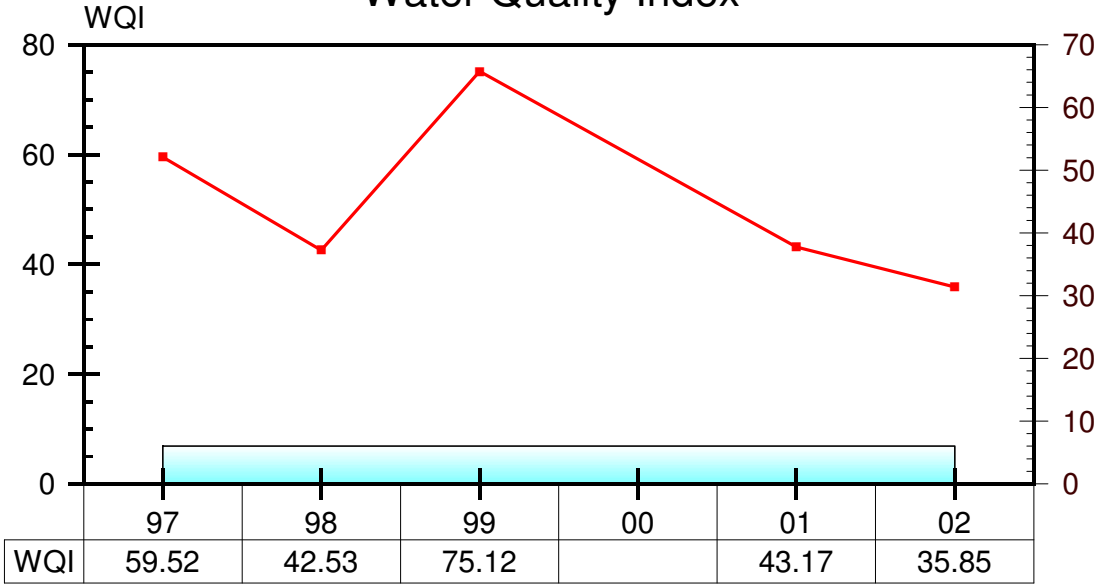
Water Quality Statements:

Generally good, but Total Phosphorus may cause imbalance in biota.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	1.86	1.86	1.86
Chlorophyll a (Corrected) mg/m3	1.2	1.2	1.2
Color Pt-Co	35	35	35
Conductivity @ 25C umhos/cm	626	626	626
Dissolved Oxygen (DO) mg/l	6.99	6.99	6.99
Enterococci (MF) CFU	315	315	315
Fecal Coliform (FC) CFU	191	191	191
Nitrogen Ammonia (NH3) mg/l	0.000	0.000	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.571	0.571	0.571
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.131	0.131	0.131
Nitrogen Total (TN) mg/l	0.70	0.70	0.70
pH Std Unit	6.9	6.9	6.9
Phosphorus Total (TP) mg/l	1.722	1.722	1.722
Temperature Deg C	14.12	14.12	14.12
Turbidity NTU	0.38	0.38	0.38

ALAFIA SOUTH PRONG NORTH OF BREWSTER

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : ALAFIA2S

Annual Stream Water Quality Data

Sampling Site: Blackwater Creek

River System: Blackwater Creek

Sampling Site Location:

S-T-R: -28-23 **Additional Name:**

DrainsTo: Wetlands & Hillsborough River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI:

Impaired Waterbody

Water Quality Statements:

This site was not sampled due to no flow or no water in the year 2002. Biological assessments scheduled for 2003.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Enterococci (MF) CFU			
Fecal Coliform (FC) CFU			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Temperature Deg C			
Turbidity NTU			

Annual Stream Water Quality Data

Sampling Site: Gator Creek

River System: Gator Creek

Sampling Site Location:

S-T-R: -27-24 **Additional Name:**

DrainsTo: Green Swamp & Withlacoochee Rvr

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI:

Impaired Waterbody

Water Quality Statements:

This site was not sampled due to no flow or no water in the year 2002. Assessments on-going.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Enterococci (MF) CFU			
Fecal Coliform (FC) CFU			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Temperature Deg C			
Turbidity NTU			

Annual Stream Water Quality Data

Sampling Site: Horseshoe Creek

River System: Horseshoe Creek

Sampling Site Location: Hwy 547 N at RR Trestle Davenport

S-T-R: -28-27 **Additional Name:**

DrainsTo: Peace River

Navigability: Possibly by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 4.50

Impaired Waterbody

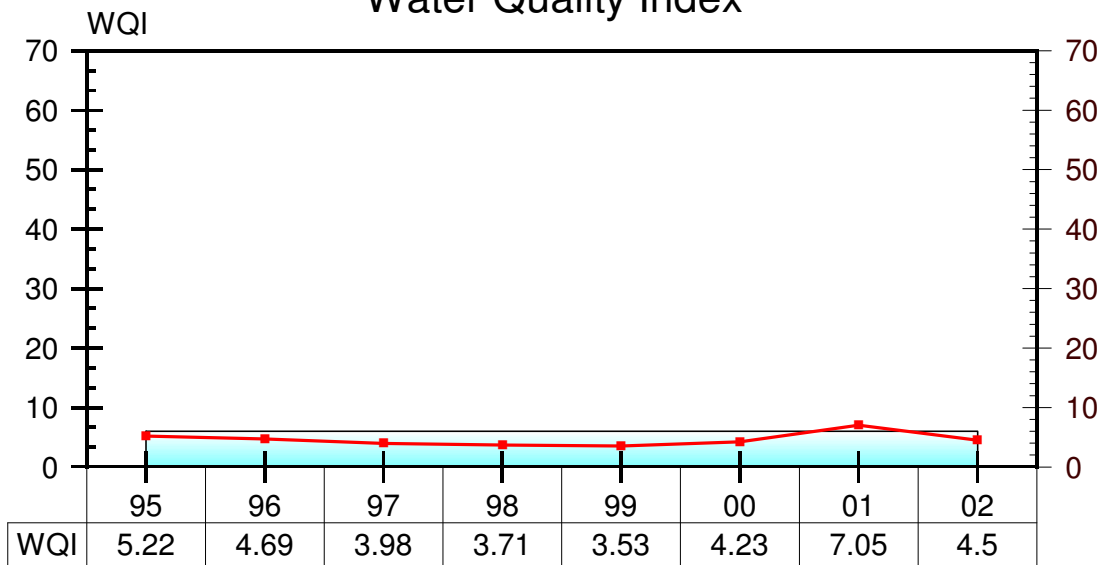
Water Quality Statements:

Low dissolved oxygen may cause biotic imbalance or scarcity. NH3 concentrations may also impair biota. Assessments on-going.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	1.83	2.96	0.71
Chlorophyll a (Corrected) mg/m3	1.48	2.96	0.00
Color Pt-Co	135	200	70
Conductivity @ 25C umhos/cm	165	170	159
Dissolved Oxygen (DO) mg/l	3.00	4.43	1.56
Enterococci (MF) CFU	1142	1142	1142
Fecal Coliform (FC) CFU	360	360	360
Nitrogen Ammonia (NH3) mg/l	0.030	0.045	0.014
Nitrogen Kjeldahl (TKN) mg/l	1.019	1.372	0.665
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.436	0.527	0.344
Nitrogen Total (TN) mg/l	1.46	1.72	1.19
pH Std Unit	6.56	6.87	6.24
Phosphorus Total (TP) mg/l	0.057	0.061	0.052
Temperature Deg C	20.46	25.51	15.41
Turbidity NTU	1.65	1.97	1.33

HORSESHOE CREEK DAVENPORT

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : HORSESHOE CR2

Annual Stream Water Quality Data

Sampling Site: Itchepackesassa Creek

River System: Itchepackesassa Creek

Sampling Site Location: Bridge On Walker Rd S Of Hwy 582

S-T-R: -28-23 **Additional Name:**

DrainsTo: Wetlands to Hillsborough Rvr

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 19.49

Impaired Waterbody

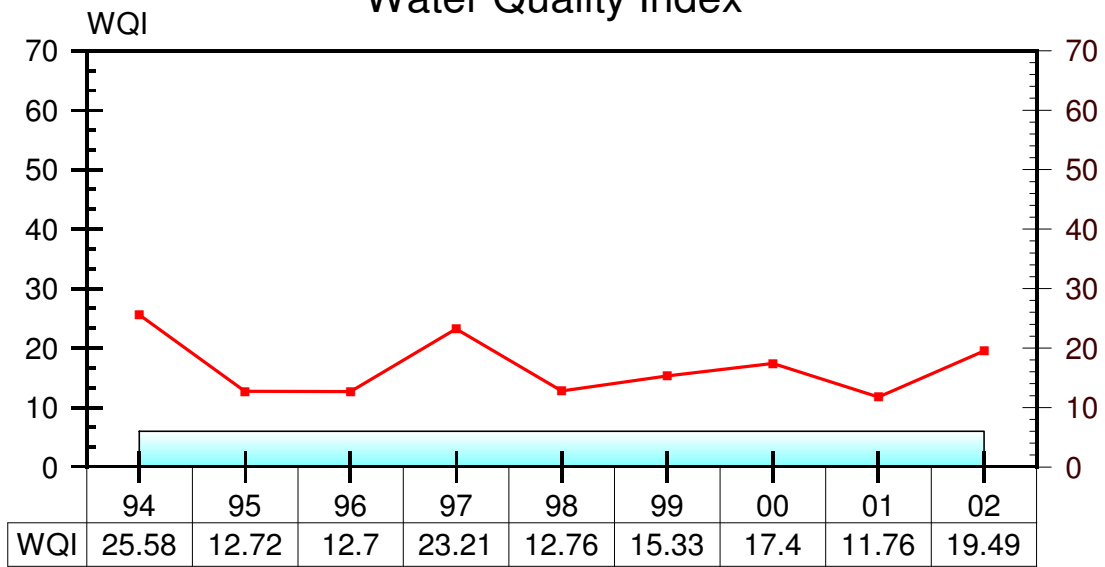
Water Quality Statements:

Low DO and elevated nutrients are an impairment to the biotic balance. Assessments on-going. Bacteria a major concern.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	20.97	37.91	4.03
Chlorophyll a (Corrected) mg/m3	14.62	27.64	1.60
Color Pt-Co	95	100	90
Conductivity @ 25C umhos/cm	308	409	206
Dissolved Oxygen (DO) mg/l	4.68	7.74	1.62
Enterococci (MF) CFU	550	790	310
Fecal Coliform (FC) CFU	408	730	86
Nitrogen Ammonia (NH3) mg/l	0.074	0.079	0.068
Nitrogen Kjeldahl (TKN) mg/l	1.534	1.651	1.416
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.190	0.347	0.033
Nitrogen Total (TN) mg/l	1.73	2.00	1.45
pH Std Unit	7.08	7.37	6.79
Phosphorus Total (TP) mg/l	0.764	1.000	0.528
Temperature Deg C	23.59	24.64	22.54
Turbidity NTU	9.7	16.2	3.2

ITCHEPACKESASSA CREEK NORTH OF LAKELAND

Water Quality Index



Years

— WQI Baseline 6.0

STA NAME : ITCHEPACK CR1

Annual Stream Water Quality Data

Sampling Site: Lena Run Creek 1

River System: Lena Run Creek

Sampling Site Location: N Side Of 655 On The W Side Of Fl Dist.

S-T-R: -28-25 **Additional Name:**

DrainsTo: Lake Hancock

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 27.68

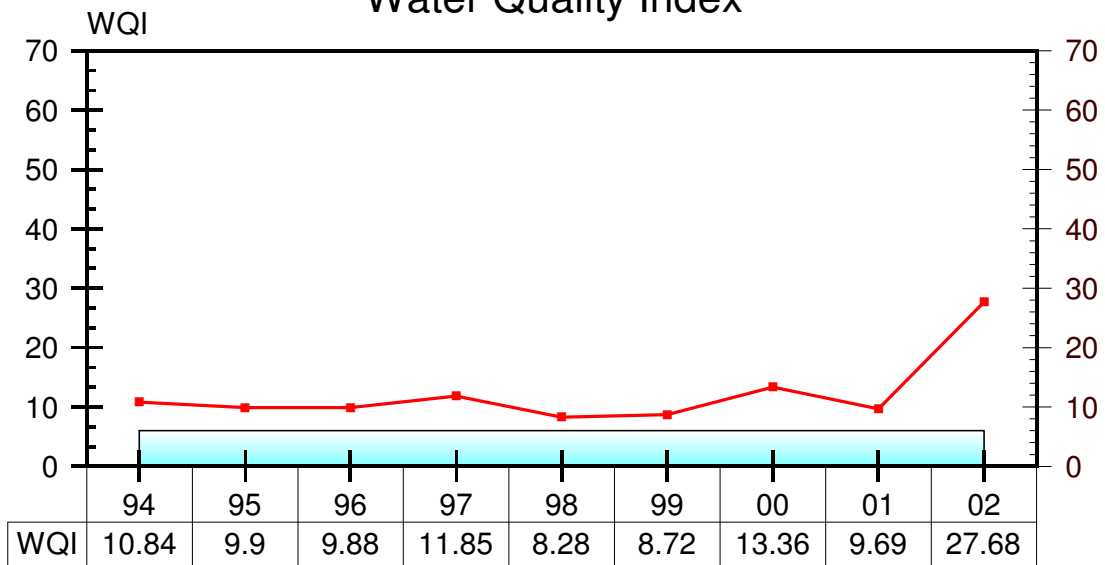
Impaired Waterbody

Water Quality Statements:

Low DO, high concentrations of nutrients and total suspended solids may cause an impairment of the biota. Assessments on-going.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	32.91	64.79	1.02
Chlorophyll a (Corrected) mg/m3	28.64	56.47	0.80
Color Pt-Co	42	44	40
Conductivity @ 25C umhos/cm	574	640	507
Dissolved Oxygen (DO) mg/l	5.25	7.75	2.74
Enterococci (MF) CFU	4170	8000	340
Fecal Coliform (FC) CFU	750	1000	500
Nitrogen Ammonia (NH3) mg/l	0.461	0.771	0.151
Nitrogen Kjeldahl (TKN) mg/l	1.445	2.258	0.632
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.600	0.810	0.389
Nitrogen Total (TN) mg/l	2.05	3.07	1.02
pH Std Unit	7.26	7.35	7.16
Phosphorus Total (TP) mg/l	1.006	1.798	0.213
Temperature Deg C	26.25	31.46	21.03
Turbidity NTU	3.12	4.60	1.64

LENA RUN CREEK SOUTH OF AUBURNDALE Water Quality Index



Years

WQI Baseline 6.0

STA NAME : LENA RUN CREEK1

Annual Stream Water Quality Data

Sampling Site: Lena Run Creek 2

River System: Lena Run Creek

Sampling Site Location: 1 Mile S Of 540 On E Side Of Thornhill

S-T-R: -28-25 **Additional Name:**

DrainsTo: Lake Hancock

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 10.13

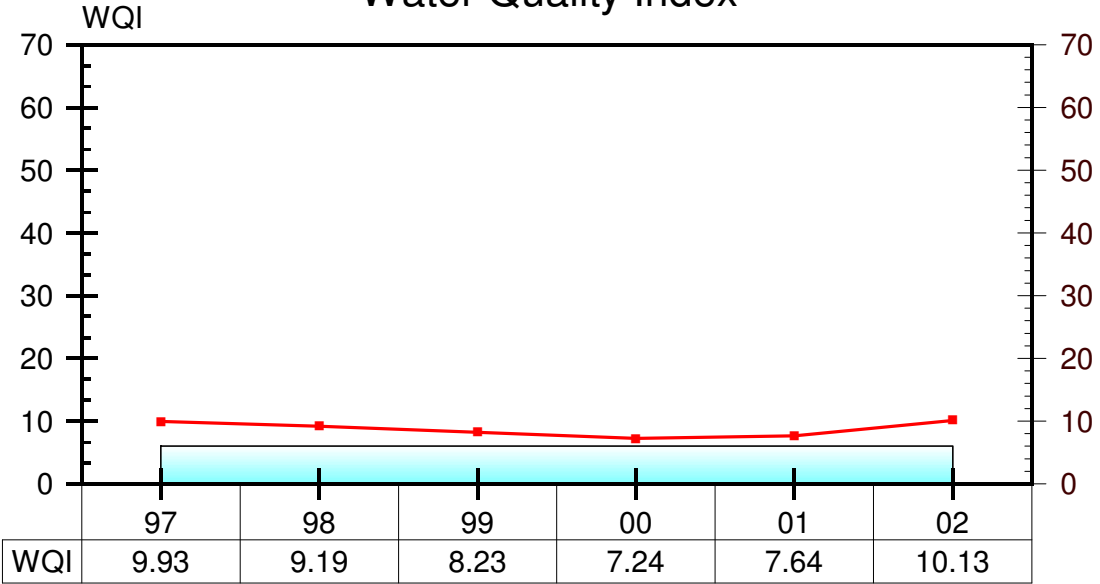
Impaired Waterbody

Water Quality Statements:

Dissolved ammonia and bacteria are a problem. Phosphorus may be endemic.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	3.13	4.23	2.04
Chlorophyll a (Corrected) mg/m3	2.60	3.61	1.60
Color Pt-Co	375	625	125
Conductivity @ 25C umhos/cm	345	460	230
Dissolved Oxygen (DO) mg/l	7.07	7.56	6.57
Enterococci (MF) CFU	460	600	320
Fecal Coliform (FC) CFU	187	240	134
Nitrogen Ammonia (NH3) mg/l	0.053	0.072	0.033
Nitrogen Kjeldahl (TKN) mg/l	1.582	2.256	0.908
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.163	0.259	0.066
Nitrogen Total (TN) mg/l	1.75	2.52	0.97
pH Std Unit	7.07	7.92	6.22
Phosphorus Total (TP) mg/l	0.363	0.398	0.327
Temperature Deg C	22.90	30.04	15.76
Turbidity NTU	6.45	8.90	4.00

LENA RUN CREEK WEST OF WINTER HAVEN Water Quality Index



Years

WQI Baseline 6.0

STA NAME : LENA RUN2

Annual Stream Water Quality Data

Sampling Site: Marion Creek

River System: Marion Creek

Sampling Site Location: N Of 542 - Bridge On Poinciana Pkw

S-T-R: -28-28 **Additional Name:**

DrainsTo: Lake Hatchineha

Navigability: Possibly by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 3.40

Impaired Waterbody

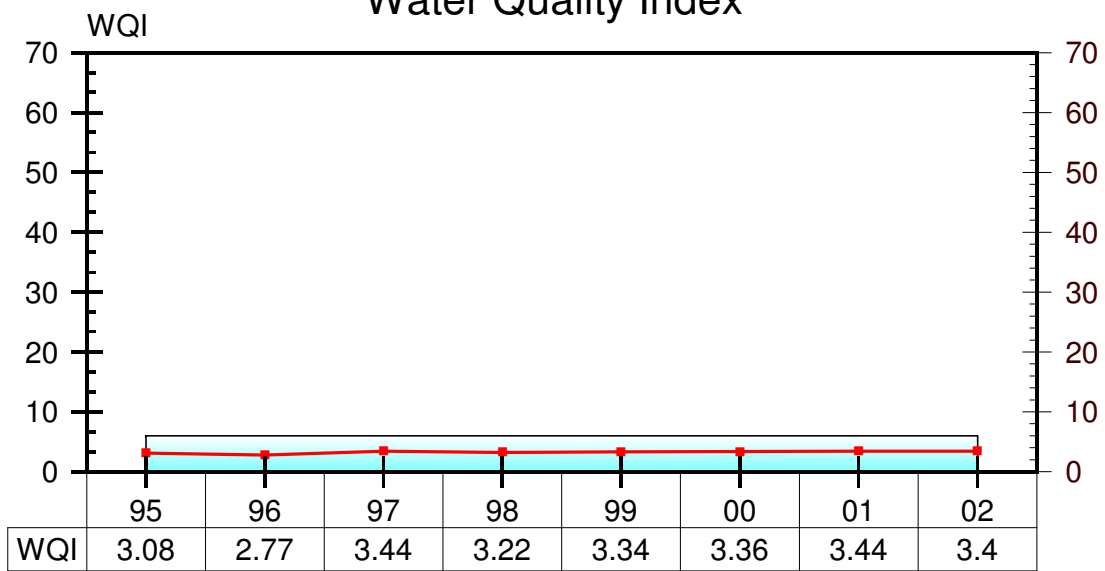
Water Quality Statements:

Bacteria and nitrogen may cause problems.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	5.07	7.49	2.65
Chlorophyll a (Corrected) mg/m3	3.61	5.61	1.60
Color Pt-Co	290	380	200
Conductivity @ 25C umhos/cm	178	180	176
Dissolved Oxygen (DO) mg/l	6.01	8.21	3.81
Enterococci (MF) CFU	300	300	300
Fecal Coliform (FC) CFU	40	40	40
Nitrogen Ammonia (NH3) mg/l	0.012	0.023	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.840	2.103	1.577
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.256	0.414	0.097
Nitrogen Total (TN) mg/l	2.10	2.20	1.99
pH Std Unit	7.42	8.46	6.38
Phosphorus Total (TP) mg/l	0.028	0.035	0.021
Temperature Deg C	19.36	24.55	14.16
Turbidity NTU	3.4	3.8	3.0

MARION CREEK POINCIANA

Water Quality Index



Years

— WQI Baseline 6.0

STA NAME : MARION CREEK1

Annual Stream Water Quality Data

Sampling Site: Peace Creek3

River System: Peace Creek

Sampling Site Location: 100yds E Fine Hart Mart Hwy 60 E N Side

S-T-R: -29-25 **Additional Name:**

DrainsTo: Peace River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 15.13

Impaired Waterbody

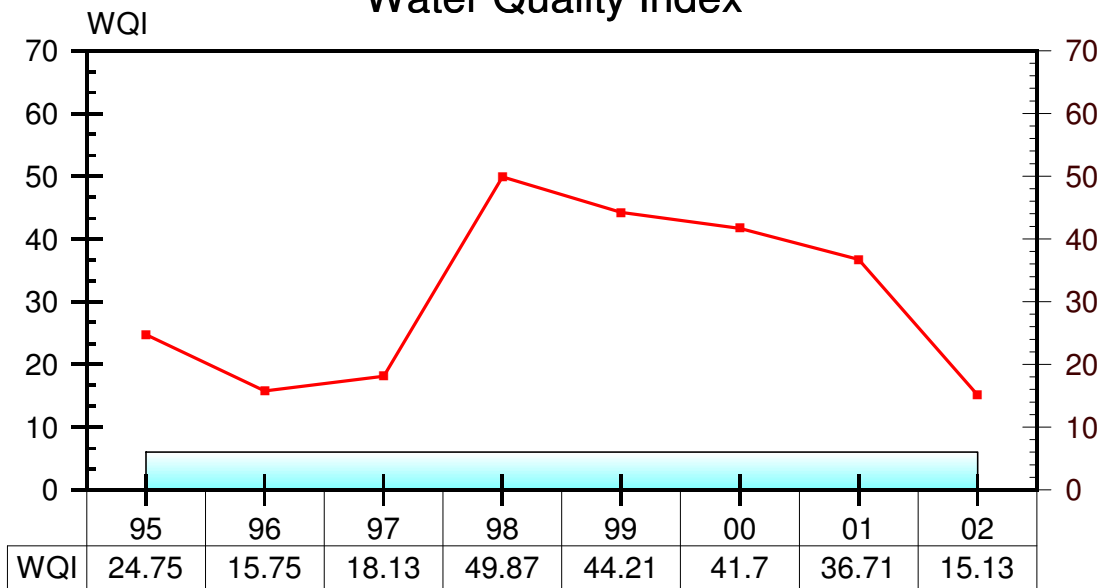
Water Quality Statements:

This segment is impaired heavily by high concentrations of bacteria, ammonia, and nutrients. Hypoxia may result.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	12.52	13.30	11.73
Chlorophyll a (Corrected) mg/m3	10.81	11.21	10.41
Color Pt-Co	190	200	180
Conductivity @ 25C umhos/cm	564	592	535
Dissolved Oxygen (DO) mg/l	2.83	5.23	0.43
Enterococci (MF) CFU	27000	27000	27000
Fecal Coliform (FC) CFU	9910	9910	9910
Nitrogen Ammonia (NH3) mg/l	0.357	0.429	0.285
Nitrogen Kjeldahl (TKN) mg/l	2.403	2.515	2.290
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.229	0.456	0.002
Nitrogen Total (TN) mg/l	2.63	2.97	2.29
pH Std Unit	6.48	6.74	6.21
Phosphorus Total (TP) mg/l	0.386	0.570	0.201
Temperature Deg C	21.34	26.60	16.08
Turbidity NTU	6.30	8.40	4.20

PEACE CREEK DRAINAGE CANAL LAKE WALES

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : P.C. CANAL3

Annual Stream Water Quality Data

Sampling Site: Peace Creek4

River System: Peace Creek

Sampling Site Location: Alturas Rd Cutoff +520 Yds S Of RR W

S-T-R: -29-25 **Additional Name:**

DrainsTo: Peace River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 17.50

Impaired Waterbody

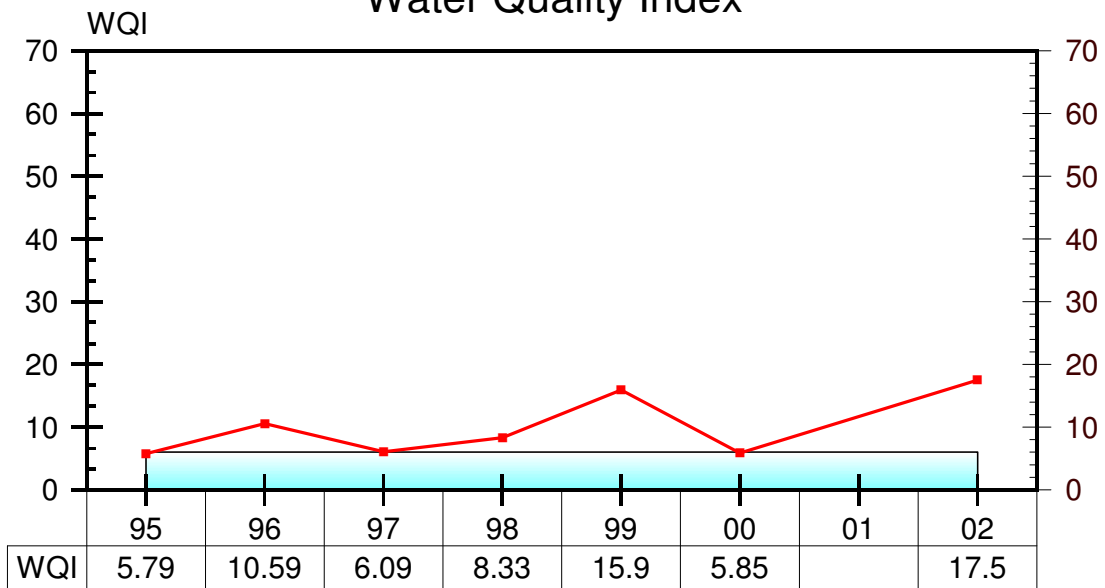
Water Quality Statements:

Nutrient rich with very low dissolved oxygen.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	4.53	4.53	4.53
Chlorophyll a (Corrected) mg/m3	4.01	4.01	4.01
Color Pt-Co	450	450	450
Conductivity @ 25C umhos/cm	119	119	119
Dissolved Oxygen (DO) mg/l	0.48	0.48	0.48
Enterococci (MF) CFU	36	36	36
Fecal Coliform (FC) CFU	680	680	680
Nitrogen Ammonia (NH3) mg/l	0.030	0.030	0.030
Nitrogen Kjeldahl (TKN) mg/l	2.920	2.920	2.920
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.000	0.000	0.000
Nitrogen Total (TN) mg/l	2.92	2.92	2.92
pH Std Unit	5.95	5.95	5.95
Phosphorus Total (TP) mg/l	0.116	0.116	0.116
Temperature Deg C	27.13	27.13	27.13
Turbidity NTU	6.2	6.2	6.2

PEACE CREEK DRAINAGE CANAL WEST OF LAKE WALES

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : P.C. CANAL4

Annual Stream Water Quality Data

Sampling Site: Peace Creek5

River System: Peace Creek

Sampling Site Location: Bridge @ Hwy 60 W 2/10 Mile W Of RR

S-T-R: -29-25 **Additional Name:**

DrainsTo: Peace River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 9.75

Impaired Waterbody

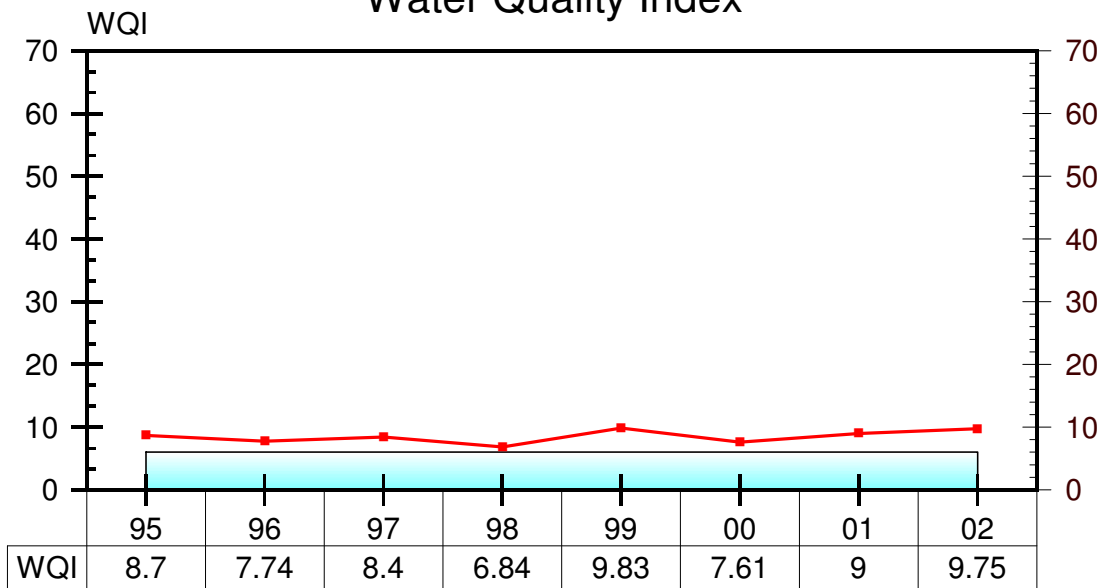
Water Quality Statements:

High concentrations of bacteria and nutrient rich. Low dissolved oxygen may be a problem.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	6.78	10.50	5.10
Chlorophyll a (Corrected) mg/m3	3.80	7.21	1.60
Color Pt-Co	249	350	170
Conductivity @ 25C umhos/cm	402	571	307
Dissolved Oxygen (DO) mg/l	4.81	6.60	1.85
Enterococci (MF) CFU	2350	2500	2200
Fecal Coliform (FC) CFU	710	714	706
Nitrogen Ammonia (NH3) mg/l	0.216	0.600	0.050
Nitrogen Kjeldahl (TKN) mg/l	2.166	3.406	1.386
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.455	1.163	0.135
Nitrogen Total (TN) mg/l	2.62	3.64	1.52
pH Std Unit	6.91	7.47	6.57
Phosphorus Total (TP) mg/l	0.214	0.244	0.184
Temperature Deg C	22.81	26.92	17.92
Turbidity NTU	13.28	24.0	4.40

PEACE CREEK DRAINAGE CANAL WEST OF LAKE WALES

Water Quality Index



Years

■ WQI ■ Baseline 6.0

STA NAME : P.C. CANAL5

Annual Stream Water Quality Data

Sampling Site: Peace Creek6

River System: Peace Creek

Sampling Site Location: 19th St W Of Hwy 655 3/10 Mile Dirt Rd

S-T-R: -29-25 **Additional Name:**

DrainsTo: Peace River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 5.49

Impaired Waterbody

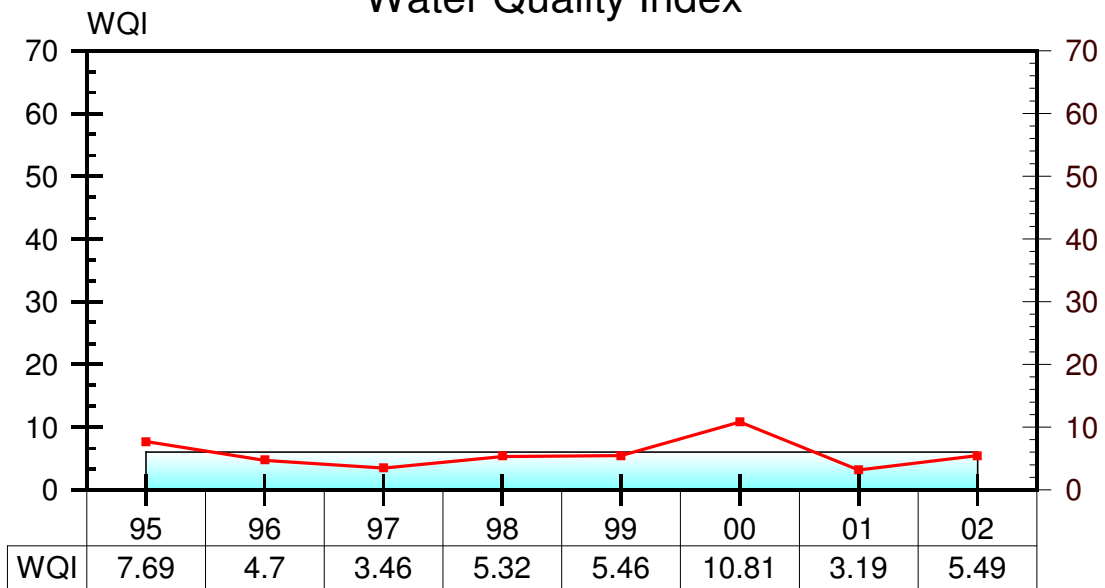
Water Quality Statements:

High concentrations of bacteria and nutrient rich. Low dissolved oxygen may be a problem. Depressed pH may affect biota.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	3.95	7.44	0.71
Chlorophyll a (Corrected) mg/m3	2.10	4.81	0.00
Color Pt-Co	121	175	85
Conductivity @ 25C umhos/cm	210	241	192
Dissolved Oxygen (DO) mg/l	5.55	6.44	3.40
Enterococci (MF) CFU	747	1104	390
Fecal Coliform (FC) CFU	285	420	150
Nitrogen Ammonia (NH3) mg/l	0.030	0.033	0.029
Nitrogen Kjeldahl (TKN) mg/l	0.972	1.368	0.654
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.309	0.671	0.121
Nitrogen Total (TN) mg/l	1.28	2.03	0.94
pH Std Unit	6.32	6.74	6.05
Phosphorus Total (TP) mg/l	0.133	0.240	0.067
Temperature Deg C	22.02	25.23	17.51
Turbidity NTU	11.30	22.0	3.40

PEACE CREEK DRAINAGE CANAL WAHNETA

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : P.C. CANAL6

Annual Stream Water Quality Data

Sampling Site: Peace Creek7

River System: Peace Creek

Sampling Site Location: Hwy 655 N + 100 Yds N Of 12th St E

S-T-R: -29-25 **Additional Name:**

DrainsTo: Peace River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 6.24

Impaired Waterbody

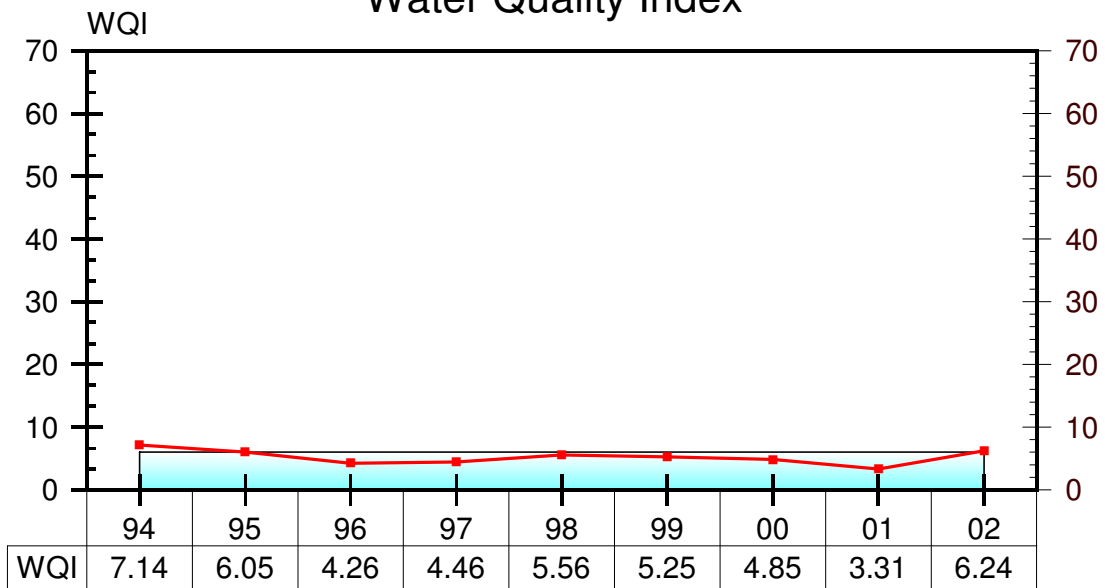
Water Quality Statements:

Nutrient concentrations are high. NH3 is a problem that may stress biota. Bacteria is a concern due to elevated enterococci.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	4.67	11.47	0.78
Chlorophyll a (Corrected) mg/m3	2.40	6.41	0.00
Color Pt-Co	140	200	85
Conductivity @ 25C umhos/cm	225	266	202
Dissolved Oxygen (DO) mg/l	4.56	5.97	1.68
Enterococci (MF) CFU	808	1150	465
Fecal Coliform (FC) CFU	260	420	100
Nitrogen Ammonia (NH3) mg/l	0.032	0.044	0.024
Nitrogen Kjeldahl (TKN) mg/l	1.138	1.724	0.729
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.374	0.824	0.134
Nitrogen Total (TN) mg/l	1.51	2.55	1.01
pH Std Unit	6.26	6.61	6.09
Phosphorus Total (TP) mg/l	0.147	0.282	0.064
Temperature Deg C	21.99	25.26	17.42
Turbidity NTU	12.35	31.00	3.40

PEACE CREEK DRAINAGE CANAL WAHNETA

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : P.C. CANAL7

Annual Stream Water Quality Data

Sampling Site: Peace Creek8

River System: Peace Creek

Sampling Site Location: P.C. Bridge On 91 Mine Rd N Of Hwy 60

S-T-R: -29-25 **Additional Name:**

DrainsTo: Peace River

Navigability: NO

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 11.83

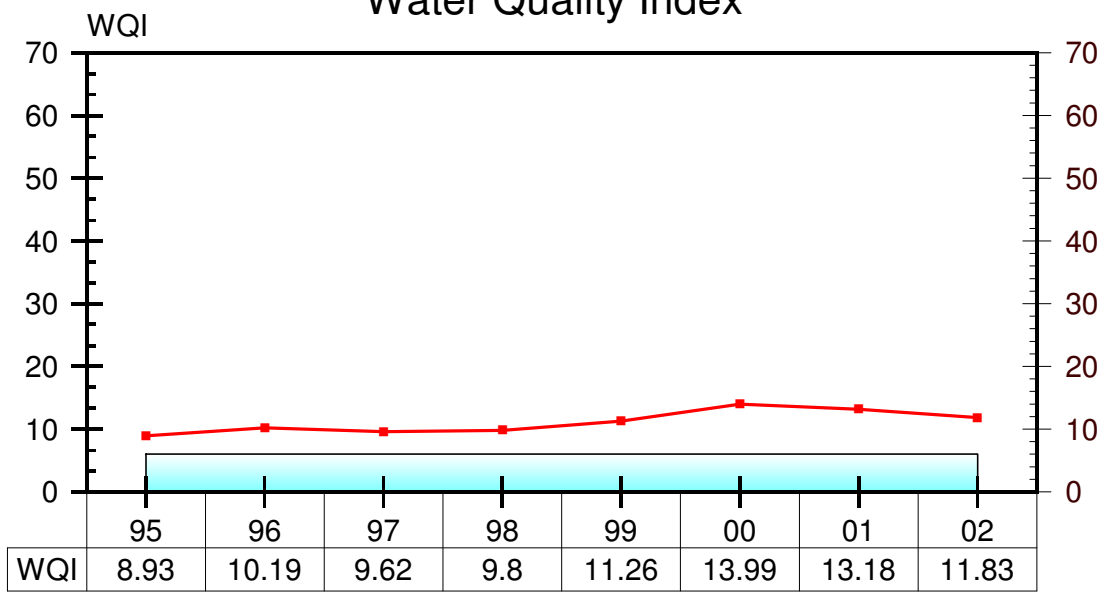
Impaired Waterbody

Water Quality Statements:

Nutrient concentrations are high. Ammonia is a major problem along with bacteria concentrations.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	10.49	16.71	6.42
Chlorophyll a (Corrected) mg/m3	7.61	15.22	3.20
Color Pt-Co	250	425	150
Conductivity @ 25C umhos/cm	304	385	214
Dissolved Oxygen (DO) mg/l	4.28	7.15	0.84
Enterococci (MF) CFU	649	1135	162
Fecal Coliform (FC) CFU	375	530	220
Nitrogen Ammonia (NH3) mg/l	0.133	0.260	0.048
Nitrogen Kjeldahl (TKN) mg/l	1.806	2.818	1.258
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.357	0.701	0.024
Nitrogen Total (TN) mg/l	2.16	2.84	1.45
pH Std Unit	6.80	7.41	6.37
Phosphorus Total (TP) mg/l	0.346	0.547	0.208
Temperature Deg C	24.41	29.42	17.30
Turbidity NTU	13.82	26.0	4.80

PEACE CREEK BARTOW Water Quality Index



Years

WQI Baseline 6.0

STA NAME : P.C. CANAL8

Annual Stream Water Quality Data

Sampling Site: Peace Creek 9

River System: Saddle Creek

Sampling Site Location: 1 Mile W Old Bartow/Eagle Lk Cutoff Rd

S-T-R: 11-28-24 **Additional Name:**

DrainsTo: Lake Hancock

Navigability: Yes

Misc Information about this watersystem:

CALL 667-0971 for more information about the park.

Current year water quality information

Year 2002

WQI: 22.23

Impaired Waterbody

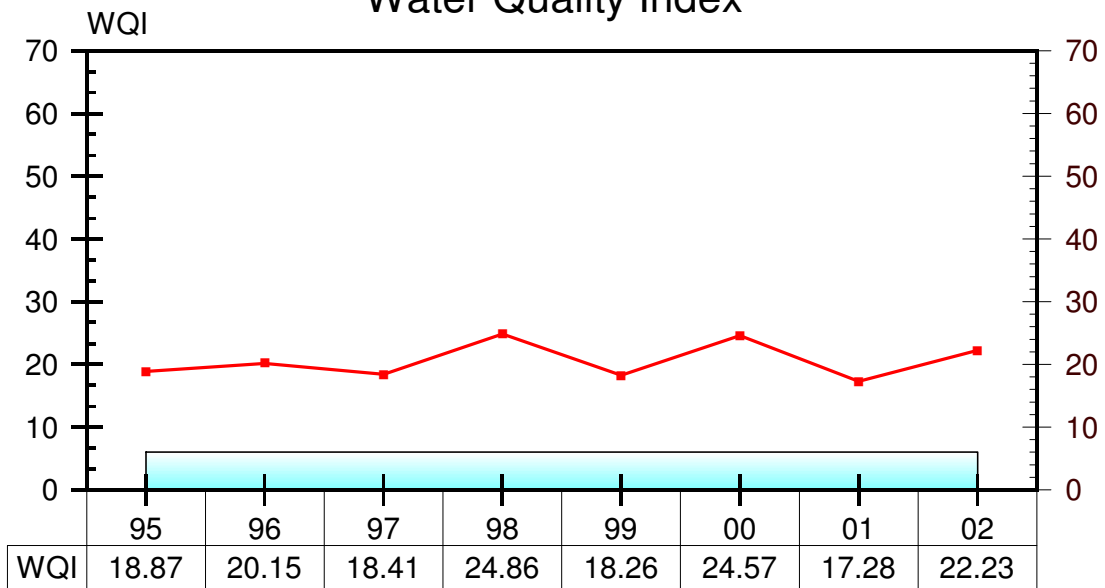
Water Quality Statements:

Elevated nutrients and chlorophyll may be depressing the dissolved oxygen.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	71.99	118.32	31.26
Chlorophyll a (Corrected) mg/m3	62.28	108.14	24.83
Color Pt-Co	98	130	75
Conductivity @ 25C umhos/cm	295	382	200
Dissolved Oxygen (DO) mg/l	4.01	6.55	2.42
Enterococci (MF) CFU	168	290	45
Fecal Coliform (FC) CFU	218	390	45
Nitrogen Ammonia (NH3) mg/l	0.045	0.111	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.842	4.360	1.536
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.030	0.098	0.000
Nitrogen Total (TN) mg/l	2.87	4.36	1.54
pH Std Unit	7.14	7.36	6.89
Phosphorus Total (TP) mg/l	0.717	1.057	0.534
Temperature Deg C	24.44	29.02	16.50
Turbidity NTU	20.5	27.0	9.0

SADDLE CREEK BARTOW

Water Quality Index



Years

WQI Baseline 6.0

STA NAME : P.C. CANAL9

Annual Stream Water Quality Data

Sampling Site: Peace Creek10

River System: Peace River

Sampling Site Location: Bridge On Hwy 60 W Of Kincade Marine

S-T-R: -30-25 **Additional Name:**

DrainsTo: Peace River

Navigability: Yes; by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 20.42

Impaired Waterbody

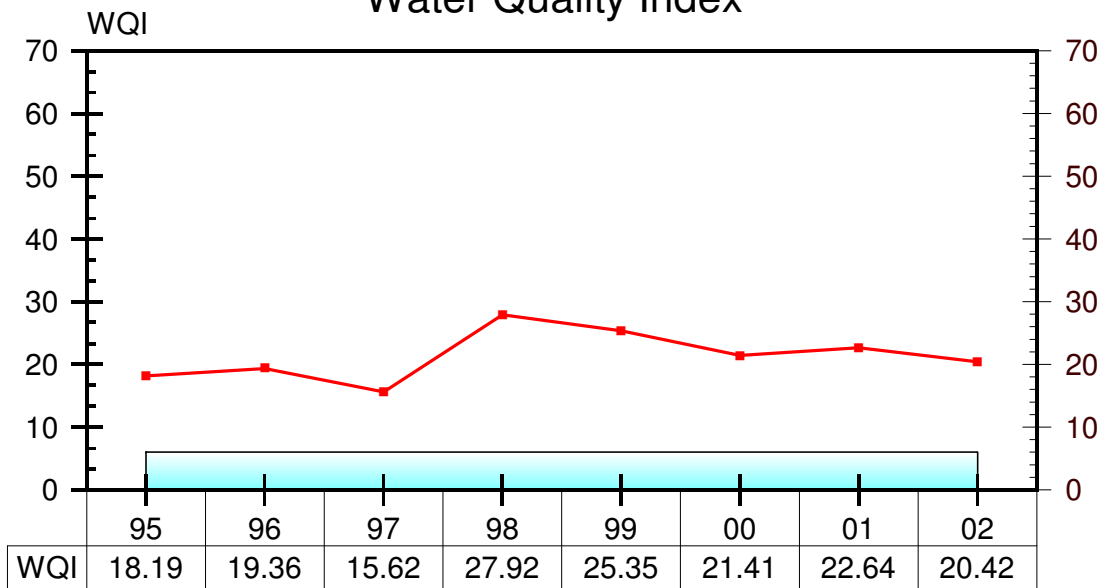
Water Quality Statements:

Lake Hancock effects; depressed DO, elevated nutrients and chlorophyll. Polk County will request FDEP to list as Impaired.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	29.15	78.64	4.74
Chlorophyll a (Corrected) mg/m3	22.15	60.08	2.40
Color Pt-Co	173	325	85
Conductivity @ 25C umhos/cm	281	384	219
Dissolved Oxygen (DO) mg/l	2.98	6.88	0.83
Enterococci (MF) CFU	1020	1290	730
Fecal Coliform (FC) CFU	333	510	144
Nitrogen Ammonia (NH3) mg/l	0.158	0.268	0.054
Nitrogen Kjeldahl (TKN) mg/l	2.333	3.637	1.126
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.165	0.717	0.034
Nitrogen Total (TN) mg/l	2.50	3.73	1.22
pH Std Unit	6.90	7.31	6.52
Phosphorus Total (TP) mg/l	0.694	0.903	0.481
Temperature Deg C	25.42	28.85	16.83
Turbidity NTU	11.3	24.0	5.0

PEACE RIVER BARTOW

Water Quality Index



Years

WQI Baseline 6.0

STA NAME: P.C. CANAL10

Annual Stream Water Quality Data

Sampling Site: Peace River1

River System: Peace River

Sampling Site Location: Bridge On Hwy 640 E Of SR 17 Homeland

S-T-R: -30-25 **Additional Name:**

DrainsTo: Peace River

Navigability: Yes; by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 34.05

Impaired Waterbody

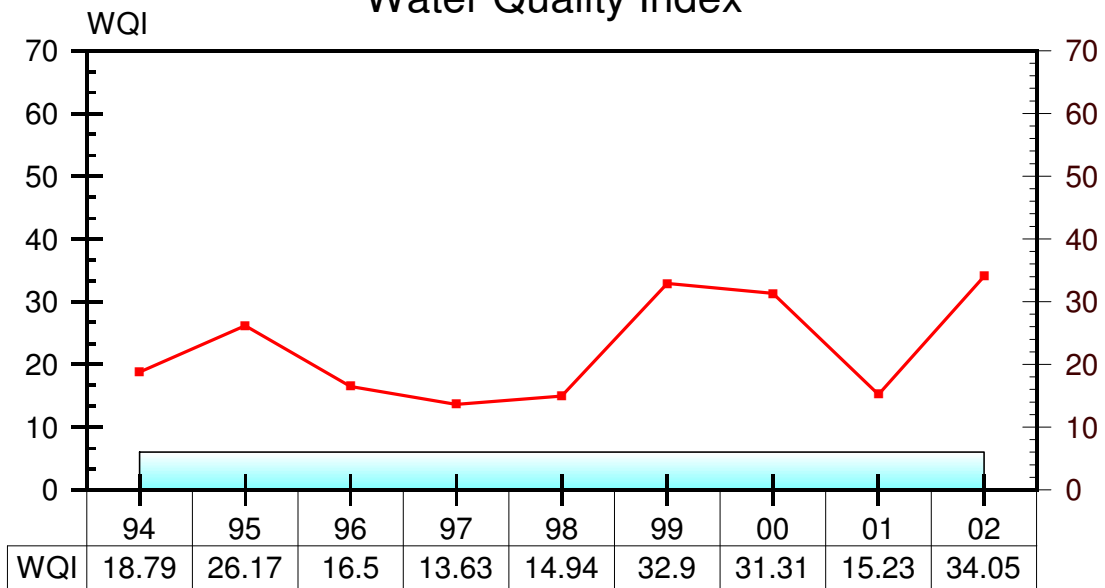
Water Quality Statements:

Effects of Lake Hancock evident in nutrient concentrations, low dissolved oxygen and chlorophyll concentrations.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	21.67	37.80	7.44
Chlorophyll a (Corrected) mg/m3	18.00	32.84	3.20
Color Pt-Co	113	325	32
Conductivity @ 25C umhos/cm	518	722	274
Dissolved Oxygen (DO) mg/l	3.96	6.20	1.53
Enterococci (MF) CFU	764	873	655
Fecal Coliform (FC) CFU	202	220	183
Nitrogen Ammonia (NH3) mg/l	0.049	0.124	0.000
Nitrogen Kjeldahl (TKN) mg/l	1.705	2.567	1.033
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.127	0.313	0.016
Nitrogen Total (TN) mg/l	1.83	2.88	1.05
pH Std Unit	6.98	7.49	6.75
Phosphorus Total (TP) mg/l	1.486	1.778	1.158
Temperature Deg C	21.95	27.88	16.34
Turbidity NTU	6.54	14.50	3.80

PEACE RIVER HOMELAND

Water Quality Index



Years

■ WQI ■ Baseline 6.0

STA NAME: PEACE RIVER1

Annual Stream Water Quality Data

Sampling Site: Poley Creek North

River System: Poley Creek

Sampling Site Location: W on Pipkin; R on S Pipkin Rd 1/4 Mile of R, Sample at staff gage approx 50' E from road

S-T-R: -29-23

Additional Name:

DrainsTo:

Navigability:

Misc Information about this watersystem:

Added in Group 1 stream sampling 12/00

Current year water quality information

Year 2002

WQI: 10.54

Impaired Waterbody

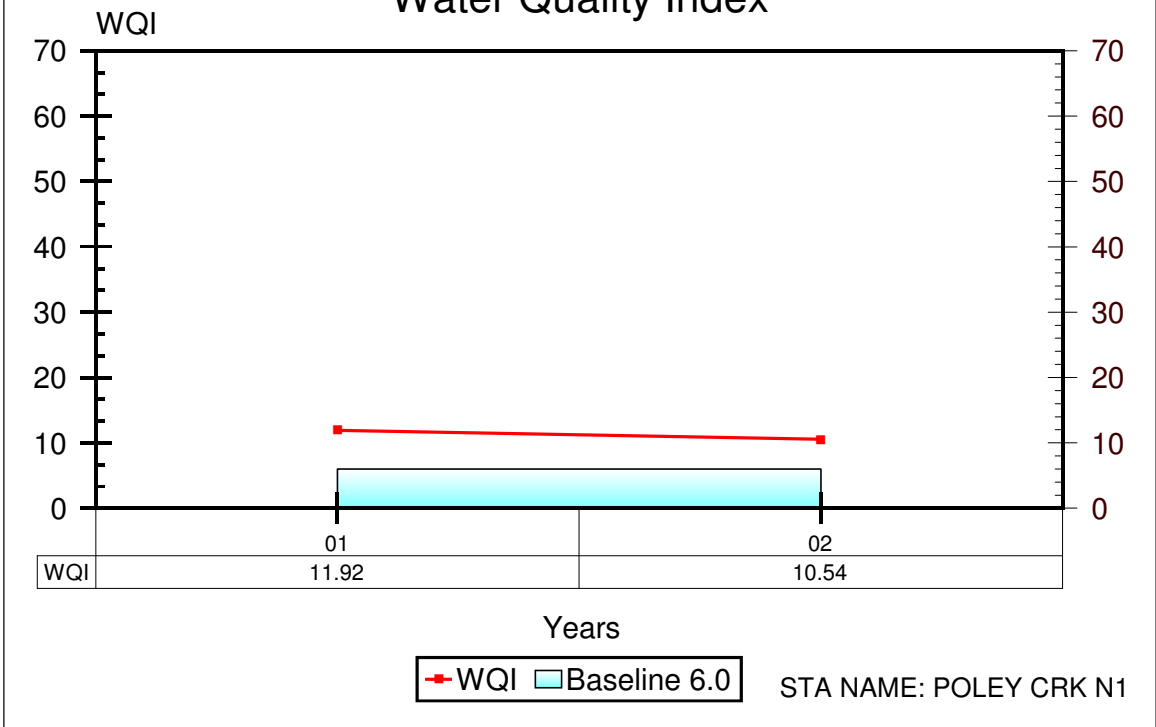
Water Quality Statements:

Extremely high bacteria counts. Ammonia is also very high and problematic.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	1.43	2.34	0.51
Chlorophyll a (Corrected) mg/m3	0.40	0.80	0.00
Color Pt-Co	28	40	15
Conductivity @ 25C umhos/cm	373	478	267
Dissolved Oxygen (DO) mg/l	7.57	9.11	6.03
Enterococci (MF) CFU	39133	96000	10300
Fecal Coliform (FC) CFU	32456	87200	1167
Nitrogen Ammonia (NH3) mg/l	0.226	0.390	0.062
Nitrogen Kjeldahl (TKN) mg/l	0.613	0.749	0.476
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.766	1.151	0.380
Nitrogen Total (TN) mg/l	1.38	1.90	0.86
pH Std Unit	7.40	7.68	7.12
Phosphorus Total (TP) mg/l	0.346	0.443	0.249
Temperature Deg C	18.62	24.26	12.97
Turbidity NTU	3.9	4.7	3.1

POLEY CREEK N

Water Quality Index



Annual Stream Water Quality Data

Sampling Site: Poley Creek South

River System: Poley Creek

Sampling Site Location: Bridge on SR60 1/2 mile E of Coronet Rd; W of Mulberry; Easy access on E bound on SR60

S-T-R: -29-23

Additional Name:

DrainsTo:

Navigability:

Misc Information about this watersystem:

Added in Group 1 stream sampling 12/00

Current year water quality information

Year 2002

WQI: 13.15

Impaired Waterbody

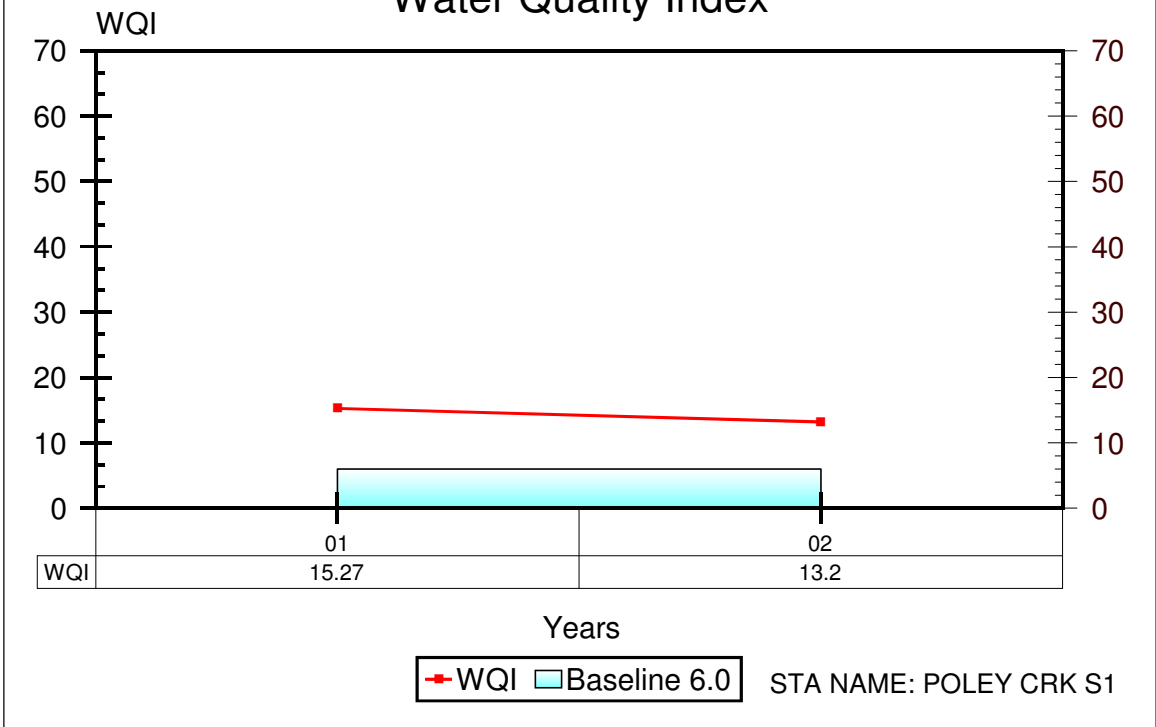
Water Quality Statements:

Nitrogen concentrations and bacteria counts are extremely elevated.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	1.02	1.37	0.66
Chlorophyll a (Corrected) mg/m3	0.00	0.00	0.00
Color Pt-Co	40	50	30
Conductivity @ 25C umhos/cm	313	343	283
Dissolved Oxygen (DO) mg/l	7.15	8.94	5.35
Enterococci (MF) CFU	765	1390	140
Fecal Coliform (FC) CFU	205	350	60
Nitrogen Ammonia (NH3) mg/l	0.026	0.052	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.438	0.445	0.431
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.312	0.357	0.266
Nitrogen Total (TN) mg/l	0.75	0.80	0.70
pH Std Unit	7.38	7.45	7.30
Phosphorus Total (TP) mg/l	0.572	0.661	0.482
Temperature Deg C	19.22	24.25	14.19
Turbidity NTU	3.5	4.1	2.9

POLEY CREEK S

Water Quality Index



Annual Stream Water Quality Data

Sampling Site: Reedy Creek

River System: Reedy Creek

Sampling Site Location: Arbuckle Rd To Rucks Dairy Rd At Bridge

S-T-R: -32-29 **Additional Name:**

DrainsTo: Lake Arbuckle

Navigability: Possibly by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 6.30

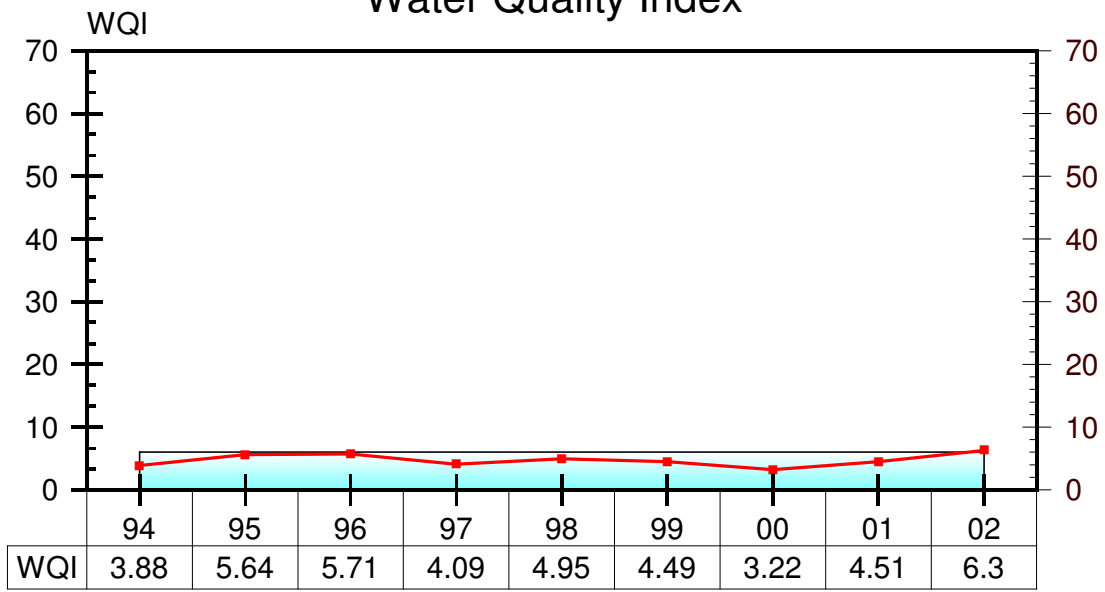
Impaired Waterbody

Water Quality Statements:

pH and ammonia may be a problem to biota.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	16.71	29.34	4.08
Chlorophyll a (Corrected) mg/m3	14.82	26.43	3.20
Color Pt-Co	303	430	175
Conductivity @ 25C umhos/cm	212	226	197
Dissolved Oxygen (DO) mg/l	6.30	7.92	4.67
Enterococci (MF) CFU	130	130	130
Fecal Coliform (FC) CFU	127	127	127
Nitrogen Ammonia (NH3) mg/l	0.054	0.081	0.026
Nitrogen Kjeldahl (TKN) mg/l	1.876	2.223	1.529
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.386	0.571	0.201
Nitrogen Total (TN) mg/l	2.26	2.80	1.73
pH Std Unit	6.74	7.30	6.17
Phosphorus Total (TP) mg/l	0.121	0.173	0.068
Temperature Deg C	20.92	26.09	15.74
Turbidity NTU	5.50	8.20	2.80

REEDY CREEK EAST OF FROSTPROOF Water Quality Index



Years

WQI Baseline 6.0

STA NAME: REEDY CREEK1

Annual Stream Water Quality Data

Sampling Site: Saddle Creek1

River System: Saddle Creek

Sampling Site Location: Hwy 540 E (Winter Lake Rd) On N Side

S-T-R: 11-28-24 **Additional Name:**

DrainsTo: Lake Hancock

Navigability: Yes

Misc Information about this watersystem:

CALL 667-0971 for more information about the park.

Current year water quality information

Year 2002

WQI: 16.81

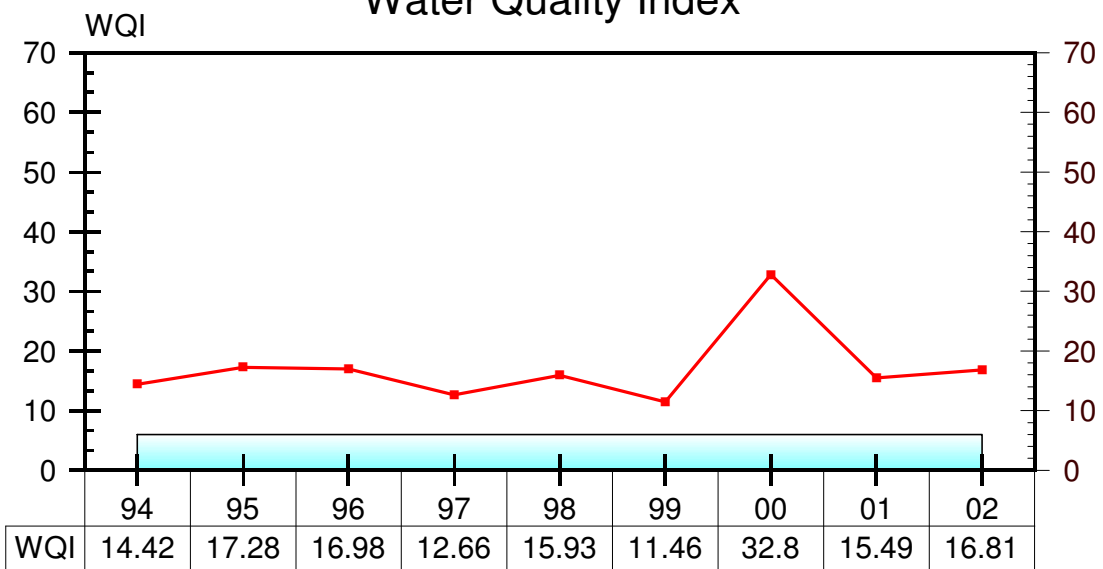
Impaired Waterbody

Water Quality Statements:

Elevated nitrogen and phosphorus producing elevated chlorophyll concentrations and an imbalance of the biota.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	83.74	162.03	5.45
Chlorophyll a (Corrected) mg/m3	68.09	132.17	4.01
Color Pt-Co	130	150	110
Conductivity @ 25C umhos/cm	242	284	200
Dissolved Oxygen (DO) mg/l	3.28	4.83	1.72
Enterococci (MF) CFU	635	710	560
Fecal Coliform (FC) CFU	205	220	190
Nitrogen Ammonia (NH3) mg/l	0.027	0.054	0.000
Nitrogen Kjeldahl (TKN) mg/l	2.994	4.894	1.094
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.036	0.072	0.000
Nitrogen Total (TN) mg/l	3.03	4.89	1.17
pH Std Unit	6.93	7.13	6.72
Phosphorus Total (TP) mg/l	0.428	0.449	0.406
Temperature Deg C	21.54	28.11	14.97
Turbidity NTU	15.9	28.0	3.8

SADDLE CREEK WEST OF WINTER HAVEN Water Quality Index



Years

WQI Baseline 6.0

STA NAME: SADDLE CREEK1

Annual Stream Water Quality Data

Sampling Site: Saddle Creek Park Outfall

River System: Saddle Creek Park

Sampling Site Location:

S-T-R: 11-28-24 **Additional Name:**

DrainsTo:

Navigability:

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI:

Impaired Waterbody

Water Quality Statements:

This site was not sampled due to no flow or no water in 2003.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3			
Chlorophyll a (Corrected) mg/m3			
Color Pt-Co			
Conductivity @ 25C umhos/cm			
Dissolved Oxygen (DO) mg/l			
Enterococci (MF) CFU			
Fecal Coliform (FC) CFU			
Nitrogen Ammonia (NH3) mg/l			
Nitrogen Kjeldahl (TKN) mg/l			
Nitrogen Nitrate+Nitrite (NOx) mg/l			
Nitrogen Total (TN) mg/l			
pH Std Unit			
Phosphorus Total (TP) mg/l			
Temperature Deg C			
Turbidity NTU			

Annual Stream Water Quality Data

Sampling Site: Teneroc Outfall

River System: Teneroc Outfall

Sampling Site Location: Bridge approx 1/2 mile E of Fish Hatchery Rd on CR546 (Saddle Creek Rd)

S-T-R: 2-28-24 **Additional Name:**

DrainsTo: Saddle Creek

Navigability:

Misc Information about this watersystem:

Teneroc Park Outfall

Current year water quality information

Year 2002

WQI: 27.46

Impaired Waterbody

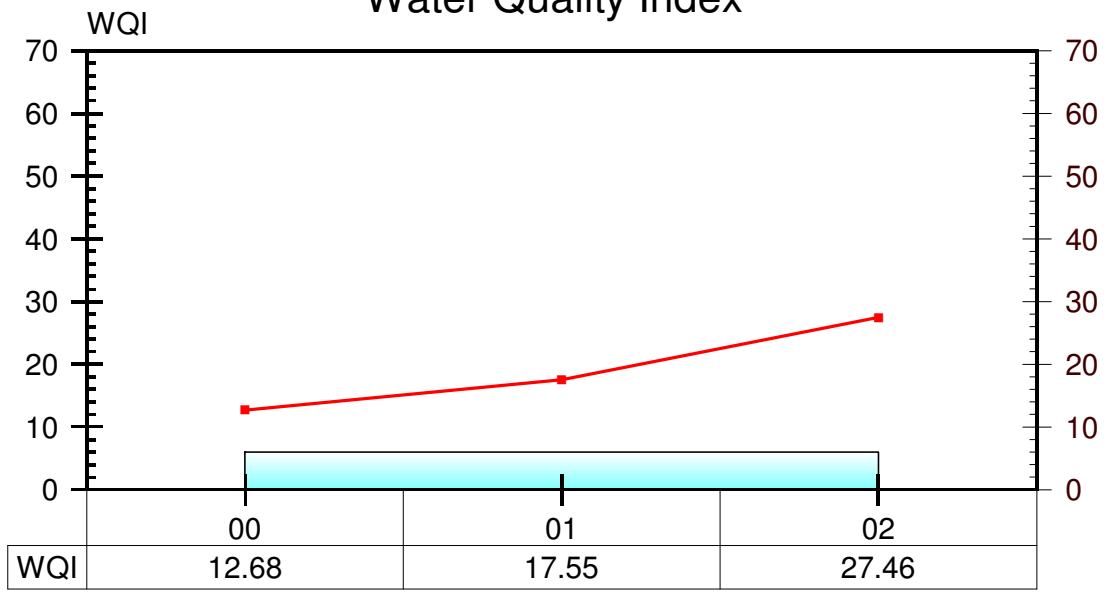
Water Quality Statements:

Dissolved oxygen and phosphorus may cause imbalance of biota.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	6.83	6.83	6.83
Chlorophyll a (Corrected) mg/m3	3.20	3.20	3.20
Color Pt-Co	150	150	150
Conductivity @ 25C umhos/cm	227	227	227
Dissolved Oxygen (DO) mg/l	4.98	4.98	4.98
Enterococci (MF) CFU	270	270	270
Fecal Coliform (FC) CFU	214	214	214
Nitrogen Ammonia (NH3) mg/l	0.758	0.758	0.758
Nitrogen Kjeldahl (TKN) mg/l	1.915	1.915	1.915
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.151	0.151	0.151
Nitrogen Total (TN) mg/l	2.07	2.07	2.07
pH Std Unit	6.75	6.75	6.75
Phosphorus Total (TP) mg/l	0.922	0.922	0.922
Temperature Deg C	16.33	16.33	16.33
Turbidity NTU	11.7	11.7	11.7

TENEROC OUTFALL

Water Quality Index



Years

— WQI Baseline 6.0

STA NAME: Teneroc Outfall

Annual Stream Water Quality Data

Sampling Site: Tiger Creek

River System: Tiger Creek

Sampling Site Location: On Walk In Water Rd Call 813-678-1551

S-T-R: -31-29 **Additional Name:**

DrainsTo: Lake Weohyakapka

Navigability: Possibly by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 2.47

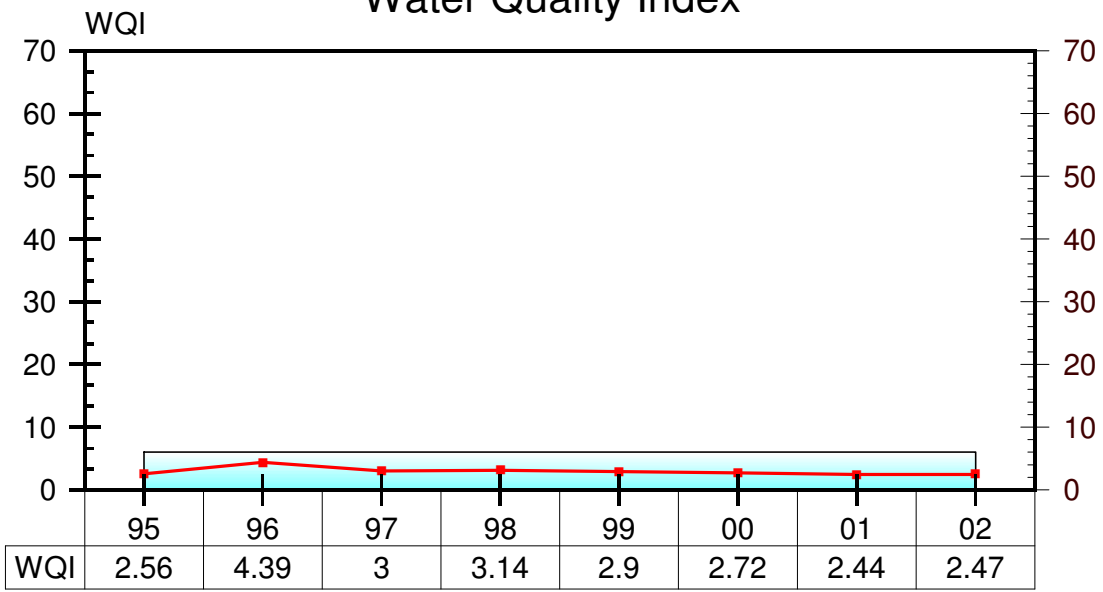
Impaired Waterbody

Water Quality Statements:

Water quality looks good.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	0.64	0.92	0.35
Chlorophyll a (Corrected) mg/m3	0.40	0.80	0.00
Color Pt-Co	213	380	45
Conductivity @ 25C umhos/cm	172	182	162
Dissolved Oxygen (DO) mg/l	7.35	8.91	5.78
Enterococci (MF) CFU	260	260	260
Fecal Coliform (FC) CFU	250	250	250
Nitrogen Ammonia (NH3) mg/l	0.014	0.028	0.000
Nitrogen Kjeldahl (TKN) mg/l	0.675	1.157	0.193
Nitrogen Nitrate+Nitrite (NOx) mg/l	1.040	1.503	0.576
Nitrogen Total (TN) mg/l	1.72	1.73	1.70
pH Std Unit	6.94	7.71	6.17
Phosphorus Total (TP) mg/l	0.016	0.024	0.007
Temperature Deg C	20.23	24.51	15.95
Turbidity NTU	1.14	1.60	0.68

TIGER CREEK FROSTPROOF Water Quality Index



Years

■ WQI ■ Baseline 6.0

STA NAME: TIGER CREEK3

Annual Stream Water Quality Data

Sampling Site: Withlachoochee River

River System: Withlachoochee River

Sampling Site Location: Under Bridge On SR 471 3 mile N Of Hwy 98 N

S-T-R: -25-23 **Additional Name:**

DrainsTo: Withlacoochee River

Navigability: Possibly by canoe or jon boat

Misc Information about this watersystem:

Current year water quality information

Year 2002

WQI: 5.57

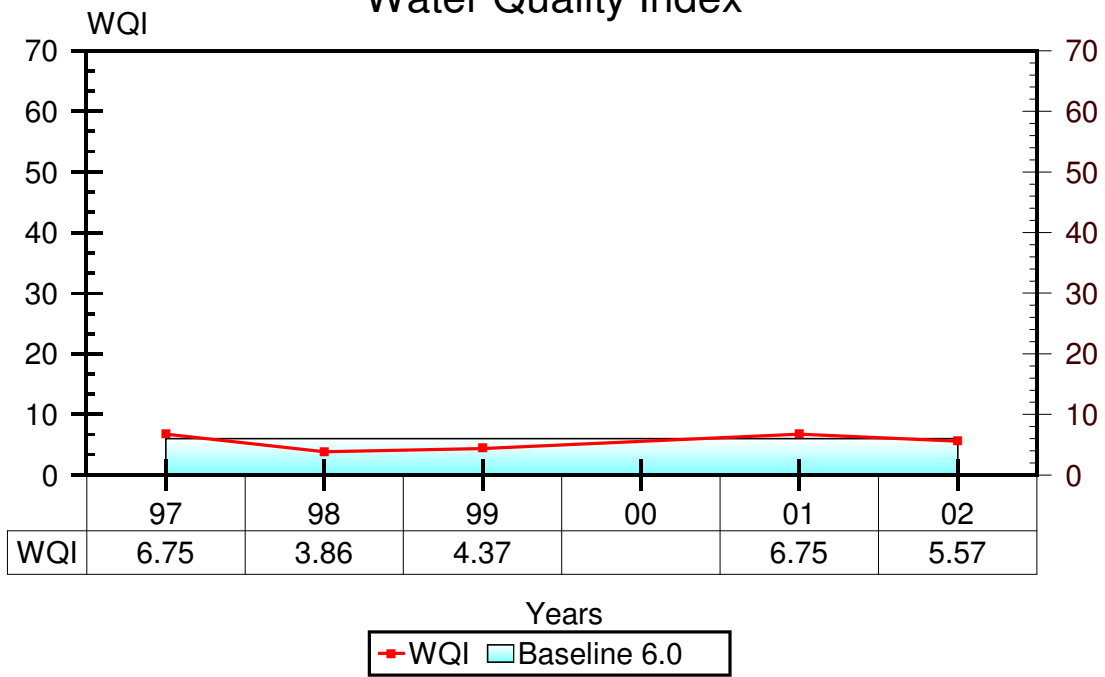
Impaired Waterbody

Water Quality Statements:

Water quality is looking very good. Low oxygen may be natural from blackwater wetlands.

<u>Parameter, Unit:</u>	<u>Average</u>	<u>Maximum</u>	<u>Minimum</u>
Chlorophyll a mg/m3	0.66	0.66	0.66
Chlorophyll a (Corrected) mg/m3	0.80	0.80	0.80
Color Pt-Co	500	500	500
Conductivity @ 25C umhos/cm	117	117	117
Dissolved Oxygen (DO) mg/l	4.37	4.37	4.37
Enterococci (MF) CFU	23	23	23
Fecal Coliform (FC) CFU	50	50	50
Nitrogen Ammonia (NH3) mg/l	0.056	0.056	0.056
Nitrogen Kjeldahl (TKN) mg/l	2.201	2.201	2.201
Nitrogen Nitrate+Nitrite (NOx) mg/l	0.035	0.035	0.035
Nitrogen Total (TN) mg/l	2.24	2.24	2.24
pH Std Unit	5.87	5.87	5.87
Phosphorus Total (TP) mg/l	0.106	0.106	0.106
Temperature Deg C	20.89	20.89	20.89
Turbidity NTU	2.4	2.4	2.4

WITHLACHOOCHEE RIVER GREEN SWAMP Water Quality Index



STA NAME: WITHLACOO RVR1

APPENDIX C

GLOSSARY



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GLOSSARY

10 YEAR FLOOD LEVEL

That elevation, in feet above mean sea level, which approximates the level of flooding expected on a frequency of not less than a ten (10) year recurring intervals, or on a frequency of not greater than a ten percent (10%) probability of occurrence in any given year, as determined from analysis of best available data.

100 YEAR FLOOD LEVEL

That elevation, in feet above mean sea level, which approximates the level of flooding expected on a frequency of not less than one hundred (100) year recurring intervals, or on a frequency of not greater than a one percent (1%) probability of occurrence in any given year, as determined from analysis of best available data.

AQUATIC MACROPHYTES (VEGETATION)

Plants visible to the naked eye (not microscopic) that live along the wet shoreline, or in water.

AQUIFER

An underground geological formation which contains water and may be composed of sand, gravel or porous stone.

BACTERIA

Microscopic, primitive one celled organism without cell organelles. Many are beneficial, but a few are harmful. Aerobes need oxygen and anaerobes can live with oxygen (oxygen may be harmful). “Blue-green algae” are related organisms, and not true algae. See Cyanobacteria.

BATHYMETRIC MAP

A map which shows the bottom contour of the lake as measured in feet or meters.

BENTHIC MACROINVERTEBRATES

Organisms without backbones living at least part of their life cycle on or in the bottom substrate of rivers, streams, and lakes. Examples include: insects, worms, mollusks, and crustacean.

BIOCHEMICAL OXYGEN DEMAND

B.O.D. - an indirect measurement of the amount of oxygen used in the biochemical oxidation of organic matter in water. Used to indirectly indicate the level of contamination in water or contamination potential of material that can stimulate respiration.

GLOSSARY

BIOTA

The plant and animal life in a particular region, or a natural occurring system of organisms interacting as a community.

CHEMICAL OXYGEN DEMAND

C.O.D. - a measure of the oxygen consuming capacity of inorganic and organic matter present in water. It is expressed as the amount of oxygen consumed from a chemical oxidant in a specific test. COD does not necessarily correlate with B.O.D.

CHLOROPHYLL- a

A green pigment found in plants and blue-green algae and an essential component in the process of converting light energy into chemical energy. Chlorophyll a in water samples are a useful indicator of phytoplankton biomass, especially when used in conjunction with analysis concerning algal growth potential and species abundance. A value greater than 40 ug/L indicates an algal bloom condition, and values greater than 90 ug/L represent a threat to the ecological health of the waterbody. 1ug/L = 1mg/m³

COLOR- TRUE

The sample is filtered and only the color of the dissolved portion is considered. The color of water is compared to an artificial color scale (PCU). Apparent color can be a factor of the natural decomposition of organic matter that is dissolved in the water and suspended matter in the water column. Industrial discharges may also change water color. Tannic acid from plant material gives water a brown color.

CONTAMINANTS

Impurities, pollutants, pathogens or debris that makes water unhealthy for living things.

CONTROL STRUCTURE

As used in this report, a manmade structure located at the outfall or downstream of the outfall of the lake that is used to regulate the water level of the lake.

CPU

Chloroplatinate Units, color units. Also maybe written as PCU (Platinum Cobalt Units).

DISSOLVED OXYGEN

D.O. - the amount of oxygen dissolved in water, an essential component of the aquatic environment, low levels of dissolved oxygen create fish kills. High and low oxygen concentrations can also cause stress for certain biota. For some microorganisms (anaerobes), dissolved oxygen can be lethal.

GLOSSARY

DIVERSITY INDEX

Statistical method which produces a single number summary describing the ecological health of a biotic community. Good diversity includes many species with a relative even abundance spread over the species present. One dominant species within a small community indicates poor diversity.

DOMINANT VEGETATION

The most prominent macrophytic population established in a lake or stream.

DRAINAGE BASIN AREA

The area of land enclosed by a topographic divide within which direct surface runoff from precipitation normally drains by gravity into a body of water. Drainage areas herein include all closed basins or noncontributing areas.

DRAINAGE BASIN

Refers to which hydrologic watershed the lake lies within and should not be confused with the politically established water basins.

DROUGHT

An extended period of time with rainfall well below the yearly mean value.

ELEVATION

The elevation of the lake's water surface, in feet above mean sea level, as shown on the USGS Topographic Maps. Most lakes fluctuate naturally through a range of several feet. Current levels probably differ from listed levels.

WATER EROSION

The action of cutting into or washing away soil by flowing water.

ENTEROCOCCI BACTERIA

A harmless subgroup of streptococci bacteria that live in the gut of warm-blooded animals. This bacterium is a good indicator for tracking human pathogenic viruses.

EUTROPHIC

A descriptive term for lakes with high nutrient concentrations, poor biotic diversity, and increasing organic sedimentation. Overall biotic productivity is high, but lacks a healthy diversity. An older or dying lake. Also, see Hypereutrophic.

GLOSSARY

EVAPORATION

When water changes from a liquid to a vapor (gas).

EXOTIC VEGETATION

Plants which are not native to an area, usually imported or escaped. They can out-compete native plants and become a monotypic culture.

FECAL COLIFORM BACTERIA TEST

A method used to determine the presence of fecal coliform in the water column. Fecal coliform is produced by all warm blooded animals and eliminated through the digestive tract.

FLOOD

Too much rain water at one time so the water is unable to percolate into the ground.

FLOODPLAIN

Flatlands periodically covered by flood waters.

FLORIDAN AQUIFER

The main source of ground water for most of the state of Florida; this aquifer is composed mostly of limestone that is very permeable.

GROUNDWATER

A body of water which exists within the internal passageways of aquifers and which flows in response to gravitational forces.

HAZARDOUS WASTES

Chemical and biological products, such as insecticides, pesticides, bacteria, oils, paints, petroleum, biotoxins, and manufacturing process waters which can harm or kill living things.

HEAVY METALS

Metals such as arsenic, cadmium, copper, chromium, iron, lead, nickel, and zinc which can cause harm to aquatic life in small concentrations, when they become dissolved in water and bio-accumulated.

HERBICIDES

Chemical compounds used to eliminate unwanted plants.

GLOSSARY

HOLDING POND

A pond or reservoir usually made of earth and built to store stormwater runoff or effluent such as industrial wastewater.

HYDROLOGIC CYCLE

The movement of water from the atmosphere (precipitation) to the land surface, and back again (evaporation) to the air. Also, includes the movement of water from the surface to and from the ground.

HYDROLOGIC RECORD

The period of time during which information exists on surface water levels (stage), and the amount of precipitation using a time scale.

HYPEREUTROPHIC

An extreme, environmentally threatening lake condition that is usually characterized by: nutrient enriched sediments that will recycle nutrients between the sediments and the water column, high primary productivity usually associated with cyanobacteria and/or monotypic invasive macrophytes, elevated chlorophyll concentrations, and sporadic algal blooms that may die-off and produce fish kills by suffocation. In many examples overall species diversity of the ecosystem is greatly reduced.

IMPERMEABLE

Water cannot penetrate in measurable quantities, such as water through concrete or clay.

IMPURITIES

Pollutants which make water unsafe to drink.

IMPAIRED WATERS

Impaired waters are those that do not meet the designated uses as defined by rule. The Federal Clean Waters Act (CWA) describes Impaired Waters in section 403.067, F.S., and subsection 303(d). The list is known as the 303(d) list.

IONS

Ions (chloride, sulfate, sodium, potassium, calcium, and magnesium) are atoms or groups of atoms which have a positive or negative charge. Ions in the proper ratio are necessary for many biological functions within an organism. They are dissolved from rocks and soils in contact with the lake or inflowing waters. Some ions may also be carried in the air and be deposited by rainfall or stormwater runoff. Calcium and magnesium are the cause of most of the hardness measured in waters.

GLOSSARY

LAKE TYPE

Type of lake as follows: Has streams flowing in; Has streams flowing out; Has streams flowing in and out; or landlocked.

LAKE VOLUME

The volume of water (measured in acre-feet) in the lake determined from the most recent Bathymetric map. Values will vary with changing water levels.

LAND USE

Prevalent land use within the drainage basin of the lake. In general, land use is categorized into urban (residential and commercial), forest, agriculture, water, and wetlands.

LITTORAL ZONE

The lakeshore area where rooted emergent vegetation typically flourishes and sunlight can penetrate to the bottom. It functions as an important breeding and/or nursery area for many aquatic species, especially fish.

LOCATION

The location of the approximate center of the lake is identified by section number, township, and range. All lakes are located in or adjacent to Polk County, Florida.

m

Meters, 1 meter = 3.281 feet.

MAXIMUM DEPTH

Maximum lake depth observed during the development of the most recent Bathymetric map.

MEAN DEPTH

Calculated value obtained by dividing the lake volume by the lake surface area. Final increments are in feet.

MEANDERED

Lakes were meandered in the original land survey of Florida. If a lake was navigable, under Federal law at the time statehood was granted, title to bed was vested in the State (as 'sovereignty lands'). However, the fact that a lake was not meandered does not determine navigability or state sovereignty. Excerpted from Hydrologic Almanac of Florida, Open File Report 81-1107 U.S. Geological Survey (USGS).

GLOSSARY

MESOTROPHIC

A descriptive term relating to a lake with a moderate nutrient and biological productivity level. The nutrient and sediment deposition increases, algal blooms start to occur, terrestrial plants begin to flourish along the shore and the littoral zone widens. Species diversity is approaching optimum.

MILLIGRAMS PER LITER (mg/L)

A unit of concentration indicating the number of milligrams of a solute in one liter of solution. Also can be expressed as parts per million (ppm).

mg/m³

milligrams per cubic meter

NATIVE VEGETATION

Plants which historically occur in a given geographic location.

NITROGEN

One of the primary nutrients which is necessary for the growth of algae and aquatic plants in lakes. In most lakes it may limit the growth of algae, and in abundance it can cause accelerated eutrophication of a lake. When the concentrations consistently exceed the natural levels, undesirable changes in the aquatic community may occur.

N/P RATIO

The ratio of nitrogen to phosphorus. See Nutrient Limiting.

NUISANCE VEGETATION

A term usually applied to native vegetation that establishes itself and overruns the local vegetation. Nuisance vegetation will become the dominant species by out-completing the local species.

NTU

Nephelometric Turbidity Unit.

GLOSSARY

NUTRIENT LIMITING

Carbon, Phosphorus and Nitrogen are basic elements for plant growth. In general N or P are in short supply and can limit the growth of plants in a lake. The ratio of N or P determines which is the key limiting element. This is an important factor because to reduce plant productivity or improve water clarity in lake restoration, activities generally target limiting nutrients.

NLL = Nitrogen limited lakes

PLL = Phosphorus limited lakes

NBL = Nutrient balanced lakes

NUTRIENTS

Substances that provide the chemical building blocks, as a food source, for living plants and animals. The three major nutrients are phosphorus, nitrogen, and carbon.

OLIGOTROPHIC

A descriptive term referring to a water body (usually a lake) which is low in nutrient concentrations. The Oligotrophic lakes are generally associated with good water quality. They have low levels of phosphorus, nitrogen, and chlorophyll a and have very little sediment deposition. They are also known to have none or very narrow zones of shoreline vegetation (littoral zone) and a sparse fish population.

PESTICIDES

Chemicals used to eliminate undesirable organisms.

pH

An expression which denotes the hydrogen ion activity, based on the negative logarithm of hydrogen ion concentration. The scale runs from 0 to 14. pH below 7 is acidic; pH 7 is neutral; pH above 7 is basic.

PHOSPHORUS

One of the primary nutrients which is necessary for the growth of algae and aquatic plants in lakes. In many lakes it may limit the growth of algae, and in abundance it can cause accelerated eutrophication of the lake. When the concentrations consistently exceed the natural levels, undesirable changes in the aquatic community may occur.

PHYSIOGRAPHIC UNIT

Physiographic subdivision in which the lake lies as identified by the Physiographic Map of Polk County (PCNRD, 1985).

GLOSSARY

PRECIPITATION

Water droplets or ice particles condensed from atmospheric water vapor and sufficiently massive to fall to the earth's surface.

PRODUCTIVITY

The rate of formation of new organic matter (living) by biological process over a defined period of time.

PUBLIC ACCESS

A waterbody that has access for the general public, such as a boat ramp.

RECHARGE

The act of water seeping through soils to replenish water in an aquifer.

RECORD HIGH

The highest level (measured in feet above mean sea level) the lake surface has reached during the period of record.

RECORD LOW

The lowest level (measured in feet above mean sea level) the lake surface has reached during the period of record.

RESTORATION for water bodies

Clean up of damaged or polluted water bodies.

SECCHI DEPTH

Measurement of water clarity by recording the depth at which a black and white disc becomes indistinguishable when viewed from the water's surface. A surrogate measurement for light penetration.

SECCHI DISK

A black and white disk used to measure water clarity by lowering it into the water and recording the depth it disappears.

SEDIMENT

Organic and inorganic solids which have settled to the bottom of a body of water.

GLOSSARY

SHORELINE LENGTH

The length of the lake shoreline, measured in miles. Measurements were obtained from the bathymetric map, if available, or recent aerial photographs. Shoreline lengths do not include islands. Shoreline length varies as lake levels and surface areas fluctuate.

SINKHOLE

A land surface feature that usually develops during times of low groundwater levels; occurs when the weight of sediments above an empty cavern causes the cavern's ceiling to collapse, creating a depression in the land or a hole in the bottom of a lake or other surface water body.

SPECIFIC CONDUCTANCE

A measurement of the ability of water to conduct an electrical current, corrected to 25°C. Measured in units of umhos/cm.

STEP CHANGE

The relative short term change, e.g., water quality, that is usually brought about by a treatment to the water body. Differs from Trend.

STORMWATER RUNOFF

The water flowing over the land during and immediately after a heavy rainfall that is usually full of pollutants, sediments, and nutrients.

SURFACE AREA

Taken from the Florida Gazetteer of Lakes, published in 1969 by the Florida Board of Conservation. Area is recorded in acres. Marsh areas adjacent to the lakes were included in the lake area measurements. Surface areas expand and contract as the lake level rises and falls. The current surface area will therefore probably differ from the listed value.

SURFACE WATER

The water on the surface of the land in lakes, streams, rivers, oceans, puddles, etc.

TEMPERATURE

An important factor in controlling chemical interactions and reactivity in the water column; it also affects biological activity, since many aquatic organisms have strict temperature requirements. Measured in °C.

GLOSSARY

TOTAL ALKALINITY

The capacity of water to neutralize acids, a property impaired by the water's content of carbonates, bicarbonates, hydroxides, and occasionally borates, silicates, phosphates. It is expressed in milligrams per liter of equivalent calcium carbonate.

TOTAL COLIFORM BACTERIA

Facultative anaerobic, gram negative, rod-shaped bacteria. The majority live in soils and most are beneficial. A poor indicator of human health or water quality.

TOTAL DISSOLVED SOLIDS

T.D.S. - is the mass of nonvolatile dissolved salts in a solution.

TOTAL KJELDAHL NITROGEN

TKN - the measure of the organic nitrogen plus ammonia nitrogen.

TOTAL NITROGEN

Total N - combined measurements of nitrate, nitrite, ammonia and organic nitrogen found in water.

TOTAL ORGANIC CARBON

T.O.C. - a measurement of the concentration of carbon found associated with organic (living) compounds and carbon dissolved in the water.

TOTAL SUSPENDED SOLIDS

T.S.S. - solids that are in suspension in the water column.

TROPHIC STATE INDEX - TSI

A single numeric value calculated from the concentrations of total nitrogen, total phosphorus, and chlorophyll-a used to measure water quality in lake assessments. Scale is: 0 to 59 = good, 60 to 69 = fair, 70 to 80 = poor, 80+ = extremely poor water quality. This is a relative scale.

TREND (water quality)

The gradual tendency over a period of time that indicates water quality is improving or declining. Trends differ from "step changes" by their gradual change over a long period.

TURBIDITY

A physical characteristic of water that reduces light penetration. The condition is caused by the presence

GLOSSARY

of suspended solids. Measured in Nephelometric Turbidity Unit (NTU).

WASTEWATER EFFLUENT

Water which has been treated in a wastewater treatment plant and returned to a waterbody (pond, lake, stream, or river) or used as part of a reuse program.

WATER POLLUTION

The contamination of any waterbody which will create or is likely to create a nuisance or to render such waters harmful, detrimental or injurious to public health, livestock, aquatic life, or other animals, including but not limited to contamination by alteration of the physical, chemical or biological properties of such waters, or detrimental changes in temperature, taste, color, or odor.

WATER QUALITY

A summary of the most recent water quality data with regards to the degree of eutrophication and information on recent water quality trends, if available.

WATER QUALITY INDEX - WQI (Specific for Polk County)

The Water Quality Index is a numerical index using the reported water chemistry values in a linear, and parameter weighted formula. The index baseline closely approaches Florida Class III water quality standards. The WQI compares the water quality of the lake or stream to the baseline. Above the baseline, Class III standards are not being met.

WATER RESTRICTION

Rules devised to limit water use as a means of conservation during periods of drought or shortages.

WATER TABLE

The upper surface of the zone of saturation in an unconfined aquifer at which the pressure is equal to atmospheric pressure.

WETLAND

An area where fresh or salt water covers or soaks the ground for a period of time. Wetlands generally include swamps, marshes, bogs, and similar areas. There is no universal definition, but most definitions include the types of plants found in wetlands, the hydro period, and the type of soils necessary for wetlands maintenance.