
SOUTH FLORIDA WATER MANAGEMENT DISTRICT



Audit of the Lake Okeechobee Protection Program

Audit # 02-17

Prepared By
Office of Inspector General

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SOUTH FLORIDA WATER MANAGEMENT DISTRICT

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August 21, 2002

Audit Committee Members:

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Mr. Lennart Lindahl, Vice Chairman
Ms. Pamala Brooks-Thomas, Member
Mr. Michael Collins, Member
Mr. Patrick Gleason, Member

RE: Audit of the Lake
Okeechobee Protection
Program Audit # 02-17

This audit was performed pursuant to the Inspector General's authority set forth in Chapter 20.055, F.S. Our audit focused on the District's implementation of Lake Okeechobee Act provisions. Field work was conducted between December 2001 through July 2002. However, field work was interrupted by priority projects which were time sensitive. This report was prepared by Dan Sooker.

Sincerely,

Allen Vann
Inspector General

AV/ds
Enclosure

c: Henry Dean

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BACKGROUND

In 1987, the Florida legislature adopted the Surface Water Improvement and Management Act (SWIM), which attempted to improve conditions in Lake Okeechobee (the Lake) and other designated water bodies. SWIM required the District to develop plans to reduce phosphorus loading to the Lake by 40%. However, remedial actions taken to address phosphorus concentrations in the Lake by the District and other agencies have had limited success. Over the last ten years, the phosphorus load from the watershed basins has regularly exceeded established SWIM targets.

In 2000, the Lake Okeechobee Protection Program (Sec. 373.4594, F.S.), was enacted by the legislature to codify a comprehensive action plan to reduce phosphorus originating in-lake and from tributaries in the Lake Okeechobee watershed and achieve state water quality standards no later than January 1, 2015. The primary emphasis of the program is to achieve and maintain compliance with state water quality standards in Lake Okeechobee and downstream receiving waters through a phased, comprehensive and innovative protection program to reduce internal and external phosphorus loads to the Lake. Presently, phosphorus is the only constituent identified in the Lake Okeechobee Protection Program. The program is a watershed approach with the first phase aimed at identifying projects for immediate reductions of phosphorus loading to the Lake from priority basins that significantly contribute to the external phosphorus entering the Lake. An essential element of the program is the use of effective Best Management Practices (BMPs). Landowners north of the Lake through a voluntary, incentive-based program are implementing on-site BMPs to reduce phosphorus entering tributaries in the Lake Okeechobee watershed.

To meet statutory implementation deadlines, the District has contracted with consulting and engineering firms. The District executed a contract for a pilot-dredging project to determine if dredging is a reasonable cost-effective alternative to reduce internal phosphorus loading. In addition, demonstration projects and the phosphorus source control grant program are exploring technological and chemical reduction methodologies. Almost all contract deliverables are due no later than 6-8 months before January 2004 in order to allow enough time to summarize the effectiveness of the program elements and prepare a comprehensive restoration plan.

Implementing the program is a multi-agency collaborative effort between the District, the Florida Department of Environmental Protection (DEP), the Florida Department of Agriculture (DACS) and the United States Corp of Engineers (USACE). The agencies meet monthly to discuss progress and issues. Additional agency participants include the Florida Fish and Wildlife Conservation Commission, the United States Department of Agriculture's Natural Resources Conservation Service and the Institute of Food and Agricultural Sciences of the University of Florida (IFAS). The Statute contains a series of projects having implementation dates through 2004 and beyond. Major elements are as follows:

- Lake Okeechobee Construction
- Lake Okeechobee Watershed Phosphorus Control
- Research and Water Quality Monitoring
- Exotic Species Control
- Internal Phosphorus Management

The coordinating agencies have signed an agreement outlining in general terms each agency's responsibilities for program implementation. For the District, the Lake Okeechobee Division of the Northern District Restoration Department is primarily responsible for program implementation. This division consists of twenty-seven staff. However, certain elements of the statute are also part of the Comprehensive Everglades Restoration Project (CERP) and Critical Restoration projects. As such, implementation of critical projects fall under the Program Support Department's CERP project management staff.

Although government has a lead role in the plan's implementation, the Act recognizes the need for cooperation from agricultural and non-agricultural interests in the watersheds to meet total maximum daily load (TMDL) targets. The District, in conjunction with DEP and FDACS, has developed several initiatives. One of these is the *State Water Advisory Panel Phosphorus Source Control Grant Program*, which provides funding to agricultural and non-agricultural parties for projects that reduce or have the potential for reducing external phosphorus entering the Lake. An interagency selection committee evaluated and ranked the grant proposals. The District is administering the grant program that is funded through a state appropriation.

Concurrent with the efforts to reduce Lake Okeechobee phosphorus loading, the District is working with DEP to finalize the Lake Okeechobee Operating permit that is congruent with protection plan goals.

OBJECTIVES, SCOPE, AND METHODOLOGY

The primary objective of the audit was to test compliance with the statute. For subprojects of the Program not started or in process, we reviewed the methods and project management tools i.e. timelines, schedules etc. demonstrating that statute deadlines are or will be met.

Other objectives included a review of a sample of procurements related to the Lake Okeechobee Protection contracts to ensure that District Procurement Policy and standards were adhered to.

In order to accomplish our objectives, we performed the following procedures:

- Reviewed laws and regulations specific to Lake Okeechobee restoration.
- Reviewed documents evidencing compliance with Statute.
- Met with staff responsible for implementing the program and external individuals with an interest in the Lake Okeechobee restoration.

Our audit was conducted in accordance with generally accepted government auditing standards.

FINDINGS AND RECOMMENDATIONS

Summary

We tested provisions of the Act to ensure that the District met statutory mandated dates. If projects are not complete, the documentation available indicates that compliance will be achieved within the assigned time limitations. We also reviewed contracts with consulting and engineering firms aimed at implementing and demonstrating various phosphorus reduction technologies for Lake Okeechobee. The information attained from these contracts will play a major role in determining a comprehensive strategy to reduce phosphorus in the Lake Okeechobee watershed, a requirement of the Act. Our objective in testing these contracts and grants was to substantiate compliance with the District's procurement processes and contractual terms. Our test examined the appropriateness of the procurement type, whether the contracts were competitively solicited and a diverse selection committee was convened.

Our examination indicated that two provisions of the Act did not meet the statutory timelines. One of the non-compliance instances was for a Critical Restoration project which required the District to design and construct two isolated wetlands in partnership with the USACE. As a result of the partnership, the project timetable was controlled jointly by the USACE and the District.

Of the two isolated wetlands, one was completed, although eighteen months after the statutorily mandated date. Initially this project was delayed due to design complexity, protracted negotiations with the landowner and multiple real estate transactions. For the second isolated wetland, the landowner requested a major change in the plans very late in the design stage according to the project manager. As a result of this request, the District is in the process of redesigning the remaining isolated wetland. In another instance of non-compliance the District was required to negotiate an easement from a railroad property owner that was concerned about the potential impact of the project on their land which resulted in project delays. In both cases, the District provided notification of delays to DEP in accordance with provisions of the Act.

We found four contracts that were running between forty-five to one hundred and twenty days behind schedule. However, discussions with project managers and a review of file documentation indicate that these contracts will be completed in sufficient time to include findings from these contracts into the Lake Okeechobee protection plan.

Excluding funding for the CERP projects, long term funding for Lake Okeechobee Restoration is uncertain. To date, implementation costs necessary for the Lake Okeechobee Protection Program have been funded through state appropriations and District ad-valorem tax revenue. The Everglades Restoration Funding Program, which contains incentives to area landowners for phosphorus reductions, appears to work very well. Landowners in the Everglades Agricultural Area (EAA) have managed to exceed expectations for reducing phosphorus discharging into works of the District. Grants and public/private partnerships are intended to provide similar incentives by providing landowners with funds for approved phosphorus reduction projects. We would recommend continuation of these partnerships or similar EAA incentive programs as part of a long-term solution to phosphorus reductions.

We are recommending that management consider combining compliance staff from the Lake Okeechobee Works of the District Program and the Everglades Regulation Division to improve independence and efficiencies.

Compliance Testing

Although project managers proactively monitor Lake Okeechobee consulting and engineering contracts and the delays observed appear beyond their control, the contracts reviewed indicate slippage in the contract completion schedule. Delays in project completion will in turn setback the overall plan to reduce phosphorus in the Lake.

As of July 2002, the Division administers fifty-nine contracts and pre-execution contracts valued at \$29 million to demonstrate and implement various technologies for Lake Okeechobee phosphorus reduction. The information attained from these contracts will play a major role in determining a comprehensive strategy to reduce phosphorus in the Lake Okeechobee watershed, a requirement of the Act. In addition, the District has awarded eleven grants totaling \$6.5 million aimed at reducing phosphorus-laden runoff from farms and urban areas.

Of the total contracts, we tested seven consulting and engineering contracts valued at \$6.5 million, representing 43% of the dollar value for all contracts. We also reviewed two grants valued at \$1.8 million. Our objective in testing these contracts and grants was to substantiate compliance with the District's procurement processes and contractual terms. Our test examined the appropriateness of the procurement type, whether the contracts were competitively solicited and a diverse selection committee was convened. With the exception of one contract with IFAS, the procurements tested were competitively solicited. We also examined the deliverables for compliance with contractual timelines and other terms.

Further analysis of the IFAS contract indicated that this procurement came under the special procurement section of the Procurement Policy and did not have to be competed at the time the contract was executed. On June 14, 2000, the Governing Board authorized entering into this contract. The project manager decided to engage IFAS because of its previous Lake Okeechobee research experience. Under the amended Procurement Policy, universities compete with outside contractors able to provide the service and the decision to sole source requires District management and Governing Board approval before the contract is awarded.

A research contract of particular concern is the lake sediment management feasibility study, which is exploring options for addressing the in-lake component of phosphorus loading and their costs. This contract is an important element of Lake Okeechobee Restoration and any extensive delay could result in a delay of the final report due January 2004. The contract had initially been problematic. From the start, the contractor fell behind on meeting the deliverables schedule. Voluminous correspondence in the file and discussions with project personnel indicates that the District was proactive in resolving contractor issues and disputes. Any misunderstandings of contractual terms appear to be corrected and now, according to discussions with the project manager supported by our review of contract deliverables, the contractor has nearly caught up and is close to schedule. The firm will prepare a report at the contract's conclusion addressing mandatory requirements of the Act.

We found four consulting and engineering contracts that were running between forty-five to one hundred and twenty days behind schedule. However, discussions with project managers and a review of file documentation indicate that these contracts will be completed in sufficient time to include any research into the Lake Okeechobee Protection Plan.

Compliance with Lake Okeechobee Protection Program Provisions

We tested provisions of the Act, which the District has responsibility for, to ensure that deadline dates were met, and if not complete, the documentation available indicates that compliance will be achieved within the assigned time limitations. For many elements, the deadline for completion is six to eight months before the final Lake Okeechobee Restoration action plan is due. The District is outsourcing a significant portion of the implementation projects required by the Act.

Few Act requirements are finalized and are mostly works in process. For completed requirements, we reviewed the final deliverables. For work in process, we interviewed project managers and reviewed contractor invoices and progress reports to determine that the work addressing the Act's requirements would be completed within the stated time. Our judgement of whether the District is in or out of compliance and whether the requirement will be completed on time is based on the progress to date and review of the remaining deliverables schedule. However, future events may occur which delay completion and compliance.

Our examination indicated that two provisions of the Act did not meet the statutory timelines. One of the non-compliance instances was for a Critical Restoration project, which required the District to design and construct two isolated wetlands in partnership with the USACE. As a result of the partnership, the project timetable was controlled jointly by the USACE and the District.

Of the two isolated wetlands, one was completed albeit, eighteen months after the statutorily mandated date. Initially this project was delayed due to design complexity, protracted negotiations with the landowner and multiple real estate transactions. According to the project manager, the second wetland landowner requested major changes to the plans very late in the design stage. The District is currently redesigning the wetland but is virtually starting anew. In another instance of non-compliance, the District was required to negotiate an easement from a railroad property owner that was concerned about the effect of the project on their land. The lengthy negotiations resulted in project delays. In both cases the District provided notification of the delays to DEP in accordance with the requirements of the Act.

According to staff knowledgeable in Lake Okeechobee Restoration, meeting the TMDL target will require more than is currently specified in the Act (ie BMPs, RASTAs, and isolated wetlands) and will be addressed in the report due in 2004.

Funding

Excluding funding for the CERP projects, long term funding for Lake Okeechobee Restoration is uncertain. To date, implementation costs necessary for the Lake Okeechobee Protection Program have been funded through state appropriations and District ad-valorem tax revenue. Cost estimates for the non-CERP portion of Lake restoration alternatives is expected to be completed January 1, 2004. Although cost data is not available, this long-term restoration project, along with District commitments to other projects, will challenge District resources. According to the Act, if Lake Okeechobee internal phosphorus removal is determined to be feasible based on technical and economic considerations the District will be responsible for implementing phosphorus removal.

The Everglades Restoration funding program, which contains incentives to area landowners for phosphorus reductions, appears to work very well. Landowners in the Everglades Agricultural Area have managed to exceed expectations for reducing phosphorus discharging into works of the District. Grants and public/private partnerships are providing similar incentives by providing landowners with funds for approved phosphorus reduction projects. In addition, FDACS is providing cost sharing for BMP implementation on agricultural lands.

As noted below, CERP projects that are expected to benefit the Lake Okeechobee Protection Program are estimated to cost \$1.6 billion of which the federal government is anticipated to pay one-half of the total. Implementation of these projects is anticipated to be January 2002 through June 2020.

<u>Critical Projects</u>		
Lake O Retention/Phosphorus Remove	3/02 – 11/04	16,360,000
<u>CERP</u>		
Taylor Creek/ Nubbins Slough	1/05 - 1/09	104,027,000
North of Lake O Storage Reservoir	9/11 - 9/15	284,000,000
Lake O Watershed Water Quality Treatment	9/06 - 9/10	62,000,000
Lake O Tributary Sediment Dredging	9/04 - 9/05	4,700,000
Lake O ASR	7/10 - 6/20	1,116,312,000
Subtotal		1,571,039,000
<u>Pilot Projects</u>		
Lake O ASR	1/4/2002	19,000,000
<u>Operations Maintenance Repair Replacement Costs</u>		
Taylor Creek/ Nubbins Slough		2,164,114
North of Lake O Storage Reservoir		1,514,245
Lake O Watershed Water Quality Treatment		2,602,000
Lake O ASR		25,000,000
Subtotal		31,280,359
Total		1,637,679,359

Note: According to the project manager, the CERP projects highlighted by the shaded area of the table are in the planning phase.

Recommendations

1. **Continue monitoring Lake Okeechobee projects to ensure compliance with Act provisions. Develop strategies to resolve contract issues before major problems arise.**

Management Response: We concur with this recommendation, and in fact, are continuing to monitor all projects and requirements on a monthly basis. To assist in this effort, we are working with the CERP Program Controls and their contractor to organize and track these projects through the implementation of P3E software. In addition, the supervisors and division director work directly with staff to assist with contract issues, and we have also received assistance from Procurement and the Office of Counsel.

Responsible Department: Northern District Restoration
Department

Estimated Completion Date: P3E will be fully operational by December 2002. Other provisions have already been implemented and are ongoing.

2. **Develop funding sources and cash flow analysis for Lake Okeechobee Restoration. Develop incentive programs through public/private partnerships or other reward strategies for landowners in the Lake Okeechobee watershed that reduce phosphorus discharging into District works.**

Management Response: We concur with this recommendation and have already initiated the short-term components of this through the phosphorus source control grant program, the Lake Okeechobee regional public/private partnership program, and the development of P3E for a project and financial tracking tool. It is important to point out also that the report due to the Legislature in 2004 will identify long term funding options to fully meet the requirements of the Lake Okeechobee Protection Act. These options will be identified by the Interagency Team through consultation with landowners, agencies, and the public.

Responsible Department: Northern District Restoration
Department

Estimated Completion Date: January 2004

Combine the Compliance Staff of the Lake Okeechobee Works of the District Program and Everglades Regulation Division

The Lake Okeechobee Works of the District Regulation program consists of eleven permit compliance staff members that monitor approximately seven hundred Works of the District permits located in the Lake Okeechobee watershed.

This Works of the District compliance program was established to meet SWIM Act targets. Goals established in Technical Pub 81-2 and adopted in SWIM are approximately 400 tons of phosphorus to Lake Okeechobee. Historic records indicate that phosphorus entering the Lake has been approximately 500 to 600 tons per year. Even with the Works of the District Rule requiring landowners to implement BMPs, target levels have not been met. The Lake Okeechobee Protection Program is even more stringent in that it requires a plan to meet the established phosphorus Total Maximum Daily Load (TMDL) goal of 140 metric tons entering the Lake.

To help meet the TMDL mandate, rules established in the watershed are being revised. There are three rules affecting landowners in the Lake Okeechobee watershed. The Dairy Rule, which is administered by DEP, establishes BMPs for concentrated feeding operations. Revisions to this rule still in draft form will require dairies statewide to obtain a NPDES permit, which will make them responsible for water quality discharging from their land. The Department of Agriculture and Consumer Services rule, which affects cow/calf, citrus operations, row crops and dairies, is also being drafted. The Works of the District rule will also be amended.

According to District staff, the amended Works of the District rule will contain provisions that will require landowners to reduce phosphorus discharging from farms through BMP programs. As a result, subsequent to the rule change, BMP program implementation and monitoring will challenge Lake Okeechobee staff. Combining resources with Everglades Regulation may help facilitate this transition.

Everglades Regulation consists of eighteen compliance staff members monitoring thirty-seven Everglades permits including 209 sub-basins and 304 privately owned water control structures discharging into District canals in the Everglades Agricultural Area. This Division monitors compliance with rules promulgated in the Everglades Forever Act.

Combining the compliance staff from the Everglades Regulation and Lake Okeechobee Regulation to create regional BMP compliance teams could also improve efficiencies and independence.

Recommendation

- 3. Consider combining compliance staff from the Lake Okeechobee and Everglades Regulation Divisions to improve independence and efficiencies.**

Management Response: We concur with the intent of this recommendation. Management intends to conduct a more in-depth evaluation of the pros and cons of merging these regulatory functions. This evaluation will include consideration of the expected efficiencies to be gained, balanced against the different Legislative requirements of the two programs. As the programs currently stand, implementation of the provisions of the Works of the District program is the responsibility of each landowner, and the monitoring costs are borne by the District. The Everglades Regulatory Program requires the landowner to fund both implementation and monitoring, in addition to payment of an agriculture privilege tax tied to BMP performance of the basin. WOD staff are also working closely with FDACS on the implementation of a non-regulatory, incentive-based BMP program in the watershed, as well as collaborating with Lake Okeechobee Division staff on the evaluation of new phosphorus removal technologies. There is a need to continue this close coordination. However, we would like to point out that the WOD and ERD staffs are currently working together as we move through the revisions of the WOD rule, in order to benefit from the lessons learned in the EAA and C-139 Basin regulatory arenas.

The completion of this evaluation will be tied to the January 2004 report to the Legislature that will identify the necessary mechanisms to fully meet the requirements of the Lake Okeechobee Protection Act.

Responsible Departments: Regulation Department and Northern District Restoration Department

Estimated Completion Date: January 2004

Program	Element	Action Dates	Project	Sect	Pg	Lead Agency	Compliance
LO Protection Plan	Complete LO Protection Plan	1/1/04	LO Protection Plan	(3)(a)	7	SFWMD	Phase 1 consists of pilot demonstration and research projects to determine the best approach for meeting TMDL levels. Projects are primarily being outsourced. Contract completion dates are 6 to 8 months before statutory deadline of 1/01/04. Although a tight schedule, the development of Phase 2 is on target at this time. Funding could be an issue for phase 2 implementation
LO Construction Program				(3)(b)	8	SFWMD	
	Phase I	ASAP		(3)(b)1	8	SFWMD	
	USACE is lead agency for design & construction of STAs.	7/1/01	Crit Proj STA's - Grassy Isle	(3)(b)1.a	8	SFWMD	Yes, design completed. Preparation of construction contract plans and specs are started for STA's and will be completed by April 02. Construction of STA's will start in 02. Project appears about 2 years behind schedule.
	USACE is lead agency for design & construction of STAs.	1/1/03	Crit Proj STA's - New Palm	(3)(b)1.a	8	SFWMD	
	Obtain permits and complete construction of 2 isolated wetlands. Additional isolated wetlands to be permitted and constructed by 1/1/03	1/1/01	Crit Proj Isolated Wetlands	(3)(b)1.b	9	SFWMD	Out of compliance because of design complexity, negotiations with landowners and multiple real estate transactions. Byrd completed 6/02. Arnold delay due to redesign and tentative completion 9/03. Schedule is being developed for additional isolated wetlands.
	District to design & const. 2 testing alternative technologies for trapping and collecting P sediment in secondary drainage system.	1/31/02	Trib Sediment Removal Pilot	(3)(b)1.c	9	SFWMD	Out of compliance. Delay due to difficulty in executing easement agreement with CSX. Design document was complete 7/12/01. CSX easement is now signed and DEP permit obtained. Construction began in 2/02.
	District and USACE to design process for the Taylor Creek/Nubbins Slough Reservoir STA	none	Taylor Creek /Nubbins Slough Reservoir Assisted STA	(3)(b)1.d	9	SFWMD	STA is scheduled for completion in 2010. Land was acquired in 2001.
	Develop with coordinating agencies and USACE Phase II Implementation Plan. Identify project facilities to achieve 40 parts per billion. Size and location, Construction schedule, land acq. and detailed cost schedule.	1/1/04	Phase II Implementation Plan	(3)(b)2	9	SFWMD	Phase 1 consists of research and pilot demonstration projects to determine the best approach. . Project completion dates are 6 to 8 months before statutory deadline of 1/01/04. Although a tight schedule, plan is on target at this time.
	P Load Reduction Evaluation and every 3 years thereafter. District needs to coordinate with DEP.	1/1/04	P Load Reduction Evaluation	(3)(b)3	10	SFWMD	Part of Lake Okeechobee Watershed strategy is to re-evaluate reduction after plan Implementation.
Watershed P Control Program				(3)(c)	11	Interagency	
	Agricultural Non-point BMP's	3/1/01		(3)(c)1	11	Interagency	
	The coordinating agencies develop an interagency agreement that assures development of best management practices that complement existing regulatory programs.	3/1/01	Interagency Agreement	(3)(c)1	11	FDACS	In compliance. Develop and interagency agreement by 3/1/01. Agreement was 28 days late which does not hamper the project.
	FDACS, District, DEP and others initiate rule development for interim measures, best management practices, conservation plans, nutrient management plans or other	10/1/00	Initiate Rule Development	(3)(c)1.a	12	FDACS	In compliance. Rule making process started.
	Owner of nonpoint source P shall adopt rule and either implement interim measures or best management practices or	none	Owner Compliance	(3)(c)1.b	12	FDACS	No implementation date in statute. However, FDACS and DEP are working on interim measures.
	Provide technical and financial assistance subject to availability.	none	Tech Assistance for BMP's	(3)(c)1.b	12	FDACS	Grant funds have been made available to land owners. Also technical assistance has been provided.
	The District and DEP conduct monitoring at representative sites to verify effective of agriculture nonpoint source BMP.	none	Monitor Representative Sites	(3)(c)1.c	13	SFWMD	BMP's have not yet been adopted. As a result no additional monitoring has been implemented.

Program	Element	Action Dates	Project	Sect	Pg	Lead Agency	Compliance
	Reevaluate BMP's and modify Rule where water quality problems are detected for agricultural nonpoint sources.	none	Reevaluate BMP's & Modify	(3)(c)1.d	13	FDACS	No implementation date in statute. However, rule making process is started.
	Non-Ag Non-point BMP's	3/1/01		(3)(c)2	13	Interagency	
	Develop an interagency agreement that assures the development of BMPs that compliment existing regulatory programs.	3/1/01	Interagency Agreement	(3)(c)2	13	DEP	Yes. Develop and interagency agreement by 3/1/01. Agreement was 28 days late which does not hamper the project.
	Work with the U. of F. to develop nutrient application rates for all nonagricultural soil amendments in the watershed. Initially focus on those priority basins in sub (b)1	1/1/01	Nutrient Application Rates	(3)(c)2.a	14	DEP/IFAS	Cooperating agencies have worked with IFAS and adopted the fertilizer application rates for residential turf and the BMP's provided in the Florida Land Development Manual.
1/1/01		Interim BMP's	(3)(c)2.a	14	DEP		
1/1/01		Ongoing Program	(3)(c)2.a	14	DEP		
1/1/01		Technically based WOD	(3)(c)2.a	14	SFWMD		
	Owner of nonpoint source P shall adopt rule and either implement interim measures or best management practices or demonstrate compliance.	none	Tech/Financial Assistance	(3)(c)2.b	14	DEP/SFWMD	Grant funds have been made available to land owners. Also technical assistance has been provided.
	The District and DEP conduct monitoring at representative sites to verify effectiveness of non-agriculture nonpoint source BMP.	none	Monitor Representative Sites	(3)(c)2.c	15	SFWMD	BMP's have not yet been adopted. As a result no additional monitoring has been implemented.
	Reevaluate BMP's where water quality problems are detected for non-agricultural nonpoint sources despite implementation of BMPs.	none	Reevaluate BMP's	(3)(c)2.d	15	FDACS	No implementation date in Statute. However, Rule is in process and monitoring is performed.
	Coordinate and provide assistance to local gov't seeking financial assistance for wastewater systems within LO watershed.		Assist Local Gov't Wastewater	(3)(c)4	15	DEP	No Implementation date in statute.
	All entities disposing of domestic wastewater residuals with the LO watershed to develop and submit to DEP an agricultural use plan that limits applications based on P loading.	7/1/01	Ag Use Plan - Residuals Disposal	(3)(c)5	15	DEP	Entities responsible for preparing an Agricultural Use Plan have complied with the Acts directive and submitted plan to DEP.
	FDACS initiate rulemaking for land applied animal manure to develop conservation or nutrient management plans.	7/1/01	Rule-Making Animal Waste Disposal	(3)(c)6	16	FDACS	In compliance. Rule making process started.
	Responsible parties must demonstrate that Land-Use Change Impacts will not result in more P than previous land use.	none	Land-Use Change Impacts P Runoff	(3)(c)7	16	SFWMD	No implementation date in statute. Consultant is under contract in expert assistance program to develop a consistent methodology.
	The District, FDACS and DEP is appropriate implement Alt P Reduction measures	none	Implement Alt P Reduction measures	(3)(c)8	16	SFWMD	New phosphorus reduction methods are being investigated through grant program and will be reviewed through contract.
Research & WQ Monitoring		1/1/01		(3)(d)	16	SFWMD	
	Coordinating agencies establish a LO Research and Water Quality Monitoring Program that builds upon the existing LO program	1/1/01		(3)(d)	16	SFWMD	The District will continue to monitor water quality at inflow structures and in the lake, in a regular sampling program that was implemented in 1973.
	Develop a Water Quality Baseline that represents existing conditions for total phosphorus	none	Water Quality Baseline		16	SFWMD	The District has completed a report describing baseline conditions for the Lake on June 15, 2002. This report will be attached to the annual report to the Legislature. Phosphorus baseline information for the watershed will be included in the 2002 SWIM Plan update.
	Monitor long-term ecological changes water quality for total phosphorus and measure compliance with water quality standards for total phosphorus.	none	TP monitoring @ inflows	(3)(d)1	16	SFWMD	The District will continue to monitor water quality at inflow structures and in the lake, in a regular sampling program that was implemented in 1973. The District is also in the process of developing a comprehensive program to monitor ecological conditions in the Lake.
	Implement a total phosphorus monitoring program at all inflow structures in LO	none	Monitor Ecological Changes	(3)(d)1	16	SFWMD	
	Develop a Water Quality Model that represents P dynamic	7/1/03	Water Quality Model	(3)(d)2	17	SFWMD	In compliance. Current model available for decision making.

Program	Element	Action Dates	Project	Sect	Pg	Lead Agency	Compliance
	Determine Relative Contribution P from all identifiable sources and all primary and secondary land uses.	7/1/03	Relative Contribution P Sources	(3)(d)3	17	SFWMD	In compliance. Contract to identify all phosphorus sources is in process.
	Conduct assessment of P Sources in Kissimmee Chain-of-Lakes and Lake Istokpoga and their relative contribution to water quality in LO and develop interim measures	7/1/03	Assess P Sources Kissimmee	(3)(d)4	17	SFWMD	In compliance. The plan is to let two contracts and then develop an action plan based on the contractor's findings. Contracts have been executed.
		7/1/03	Assess P Sources Istokpoga	(3)(d)4	17	SFWMD	
	Assess current Water Mgt. Practices within LO watershed and develop recommendations for structural and operational improvements	7/1/03	Assess Water Mgt. Practices	(3)(d)5	17	SFWMD	In compliance. Statements of Work has been developed.
	Evaluate the Feasibility of Alt Nutrient Technologies, i.e. sediment traps canal and ditch maintenance etc.	7/1/03	Feasibility Alt Nutrient Technologies	(3)(d)6	17	SFWMD	
Exotic Species Control	Identify exotic species that threaten LO. Develop and implement measures to protect the native flora and fauna	6/1/02	Exotic Species Control	(3)(e)	18	SFWMD	In compliance. The Director of Vegetation Management provided a plan for torpedograss control. Other exotic plant and animal species specific plan are also done.
Internal P Management	Develop an Internal P load removal feasibility study. Include economic and technical aspects	7/1/03	Internal P Management	(3)(f)	18	SFWMD	District has three contracts C-11650 Lake O Sediment Removal Feasibility Study, C-11651 Lake O Pilot Dredging Project and C-11686 Lake O Consultant Assistance.
Annual Progress Report	Prepare an Annual Progress Report summarizing water quality and habitat conditions in LO	1/1/01	Annual Progress Report	(3)(g)	18	SFWMD	Yes. Coordinating agencies have prepared annual reports for the last two years.
Lake O Protection Permits				(4)	18	Interagency	
	Within 90 days of completion of the diversion plans set forth in DEP consent order, owners of existing structures which discharge into or from LO shall apply for a permit from	7/1/00	O&M Permit - Existing Structures	(4)(c)	19	SFWMD	In compliance. Permit is drafted.
	Permit Modification	none	Permit Modification	(4)(c)2	20	SFWMD	N/A
	LOCP Permits	1/1/04	LOCP Permits	(4)(d)	20	DEP	