The Florida Legislature

OFFICE OF PROGRAM POLICY ANALYSIS AND GOVERNMENT ACCOUNTABILITY

SUNSET MEMORANDUM

Report No. 07-S27

State Agency and Water Management District Lake Restoration and Management Activities Options for Legislative Consideration

February 1, 2008

Summary

To support the Sunset Review process, the Legislature directed OPPAGA to examine lake restoration and management activities.[1] This memo focuses on the Fish and Wildlife Conservation Commission (FWC), the five water management districts, and the Department of Environmental Protection (DEP) and examines the lake restoration and management activities of these three entities to determine their purpose, organization, responsibilities, resources, and performance. The memo also offers options for legislative consideration.

OPPAGA developed three policy options for the Legislature to consider regarding the state's lake restoration activities. These options include maintaining current lake restoration practices (Option 1); creating an interagency committee to coordinate lake restoration activities among the various entities (Option 2); placing authority for supervising and coordinating lake restoration under a single agency (Option 3); and establishing and reporting comprehensive performance information on lake restoration and management activities and costs (Option 4). For each option, we describe specific advantages and disadvantages.

[1] Sections 11.901-11.920, *F. S.*

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Multiple agencies conduct activities related to lake restoration

The Fish and Wildlife Conservation Commission, the five water management districts, and the Department of Environmental Protection all are involved in restoring and managing public lakes in Florida.[2] Lake restoration may involve activities such as conducting periodic drawdowns of lake levels, removing sediment and undesirable vegetation, re-establishing native submerged aquatic vegetation, constructing public works, and similar efforts to enhance aquatic habitat and improve water quality in the state's lakes. Private contractors or local government employees typically conduct lake restoration work, with projects funded through a combination of contributions from local governments, the Department of Environmental Protection, the Fish and Wildlife Conservation Commission, and/or the water management districts.

Each agency involved in lake restoration and management has a different mission that influences the activities it conducts on public lakes.

- The Fish and Wildlife Conservation Commission primarily focuses on improving fish and wildlife habitats.
- The water management districts generally focus on maintaining water levels and improving water quality by reducing and controlling environmental pollution sources such as agricultural and stormwater run-off that enter lakes, as well as the estuaries, rivers, and streams that flow into lakes.
- The Department of Environmental Protection is concerned with setting water quality standards, identifying impaired water bodies, developing restoration plans, controlling invasive aquatic plants, and providing oversight to the water management districts. In addition, the department and water management districts issue permits to other entities conducting lake restoration work.

Fish and Wildlife Conservation Commission. The commission's Division of Habitat and Species Conservation is responsible for protecting and conserving the state's diverse and unique fish and wildlife populations and their habitats. The division's Aquatic Habitat Conservation and Restoration Section identifies lakes for restoration based upon proposals submitted by commission staff. The section prioritizes proposals based upon factors such as the benefits of restoration, cost, and impact of restoration activities (such as dredging or use of herbicides) on other ongoing commission projects. Commission staff report that the commission undertakes between 15 and 20 lake restoration projects each fiscal year.[3]

In Fiscal Year 2007-08, the Legislature appropriated $14.6 million to the commission for lake restoration activities. The commission has proposed 70 lake restoration and research projects for this fiscal year, with costs ranging from $3,125 to apply herbicide on the Holly Chain of Lakes, to $2.5 million to remove 493 acres of invasive plants and sediment from Lake Okeechobee and to restore the lake's fish and wildlife habitat.

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[2] The state is divided into five water management districts along natural hydrological boundaries. The five districts are the North Florida, South Florida, Southwest Florida, St. Johns River, and Suwannee River water management districts.

[3] The other sections in the Division of Habitat and Species Conservation include Exotic Species Coordination, Habitat Conservation Scientific Services, Imperiled Species Management, Species Conservation Planning, and Terrestrial Habitat Conservation and Restoration. In addition, the office of the director coordinates policy and administration of the division.

Water Management Districts. Each of the five water management districts has an Acquisition, Restoration and Public Works Program that is responsible for developing and constructing capital projects, acquiring land, and restoring lands and water bodies. Under this program, the water management districts manage Surface Water Improvement and Management (SWIM) projects, which may include lake restoration projects, as well as flood control, stormwater treatment, river and stream restoration, road construction mitigation, and other projects to improve water quality and quantity. The water management districts coordinate these projects with the Department of Environmental Protection based on the department's water quality assessments and standards.

The water management districts generally structure their Acquisition, Restoration, and Public Works and SWIM Programs to address problems in water bodies. For example, the South Florida Water Management District has established a Lake Okeechobee Program that focuses on developing and implementing activities to help the lake support a greater diversity of native plants and animals while providing flood protection, water supply, navigation, and recreation. In 2007, the district reported removing 1.9 million cubic yards of sediment from Lake Okeechobee at a cost of $8.1 million in ad valorem funds. The St. Johns River Water Management District conducts similar lake restoration projects on Lake Apopka and Lake Griffin, which included spending $1.8 million in Fiscal Year 2006-07 to restore the north shore of Lake Apopka to reduce phosphorus run-off into the lake. The water management districts also conduct work dealing with water levels and minimum flows, which is a tool for lake management. The water management districts coordinate with the Department of Environmental Protection, the Fish and Wildlife Conservation Commission, and other state agencies to identify and prioritize water bodies for their SWIM Programs.[4] Also, the districts often partner and share costs with local governments when conducting these projects.

The water management districts have various surface water programs with multiple funding sources and cooperating partners. These programs conduct restoration projects on lakes as well as other water bodies, including rivers, marshes, and bays. Therefore, total expenditures for lake restoration activities funded through these programs are not readily available. The Legislature appropriated $10 million for the districts' SWIM Programs in Fiscal Year 2006-07; no appropriations were made to these programs in Fiscal Year 2007-08. However, the water management districts can continue to fund SWIM Program projects using district and local funding.

Department of Environmental Protection. The department sets water quality standards, conducts monitoring and assessments of public water bodies, identifies impaired water bodies, develops plans for restoration, and coordinates restoration and management activities with the water management districts and other entities. The department has statutory authority for identifying impaired water bodies that do not meet water quality standards and establishing pollutant limits for these water bodies under the Total Maximum Daily Load Program.[5] The department coordinates with the water management districts and other state and local government entities to develop and implement plans to reduce pollutants in these water bodies.

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[4] Section 373.453, *F.S.* The water management districts also coordinate with the Department of Agriculture and Consumer Services, the Department of Community Affairs, and local governments to identify priority water bodies for their SWIM Programs.

[5] Section 403.067, *F.S.*

The department receives an annual appropriation of $15 million from the Water Protection and Sustainability Program Trust Fund for the development and implementation of the total maximum daily loads. In addition, the department administers a grant program with funds received from the U.S. Environmental Protection Agency through the Federal Clean Water Act and awards approximately $5 to 6 million each year through this grant program to state and local governments, universities, non-profit organizations, public utilities, and water management districts to conduct projects that reduce the amount of pollutants enter the state's surface water.

The department also has statutory authority to supervise and direct the control of non-indigenous aquatic plant life and is the state's lead agency for aquatic plant control. [6] The department conducts these activities in numerous water bodies around the state, including lakes. The department's Bureau of Invasive Plant Management administers the Aquatic Plant Management Program, which is responsible for implementing and overseeing these efforts. This program disperses funds to other state and local government agencies for aquatic plant control on public waters. The commission, the water management districts, and local governments may apply for this funding and use it to remove invasive aquatic plant species from public water bodies, which can be one stage of a lake restoration project. Aquatic plant management funds can also be used to provide matching contributions for other funding sources or may free up funds for other lake restoration activities. In addition, the department has six regional regulatory offices that issue permits for aquatic plant control.

The Aquatic Plant Management Program funds invasive plant control projects on all types of water bodies, including lakes, rivers, streams, and wetlands. In Fiscal Year 2006-07, the department spent $14 million and conducted 1,103 aquatic plant management projects on 42,732 acres of plants on public water bodies. Typical projects include controlling hydrilla, floating water hyacinth, and water lettuce.

Lake restoration can require permits from several entities**.** Several state, federal, and regional entities issue permits for water restoration projects. These include the Florida Department of Environmental Protection, the U.S. Army Corp of Engineers, the water management districts, and local governments. For example, if a state or local government entity is conducting a lake restoration project that involves dredging and removing sediment, impacts wetlands, or alters surface water flow, it must obtain an environmental resource permit from the Department of Environmental Protection or a water management district. [7] Further, a U.S. Army Corps of Engineers permit is required if the project will remove material from or alter any lake considered navigable waters under federal law. [8]

If a lake restoration activity primarily involves aquatic plant control and minimal removal of sediment, the sponsoring entity must obtain an aquatic plant control permit rather than an environmental resource permit. [9] Department staff reports it is generally less costly and quicker to obtain an aquatic plant control permit than an environmental resource permit. Some cities and counties may also require other governmental entities to obtain local permits for lake restoration projects.

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[6] Section 369.20 and 369.22, *F.S.*

[7] The Department of Environmental Protection and the water management districts have operating agreements concerning the division of responsibilities for environmental resource permits.

[8] 33 CFR Part 329 provides a definition of navigable waters.

[9] Section 403.813, *F.S.,* describes the situations in which an environmental resource permits is not required to remove sediment or dredge a lake.

There is limited data available on the outcomes of lake restoration activities

State agencies and water management districts have generally met their performance standards related to these activities, but there is limited information available on the outcomes of specific lake restoration projects.

- The Fish and Wildlife Conservation Commission has a performance measure that indicates the number of water acres of habitat covered in its restoration projects. For example, it reported that its projects in Fiscal Year 2006-07 covered 123,818 water acres, which exceeded the standard of 69,592 water acres. However, this measure does not assess whether these projects were successful in improving fish and wildlife habitats.
- The water management districts report setting pollution goals and conducting monitoring of water quality for lakes in coordination with the Department of Environmental Protection's Total Maximum Daily Load Program. The water management districts also have a performance measure that indicates the cost per acre of water bodies managed under maintenance control for aquatic invasive plants. However, the water management districts have not established performance standards for these projects, and thus the cost-effectiveness and outcomes of the districts' restoration activities cannot be directly assessed.
- The Department of Environmental Protection has a performance measure that indicates the percentage of Florida water bodies in which invasive plants were rated as being under maintenance control. For example, the department reported that in Fiscal Year 2006-07, invasive aquatic plants were under maintenance control in 98% of Florida's public water bodies, which exceeded the standard of 97%. The department also met its standard for percentage of surface water meeting designated uses (88%). [10] However, this performance measure addresses the condition of all water bodies in the state and is not limited to lakes.

See Appendix A for the available performance information on the Fish and Wildlife Conservation Commission, the Department of Environmental Protection, and the water management districts.

State agencies and water management districts have conducted or contracted for studies to assess the outcomes of some of their lake restoration activities. For example, in Fiscal Year 2007-08, the Fish and Wildlife Conservation Commission contracted with several universities to conduct seven research projects to evaluate lake restoration activities and the effects of lake drawdowns on fish and wildlife species. The water management districts report that they have assessed the outcomes of lake restoration projects by tracking the amount of sediment and muck removed from lakes and monitoring the water quality of water bodies where restoration work was conducted. The Department of Environmental Protection inventories 455 public water bodies to assess the need for aquatic plant control and monitor the effects of invasive plants and management programs. However, these studies and assessments do not provide comprehensive information on the outcomes of the various agencies' lake restoration and management activities.

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[10] There are five classes of water quality by which the Department of Environmental Protect designates water usage: 1) potable water supplies; 2) shellfish propagation or harvesting; 3) recreation, propagation, and maintenance of healthy, well-balanced population of fish and wildlife; 4) agricultural water supplies; and 5) navigation, utility and industrial uses. If water quality and other conditions allow the classified use, then the standard is met.

To address these concerns, the Legislature could direct the Fish and Wildlife Conservation Commission, water management districts, and Department of Environmental Protection to establish and report on comprehensive and standardized performance measures that demonstrate the agencies' progress associated with lake restoration and management activities. At a minimum, each agency and the water management districts should report the data noted below.

- Percentage and number of acres of lakes in good/fair/poor condition
- Percentage and number of lakes identified for restoration activities that attain restoration goals
- Percentage of lakes in which invasive aquatic plants are under maintenance control
- Percentage of lakes that meet designated uses
- Percentage of lakes with healthy nutrient levels
- Percentage of lakes with healthy biological conditions
- Cost per acre of lakes managed under maintenance

The agencies and water management districts should work to jointly develop such measures and create a uniform system to assess, quantify, and rate the progress of lake restoration and management activities. This system would enable state agencies and the districts to report annually the condition of lakes on a report card using the grades of poor, fair, good, and excellent. These ratings should be based on restoration and management objectives and performance measures.

Options for legislative consideration

Lake restoration and management activities on public lakes are fragmented and are performed by several state and regional government entities. While these entities report that they coordinate their efforts and often work jointly on projects, they use differing processes for deciding which lakes should be given priority for restoration. In addition, the current accountability structure provides limited information on the outcomes of lake restoration and management. Consequently, it is unclear whether state funds and agency staff resources are being used in the most cost-effective manner to restore Florida's fresh water lakes.

To address this fragmentation, the Legislature could consider four options: maintaining current lake restoration and management practices (Option 1); creating an interagency committee to coordinate lake restoration and management activities of the various entities (Option 2); placing authority for lake restoration supervision and coordination under a single agency (Option 3); and establishing and reporting comprehensive performance information on lake restoration and management activities and costs (Option 4).

Exhibit 1 summarizes these policy options and describes the advantages and disadvantages associated with each option.

Exhibit 1
The Legislature Could Consider Options to Modify the Lake Restoration and Management Activities of State Agencies and the Water Management Districts

Option	Advantages	Disadvantages
Option 1 – Maintain current lake restoration and management practices		
Lake restoration and management projects would continue to be conducted by the Florida Fish and Wildlife Conservation Commission, the water management districts, and the Department of Environmental Protection	▪ Agencies would maintain areas of specialization in lake restoration and management ▪ Would maintain current funding structure for lake restoration and management activities, providing flexibility in project selection and operations ▪ Water management districts and local governments would continue to establish local priorities in coordination with state agencies and stakeholders	▪ Continuing the current fragmented system could hinder coordination among multiple agencies and local governments ▪ It is difficult to track funding specifically used for lake restoration projects, which makes it difficult for policymakers to determine the impact of such expenditures ▪ Limited funding may not be directed at the water bodies with greatest overall need for restoration
Option 2 – Create an interagency committee to coordinate lake restoration and management activities among the various entities		
An interagency committee with representatives from each of the entities involved in lake restoration and management activities would prioritize and coordinate project selection, funding, and operations	▪ Would increase coordination in project selection and implementation ▪ Agencies would maintain areas of specialization in lake restoration and management ▪ Would maintain current funding structure for lake restoration and management activities, providing flexibility in project selection and operations ▪ Would improve oversight of costs and outcomes of management and restoration activities conducted by the various agencies and districts ▪ Would establish uniform priorities for lake restoration funding	▪ Could limit local prioritization of lake restoration projects by water management districts ▪ Would result in Increased costs from establishing and operating the coordinating committee (For comparison, the Acquisition and Restoration Council in the Division of State Lands performs a similar function for land acquisition and has an annual budget of about $72,000.)
Option 3 – Centralize authority for supervising and coordinating lake restoration projects under a single lead agency		
A single entity could be given lead authority for lake restoration and management activities. This lead agency would prioritize and coordinate projects, disperse funding, and could be held accountable for achieving lake restoration performance goals.	▪ Would increase statewide direction and coordination in project selection and implementation ▪ Would establish uniform priorities for funding for lake restoration projects ▪ Would centralize accountability for the results of lake restoration and management activities	▪ Could weaken lake restoration missions of individual agencies (For example, the commission has a focus on fish and wildlife habitat restoration whereas the water management districts focus on water quality.) ▪ Could limit local prioritization of lake restoration projects ▪ Could increase administrative costs of the lead agency; however, this may be offset by reductions in the administrative costs at other agencies

Option	Advantages	Disadvantages
Option 4 – Establish and report comprehensive performance information		
The Legislature would direct the Fish and Wildlife Conservation Commission, water management districts, and Department of Environmental Protections to establish and report comprehensive performance measures on the progress and cost of lake restoration and management activities. The agencies and districts would ▪ develop and adopt standard performance measures; ▪ establish uniform definitions and methods of calculation for performance measures; and ▪ annually report performance information to the Legislature.	▪ The Legislature would be able to track progress and assess lake restoration and management funding needs ▪ The condition of managed lakes would be comparable between state agencies and water management districts	▪ Would likely result in additional costs associated with collecting and reporting data

Source: OPPAGA analysis.

Appendix A

State Agencies and Water Management Districts Have Widely Varying Performance Measures for their Lake Restoration Activities

Fish and Wildlife Conservation Commission

	Standard Fiscal Year 2006-07	Actual Performance Fiscal Year 2006-07
Number of water acres where habitat rehabilitation projects have been completed	69,592	123,818

Source: Fish and Wildlife Conservation Commission Long Range Performance Plan.

Water Management Districts

	Fiscal Year 2005-06 Performance				
	Northwest District	South District	Southwest District	St. Johns River District	Suwannee River District
Cost per acre of water bodies managed under maintenance control for aquatic invasive plants	n/a	$285	$35.80	$117	n/a[1]

[1] The Northwest Florida Water Management District and the Suwannee River Water Management District do not have aquatic plant management programs.

Source: Water Management Districts.

Department of Environmental Protection

	Standard Fiscal Year 2006-07	Actual Performance Fiscal Year 2006-07
Percentage of Florida's public water bodies in which invasive aquatic plants are under maintenance control	97%	98%
Percentage of surface waters that meet designated uses (Proposed revisions to measures listed below)	88%	88%
Percentage of surface waters with healthy nutrient levels	n/a	n/a
Percentage of surface waters with healthy biological conditions	n/a	n/a

Source: Department of Environmental Protection Long Range Performance Plan.