



The Florida Legislature

OFFICE OF PROGRAM POLICY ANALYSIS AND GOVERNMENT ACCOUNTABILITY



SUNSET MEMORANDUM

Report No. 07-S34

Invasive Plant Control Activities Performed by State Agencies and Water Management Districts Options for Legislative Consideration

February 15, 2008

Summary

To support the Sunset Review process, the Legislature directed OPPAGA to examine invasive plant control activities conducted by the Department of Environmental Protection, the Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, and the five water management districts.¹ This memo examines the invasive plant control activities of these entities to determine the purpose, organization, responsibilities, resources, and performance. The memo also offers options for legislative consideration.

OPPAGA developed four policy options for the Legislature to consider regarding the state's organizational structure for controlling invasive plants. These options include (1) maintaining the current organizational structure; (2) creating an advisory council or committee to coordinate invasive plant control activities of the various entities; (3) placing authority for supervising and coordinating all invasive plant control activities under a single agency, and (4) establishing and reporting comprehensive performance information on invasive plant management activities and costs. For each option, we describe its specific advantages and disadvantages.

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

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Multiple agencies conduct invasive plant control activities

Invasive plants are non-native plants that can negatively affect Florida's ecosystems by displacing native vegetation and disrupting land or water habitats. In Florida, several agencies are involved in controlling invasive plants on land owned by the state and other entities, including the Department of Environmental Protection, the Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, and the state's five water management districts.² State law requires these agencies and districts plan for and implement invasive plant controls necessary to preserve and protect natural resources and restore habitat.³ To accomplish these goals, the agencies conduct activities such as applying herbicides and mechanically harvesting, or cutting and collecting, plants.^{4 5}

Department of Environmental Protection. The department, through its Bureau of Invasive Plant Management, is statutorily designated as the lead agency for coordinating and funding statewide programs for the control of invasive plants (See Exhibit 1).⁶ These programs are described below.

- **Aquatic Plant Management Program.** This program disperses funds through contracts with other public agencies or private companies to manage plants in public waters. Other government entities or property owners are responsible for funding and operations related to aquatic plant management in canals, private waters, and sovereignty waters that do not have public access. In Fiscal Year 2006-07, the program funded invasive aquatic plant control projects on 372 public waterways resulting in the control of 42,732 acres of invasive aquatic plants.
- **Upland Invasive Exotic Plant Management Program.** This program disperses funds through contracts for invasive upland plant projects on public conservation lands statewide managed by local, state, and federal agencies. To supplement these funds, entities provide matching funds or in-kind services. In Fiscal Year 2006-07, the program funded 202 invasive upland plant control projects resulting in the control of 238,705 acres of invasive upland plants.
- **Permitting programs.** All persons intending to control, remove, collect, sell, or possess aquatic plants for business purposes must obtain a permit from the Department of Environmental Protection unless they are exempted by state law or department rule.⁷

Department staff assigned to field offices throughout the state perform various functions such as providing extension and education services; annually surveying aquatic plants in approximately 450 public water bodies; directing, reviewing, and monitoring the control of non-native aquatic plants by contractors; and performing compliance and enforcement activities. In addition, the department helps control invasive plants on public conservation lands through its land management funding.

² The state is divided into five water management districts along natural hydrological boundaries. The five districts are the North Florida Water Management District, South Florida Water Management District, Southwest Florida Water Management District, St. Johns River Water Management district, and Suwannee River Water Management District. The Northwest Florida Water Management District does not have an invasive terrestrial plant management program. The Suwannee River Water Management District does not have an invasive aquatic plant management programs.

³ Sections 253.034, 259.032, and 259.105, *Florida Statutes*.

⁴ Private contractors typically conduct invasive plant control work, although public agency staff also conduct some activities.

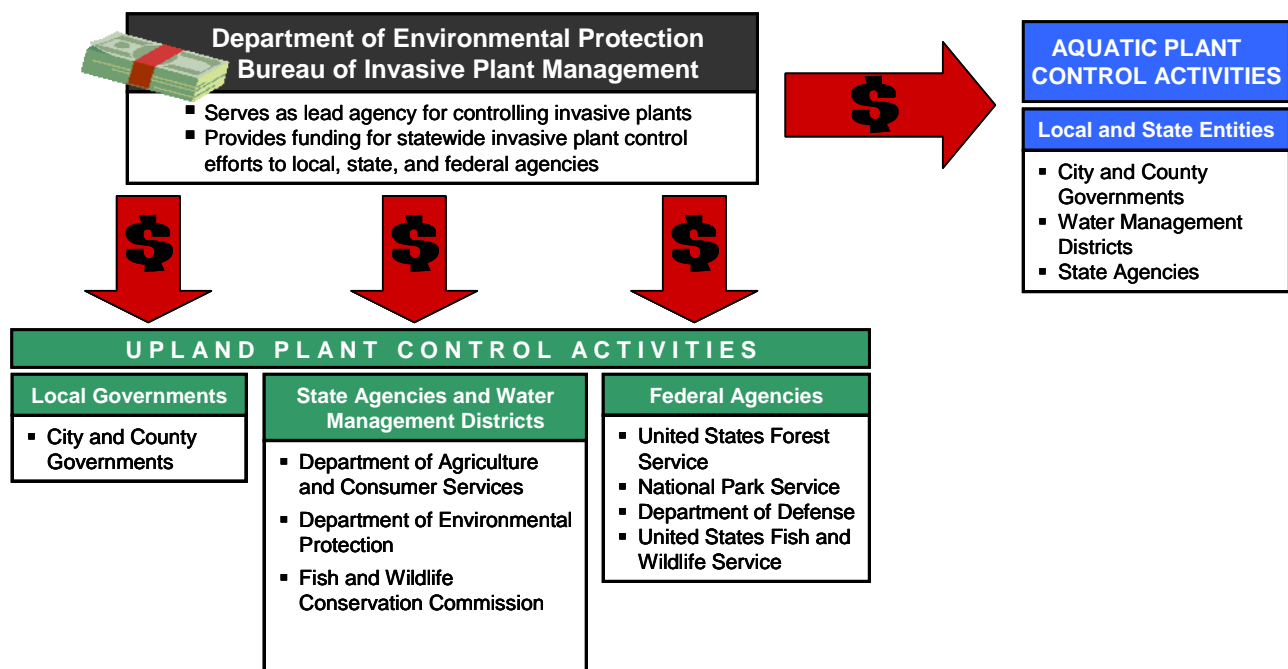
⁵ Each agency conducts invasive plant management activities somewhat differently based on legislatively mandated responsibilities. For example, the Department of Environmental Protection is responsible for managing invasive aquatic plants in public waters to protect and conserve its uses and functions. The Fish and Wildlife Conservation Commission is charged with managing fish and wildlife habitat and activities may include the control of native and non-native plants.

⁶ Chapter 369, Part 1, *Florida Statutes*.

⁷ Sections 369.20, 369.25, and 369.251, *Florida Statutes*, and Chs. 62C-20, 62C-52, *F.A.C.*

Exhibit 1

The Department of Environmental Protection Provides Funding to Several Government Agencies for Invasive Plant Control Activities



Source: OPPAGA analysis.

Fish and Wildlife Conservation Commission. The commission conducts invasive plant control activities on water bodies and uplands. The commission's Division of Habitat and Species Conservation is responsible for protecting and conserving the state's diverse and unique fish and wild populations and their habitats. Within the division, the Aquatic Habitat Conservation and Restoration Section is responsible for lake restoration activities that include the removal and control of invasive plants. Commission staff report that this section undertakes between 15 and 20 projects per year. The Division of Habitat and Species Conservation is also the lead manager of over 1.4 million acres of state conservation land. In Fiscal Year 2006-07, the commission conducted invasive plant control activities on over 110,737 of these acres. In addition to these activities, the commission issues permits to private landowners for using triploid grass carp to address problem plants in ponds or lakes.⁸

Department of Agriculture and Consumer Services. Several department divisions, including the Division of Aquaculture, the Division of Plant Industry, the Division of Animal Industry, and the Division of Forestry, conduct activities to help control, monitor, or prevent the introduction and spread of invasive plant species. For example, the Division of Aquaculture regulates all aquatic plant species grown on a farm while the Division of Plant Industry is responsible for addressing farmed plants and plant pests and diseases. The Division of Forestry, which manages over 1.0 million acres of state forest land, conducts invasive plant control activities such as herbicide applications and harvesting.

⁸ The Fish and Wildlife Conservation Commission receives \$880,000 from the Department of Environmental Protection for aquatic plant management activities. These include purchasing triploid grass carp for public waters, funding biologist positions, and revegetating lakes where grass carp were present and revegetating other public water bodies.

Water Management Districts. The state's five water management districts have responsibilities for conducting water supply; water quality, flood protection/floodplain management, and natural systems protection activities. To support these activities, most districts have implemented programs to control invasive upland and aquatic plants. For example, some water management districts conduct invasive aquatic plant control activities on public lakes under contracts with the Department of Environmental Protection. In addition, districts conduct invasive upland plant control projects as primary managers of 1.4 million acres of conservation land. The districts reported conducting upland invasive plant control activities on a total 61,872 acres in Fiscal Year 2005-06, the most recent year for which information is available.

Resources

State agency and water management district invasive plant control activities are primarily funded by Invasive Plant Control Trust Fund moneys appropriated to the Department of Environmental Protection. Sources of this trust fund include a portion of documentary stamp taxes, boat registrations, and fuel taxes. In Fiscal Year 2006-07, the Legislature appropriated \$44.6 million from the Invasive Plant Trust Fund and 29.5 FTEs to the Department of Environmental Protection. Of this amount, the department provided \$13.9 million in funding for aquatic invasive plant control activities and nearly \$17.6 million to local, state, and federal agencies for upland invasive plant control activities (see Exhibit 2). Local, state, and federal agencies provided \$3.8 million in matching funds to supplement the upland invasive plant control funds provided by the department. The rest of the appropriation was used for research, education, water body surveys, contractor monitoring, program administration, and legislative transers. In addition to funds provided by the Department of Environmental Protection, state agencies and water management districts used their own funds to support invasive plant control activities.

Exhibit 2

The Department of Environmental Protection Distributed Approximately \$17.6 Million to Local, State, and Federal Agencies in Fiscal Year 2006-07 for Upland Invasive Plant Control Activities

Agencies	Funds Provided by DEP
Local Agencies	\$3,538,743
Cities	148,873
Counties	3,389,870
State Entities	8,489,004
Department of Environmental Protection	2,274,334
Bureau of Mine Reclamation	1,214
Coastal and Aquatic Managed Areas	42,526
Office of Greenways and Trails	244,070
Division of Recreation and Parks	1,986,524
Department of Agriculture and Consumer Services – Division of Forestry	1,722,114
Fish and Wildlife Conservation Commission- Division of Habitat and Species	1,651,650
Water Management Districts	2,840,906
Federal Agencies	5,484,169
United States Fish and Wildlife Services	57,614
United States Department of Agriculture	166,000
Department of Defense	188,603
National Park Service	999,699
United States Forest Service	4,072,253
TOTAL	\$17,511,916

Source: Department of Environmental Protection.

Agencies that manage public lands are typically responsible for the continued maintenance of areas that are aided by invasive plant control activities initially funded by the Invasive Plant Control Trust Fund. The Department of Agriculture and Consumer Services, the Department of Environmental Protection, and the Fish and Wildlife Conservation Commission use land management funds appropriated from the Legislature from the Conservation and Recreation Land Trust Fund to conduct these maintenance control activities. In Fiscal Year 2005-06, the most recent year information was available for all agencies, the agencies spent approximately \$3.3 million in land management funds on invasive species maintenance control activities.

Water management districts also fund invasive plant control activities. In Fiscal Year 2005-06, the last year information was available, three water management districts – South Florida, Southwest Florida, and St. Johns – expended \$16.6 million to control invasive aquatic and upland plants. These funds represented a mixture of Department of Environmental Protection and water management district funds.

Invasive plant control performance mixed; limited outcome data available

The Department of Environmental Protection is the only state land managing agency that has legislatively approved performance measures relating to invasive plant control, and it achieved the established standards for only one of its three related performance measures in Fiscal Year 2006-07.⁹ As shown in Exhibit 3, the department reported that invasive aquatic plants were under maintenance control in 98% of Florida's public water bodies, which exceeded the approved standard of 97%. However, the department did not meet its standard for the percent change of lands infested by invasive plants, as 17% more lands were infested compared to the standard of 1%. The department reported that it did not meet this standard because it found a substantial increase of an invasive species in an area where it had not previously been a problem. In addition, the department did not meet the approved standard for the percentage of greenways and trails-managed acres with invasive or undesirable species controlled (25% compared to a standard of 35%). The department reported that it did not meet this standard because of staffing shortages.

Exhibit 3

The Department of Environmental Protection Achieved Mixed Results in Meeting Invasive Plant Control Related Goals

Department of Environmental Protection	Fiscal Year 2006-07	
	Actual Performance	Standard
Percentage of change of managed lands infested by invasive plants	17%	1%
Percentage of greenways and trails managed acres with invasive or undesirable species controlled	25%	35%
Percentage of Florida's public water bodies in which invasive aquatic plants are under maintenance control	98%	97%

¹ Performance standards were met for shaded measures.

Source: Department of Environmental Protection.

⁹ The water management districts do not track outcomes related to invasive plant control activities. They do, however, track cost per acre, as shown in Exhibit 4.

In addition to these measures, the Bureau of Invasive Plant Management's aquatic and upland programs have other accountability systems to track project funding and outcomes. For example, program staff and those from other agencies review and rank proposed plans for aquatic and upland projects in order to determine funding priorities.¹⁰ Contractors conducting invasive plant control projects are required to keep daily logs of the plants controlled and methods used, and field staff conduct random inspections of the contractors' work and routine inspections of general plant levels to evaluate contractor effectiveness and adherence to work plan specifications. In addition, the department's Division of State Lands conducts a land management review process to assess the management activities, such as invasive plant control activities, of agencies responsible for public lands.

Most water management districts also report some performance data on invasive plant control activities to the Executive Office of the Governor and the Legislature. For example, as shown in Exhibit 4, three districts (the South Florida Water Management District, Southwest Florida Water Management Districts, and the St. Johns River Water Management District) reported treating 44,244 acres of invasive nonnative aquatic plants in Fiscal Year 2005-06 (the most recent year for which data was available). These three districts also reported treating 61,872 acres of upland invasive plants during this year. However, the districts have not established standards for their performance measures nor do they report on the results achieved by their control activities. Consequently, these performance measures are of limited usefulness in evaluating the districts' progress in controlling invasive aquatic and upland plants.

Exhibit 4

Water Management Districts Report Some Performance Data on Invasive Plant Management Activities in Fiscal Year 2005-06

Performance Data	Northwest	South Florida	Southwest Florida	St. Johns River	Suwannee River
Acres of invasive nonnative aquatic plants in inventoried public waters	0	20,010	830	11,500	Not reported
Number of water body acres treated	0	17,053	22,402	4,789	Not reported
Cost	0	\$8,489,766	\$801,999	\$558,258	Not reported
Cost per acres of water bodies under maintenance control for aquatic invasive plants	N/A ¹	\$498	\$35.80	\$117	N/A ¹
Acres of district managed land infested with invasive nonnative upland plants, by degree of land coverage	<25	74,270	7,700	54,150	1,318
Number of acres treated	0	47,167	9,264	5,441	Not reported
Cost	0	\$6,122,024	\$374,600	\$263,239	Not reported
Cost per acre treated for invasive terrestrial exotics	N/A ²	\$184	\$40.44	\$48	N/A ³

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

² The Northwest Florida Water Management District utilizes land management staff to manage invasive terrestrial plants, but does not track cost data.

³ The Suwannee River Water Management District does not track terrestrial plant control program costs.

Note: Dollar figures provided in this table include water management district funding and funding provided via contract by the Department of Environmental Protection.

Source: Department of Environmental Protection.

¹⁰ The ranking criteria for upland invasive plant control projects include the availability of cooperative cost-share/matching funds, targeted plant species, if the project may benefit specific threatened or endangered species that inhabit the site, and if the site has relatively high restoration potential.

More performance data is needed. While the Department of Environmental Protection and the water management districts are reporting some invasive plant control performance data, other state agencies that perform these functions do not report such data and existing measures only provide limited information on the outcomes of control activities. This hinders the state's ability to comprehensively evaluate the progress being made in controlling invasive plants.

To address this problem, the Legislature could direct the agencies and water management districts to establish and report consistent and comprehensive performance measures for their invasive plant control activities. At a minimum, each agency and water management district should annually report to the Legislature the performance data described below.

- Percentage and number of acres of public conservation lands in which upland invasive plant control operations have been conducted.
- Percentage and number of acres of public conservation lands in which upland invasive plants are under maintenance control.
- Cost per acre for upland invasive plant control operations.
- Percentage and number of acres of public lakes and rivers in which aquatic invasive plant control operations have been conducted.
- Percentage and number of acres of public lakes and rivers in which invasive aquatic plants are under maintenance control.
- Cost per acre for invasive, non-native aquatic plant control operations.
- Number of acres (water or upland) restored or rehabilitated to desired conditions in which ecosystems are no longer impaired by invasive plants.

To develop these measures, the Department of Environmental Protection, the Department of Agriculture and Consumer Services, the Florida Fish and Wildlife Conservation Commission, and the five water management districts should jointly develop a system to assess, quantify, and rate invasive plant control activities. At a minimum, the system should enable agencies to annually report overall status of invasive plant control on a scale of poor, fair, good, and excellent. These ratings should be based on established performance measures and goals and long-term invasive plant control goals.

Options for the Legislature's Consideration

It is necessary to control invasive plants because they are capable of harming Florida's native habitats, water quality, recreational opportunities, and economy. For example, industries such as agriculture, ranching, and fisheries are at risk if the environment on which they depend is compromised by invasive plants. The amount of funds the Legislature appropriates for these activities varies depending on state revenues and other considerations; however, substantially reducing or eliminating these funds could lead to higher long-term costs if invasive plants are not controlled and allowed to spread to other lands.

As discussed below, the Legislature may also wish to consider options for changing the current organizational structure for controlling invasive plants, which includes three state agencies and five water management districts. Exhibit 5 presents four policy options for the Legislature to consider. These options include maintaining the current structure (Option 1); creating an advisory council or committee to coordinate invasive plant control activities of the various entities (Option 2); placing authority for all invasive plant control supervision and coordination under a single agency (Option 3); and establishing and reporting comprehensive performance information on invasive plant management activities and costs (Option 4). The exhibit summarizes these policy options and describes the advantages and disadvantages associated with each option.

Exhibit 5

The Legislature Could Consider Options to Modify the Invasive Plant Activities of State Agencies and the Water Management Districts

Option	Advantages	Disadvantages
Option 1 – Maintain current structure of invasive plant control activities		
Invasive plant control projects would continue to be primarily funded and overseen by the Department of Environmental Protection, with the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, and the five water management districts also overseeing and funding projects	<ul style="list-style-type: none"> Agencies would maintain control over how to spend their funds on invasive plant control activities Water management districts would maintain the ability to pursue projects that address local priorities Continuing multiple funding streams provides flexibility in project selection and operations 	<ul style="list-style-type: none"> Having various agencies funding and overseeing invasive plant control projects could continue to hinder coordination among multiple agencies Tracking all funding used for invasive plant control activities would continue to be difficult, which would hinder policymakers in determining whether funds are being used in a cost-effective manner Limited performance information would be available on the outcomes of invasive plant control activities
Option 2 – Create an advisory council or committee to coordinate invasive plant control activities of the various entities		
An interagency council or committee with representatives from each of the entities involved in invasive plant control activities would prioritize and coordinate project selection, funding, and operations. This would require agencies and water management districts to provide funding to the council or committee for disbursement approval.	<ul style="list-style-type: none"> Current model for an interagency council exists in the Acquisition and Restoration Council. This council, which is administratively housed in Department of Environmental Protection and includes representatives from the department, Fish and Wildlife Conservation Commission and the Department of Agriculture and Consumer Services, is responsible for recommending which state agency should become the primary manager of newly acquired state lands. Would increase coordination between entities Would improve oversight of costs and outcomes of invasive plant control activities conducted by the various agencies and water management districts Would maintain current organizational structure of state agencies and districts performing invasive plant control activities Agencies would retain the ability to focus on invasive plant activities related to their mission and goals Council could make recommendations on how to distribute invasive plant control funds based on legislative priorities 	<ul style="list-style-type: none"> Increased costs from establishing and operating the coordinating committee; based on current expenses of the Acquisition and Restoration Council, these costs could be at least \$70,000 annually Could affect the priority individual agencies and water management districts put on invasive plant control activities Agencies and water management districts may disagree with council's priorities

Option	Advantages	Disadvantages
Option 3 – Place authority for all invasive plant control supervision and coordination under a single agency		
<p>A single entity could be given authority for supervising and coordinating all invasive plant control activities. This lead agency would prioritize and coordinate projects, disperse funding, and be held accountable for achieving statewide invasive plant control performance goals.</p> <p>The Department of Environmental Protection would be the most likely candidate for being granted this authority since it is already statutorily designated as the lead agency for invasive plant control activities. This option would expand the department's role as it would be responsible for overseeing the use of invasive plant control funding of other agencies and the water management districts and for reporting on the results of their activities.</p>	<ul style="list-style-type: none"> ▪ Would consolidate policy and decision-making ▪ Would increase statewide direction and coordination ▪ Would establish uniform priorities for funding for invasive plant control activities ▪ Would centralize accountability for the results of invasive plant control activities 	<ul style="list-style-type: none"> ▪ Could weaken invasive plant control missions of individual agencies ▪ Could affect the priority individual agencies and water management districts put on invasive plant control activities ▪ Could increase administrative and staffing costs to the lead agency; however, this may be offset by reductions in other agencies' administrative costs ▪ May be objections from agencies and water management districts ▪ Transition from decentralized to centralized system may be difficult
Option 4 – Establish and report comprehensive performance information		
<p>The Legislature would direct the Department of Environmental Protection, with the Florida Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, and the five water management districts to establish and report comprehensive performance measures on the progress and cost of invasive plant management activities. The agencies and districts would develop and adopt standard performance measures; and establish uniform definitions and methods of calculation for performance measures; and annually report performance information to the Legislature.</p>	<ul style="list-style-type: none"> ▪ The Legislature would be able to track progress and assess invasive plant management funding needs ▪ The condition of public land and waters would be comparable between state agencies and water management districts 	<ul style="list-style-type: none"> ▪ Would likely result in additional costs associated with collecting and reporting data

Source: OPPAGA analysis.