



The Florida Senate

Interim Project Report 2002-145

October 2001

Committee on Natural Resources

Senator Ginny Brown-Waite, Chairman

REVIEW OF EXOTIC PLANT AND ANIMAL SPECIES MANAGEMENT EFFORTS

SUMMARY

Florida's warm tropical climate provides an ideal habitat for many exotic invasive plant and animal species. The infestation of such invasive species threatens Florida's ecology and can have disastrous economic impacts on the state.

Concern on the national level led to the issuance of Presidential Executive Order 13112 on February 3, 1999, which established a National Invasive Species Council. The focus of this council is to ensure that federal agency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective. The council issued the first edition of the National Management Plan on January 18, 2001. This plan presents nine interrelated and equally important areas that the council considers priorities in addressing invasive species problems. Those nine areas are:

1. Leadership and Coordination
2. Prevention
3. Early Detection and Response
4. Control and Management
5. Restoration
6. International Cooperation
7. Research
8. Information Management
9. Education and Public Awareness

The control and management of invasive species in Florida is particularly complex and increasingly difficult. Florida's climate allows many invasive plant and animal species to thrive. Its vast coastline allows many entry points for plants, seeds, animals, and microorganisms. National and international airports allow for introduction from abroad in a short period of time.

Several state agencies have responsibilities for the controlling and managing invasive species and have programs in place to implement those responsibilities.

Those agencies include the Department of Environmental Protection, the Water Management Districts, the Fish and Wildlife Conservation Commission, the Department of Agriculture and Consumer Services, the Center for Aquatic and Invasive Plants at the University of Florida, and the Department of Transportation.

Since Florida lacks a comprehensive and coordinated management plan for the prevention and control of invasive species that can integrate with the national plan, Governor Bush asked the Department of Environmental Protection to facilitate a meeting of state agencies in Florida to determine the most effective way to develop a comprehensive plan that coordinates the responsibilities of the agencies to manage and prevent biological invasions. A comprehensive plan for Florida could help direct the use of the state's limited resources. Two meetings have been held to date and a third meeting is scheduled for October 11, 2001.

It appears that a number of additional meetings are necessary to continue the efforts to develop an invasive species management plan for Florida. At this time, there is no specific timeframe for the completion of such a plan. Communication on a regular basis is vital to addressing the problem in Florida. One alternative would be to statutorily create an interagency council similar to the National Invasive Species Council as a formal mechanism for promoting communication among the state agencies. Another alternative would be for the Legislature to continue to monitor the activities already underway by the various state agencies to see if these activities might lead to specific recommendations requiring legislation.

BACKGROUND

Florida has, perhaps, the worst biological invasion problems in the United States. Its warm tropical climate is ideal for many different plant and animal species. Nearly \$500 million has been expended nationwide in the control of exotic insect, plant, and other invasive species in the past several years.

Florida's initial management efforts focused primarily on invasive aquatic species. These efforts are coordinated by the Department of Environmental Protection (DEP) under Part I of ch. 369, F.S. As an ever-increasing number of exotic species have invaded Florida, control efforts have been expanded as needed and as resources became available.

Recently, funding has significantly increased and exotic species control efforts have also been emphasized on public uplands. Although DEP's control programs are conducted largely through the state's water management districts, local governments and the Fish and Wildlife Conservation Commission conduct invasive plant management and control programs. However, there is no statewide program to coordinate state, regional, local, and federal efforts in the control of invasive exotic species.

At the urging of over 500 scientists and land managers across the United States, Presidential Executive Order 13112 was issued on February 3, 1999 which established a National Invasive Species Council. The focus of the Council is to ensure that federal agency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective.

Some observers of federal agency activities believe that Florida must have a coordinated exotic species management plan for the control and prevention of invasive exotic species in Florida in order to be eligible for any federal funding that is or may become available to assist states in their efforts. As a result, Governor Bush asked the Department of Environmental Protection to take the responsibility of organizing and facilitating a meeting to determine the most effective way of developing a comprehensive statewide plan that unifies and coordinates the responsibilities of government agencies to prevent and manage biological invasions in Florida.

On January 23, 2001, the Senate Natural Resource Committee held a hearing to discuss that status of Florida's invasive plant and animal management

efforts. The following agencies made presentations to the committee: The Department of Environmental Protection; the Center for Aquatic and Upland Plant Management at the University of Florida; the Department of Agriculture and Consumer Services, and the Fish and Wildlife Conservation Commission. Although most of the information presented dealt with managing invasive plant species, it was stressed that diseases and viruses invade the state through their animal and insect hosts. For example, in the last couple of years, an unwanted parasite has hitched a ride to the state on imported reptiles and tortoises. The parasite, the African tortoise tick, is three times the size of a domestic tick and is a carrier of a disease called heartwater, which will kill animals such as cattle, deer, sheep, and goats within two weeks of infection.

This project reviews those efforts that are underway and looks at the use of increased funding recently provided by the Legislature.

METHODOLOGY

Staff attended meetings intended to address statewide comprehensive plan issues and reviewed relevant statutes and rules to determine existing capabilities. Staff also reviewed activities that are currently being conducted by local, regional, state, and federal entities to identify impediments to the development of a comprehensive management plan for invasive species.

FINDINGS

Federal Efforts

The introduction and establishment of invasive exotic species have had a devastating economic impact to the agricultural, horticultural, and silvicultural industries nationwide. It has also greatly impacted native species of Florida and the United States. As a result, farmers, ranchers, scientists, state officials, and many others urged the Federal government to consider invasive species issues a priority and to develop a coordinated national effort to address the problem. Presidential Executive Order 13112 signed on February 3, 1999, created the National Invasive Species Council. The council's members include the Secretary of State, the Secretary of the Treasury, the Secretary of Defense, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Transportation, and the Administrator of the Environmental Protection Agency. The council is co-chaired by the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce. The

council is authorized to invite additional Federal agency representatives to be members, including representatives from subcabinet bureaus or offices with significant responsibilities concerning invasive species, and may prescribe special procedures for their participation. The Secretary of the Interior was required to establish an advisory committee under the Federal Advisory Committee Act, 5 U.S.C. App., to provide information and advice for consideration by the council. After consultation with other members of the council, the Secretary of the Interior must appoint members of the advisory committee representing stakeholders. The advisory committee shall, among other things, recommend plans and actions at local, tribal, state, regional, and ecosystem-based levels to achieve the goals and objectives of the Management Plan.

The National Invasive Species Council is to provide national leadership regarding invasive species, and shall:

- Oversee the implementation of the executive order and see that the federal agency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective, relying to the extent feasible and appropriate on existing organizations addressing invasive species, such as the Aquatic Nuisance Species Task Force, the Federal Interagency Committee for the Management of Noxious and Exotic Weeds, and the Committee on Environment and Natural Resources;
- Encourage planning and action at local, tribal, state, regional, and ecosystem-based levels to achieve the goals and objectives of the Management Plan in cooperation with stakeholders and existing organizations addressing invasive species;
- Develop recommendations for international cooperation in addressing invasive species;
- Develop, in consultation with the Council on Environmental Quality, guidance to federal agencies pursuant to the National Environmental Policy Act on prevention and control of invasive species, including the procurement, use, and maintenance of native species as they affect invasive species;

- Facilitate development of a coordinated network among federal agencies to document, evaluate, and monitor impacts from invasive species on the economy, the environment, and human health;
- Facilitate establishment of a coordinated, up-to-date information-sharing system that uses, to the greatest extent practicable, the Internet. This system shall facilitate access to and exchange of information concerning invasive species, including, but not limited to, information on distribution and abundance of invasive species; life histories of such species and invasive characteristics; economic, environmental, and human health impacts; management techniques, and laws and programs for management, research, and public education; and
- Prepare and issue a National Invasive Species Management Plan.

The council issued the first edition of the National Management Plan on January 18, 2001. This plan presents nine interrelated and equally important areas that the council considers priorities in addressing invasive species problems. Those nine areas are:

1. Leadership and coordination — The council recognized that the states play a key role in the management of invasive species within their borders. As a result, the plan reflects the need to build capacity and capability at state and local levels to coordinate, detect, and respond to invasive species. As part of an effort to ensure a unified, effective, and coordinated Federal response, the council will prepare and issue guidance on invasive species for federal agencies to use in implementing the National Environmental Policy Act.
2. Prevention — The most cost-effective approach to controlling invasive species is to keep them from becoming established in the first place. The executive order mandated a risk-based approach when considering the likelihood of determining the degree of harm caused by the establishment and spread of an invasive species.
3. Early detection and response — The council recognized that there is no comprehensive national system in place for detecting and responding to incipient invasions. Several factors hamper early

detection and rapid response in many locations. A response planned by the council is to develop a program, in close cooperation with state and local efforts, for coordinated rapid response to incipient invasions.

4. Control and management — The council acknowledged that control actions must cross jurisdictional borders and cooperation with state and local agencies is vital. The key to success in this effort involves adequate funding and raising the public's awareness. A response proposed by the council involves recommending federal legislation to authorize matching federal funds for state programs to manage invasive species.
5. Restoration — The executive order requires federal agencies to provide for restoration of native species and habitat conditions in ecosystems that been invaded. The council's response included developing and issuing recommendations, guidelines and monitoring procedures for federal land and water management agencies to use in restoration activities. Also, the council proposes to prepare draft legislation to authorize tax incentives and otherwise encourage participation of private landowners in restoration programs.
6. International cooperation — The United States needs to work with other countries to control the spread of invasive species not only in our country but in other countries as well.
7. Research — Federal research findings and outcomes will be shared with federal, state, local, tribal and private sector stakeholders for their use. To facilitate this research, the council recommends adequately funding federal invasive species research programs.
8. Information management — The council's website (www.invasivespecies.gov) provides for links to other invasive species sites. The council's goal is to provide accessible, accurate, referenced, up-to-date, and comprehensive information on invasive species management.
9. Education and public awareness — The council plans to increase the public's awareness through a variety of education, outreach, and training programs.

A number of federal agencies operate programs in Florida that help control invasive species. Among the federal agencies are the U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Coast Guard, and the U.S. Department of Interior South Florida Ecosystem Restoration Task Force.

Florida's Invasive Species Control Efforts

The control and management of invasive species in Florida is particularly complex and increasingly difficult. Florida's semi-tropical climate allows many invasive plant and animal species to thrive. Its vast coastline allows many entry points for plants, seeds, animals, and microorganisms. National and international airports allow for introduction from abroad in a short period of time.

Several state agencies have responsibilities for the controlling and managing invasive species and have programs in place to implement those responsibilities.

The Department of Environmental Protection—The Department of Environmental Protection (DEP), through its Bureau of Invasive Plant Management, is designated by Part I, of ch. 369, F.S., the Florida Aquatic Weed Control Act as the lead agency for coordinating and funding two statewide programs for the control of invasive aquatic and upland plants in waterways and on public conservation lands. The General Appropriations Act for FY 2001-2002 provided \$34.7 million to the DEP for its invasive plant control program activities. Most of the funding for these activities is spent on control of aquatic plant species such as hydrilla and waterhyacinth. According to the DEP, in 2000, invasive aquatic plants occurred in 431 of Florida's 460 public lakes and rivers, infesting approximately 160,000 acres.

Funds are also available for invasive upland plant control and are used for species such as Melaleuca, Brazilian Pepper, and Old World Climbing Fern. From 1997-2001, the DEP has undertaken either itself or through independent contractors, 108 invasive upland plant projects statewide. Approximately 12,297 acres are targeted for control at a total cost of about \$5.5 million with a per-acre cost of between \$50-\$5,000.

Section 369.22, F.S., provides that the state policy for the control of non-indigenous aquatic plants in waters of the state be carried out under the general supervision and control of the DEP, and that the state itself is responsible for the control of such plants in all inter-county waters. However, control of non-indigenous aquatic plants in intra-county water is the designated

responsibility of the appropriate unit of local or county government, special district, authority, or other public body. The DEP is required to supervise and direct all maintenance programs for control of non-indigenous aquatic plants, excluding the authority to use fish as a biological control agent so as to protect human health, safety, and recreation and to the greatest degree practicable, prevent injury to plant, fish, and animal life and to property.

Water Management Districts—The five water management districts manage exotic invasive plants and some pests on nearly 2.5 million acres of conservation lands, and in approximately 24,000 surface acres of public lakes and rivers, waters in water management districts, and flood control canals. Funding for the districts comes from the DEP, ad valorem tax revenues, funds received for mitigation, and other funds that may be available from local governments. Some water management districts are working with adjacent private land owners to control invasive species to halt their spread back onto public lands. The South Florida Water Management District has also used significant funds to manage melaleuca.

Fish and Wildlife Conservation Commission—The Florida Fish and Wildlife Conservation Commission, (primarily through its predecessor, the Game and Freshwater Fish Commission) has been regulating and managing non-native species for 40 years. The commission's statutory authority is contained in ch. 370 and 372, F.S. The commission exercises its authority primarily through the regulation and permitting of game farms, the importation of fish, and sale and exhibition of exotic species. The commission also has used sterilized carp in controlling exotic invasive weeds in freshwater lakes.

Department of Agriculture and Consumer Services—The Department of Agriculture and Consumer Services controls, monitors, and tries to prevent the introduction and spread of invasive plant and animal species through at least four separate divisions: the Division of Plant Industry, the Division of Aquaculture, the Division of Animal Industry, and the Division of Forestry. Although each of these four divisions implements some action to control and manage invasive exotic plant and animal species, there is no unified management plan within the department.

The Department of Agriculture and Consumer Services shares the authority for controlling noxious weeds through a memorandum of agreement with the DEP. However, the missions of the two agencies are

sometimes at odds. What may be considered an invasive exotic species that should be eradicated by the DEP may be an important economic product to the nursery, plant, and exotic fish industry.

Center for Aquatic and Invasive Plants—The Center for Aquatic and Invasive Plants at the University of Florida's Institute of Food and Agricultural Services, provides education and research related to invasive species. Research priorities include developing management programs and understanding the ecology and physiology of the state's worst invasive species, environmental impacts of invasive species, and development of predictive indices for invasiveness. The center also provides a pesticide applicator certification training program for invasive plant management in natural areas.

Department of Transportation—While the Department of Transportation has no specific authority to manage and control invasive plant species, the agency's broad mission is "to provide a safe transportation system that ensures the mobility of people and goods, enhances economic prosperity and preserves the quality of our environment and communities." As a result, the department has established an invasive species management strategy, and priorities for its implementation on Department of Transportation right-of-way lands.

DEP's Efforts to Coordinate An Invasive Species Management Plan for Florida

Historically, Florida's primary focus has been on controlling the spread of invasive aquatic species.

In the past several years there has been a great deal of effort placed on combating the spread of several particularly insidious upland invasive plants such as Melaleuca, Brazilian Pepper, Australian Pine, and Old World Climbing Fern. Several state agencies have responsibilities in controlling, managing, and eliminating invasive plant and animal species. In the past few years, funding has been significantly increased and expanded to include upland exotic and invasive species. The expansion of control efforts for upland exotic and invasive species has led to fragmented and uncoordinated efforts by local governments, water management districts, and other state agencies. There have been overlapping efforts which increase the cost of these efforts.

There has been a perception that Florida is missing out on an opportunity to receive Federal moneys that may be available to assist in its efforts since there is no

unified statewide plan for the control of exotic and invasive species. However, no new federal money is available to the states at this time to combat invasive exotic species through a comprehensive management plan. Further, neither the Presidential Executive Order or the National Invasive Species Management Plan contains a requirement that the States must have a unified statewide plan to be eligible to receive any federal moneys that may be available in the future.

In October of 1999, the Gulf States Marine Fisheries Commission at its 50th anniversary meeting discussed at length the issue of preventing and controlling non-indigenous aquatic species and formally recommended that the member states, including Florida, develop statewide plans addressing this issue.

As indicated previously, the National Invasive Species Council issued the first edition of the National Management Plan on January 18, 2001. Since Florida lacks a comprehensive and coordinated management plan for the prevention and control of invasive species that can integrate with the national plan, Governor Bush asked the Department of Environmental Protection to facilitate a meeting of state agencies in Florida to determine the most effective way to develop a comprehensive plan that coordinates the responsibilities of the agencies to manage and prevent biological invasions. A comprehensive plan for Florida could help direct the use the state's limited resources.

On July 10, 2001, the DEP hosted the first interagency meeting to develop a Florida Invasive Species Management Plan. The goal of this meeting was to set objectives and goals for the Florida Invasive Species Management Plan.

In attendance at that first meeting were representatives from the Department of Environmental Protection, the Department of Agriculture and Consumer Services, Fish and Wildlife Conservation Commission, the five water management districts, the U.S. Fish and Wildlife Service, the U.S. Department of Interior, the U.S. Coast Guard, the U.S. Department of Agriculture, the U.S. Army Corps of Engineers, the Nature Conservancy, the executive director of the National Invasive Species Council, and Senate Committee Staff. Discussion at that first meeting focused on what action was needed and it became apparent that there was duplication of effort among the agencies and lack of coordination among the agencies. It was decided that the next meeting would be devoted to presentations by each agency as to their invasive species management and control efforts.

The second meeting was held on August 30, 2001. Several agencies were asked to make a presentation of their exotic invasive species control and management programs.

The third meeting of this Multi-State and Federal Working Group as they are referring to themselves is scheduled for October 11, 2001. A decision was made by the group at the end of the second meeting to develop a general management plan to cover all exotic invasive species, plant and animal, but to limit the specifics to the "dirty dozen."¹ The public and special interest groups would be invited to attend and participate and the larger group would break into smaller work groups and would elect chairpersons for these smaller work groups. It appears that a number of additional meetings are necessary to continue the efforts to develop an invasive species management plan for Florida. At this time, there is no specific timeframe for the completion of such a plan.

RECOMMENDATIONS

It is not clear whether legislative action is needed at this time to assist with Governor Bush's charge to the Department of Environmental Protection to facilitate meetings with other appropriate state agencies in Florida and to determine the most effective way to develop a comprehensive plan that coordinates the responsibilities of agencies to manage and prevent biological invasions. One alternative course of action would be to create by statute an interagency council to serve as a formal mechanism for promoting communication among the state agencies involved in these matters. Such a council could be modeled after the National Invasive Species Council with staff provided by the participating agencies. The existence of a state council that is similar to the federal council may be beneficial if additional federal funds were to become available to encourage states to develop plans similar to the National Invasive Species Management Plan.

Another alternative course of action would be for the legislature to continue to monitor the activities already

¹ The dirty dozen refers to the following invasive species: Brazilian Pepper; Melaleuca; Japanese and Old World Climbing Ferns; Skunk Vine; Tropical Soda Apple; Cogon Grass and Torpedo Grass; Australian Pine; Waterhyacinth and Hydrilla; Air Potato; Chinese Tallow; Waterlettuce; and Kudzu.

underway by the various state agencies. It appears there will be several more meetings of this informal working group over the next several months that might lead to more specific recommendations requiring legislation.
