

The Exotic Pest Plant Council

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While restorationists in most areas now face problems with exotic plant species, these problems are especially serious in southern Florida, and have reached critical proportions. During the past twenty years they have begun to threaten the survival of ecosystems such as the Everglades. The Exotic Pest Plant Council (EPPC) was formed in 1984 to help cope with this increasingly severe problem. It has proved remarkably successful both in drawing attention to exotic plant problems in natural areas and in coordinating efforts to deal with them. EPPC efforts have improved cooperation among numerous agencies sharing responsibility for the restoration and management of Florida's natural areas, and have played a key role in local and state coordination and management plans and acquiring funds for carrying them out.

The purpose of this paper is to describe the EPPC and its formation and goals, and to provide a brief overview of its accomplishments and current efforts.

Though the first exotic plants were introduced to southern Florida around 1900, major problems with the invasion of the state's natural areas are much more recent, and became really serious and widespread only during the past few decades. This was partly because many of our most serious pests were not introduced until comparatively recently, and also because disturbances in and near the state's natural areas have increased dramatically during this period, creating numerous opportunities for expansion of populations of these weedy species. Interestingly, most of southern Florida's exotic

pest plants were brought here deliberately, ostensibly to improve the environment. Many were brought to help "reclaim" the wetlands, drying up the "swamp," and to allow people to live in and farm these otherwise "useless" places. People like John Gifford, an early plant explorer and supporter of managed forests for development, were instrumental in introducing many of these pest plants for "reclamation" purposes. In any event, a host of exotics were brought in during the early part of this century. Most have had little ecological impact, but some have invaded certain of Florida's unique ecosystems with devastating effect.

While exotics now pose threats to the integrity of various natural ecosystems, these invasions first attracted widespread attention when they began to interfere with popular public activities such as fishing or boating on canals or lakes, where dense growths of exotic aquatic weeds began to appear about 1950. Eventually more subtle environmental problems became evident as species such as *Melaleuca quinquenervia* and *Schinus terebinthifolius* began to alter the composition of the plant and animal communities in our natural preserves. Many people responded to these problems, but usually individually. Often a single state or county park, one agency, or even one person in an agency reacted, but without participation or communication with anyone else. Occasionally individuals within an agency shared information, but there was no coordinated, interagency program for management of exotic pest plants in the region.

Florida's first organized effort was for the control of aquatic weeds, and resulted in the development of the Bureau of Aquatic Weeds under the Florida Department of Natural Resources. This provided a model for the EPPC to follow. However, until the formation

of the EPPC, very little was being done to coordinate any work on the woody exotics invading our upland and wetland areas. Earlier organized efforts, such as the *Melaleuca* Symposium in 1980, were ad hoc efforts. As a result, many managers were unfamiliar with exotic weeds as pests (because many of the woody weeds created environmental problems, not people problems) and there was a serious lack of funding for pest control and related research (which is still the case). Meanwhile, since the problem had grown enormously without respect for political boundaries, the whole issue of exotic pest plants, especially woody species, posed a problem that demanded a concerted, coordinated effort.

The foundation of the EPPC started when those of us in the land management profession began contacting one another regarding this issue. These contacts soon led to informal meetings of people involved in exotics management, control, and research, which soon led to more formal get-togethers such as the *Melaleuca* Symposium in 1980 (the proceedings of the symposium, edited by R. K. Geiger, were published in 1981 by the Florida Department of Agriculture, Division of Forestry, Tallahassee). Eventually the interest became so strong that a more formal structure was needed. Responding to this, we management professionals organized EPPC as a registered non-profit corporation.

The purposes of the EPPC are to facilitate communication and education, provide a forum for discussion, and provide advice on funding and research on the management and control of exotic pest plants.

After seven years, EPPC now has over 200 members representing more than forty different agencies and corporations, and has become a major force for the management of exotic pest plants. We are now in the process of becoming a national or-

ganization and have taken the first steps toward establishing a chapter in California under the leadership of one of our former board members who has since moved to California. Some of our major projects include:

- A *symposium* in November 1988 on exotic pest plants that brought over 300 scientists and managers from all over the world to discuss problems related to the management of exotic pest plants. (Proceedings of this symposium are now available from Donna O'Leary, Editor, U.S. National Park Service, Denver Service Center, Air Quality Division, P.O. Box 25287, Denver, Colorado 80225.)

- *Legislation*. The EPPC, using an existing ordinance from Dade County, Florida [where part of Everglades National Park is located], developed a "model" county ordinance as a guide for local governments to use in writing exotic pest plant con-

trol legislation. This has since led to the enactment of numerous county ordinances restricting the sale, transportation, or cultivation of many exotic pest plants by twelve different county and city governments. Many of these regulations require the removal of certain noxious species, notably *Melaleuca quinquenervia*. More recently, the State of Florida enacted legislation that prohibits the transportation, sale, or use of *M. quinquenervia*, *Schinus terebinthifolius*, *Casuarina* spp., and *Mimosa pigra* within the state.

- *Melaleuca* research. Because management of *M. quinquenervia* is considered critical, and because of its rapid invasion of Florida in recent years (Figure 1), EPPC's Biocontrol Committee (BIOCOM) petitioned the U.S. Department of Agriculture (USDA) to begin research to determine the potential for using biological agents in the control of this



Figure 1. *Melaleuca* invading a prairie.

species. An interagency agreement was developed for biological control. Since 1986, by working closely with the offices of U.S. Representative E. Clay Shaw and U.S. Senator Bob Graham, and through private industry and a number of federal, state, and local units of government, we have procured more than \$3 million to fund a biological control program, including support for a new quarantine facility at Fort Lauderdale. So far, USDA entomologists directing the project have found more than 300 insects that feed on *Melaleuca*, approximately twenty of which are considered excellent bio-control candidates. The first insect will be brought into U.S. quarantine for further evaluation in 1992.

- "Rogue's Gallery" video. EPPC members worked with a local film company to produce a thirteen-minute video on the environmental problems associated with Australian cajuput in Florida. The video has been used extensively for educational purposes and has provided an excellent, professional documentation of the serious environmental problems exotics can pose. This film has been presented on local public networks, and at numerous meetings and symposia throughout the country. It is available from: Artful Rhetoric Film and Video, Inc., 2421 Lake Pancoast Drive #4H, Miami Beach, Florida 33140. EPPC members have also worked with the television programs "Good Morning America" and "CBS Sunday Morning" to produce nationally televised segments for these shows about the environmental problems exotic pest plants pose.

- Congress's Office of Technology Assessment (OTA) recently contacted EPPC regarding a review of the exotic pest problems in the United States. EPPC worked with OTA to assist them in developing and reviewing the issues regarding plant pests, and provided them with resources and national and interna-

tional contacts for their assessment. The EPPC's current Chairperson, Don Schmitz, has been placed on the OTA board for this assessment, and has testified before Congress regarding the seriousness of exotic pest plants.

- EPPC's Publications Committee has produced a *handbook* that summarizes treatment techniques used by land managers for four widespread exotic pest plants: *M. quinquenervia*, *Casuarina* spp., *S. terebinthifolius*, and *Coburina asiatica*. The handbook discusses the various methods of control of exotic pest plants, including detailed discussion of the use of herbicides. The handbook was published by the University of Florida's Institute of Food and Agricultural Sciences in December 1990 and is available from local extension offices and EPPC.

- The Publications Committee is also developing an *exotic plant identification manual and species list for Florida*. The manual will include *Melaleuca*, *Casuarina* spp., and *Schinus*, the species that are now regarded as the most widespread, disruptive pest plants in Florida; an additional twenty exotics considered most likely to pose a serious threat to our natural areas; literature describing the introduction and spread of these species in tropical and subtropical areas similar to Florida; and the experience of managers and scientists within EPPC.

- The Publications Committee has also prepared a complete *list of the exotic pest plants found throughout Florida*, and ranked them by their threat to natural areas and their overall level of invasion in native communities. The manual and list will be published by the South Florida Water Management District in 1992.

- *Everglades National Park*. In 1985, EPPC developed a plan to establish a "buffer zone" to protect Everglades National Park from invasion by *Melaleuca quinquenervia* and

other exotic pest plants now present east of the park in the area known as the East Everglades. This plan, and the relationships developed within EPPC, have recently resulted in joint funding by the State of Florida, the Dade County Department of Environmental Resource Management, and Everglades National Park of a project to control exotic plants in the East Everglades. Thus far, the project has resulted in the treatment of all *Melaleuca* found within a three-mile (4.8-km) strip east of the park, and treatment of all *Casuarina* species found within a one-mile (1.6-km) strip east of the park. Many of these areas have been re-treated for resprouts and seedlings that have appeared in the years since the initial treatment. Funding for the project has already totaled approximately \$500,000, and funding commitments for the fiscal years 1991, 1992, and 1993 total an additional \$1,152,000.

In 1988, EPPC collaborated with Everglades National Park, Dade County Department of Environmental Resource Management, Florida Department of Community Affairs, Florida Department of Environmental Regulation, and U.S. Army Corps of Engineers to create a

mitigation study site in former agricultural lands within the park, known as the Hole-in-the-Donut. Through the lines of communication formed by EPPC, the members of EPPC working with mitigation issues were able to develop the foundation for approval and implementation of this project. The project involved removal of disturbed farming substrate on a 60-acre study site, and two years of follow-up monitoring of the site. The cost of the test (\$650,000) was borne completely by mitigation funds and the process has proved to be very successful. As a result of these lines of communication provided by EPPC, the test was completed and now the park is working with the same agencies to extend the project to the entire 4,000 acres within the Donut. The total cost is being funded through a county mitigation initiative and is expected to provide over \$100 million during the next ten to fifteen years of project implementation.

In summary, the EPPC's responses to some especially severe exotic pest plant problems provides a forum for restorationists struggling with alien species—and a model for interagency cooperation.

(Further information about EPPC activities and membership may be obtained by writing to: The Exotic Pest Plant Council; Attn: Mike Bodle, Secretary; South Florida Water Management District; 3301 Gun Club Road; P.O. Box 24680; West Palm Beach, Florida 33416, or by telephoning (407) 689-6132.)

