

Efforts to control invasive exotic plants in NATL, 1994-2012

From the start of NATL in 1994 until 2004, only the most intrusive invasives received much attention and only Johnson grass and cogon grass were intrusive enough for NAAC to solicit IFAS and EH&S help with the elimination of extensive stands. T. J. Walker [TJW] did the rest, which consisted mostly of his using a 3.5-gal backpack sprayer to spot treat invasives with glyphosate--chiefly invasive grasses in NATL's five old-field plots and air potato and skunkvine wherever they were found.

In June 2004, with the help of Erick Smith (at that time, PPD's Urban Forester), NATL was included in a grant proposal to the DEP BIPM Upland Invasive Plant Working Group to control invasive plants in the Hogtown Basin during FY 2004/05. The proposal was funded. In regards to NATL, the grant provided that a contractor be hired to use herbicides to treat and control the following six species wherever they occurred in NATL: coral ardisia, skunkvine, cogongrass, air potato, Japanese climbing tree fern, and mimosa. Chris Bensen was selected as contractor, but the funds that were supposed to be available for his work to begin in fall 2004 were not released until March 2005. Yet the contract had to end, as originally scheduled, in June 2005! Nonetheless, during this brief period progress was made and new techniques were observed. TJW resumed his effort to control invasives, but on a better organized and more effective basis than before.

Beginning in September 2005, TJW monitored monthly the known infestations of four of the six species that had received professional attention--namely, skunkvine, cogongrass, air potato, and Japanese climbing tree fern. Where living plants were found, they were sprayed with glyphosate and the extent of the infestations recorded in spreadsheets. In July 2006, Kevin Ratkus (NATL's first Graduate TA) assumed responsibility for cogongrass monitoring and treatment, and in the spring of 2008, Robert Guggenheim (OPS assistant to TJW) did the same for cogongrass, skunkvine, and air potato. In June 2009, after repeatedly failing to eliminate cogongrass patches with glyphosate, Walker and Guggenheim set up a [test](#) of three concentrations of imazapyr applied to the soil within 18 inches of surviving sprigs of cogongrass.

Two other invasives targeted in the 2004/05 contract, mimosa and coral ardisia, also cannot be controlled with glyphosate sprays. Prior to the contract, mimosas in NATL were killed by cutting and applying Garlon 3 to the stumps. The contractor introduced the simpler method of spraying Garlon 4 in oil on the basal stems and this method was subsequently successfully used in NATL. The same method might have worked on coral ardisia, but he was not allowed to work during winter, when the mature plants make themselves conspicuous by bearing bright-red, persistent berries. Thus he used his limited time to work mainly on cogongrass and mimosa.

In 2000 and 2001, the heavy infestation of coral ardisia in the southeast corner of NATL-west was used in intensive studies of that species' life history and ecology by Alison Fox and Kaoru Kitajima. At the conclusion of their studies they submitted a 40-page [final report](#) (with Figs. [28](#) and [29](#) as separate files) to Florida's Department of Environmental Protection. [Anyone interested in citing this report should contact Kaoru Kitajima (kitajima@ufl.edu).] The information in this report guided future efforts to control NATL's ardisia and may lead to its eradication there.

From 2006 through 2008, NATL assistants and volunteers attempted to reduce ardisia in NATL-east and most infested areas in NATL-west by hand pulling. As mentioned above, in winter and early spring, the red berries of mature ardisia plants make them easy to spot. In most cases large plants can be killed by pulling only if the major roots are cut so as to allow the root crown to be taken. In 2009 control procedures were intensified and a project to eradicate the species from NATL was begun.

In late 2010, the results of this and efforts to control other invasives of special importance in NATL were summarized and [posted](#).

In October 2010 Ethan Carter, a young man with significant experience in herbicidal control of Florida invasive exotic plants, was hired on OPS funds for 4 to 8 hrs per week to work on the coral ardisia eradication program begun by TJW and Guggenheim. Ethan came with the recommendation of Erick Smith (now a contractor for control of invasive exotic plants) for whom he had worked. Beginning in May 2011, Ethan's duties were expanded to include the full range of NATL's invasives. By a year later, Ethan had made noteworthy progress in controlling all the species of greatest concern. Furthermore, he had systematized the monitoring and control of most other species of lesser concern that are listed above.

Spreadsheets summarize the efforts to control NATL's exotics from 2005 forward: [2005-07](#), [2007-10](#), [2010-12](#).

NATL's cogongrass infestations have been mapped periodically: [2004](#), [2006](#), [2008](#), [2012](#).