



Department of Defense Legacy Resource Management Program

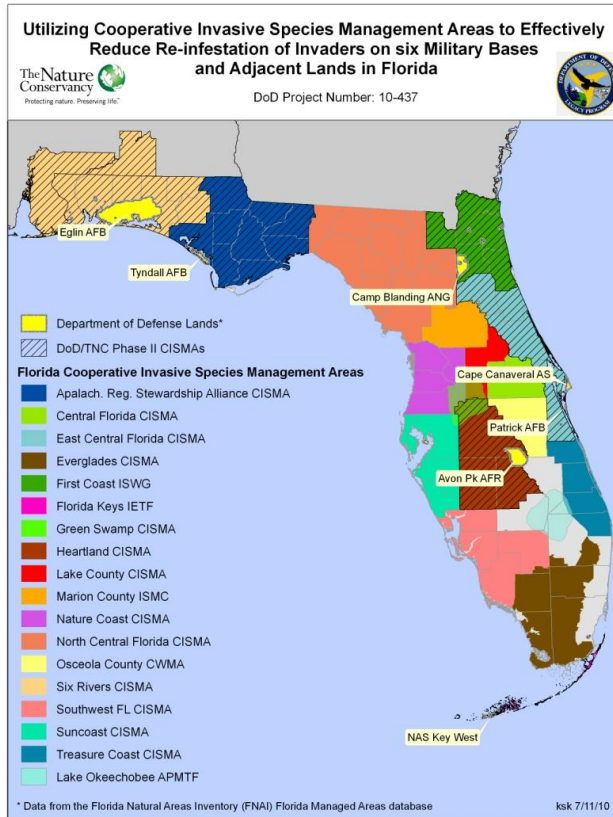
11-437

Sustainable Cooperative Invasive Species Management Areas (CISMAs) for Effective Management on Military Bases and Adjacent Lands across Florida

MONITORING REPORT
(FY11 Photo Monitoring conducted on FY10 Control Projects)

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Sustainable Cooperative Invasive Species Management Areas (CISMAs) for Effective Management on Military Bases and Adjacent Lands across Florida



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Background

This FY11 Monitoring Report includes the following five (5) Cooperative Invasive Species Management Areas (CISMAs) and military installations involved in this project: Six Rivers CISMA (Eglin AFB), Apalachicola Regional Stewardship Alliance (Tyndall AFB), East Central Florida CISMA (Patrick/Canaveral AFB), Heartland CISMA (Avon Park AFR), and the Florida Keys CISMA (NAS Key West).

The FY11 Photo Monitoring reported here was conducted during Winter 2011 on the Control Project Sites treated for invasive species during the FY10 project with the performance period from July 1st, 2010 – June 30th, 2011.

Six Rivers CISMA - Eglin Air Force Base

Six Rivers CISMA Phase II Control Project (conducted in FY10)

The Gulf Coastal Plain Ecosystem Partnership (GCPEP) Ecosystem Support Team (GCPEP EST) spent 15 workdays treating Eglin AFB and adjacent buffer lands for Cogongrass, Mimosa, and Chinese Tallow. The majority of treatments occurred at the Northwest Florida State College, Fort Walton Beach campus, on an 80-acre tract adjoining the south boundary of Eglin AFB reservation. Other treatments included efforts on Santa Rosa Island (Eglin AFB restricted area) and in the East Bay flatwoods region of Eglin reservation. Some of these areas were identified in spring of 2010, but were unable to be treated then due to the presence of high water. Spring of 2011 saw significantly lower water tables. GCPEP EST members also collected spatial data on all infestations including untreated infestations of Japanese Climbing Fern. This data was formatted into ArcGIS shapefiles with infestation size, stem density, etc. and provided to the Eglin AFB Jackson Guard Natural Resources department. These treatments did not include CISMA workdays, volunteer days or Phase I and Phase II monitoring.

Six Rivers CISMA Phase III Photo Monitoring (conducted in FY11)

From March 2011 until late May 2011 EST members treated Eglin AFB reservation buffer lands using mechanical and chemical methods. Targeted species included Chinese Tallow, Mimosa, and Cogongrass. Two Eglin AFB buffer land sites received treatment using DoD Legacy Resource Management Program CISMA Phase II (FY10) funding. Site One was Northwest Florida State College-Fort Walton Beach Campus which buffers Eglin AFB to the east and Site Two was an Okaloosa County storm water easement also bordering Eglin AFB property to the east and is immediately north of Site One. Minor resprouting was found on Cogongrass during monitoring.

Site one is approximately 80 acres, approximately half of which is developed for the college facilities and roads. The focus areas for treatment were north of the campus facilities up to the adjoining county property. In Phase III (FY11) of this CISMA Legacy project, a private contractor will be used to survey and re-treat the northern half of the property with special attention focused on the western boundary that adjoins Eglin AFB. Chinese Privet remains one of the most abundant non-native invasive species along the shared boundary between Eglin AFB and NW Florida State College and will be treated in FY11.

Site One: Northwest Florida State College-Fort Walton Beach Campus, Okaloosa County, FL

Latitude N30.453814 Longitude W86.653469



Cogongrass shows some minor re-sprouting (approx. 10%) seven months after treatment.



Chinese Privet will be the focus of FY11 treatments.

Site Two: Okaloosa County storm water easement, Okaloosa County, FL

Latitude N30.45700690 Longitude W86.65169748

Site Two is approximately two linear acres abutting the northern boundary of Site One and terminating on the west side at the Eglin AFB reservation boundary. Species of primary concern along this urban interface boundary were Chinese Tallow and Cogongrass, both are abundant in residential settings and the former species capable of spreading in moving water. In Phase III the above mentioned contractor will survey and re-treat this property in conjunction with Site One. Additionally, the CISMA has made efforts to educate the numerous residential landowners to the north of the ditch on the threats invasive species pose to natural areas.



Cogongrass shows some minor re-sprouting (approx. 10%) seven months after treatment.



New Chinese Tallow seedlings along storm water ditch seven months after hack and squirt treatment.

Heartland CISMA - Avon Park Air Force Range

Heartland CISMA Phase II Control Projects (conducted in FY10)

The Central Florida Ecosystems Support Team (CFEST) treated invasive Cogongrass, which is on the Heartland CISMA's priority list for control species and was identified at Avon Park AFR as a priority on this installation. A total of 820 acres of Avon Park AFR lands were surveyed and the crew treated approximately 19 acres of Cogongrass. Avon Park AFR also identified a private property that buffers the range that they suspected was re-infesting the range with Old World Climbing Fern across the fence-line. The Nature Conservancy (TNC) had previously collaborated with the landowner to treat Old World Climbing Fern on this property in 2006. Old World Climbing Fern is also on the Heartland CISMA's priority list for control species. The landowner was contacted and found re-growth on an initial survey in December 2010. In April 2011, TNC contractors treated a total of six acres of Old World Climbing Fern. Of note, the funds used to treat this property were provided as part of the partner contributions benefitting Avon Park AFR through a private lands program with TNC's Central Florida Lygodium Strategy, which also conducted treatment of two infestations in April 2011.

Heartland CISMA Phase III Photo Monitoring (conducted in FY11)

The Central Florida Ecosystem Support Team (CFEST) inspected the Avon Park AFR invasive Cogongrass patches at restoration site 26 that were treated in the spring of 2011 (locations in Table 1). No Cogongrass patches were actively growing and the site is in maintenance for eradication. Site 26 was identified as a priority for treatment because it supports the highest plant diversity at Avon Park AFR. The CFEST was chosen to conduct invasive plant treatments in the Avon Park AFR's sensitive areas because of their low impact approach. These treated patches of Cogongrass will be revisited and treated on a spring and fall schedule.



Restoration site 26 is the first completed project at the Avon Park AFR for the Central Florida EST.



The Central Florida EST treated a Cogongrass patch encroaching on a Clitoria fragrans plot.

Initial treatment date	X	Y
3/29/2011	2960681	491548
3/29/2011	3057981	471548
3/30/2011	3061979	491649
4/6/2011	3059543	467888
4/6/2011	3058921	469223
5/17/2011	3066689	467100
5/17/2011	3061326	471197
5/17/2011	3060008	472113
5/17/2011	3058455	472292
5/26/2011	3061297	471519

Table 1. Locations of Cogongrass patches treated by CFEST at Avon Park Air Force Range in Spring 2011

Apalachicola Regional Stewardship Alliance (ARSA) CISMA – Tyndall Air Force Base

ARSA Phase II Control Project (conducted in FY10)

The Apalachicola Regional Stewardship Alliance (ARSA) CISMA has been implementing invasive plant control projects on private lands in close proximity to publicly managed conservation lands since 2004. These control projects are coordinated by TNC and are usually implemented by contractors, but sometimes are completed by TNC staff or other CISMA cooperators. During the past year, ARSA implemented six invasive exotic plant control projects on private lands, three of which were funded by this DoD Legacy CISMA project.

The funding provided by the DoD Legacy Resource Management Program has allowed the ARSA CISMA to expand private lands control efforts from the original scope of the Apalachicola River watershed to the new nine-county CISMA boundary. This means that additional public lands such as Tyndall AFB are now eligible to be protected through these control efforts. TNC also coordinated several invasive plant workshops throughout the region to promote these new control programs, including directly contacting landowners in Bay County near Tyndall AFB. DoD Legacy funding allowed for the implementation of three invasive plant control projects on private lands near Tyndall watersheds and public conservation lands. TNC coordinated treatment for all three sites that were treated in September/October of 2010. The acreage figures listed below are estimated “infested acres” of each species.

The first control project was implemented in Liberty County, Florida on the Apalachicola Bluffs and Ravines Preserve adjacent to Torreya State Park. The primary target species for this project was approximately two acres of Japanese Stiltgrass located at the bottom of a steephead ravine. The ravine system on this preserve contains a variety of Federal and State threatened and endangered species. A secondary target species for this project was Cogongrass. These infestations were diminished from previous treatments totaling less than one acre. Treatment was implemented utilizing TNC staff with assistance from Florida Division of Forestry staff. Monitoring was completed approximately 30 days post-treatment. The project achieved 100% kill on visible foliage.

The second control project was implemented in Leon County, Florida on private lands near state lands around Lake Talquin and adjacent to Apalachicola National Forest. Treatment occurred on three separate parcels in this vicinity. The primary target species for this project was Cogongrass. The Cogongrass infestations were several spots totaling approximately seven acres. A secondary target species for this project was Mimosa. All three parcels were treated with the same contractor. Monitoring was completed approximately 30 days post-treatment. The project achieved 99% kill on visible foliage.

Excellent levels of control were achieved on all project sites. However, due to the nature of these infestations re-treatment will likely be required on these sites to achieve the desired level of control.

ARSA CISMA Phase III Photo Monitoring (conducted in FY11)

Background: In August 2010 ARSA CISMA used DOD Legacy Phase II funds to treat four infestations of non-native grasses on private properties adjacent to conservation lands in our area. In late December 2011 (16 months post treatment) we conducted monitoring of these four sites:

Site One: Apalachicola Bluffs and Ravines Preserve, Liberty County, FL

Latitude N30.491935 Longitude W84.966865

A two-acre infestation of Japanese Stiltgrass located in a single ravine bottom was treated with a foliar application of Glyphosate. This site and a newly identified infestation on property were re-treated in July 2011 and the post treatment monitoring photos were taken in October 2011. This species is a warm season annual, so winter browning might be confused for herbicide effects. Therefore, re-monitoring will be done in spring.



Pre-Treatment of Japanese Stiltgrass



Post-Treatment of Japanese Stiltgrass

Site Two: Crowder Property , Leon County, FL

Latitude N30.426774 Longitude W84.375052

The Crowder property site has one large infestation of Cogongrass near the roadside/entrance gate and a long linear infestation along a fenceline. A large Mimosa tree was also cut and treated at the entrance. Resprout will be similarly treated in spring 2012.



Pre-Treatment of Cogongrass



Post-Treatment of Cogongrass

Site Three: Express Lane Property, Leon CO

Latitude N30.329476 Longitude W84.328876

This one-acre infestation of Cogongrass was treated in August 2010 with a mix of Glyphosate and Imazapyr as well. There is significant re-sprout on the property, but re-treatment may be challenging. The property is currently for sale and the seller has been unresponsive to our request for retreatment.



Pre-Treatment of Cogongrass



Post-Treatment of Cogongrass

East Central Florida (ECF) CISMA/Patrick AFB and Cape Canaveral Air Force Station

ECF CISMA Phase II Control Project (conducted in FY10)

The ECF CISMA held two Phase II partner workdays on March 3rd and April 20th, 2011 on the Coastal Jewel/REPI (Readiness and Environmental Protection Initiative) land conservation site in Brevard County. The county owns the 184 acre Coastal Jewel site with the United States Air Force through REPI having a 101 acre conservation easement. The invasive, non-native plants on this site are concentrated along a power-line easement, with the interior mostly free of invasive plants. The site supports the Threatened Florida Scrub Jays. A cooperative CISMA workday approach was utilized to bring partners together to demonstrate commitment to land management, provide staff an outlet to discuss technical details, and aid in developing professional relationships across agencies.

ECF CISMA Phase II Photo Monitoring (conducted in FY11)

Site One: Latitude N27.591527 Longitude W80.334598

Site Two: Latitude N27.590241 Longitude W80.333266

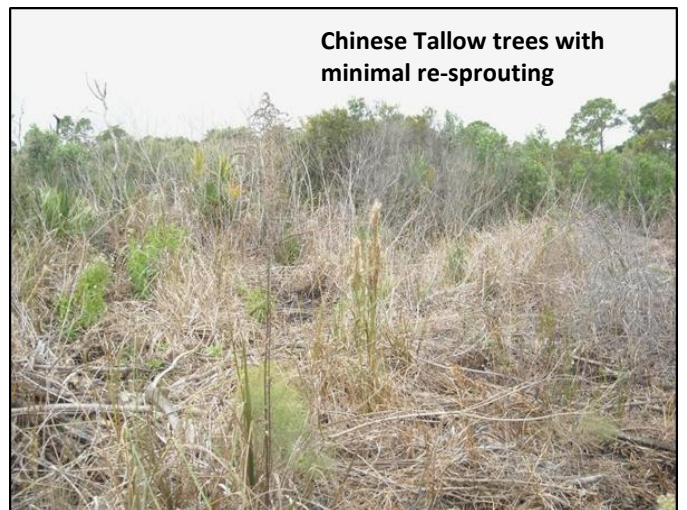
The two Phase II control projects on the Coastal Jewel/REPI land removed a total of 550 saplings and small trees, a 30 foot tall Chinese Tallow tree in seed, 62 Brazilian Pepper saplings, and 300 square feet of Cogongrass.

The Chinese Tallow treatment sites looked very good several months after treatments. There was some minimal re-sprouting from stumps, and these were treated during the monitoring visit. No seedlings were observed. Another monitoring visit and treatment is will be conducted in 2012 if needed.





Pre-treatment of Chinese Tallow under utility power lines



Post-treatment of Chinese Tallow under utility power lines

Keys CISMA – Naval Air Station Key West

Keys CISMA Phase II Control Project (conducted in FY10)

A CISMA workday was held involving three Task Force partners (Monroe County, Institute for Regional Conservation, City of Key West) and six volunteers. Over four yards of night blooming cereus, an invasive cactus, was manually removed from private properties that abut the NAS-Key West lands along Boca Chica beach. This project helps NAS Key West by expanding suitable habitat for the endangered Lower Keys Marsh Rabbit. The Phase I (FY09) control site was also visited and doing very well, with only a few new seedlings of Beach Naupaka which were hand pulled. No other target plants were found.

Keys CISMA Phase III Photo Monitoring (conducted in FY11)

Site: Boca Chica Beach - Latitude N24340270 LongitudeW81401768

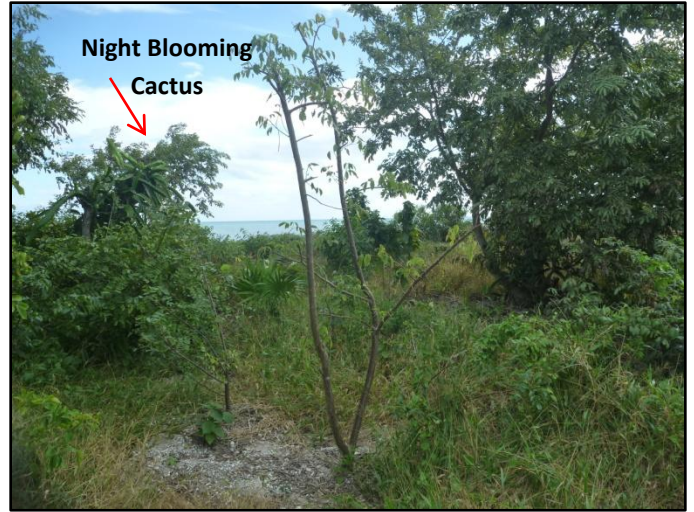
The restoration site looked very healthy, showing no reoccurrence of target species Colubrina, Beach Naupaka or Seaside Mahoe and only a small regrowth of Night Blooming Cactus. The Cerus will be removed on during the FY10 Control Project and training day. The butterflies were thriving on the new native growth and the Seaots had expanded along the coastal side of the property. Because of the close proximity to NAS Key West airstrip, this is one of few areas in the Keys that is not fogged by Mosquito Control. The butterflies were abundant this year on the newly planted vegetation made possible by the removal of thickets of Asiatic colubrine. The new vegetation also benefits the nesting endangered sea turtles that NAS Key West monitors along this beach and buffers the beach from erosion. There were no signs of endangered Lower Keys Marsh Rabbit on this visit, but the neighbors report that they are using the area at dusk and dawn. The neighbors have also planted native coastal plants in the area.



Native Seaots and Railroad Vine have quickly spread into the dune areas left open by FY10 Control Project to remove invasives species.



Butterflies are abundant this year on native vegetation planted after removal of invasive species in FY10.



Only one area within the FY10 Control Project treatment experienced regrowth. This small infestation of Night Blooming Cactus will be removed during the next workday.