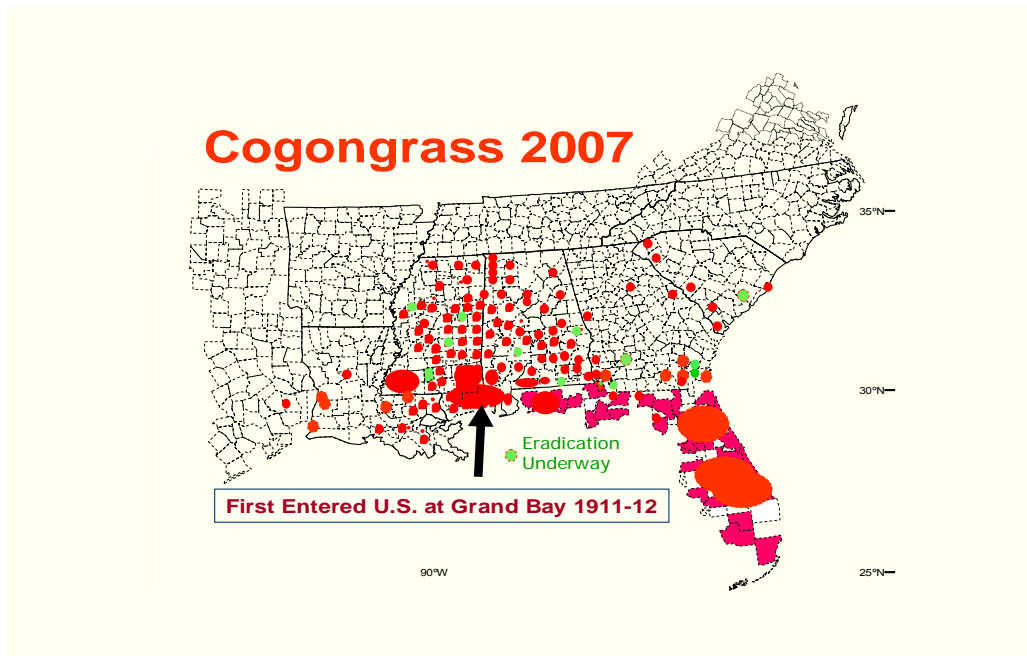


The Context of the South's Cogongrass Crisis

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Cogongrass is a world-class weed that is invading the South. The southern region is in a crisis. Cogongrass (*Imperata cylindrica*) is a world-class invasive grass and a Federally-listed noxious weed that continues to invade more lands and is widely regarded as the worst invasive threat in the Southern U.S. Since its multiple introductions in the early 20th century, it has spread to infest 1 million acres in Florida and tens of thousands of acres in Alabama, Georgia, Louisiana, Mississippi, South Carolina and Texas. Annual spread rates are estimated in the thousands of acres and its tolerance to shade means that infested acreage includes interior forests. Between 1952 and 1974, cogongrass invaded 850 acres per year in Mobile County to occupy 10,000 acres by 1974. Short distant spread by windblown seed and long distant spread by movement of contaminated pinestraw, vehicles and rhizomes in fill dirt means entry to Tennessee, North Carolina, and Arkansas is imminent. Most of the Eastern U.S. and Pacific Northwest states are considered vulnerable. The outcome of cogongrass occupation on other continents has been devastating and this same trend is underway in the South where cogongrass can eventually cover most uncultivated lands. It will not magically disappear someday without concerted programs to contain and combat it. The contributions of dedicated experts to this conference's proceedings should help us all.



It is an era of rapid environmental and ecological change.

The invasion of cogongrass appears facilitated by dynamics in this era of rapid global warming, increased air pollution with higher carbon dioxide levels, human encroachment with wildland fragmentation, and solidifying urbanization with a population indifferent to the land base that supports them. These conditions favor cogongrass invasions. However, a wider understanding of this problem should lead to more problem recognition, unified programs with laws, policies, and funding to counter this invasion.

The answers to the following questions are contained in this "Proceedings of the Regional Cogongrass Conference", and should aid us in confronting the cogongrass crisis across the South:

- **What makes cogongrass so invasive and difficult to control?**
- **Where are current infestations, where is cogongrass heading and how can we prevent the spread?**
- **What are the most effective integrated treatments and management regimens for forestry, preserves, pastures, and rights-of-ways? What information are we lacking?**
- **What is the value of burning and mechanical treatments when used with herbicide applications?**
- **How can herbicides be selected and applied to be most effective (herbicides, decoding generic formulations, timing, mixing ingredients, and application systems)?**
- **What have researchers found by comparing alternative treatments for rehabilitation and restoration?**
- **What have practitioners learned during operational treatments?**
- **What cost-share, incentive, and State programs are currently available?**
- **How can we organize ourselves and build cooperative programs at the local, county, state, and regional levels?**

Cogongrass forms the most exclusive infestations of all invasive species. Productivity losses to forestry, pasture, and orchards are evident but yet to be documented, while control costs are mounting across land uses, including rights-of-way and municipalities. Vast displacement of native plants and wildlife is underway, and is exasperated by the extreme flammability of the grass. This siege to our lands and their richness and productivity cannot be tolerated without a concerted attempt to stop its spread, and reclaim and secure the future of our lands from this and other invasive species. The insights that follow in this publication, by some of our most expert scientists and managers, should aid us greatly in devising strategies, policies, and networks to contain the spread and restore infested lands.

Cogongrass Impacts

- **Stops or hampers productive use of forest lands, pastures, pecan and other orchards, impacts container crops and right-of-way management and is invading municipalities.**
- **Is highly flammable and presents a high risk to rural homeowners and firefighters.**
- **Wildlife habitat is destroyed and hunting privileges denied.**
- **Recreational value is nonexistent and the natural beauty of our lands is defaced.**
- **Reduces native species biodiversity, impacts community and ecosystem functions and interferes with ecosystem services.**
- **Eradication costs vary but exceed \$200 per acre and can range much higher.**

Cogongrass is part of a BIGGER INVASION in the South that demands both a separate and unified management program. The many major seaports around the Gulf coast combined with a long period of horticultural introductions throughout the region have resulted in multiple plant invasions

underway in concert with the cogongrass spread. Tallowtree (*Triadica sebifera*) is spreading upward from the Gulf Coast, from an epicenter near Houston, TX, to currently occupy over 600,000 acres. Japanese climbing fern (*Lygodium japonicum*) is spreading outward from the coast by spores in wind and contaminated pine straw and equipment to infest over 200,000 acres. Tropical soda apple (*Solanum viarum*) was introduced in Florida in the 1990's and now occupies over 200,000 acres and is spreading rapidly by cattle transport and wildlife. Japanese honeysuckle (*Lonicera japonica*) and Chinese privet (*Ligustrum sinense*) are both at pandemic levels across the South exacerbating all control and restoration efforts dealing with cogongrass.

Although there is "one invasion of cogongrass" impacting the region, each State differs greatly in their laws, management efforts, and funding.

Unified Program Goals for all States should be to:

- **Prevent the northward spread and spread into adjoining States.**
- **Contain the spread of the advancing front within States.**
- **Save special habitats and preserves from degradation.**
- **Restore infested lands to a productive status to include diverse biology.**

This means that Invasive Management Plans are needed in every State, which includes adaptive management cycles of learning and sharing advancements in understanding to all stakeholders. All actions and strategies must work through collaborative networks across fragmented landscapes with the aim to constrain invasions and restore eco-services. I have termed this process "Adaptive Collaborative Restoration". "Adaptive" since we are learning as we go, "collaborative" since we must be connected with adjacent lands and managers, and "restoration", since our aim is to sustain and restore healthy food and fiber production systems as well as the wildlife habitat and recreation value associated with these lands.

The Program Elements of an Invasive Adaptive Collaborative Restoration Program are:

- **Cooperative networks among stakeholders and partners at the regional, state, multi-county and county levels.**
- **Spread prevention strategies and programs through improved laws, policies, and public education; along with promoting new responsibilities such as not planting invasive plants and sanitizing equipment and personnel when moving among infested sites.**
- **A network for Early Detection and Rapid Response (EDRR) to identify and locate new high risk introductions, communicate and verify the sites, and eradicate the outlier infestations.**
- **Survey and Mapping of existing and spreading invasions to identify areas of high infestations, advancing fronts, and outliers with real-time displays that are web accessible.**
- **Coordinated control, containment, and eradication through repeated integrated vegetation management treatments along with monitoring and conveying results.**
- **Focused research with rapid technology transfer through effective networks.**

Cogongrass is a “problem of the commons” and we all are impacted and must help.

There have been a few examples of concerted and focused efforts to contain cogongrass in the region. There was an effective eradication program in Georgia by the State APHIS Coordinator, Arthur Miller, in the 90's. Georgia is again organizing to carry on eradication. Dearl Sanders in Louisiana has directed a State effort for a decade to combat cogongrass in his State. Florida's Environmental Protection Agency's Bureau of Invasive Plant Management uses State appropriated funds through an organized program for invasive plant control on “preserve lands”, including cogongrass. None have been strong enough to stop the persistent spread within any state or across state lines. Presently, grass-root Cogongrass Task Forces are being formed in Georgia, Mississippi, South Carolina, and Louisiana. Still, little State political recognition or leadership has been applied to the problem and funding of programs is lacking.

Tools of Integrated Vegetation Management (IVM).

- **Prescribed fire**
- **Mechanical**
- **Herbicides**
- **Biological Control**
- **Cultural treatments with planting other species**

These are the tools that must be sharpened and refined to combat cogongrass on the land.

At each level of engagement with the cogongrass dilemma we must collectively determine:

- **What are our GOALS and desired outcomes?**
- **What do we need to know to be successful to reach those goals?**
- **What do we need organizationally and physically to be successful?**
- **What is the most “valuable resource” that we want to protect (prioritization)?**
- **What must we do right to succeed? (What is critical?)**
- **What role will government play at the various levels?**
- **What roles must private landowners, industry, and citizens play to be successful?**