

## R8 Strategy for Non-Native Invasive Species



Mimosa, Introduced from Asia

And Implementation on the National Forests in Alabama

## Non-Native Invasive Examples

- ✦ Hemlock woolly adelgid
- ✦ Chestnut Blight
- ✦ Dutch Elm Disease
- ✦ Kudzu
- ✦ Cogongrass
- ✦ Fire Ants
- ✦ Asian Clams



Hemlock Woolly Adelgid, Asia (Photo courtesy of APHIS)

## Goal

Reduce, minimize or eliminate the potential for introduction, establishment, spread and impact of Non-Native Invasive Species (NNIS) across all landscapes and ownerships



Chinese Wisteria, Asia (Photo R.Stewart)

## Program Elements

- ✦ Leadership & Coordination
- ✦ Current Status & Trends
- ✦ Prevention
- ✦ Early Detection & Rapid Response
- ✦ Control & Management
- ✦ Restoration
- ✦ Partnerships & Cooperation
- ✦ Research
- ✦ Information & Education



Japanese Honeyuckle, Japan (Photo R.Stewart)

## Leadership and Authority

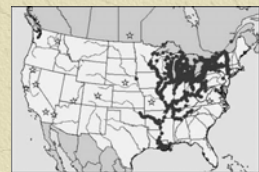
- ✦ Executive Order 13112
- ✦ Chief's 4 Threats
- ✦ National NNIS Council
- ✦ Designated Regional Task Force (Steve Rickerson, chair)
- ✦ Designated Forest Coordinator (Rhonda Stewart)



Buttercups in field, Introduced from Europe (Photo R.Stewart)

## Current Status and Trends

- ✦ List existing and potential occurrences
- ✦ Prioritize species
- ✦ Identify information gaps
- ✦ Provide information & technology transfer between:
  - National Forest systems
  - Research
  - State & Private



Current Distribution of Zebra Mussel, from Caspian Sea

## NF in Alabama Current Status

- ✘ Top 25 NNIS threats
- ✘ Forest List of all known non-natives
- ✘ Sites mapped/GIS
- ✘ 3 signed NEPA decisions, 3 pending
- ✘ Public support for treatment



Kudzu, Asia (Photo R.Stewart)

## Prevention

- ✘ Identify preventive measures
- ✘ Implement prevention using:
  - multi-funding
  - partnerships
- ✘ Utilize existing preventive measures
- ✘ Explore new ways to clean equipment



Plants growing on a transport (Photo R.Stewart)

## NF in Alabama Prevention

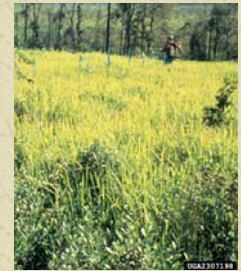
- ✘ Enforce equipment cleaning measures
- ✘ Use of NNIS plants field guide (J.Miller)
- ✘ Work with cooperators to prevent introduction
- ✘ Stop planting NNIS plants



Chinese Tallow Tree in foodplot (Photo R.Stewart)

## Early Detection and Response

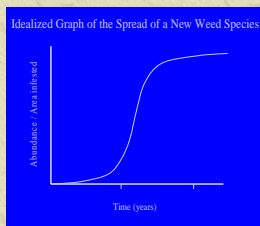
- ✘ Provide training in:
  - identification
  - reporting
  - management
- ✘ Collaborate with partners
- ✘ Prioritize needs based on:
  - threats to ecosystems
  - high probability of occurrence



Cogongrass, SE Asia, Introduced early 1900s

## NF in Alabama Early Response

- ✘ Hit in establishment phase (delayed reaction costs \$)
- ✘ If left unchecked, soon beyond control
- ✘ Training
- ✘ Reporting all sites
- ✘ Hosted field test for National NNIS database



Establishment of New Species (Graph courtesy of U.C. Davis)

## Control and Management

- ✘ Use all appropriate tools:
  - Biological
  - Chemical
  - Physical
  - Cultural
- ✘ Use combinations



Herbicide Application to Reed Canary Grass (USDA)

## NF in Alabama Management

- ✘ Herbicide (foliar & backpack spray, cutstem)
- ✘ Fire
- ✘ Mechanical (disc, blading, mulching, mowing)
- ✘ Handtool (weedeating, grubbing, handpulling)
- ✘ Multiple years
- ✘ Multiple stressors
- ✘ Fall focus



Treatment of NNIS plants and sites (Photos: E.Stewart, R.Stewart)

## Restoration

- ✘ Identify and provide sources of native seed or plants
- ✘ Authorize temporary use of annual non-invasive plants
- ✘ Rehabilitate, if necessary, to prevent re-infestation by NNIS



Native grass (USDA)

## NF in Alabama Restoration

- ✘ Multiple restoration projects
- ✘ Incorporate NNIS into ongoing & new projects
- ✘ Member of ecosystem understory group
- ✘ Work with local nurseries to develop reliable native plant materials sources



Restoration Mountain Longleaf Understory (Photo: K.Stewart)

## Partnerships and Cooperation

- ✘ Explore use of Wyden Amendment
- ✘ Emphasize partnerships
- ✘ Treat shared infestations on mixed ownerships
- ✘ Develop rapid response plans to span jurisdictional boundaries



Feral Hogs, Europe (Photo courtesy ODWC)

## NF in Alabama - Partners

- ✘ Alabama Department of Conservation and Natural Resources
- ✘ Treasure Forest
- ✘ State Lands
- ✘ The Nature Conservancy
- ✘ Shift to natives
- ✘ Recognize adverse affects of NNIS



Fire Ant, South America, Introduced 1918



Northern Snakehead Fish, China, Introduced 1977

## Research

- ✘ Monitor effectiveness of control methods
- ✘ Research alternative treatments and/or treatment combinations
- ✘ Provide latest information on NNIS identification & spread



Asian Longhorned Beetle, China (APHIS)

## Information and Education

- ❖ Provide information to agency and public on use of NNIS and alternatives
- ❖ Develop and maintain R8 NNIS website and knowledge pages
- ❖ NFAL member of Alabama Council
- ❖ Schools and presentations



Crimson clover, Children search for aquatic NNIS (Photos R.Stewart)

## Call to Arms

- ❖ Action needed
- ❖ Innovative treatments may be required
- ❖ Maximize public and partner support
- ❖ Result in win-win scenarios



Africanized Honey Bee