HURRICANE IVAN

Damage Appraisal & Recovery Efforts

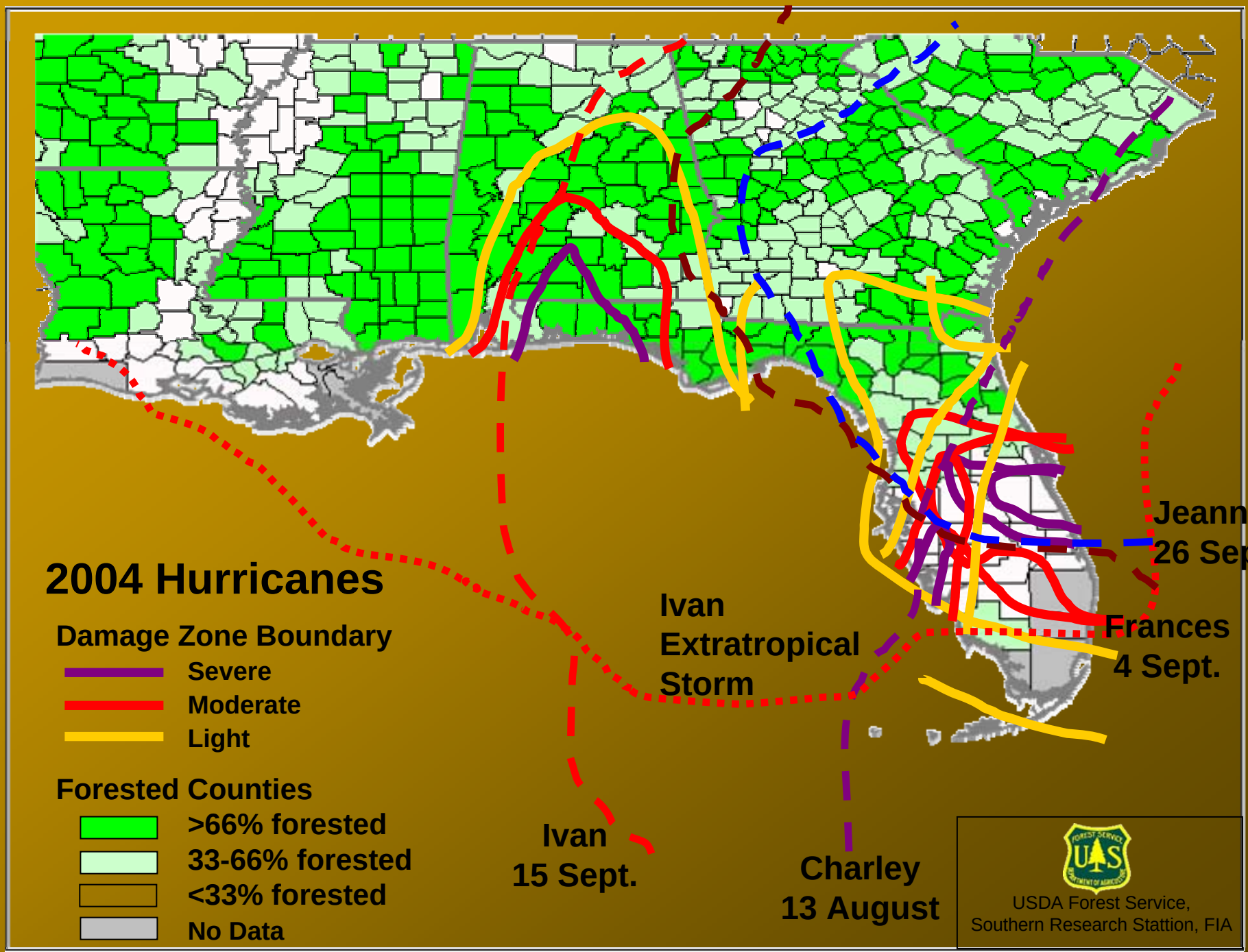
Presentation produced by AFC (Walter E. Cartwright)

WEB Address: ***www.forestry.alabama.gov***

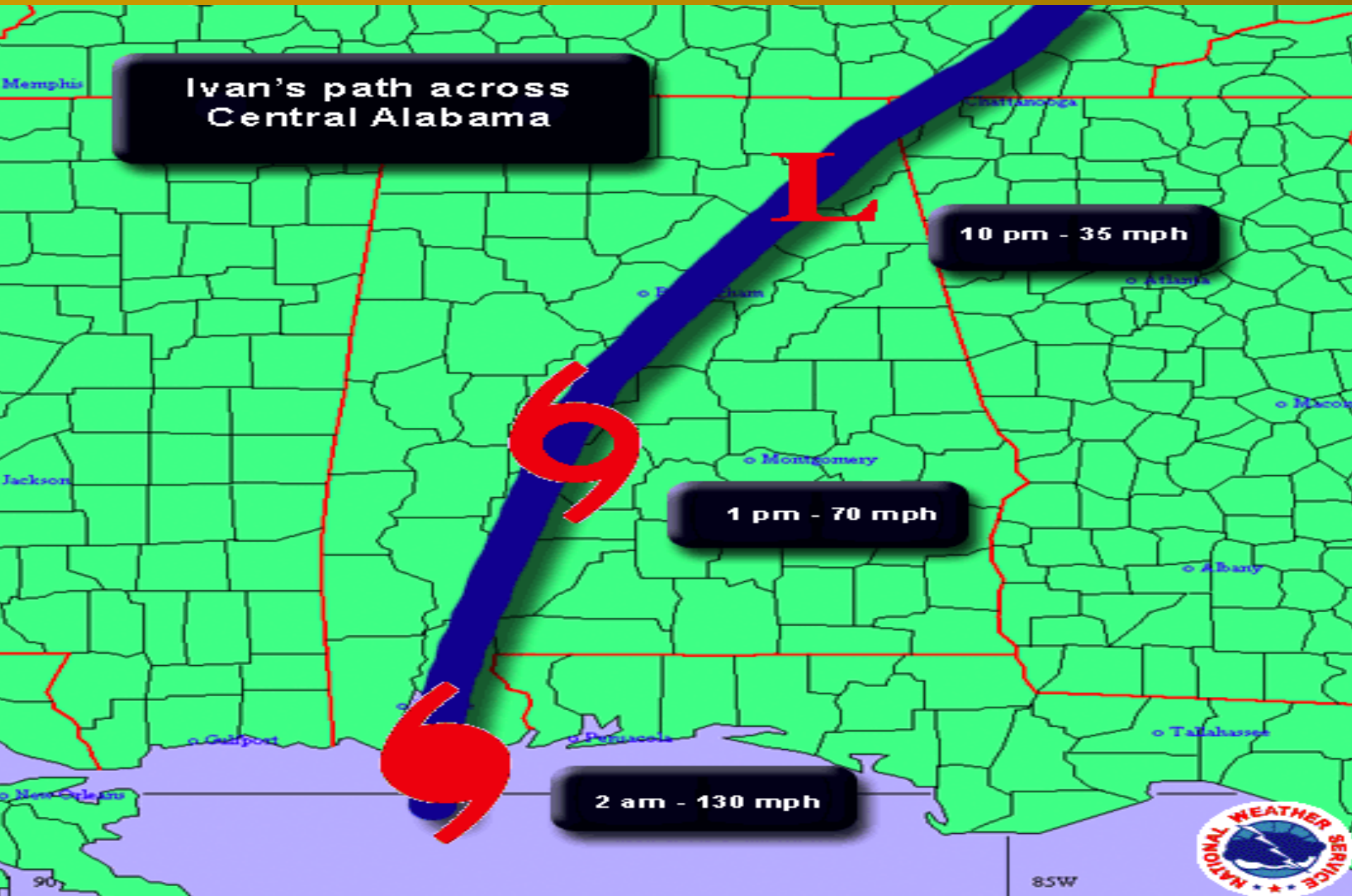
ALABAMA FORESTRY COMMISSION

Hurricane Ivan

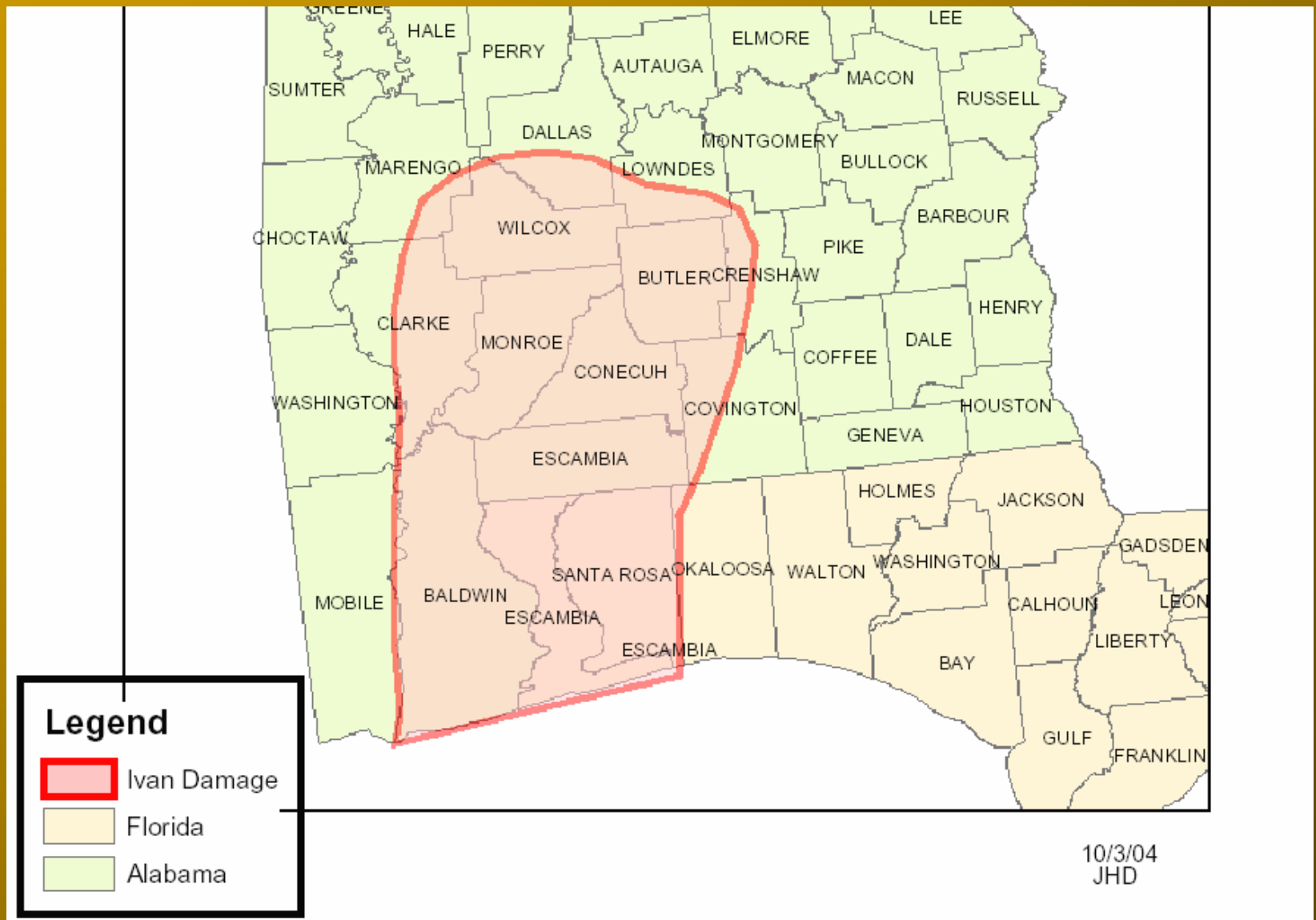
- **Struck 2:30 AM September 16, 2004**
- **130 MPH winds**
- **Tremendous wind and water damage**
- **Timber impact most significant in 12 counties in SW Alabama**


2004 Hurricanes
Damage Zone Boundary
Severe
Moderate
Light
Forested Counties
>66% forested
33-66% forested
<33% forested
No Data
Ivan
15 Sept.
Ivan
Extratropical
Storm
Charley
13 August
Frances
4 Sept.
Jeanne
26 Sept.
USDA Forest Service,
Southern Research Stattion, FIA

Hurricane Ivan – Storm Track

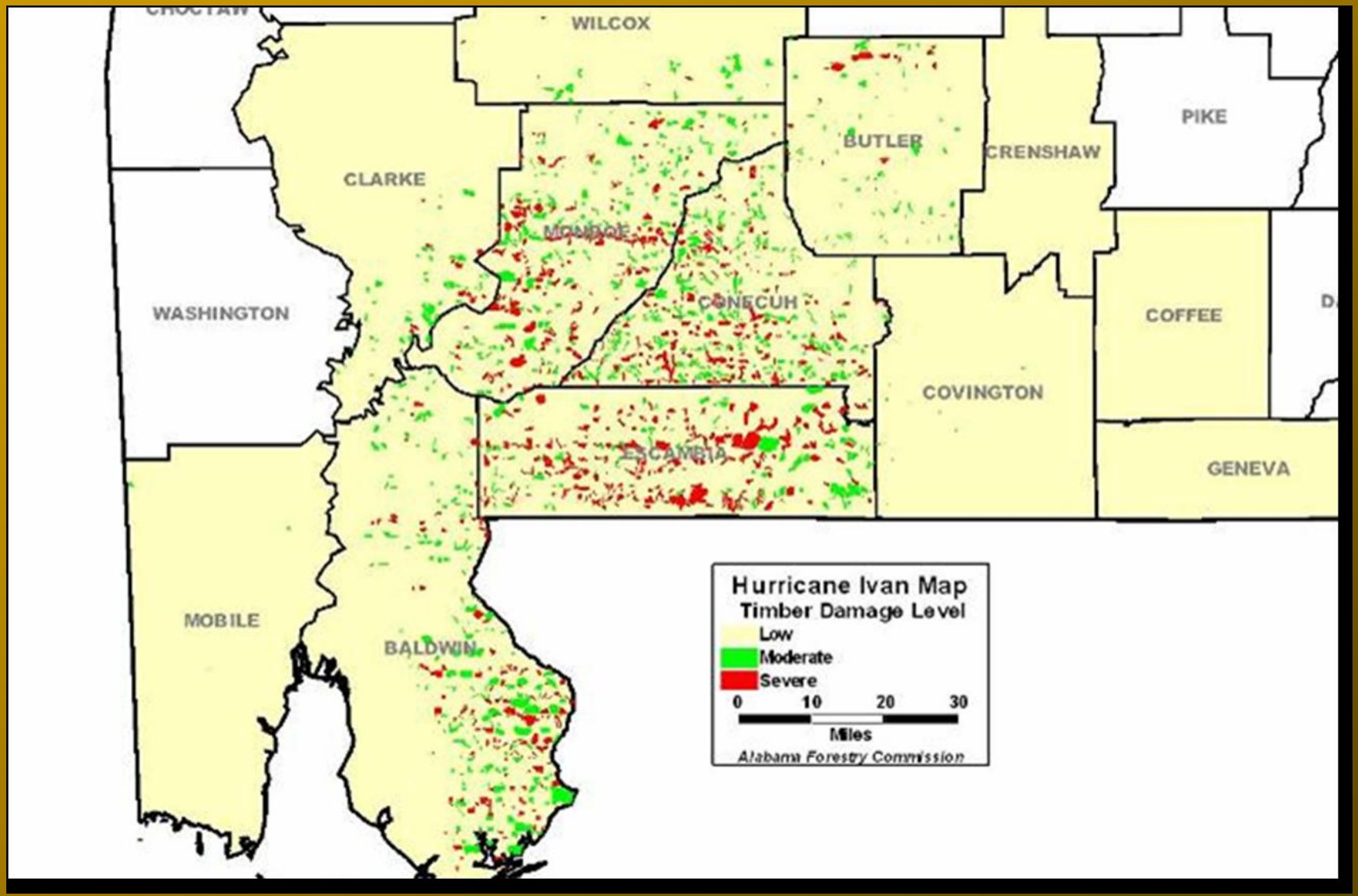


Hurricane Ivan
Impacted Forest Area



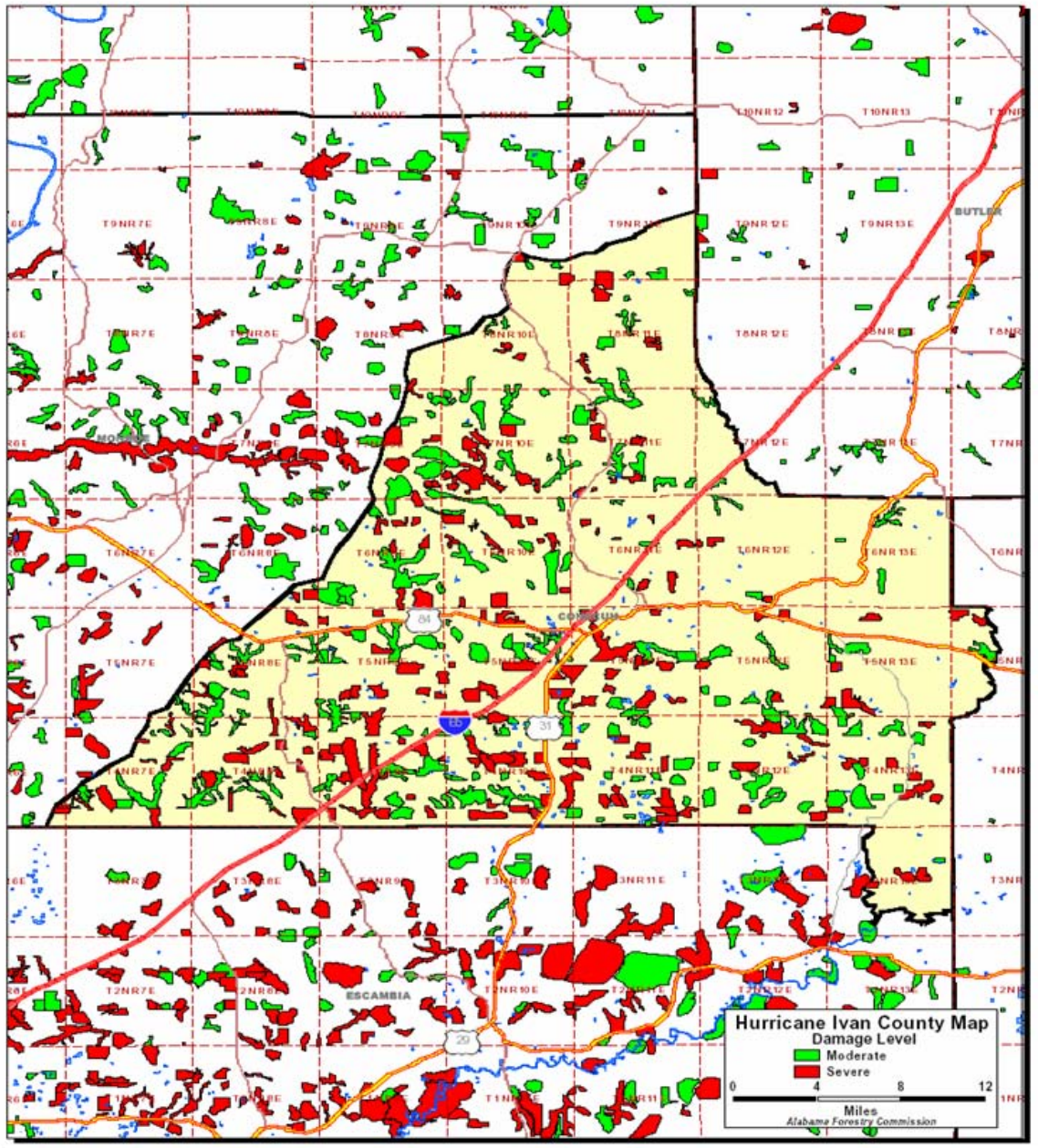
DAMAGED FORESTS

WITH MODERATE TO SEVERE DAMAGE

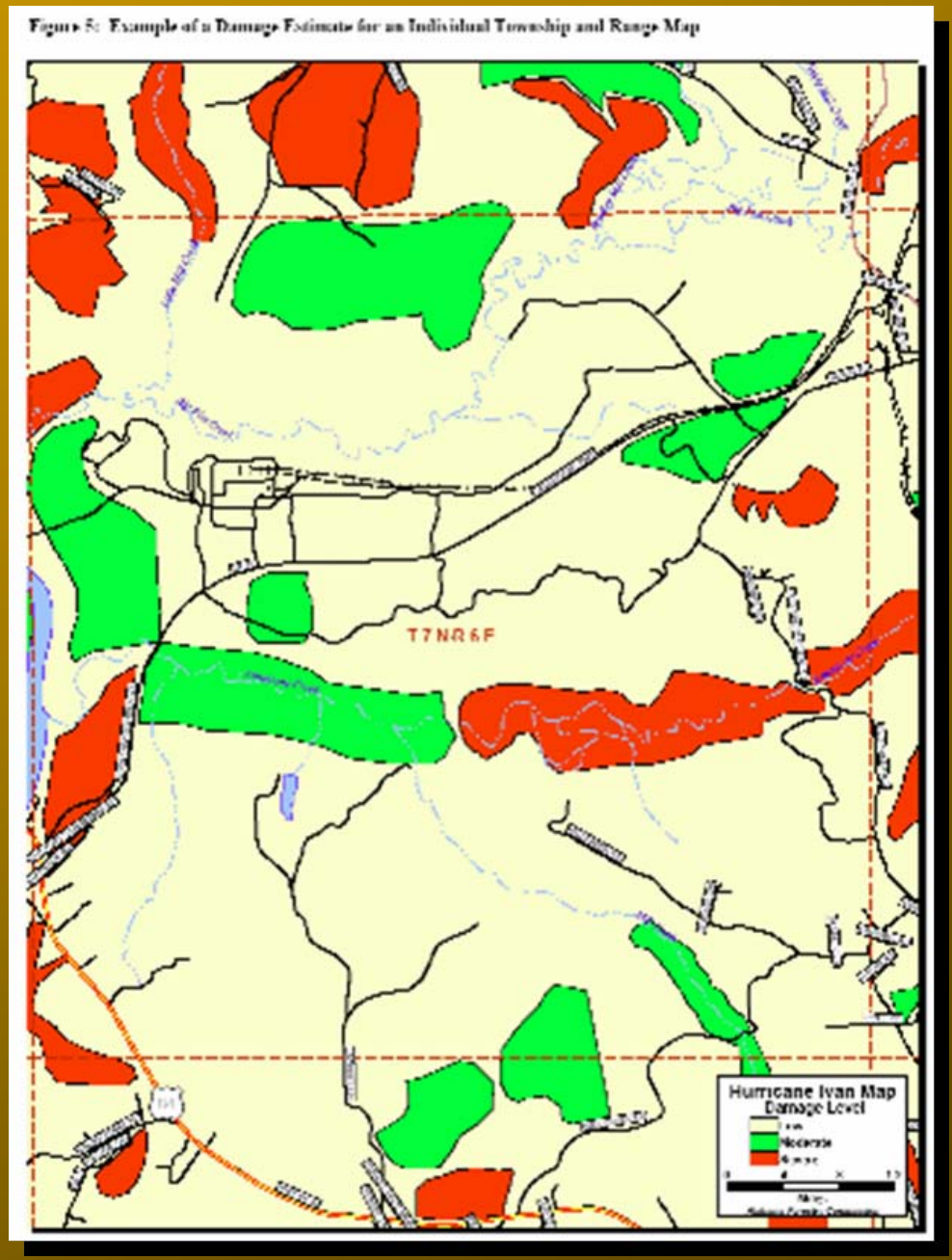


COUNTY DAMAGE MAP

Figure 4e: Damage Estimate for Conecuh County Map



TOWNSHIP DAMAGE MAP



These maps are available to help loggers and landowners locate damaged stands.

MODERATE DAMAGE (20-50%)

Moderate damage – 20 inch loblolly pine reduced to pulpwood


Moderate damage - 20 – 50 %

SEVERE DAMAGE (>50%)


Severe Damage > 50%


Severe Damage > 50%


Severe Damage


Loggers must maintain high safety awareness in salvage operations


Some Landowners will plant through the debris and some will clearcut,
Then plant, with or without site preparation.

TOTAL DAMAGE ESTIMATE

12 PRIMARY COUNTIES:

Baldwin, Butler, Clarke, Coffee, Conecuh, Covington, Crenshaw, Escambia, Geneva, Mobile, Monroe, and Wilcox.
These 12 counties incurred a potential estimated damage of

$473,277,304

55 REMAINING COUNTIES:

In addition, in 55 disaster declared counties outside the 12-county immediate impact area incurred damage amounting to **$136,950,609**

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TOTAL DAMAGE: **$610,227,913**

VOLUMES & VALUE DAMAGED

Degree of Damage	Product	Volume Estimate	Unit	Value Estimate
Moderate	Hardwood Sawtimber	137,617,162	Bd ft	$30,963,837
Severe	Hardwood Sawtimber	441,465,304	Bd ft	$99,329,258
Moderate	Pine Sawtimber	103,482,128	Bd ft	$38,184,739
Severe	Pine Sawtimber	340,458,479	Bd ft	$125,628,969
Moderate	Hardwood Pulpwood	1,140,063	Cu ft	$286,599
Severe	Hardwood Pulpwood	1,770,007	Cu ft	$444,961
Moderate	Pine Pulpwood	4,120,479	Cu ft	$749,956
Severe	Pine Pulpwood	4,436,690	Cu ft	$807,519

This is 2.44 times the amount of wood harvested last year !

AFC RESPONSE

- **EMA COMMAND & PROVIDED STRIKE TEAMS**
- **TIMBER DAMAGE ASSESSMENT**
- **GOVERNOR'S RECOVERY TASK FORCE**
- **WEBPAGE FOR LANDOWNERS & HURRICANE HELPLINE**
- **INFORMATION PACKETS & LANDOWNER MEETINGS**
- **IMPLEMENTING FEDERAL ASSISTANCE FUNDS**
- **FIRELANE/INTERIOR ROAD CLEARING**
- **TECHNICAL ASSISTANCE (Recommendations)**
- **COST-SHARE PROGRAMS**

AFC STRIKE TEAMS

Alabama Forest Recovery Task Force

October 4, 2004

Alabama Forest Recovery Task Force

Objectives:

1. **Move damaged timber as quickly as possible**
2. **Expand the market for damaged timber**
3. **Promote the development of long-term wood storage facilities**
4. **Decrease barriers to safely, effectively and economically harvest and transport damaged timber**
5. **Effectively communicate the challenges and successes of the timber salvage effort to landowners, wood using facilities, professional loggers and the public**
6. **Monitor and record salvage efforts**
7. **Promote forest health through prompt reforestation and proactive forest protection**
8. **Ensure compliance with antitrust laws**

Alabama Forest Recovery Task Force

Committees:

- **Timber Utilization**
- **Governmental Affairs**
- **Information and Statistics**
- **Communications**
- **Harvesting and Transportation**
- **Forest Health and Reforestation**

RECOVERY TASK FORCE (AFC)

- **Information & Statistics Committee**
  - Compiling reported salvage volumes recovered
  - Overall forest resource statistics

- **Forest Health & Reforestation Committee**
  - Identifying incremental seedling needs
  - Information Package with a list of forestry vendors for landowners
  - Informing landowners of potential pest problems (SPB, pales weevil, etc.)
  - Obtaining financial assistance for landowners

HURRICANE IVAN DAMAGE
TO 12 COUNTY SURVEY ZONE

% of Total Volume Damaged by Product

County	Pine Sawtimber	Pine Pulpwood	Hardwood Sawtimber	Hardwood Pulpwood
Baldwin	4.3	5.5	3.5	1.4
Butler	2.7	negligible	1.4	negligible
Clarke	1.1	0.3	0.6	negligible
Conecuh	13.6	0.2	10.6	0.2
Covington	negligible	negligible	negligible	negligible
Escambia	10.3	negligible	37.0	negligible
Mobile	negligible	negligible	negligible	negligible
Monroe	9.8	0.4	10.5	0.4
Wilcox	0.3	negligible	0.9	negligible

NOTES: Coffee, Crenshaw, and Geneva Counties are included in the 12 county survey zone, but none of these counties sustained “moderate” or “severe” damage.

“Negligible” means that there is less than 1/10th of 1% damage.

At the present time, 3,649 trees have been tallied on FIA plots covering 17 counties outside of the survey zone since the hurricane occurred. Of the 3,649 tallied trees, only 30 trees (or 0.8%) were damaged as a result of the hurricane.

Alabama Forest Recovery Task Force

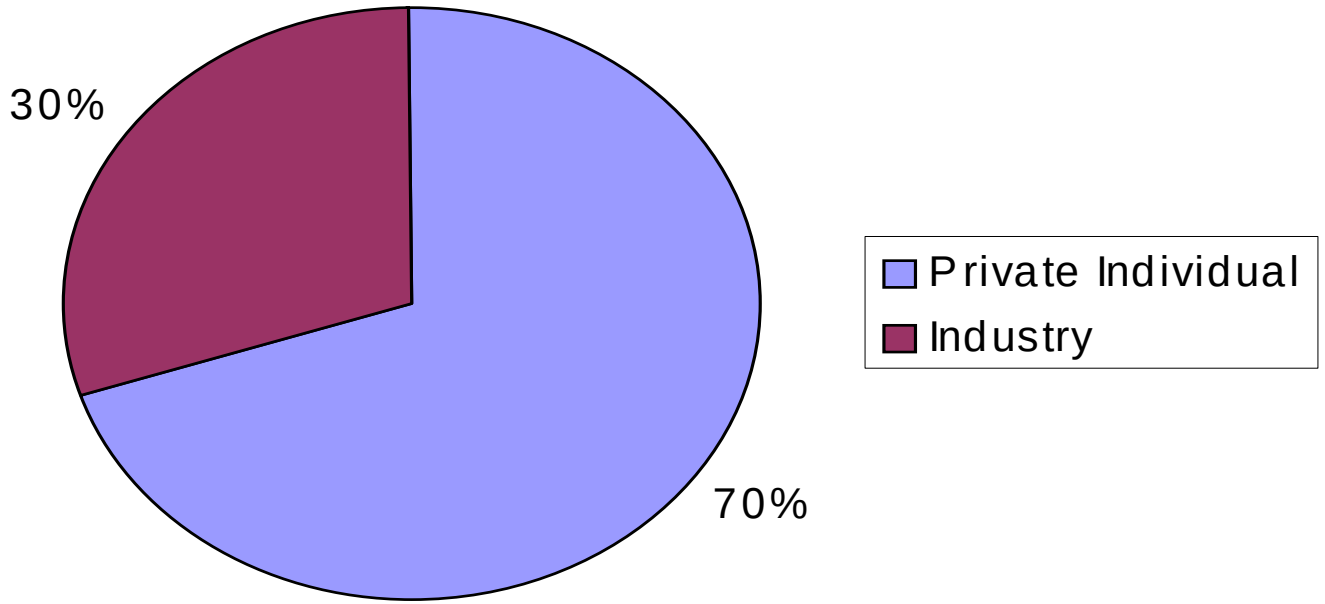
- Salvage targets established
  - Pine Sawtimber - **30%** or 133.2 MBF
  - Pine Pulpwood - **70%** or 226 M tons
  - Hardwood Sawtimber - **12%** or 69.5 MBF
  - Hardwood Pulpwood - **17%** or 19 M tons
- Overall targets
  - **22%** by volume
  - **24%** by value
- Hurricane Hugo actual salvage (for comparison)
  - **14%** by volume
  - **8%** by value

FOREST INDUSTRY RESPONDS

Hurricane Ivan Timber Salvage By County Report
Information and Statistics Committee

	PST (bf)	PPW (t)	PChips (t)	HST (bf)	HPW (t)	HChips (t)	Percentage Harvest From: Private Individual	Forest Industry	Governments
Marengo	2,813,290	55,728	0	4,343,200	211,879	0	84	16	0
Misc Others	80,000	0	0	0	0	0	100	0	0
Mobile	264,749	10,154	0	0	3,253	0	71	29	0
Monroe	17,141,644	254,285	20,000	121,584	87,139	0	72	28	0
Montgomery	650,000	0	0	0	0	0	85	15	0
Perry	7,222	0	0	0	0	0	100	0	0
Pike	316,213	0	0	0	0	0	50	50	0
Sumter	0	2,000	0	0	8,000	0	0	100	0
Washington	286,640	0	0	0	0	0	98	0	2
Wilcox	9,446,504	52,837	0	2,086,254	34,453	0	68	32	0
Grand Total Salvaged:	**116,274,315**	**857,549**	**20,000**	**10,767,404**	**648,222**	**0**			
	↕	↕	↕	↕	↕				
	PST	**PP**	**PC**	**HST**	**HP**				

IVAN SALVAGE VOLUME BY OWNER TYPE



Final Product Salvaged vs. Targets

Product	Salvage Target	Total Salvaged	% of Target
Pine ST	133.2 MBF	156.5 MBF	118%
Pine PW	226,000 tons	1.2 Million tons	531%
Hardwood ST	69.5 MBF	15.7 MBF	23%
Hardwood PW	19,000 tons	759,000 tons	3995%

Alabama Forest Recovery Task Force

ACKNOLEDGEMENTS

- Governor Bob Riley and staff
- All Task Force Members
- Committee Chairs
- Alabama Forestry Association
- Alabama Forestry Commission
- Foresters, Loggers, Woods Workers

FEDERAL ASSISTANCE

- Divided between Florida and Alabama.
- USDA (FSA, Forest Service) & state
- Alabama receiving ~$19 million through fire, forest health, urban, stewardship grants, and traditional cost-share supplemental appropriations to NRCS, FSA, and AFC.
- Includes ~$11 million in direct landowner financial assistance and services.
- Assistance over a three-year period.

LANDOWNER ASSISTANCE

- Clearing Fire Lanes/Interior Roads
- Site Clearing & Preparation
- Tree Planting
- Creating Wildlife Openings
- Prescribed Burning
- Noncommercial Thinning
- Invasive Species Control
- SPB Prevention & Control
- Resource Consultants to provide SMR

Reforestation Assistance

- **Fire lanes for landowners (no cost)**
- **Site Preparation (cost share)**
- **Tree planting (cost share)**
- **Wildlife openings (cost share)**
- **Prescribed burning (cost share)**
- **Invasive species control (cost share)**
- **SPB prevention & control (cost share)**
- **Consultants to provide SMRs**
- **Tree assistance program (cost share)**

Other Programs

- **Tree Assistance Program (TAP) – Farm Service Agency**
  - **Cost Share sign-up**

- **Invasive Species Control – Natural Resources Conservation Service**
  - **Cost Share sign-up**

Tree Assistance Program

- **Orchards**
- **Forest Timber**
- **Pecan Trees**
  - **Sign up from 2-7-05 through 3-18-05**

- **More information –**

  www.fsa.usda.gov or call your local Farm Service Agency Office

Invasive Species Control

- **Cogongrass**
- **Kudzu**
- **Tropical soda apple**
- **Chinese tallow tree**
- **Chinese/European privet**
- **Japanese climbing fern**
- **Multiflora rose**
- **Cherokee rose**
- **McCartney rose**

  – more info at www.usda.nrcs.gov

  – **or call your local Natural Resources Service Office**

CLEARING FIRELANES/ INTERIOR ROADS

WORK IN PROGRESS

BY AFC EMPLOYEES

NO COST TO LANDOWNERS

(Target: 500 miles)

SIGNUP @ AFC

SITE CLEARING & PREPARATION

INCLUDES DEBRIS REMOVAL, CLEARING, SITE PREPARATION BURNING, CHEMICAL HERBICIDE APPLICATIONS

(75% of Landowner expenses up to $75,000 ????)

SIGNUP @ FSA/SWCD

TREE PLANTING

HARDWOOD OR PINE WILL BE ALLOWED. LONGLEAF PINE WILL BE PRIORITY.

INCLUDES COST OF SEEDLINGS AND COST TO PLANT.

SIGNUP @ FSA/SWCD

WILDLIFE OPENINGS

SOME LANDOWNERS DON'T WANT TO PLANT TREES AFTER SUFFERING THIS MAJOR LOSS!

THERE WILL BE FINANCIAL ASSISTANCE TO CONVERT THEIR FORESTLAND TO PERMANENT WILDLIFE OPENINGS.

SIGNUP @ SWCD

PRESCRIBED BURNING

TO REDUCE FUEL LOADS AND WILDFIRE HAZARDS

SIGNUP @ AFC/SWCD

PRECOMMERCIAL THINNING

TO RESTORE DAMAGED PRECOMMERCIAL STANDS

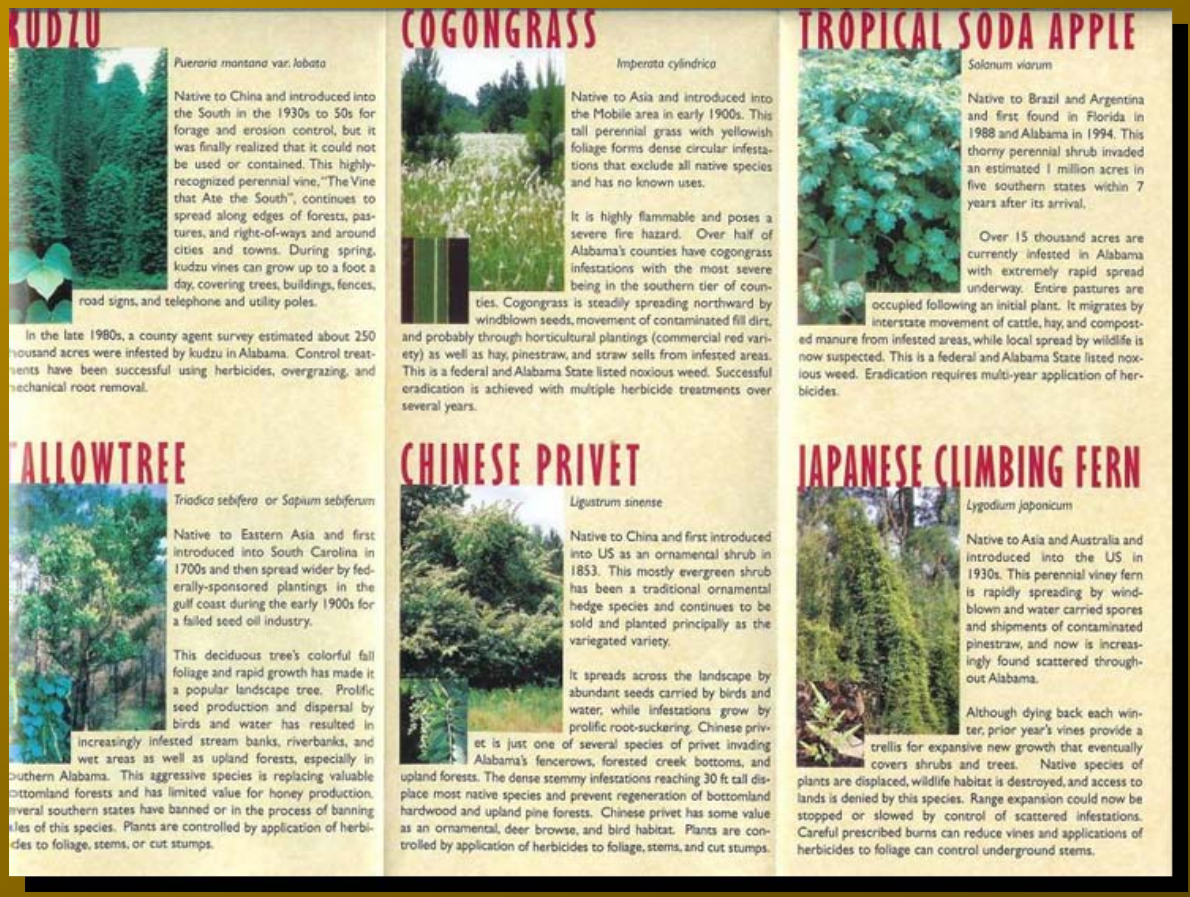
SIGNUP @ SWCD

INVASIVE SPECIES CONTROL

OPEN STAND CANOPIES WILL RELEASE INVASIVE SPECIES, SUCH AS COGONGRASS AND PRIVET.

LANDOWNERS WILL BE REIMBURSED FOR CONTROL OF INVASIVE SPECIES OUTBREAKS IN HURRICANE-DAMAGED FORESTS.

SIGNUP @ NRCS/SWCD



KUDZU

Pueraria montana var. lobata

Native to China and introduced into the South in the 1930s to 50s for forage and erosion control, but it was finally realized that it could not be used or contained. This highly-recognized perennial vine, "The Vine that Ate the South", continues to spread along edges of forests, pastures, and right-of-ways and around cities and towns. During spring, kudzu vines can grow up to a foot a day, covering trees, buildings, fences, road signs, and telephone and utility poles.

In the late 1980s, a county agent survey estimated about 250 housand acres were infested by kudzu in Alabama. Control treatents have been successful using herbicides, overgrazing, and echanical root removal.

COGONGRASS

Imperata cylindrica

Native to Asia and introduced into the Mobile area in early 1900s. This tall perennial grass with yellowish foliage forms dense circular infestations that exclude all native species and has no known uses.

It is highly flammable and poses a severe fire hazard. Over half of Alabama's counties have cogongrass infestations with the most severe being in the southern tier of counties. Cogongrass is steadily spreading northward by windblown seeds, movement of contaminated fill dirt, and probably through horticultural plantings (commercial red variety) as well as hay, pinestraw, and straw sells from infested areas. This is a federal and Alabama State listed noxious weed. Successful eradication is achieved with multiple herbicide treatments over several years.

TROPICAL SODA APPLE

Solanum viarum

Native to Brazil and Argentina and first found in Florida in 1988 and Alabama in 1994. This thorny perennial shrub invaded an estimated 1 million acres in five southern states within 7 years after its arrival.

Over 15 thousand acres are currently infested in Alabama with extremely rapid spread underway. Entire pastures are occupied following an initial plant. It migrates by interstate movement of cattle, hay, and composted manure from infested areas, while local spread by wildlife is now suspected. This is a federal and Alabama State listed noxious weed. Eradication requires multi-year application of herbicides.

TALLOWTREE

Triadica sebifera or Sapium sebiferum

Native to Eastern Asia and first introduced into South Carolina in 1700s and then spread wider by federally-sponsored plantings in the gulf coast during the early 1900s for a failed seed oil industry.

This deciduous tree's colorful fall foliage and rapid growth has made it a popular landscape tree. Prolific seed production and dispersal by birds and water has resulted in increasingly infested stream banks, riverbanks, and wet areas as well as upland forests, especially in outhern Alabama. This aggressive species is replacing valuable ottomland forests and has limited value for honey production. everal southern states have banned or in the process of banning les of this species. Plants are controlled by application of herbides to foliage, stems, or cut stumps.

CHINESE PRIVET

Ligustrum sinense

Native to China and first introduced into US as an ornamental shrub in 1853. This mostly evergreen shrub has been a traditional ornamental hedge species and continues to be sold and planted principally as the variegated variety.

It spreads across the landscape by abundant seeds carried by birds and water, while infestations grow by prolific root-suckering. Chinese privet is just one of several species of privet invading Alabama's fencerows, forested creek bottoms, and upland forests. The dense stemmy infestations reaching 30 ft tall displace most native species and prevent regeneration of bottomland hardwood and upland pine forests. Chinese privet has some value as an ornamental, deer browse, and bird habitat. Plants are controlled by application of herbicides to foliage, stems, and cut stumps.

JAPANESE CLIMBING FERN

Lygodium japonicum

Native to Asia and Australia and introduced into the US in 1930s. This perennial viney fern is rapidly spreading by windblown and water carried spores and shipments of contaminated pinestraw, and now is increasingly found scattered throughout Alabama.

Although dying back each winter, prior year's vines provide a trellis for expansive new growth that eventually covers shrubs and trees. Native species of plants are displaced, wildlife habitat is destroyed, and access to lands is denied by this species. Range expansion could now be stopped or slowed by control of scattered infestations. Careful prescribed burns can reduce vines and applications of herbicides to foliage can control underground stems.

SPB PREVENTION & CONTROL

LAST YEAR THE HEAVIEST SPB OUTBREAKS WERE IN SW ALABAMA, JUST NORTH OF THE HURRICANE DAMAGE AREA.

SPB PREVENTION BY THINNING HIGH-HAZARD STANDS.

AFC WILL NOTIFY LANDOWNERS WITH ACTIVE SPOTS.

SPB CONTROL CONTRACTS.

SIGNUP AT AFC

RESOURCE CONSULTANTS TO PROVIDE RECOMMENDATIONS

TO PROVIDE PROFESSIONAL RESOURCE MANAGEMENT PRESCRIPTIONS FOR LANDOWNERS.

SIGNUP @ AFC/SWCD

ADDITIONAL RESPONSES

- Additional aerial flights (FIRE, SPB, BMP)
- Wildfire Prevention Campaign
- Purchase larger tractor plow units
- Standby Bambi Buckets, SE Compact
- Fill ranger vacancies, pre-position crews
- Increased VFD equipment & training
- Purchase new aerial photographs/GPS
- Urban tree assessment, mitigation, and replacement

RECOVERY ASSISTANCE IS AVAILABLE AND MORE IS ON THE WAY!

TO ALL INVOLVED:

FROM OUR PRESIDENT, TO CONGRESS, USDA (NRCS, FSA, FOREST SERVICE), GOVERNOR, FOREST INDUSTRY, STATE AGENCIES, AFA, ALFA, ACTIVE LANDOWNERS, ETC.

THANK YOU

GO HOME IVAN !!!