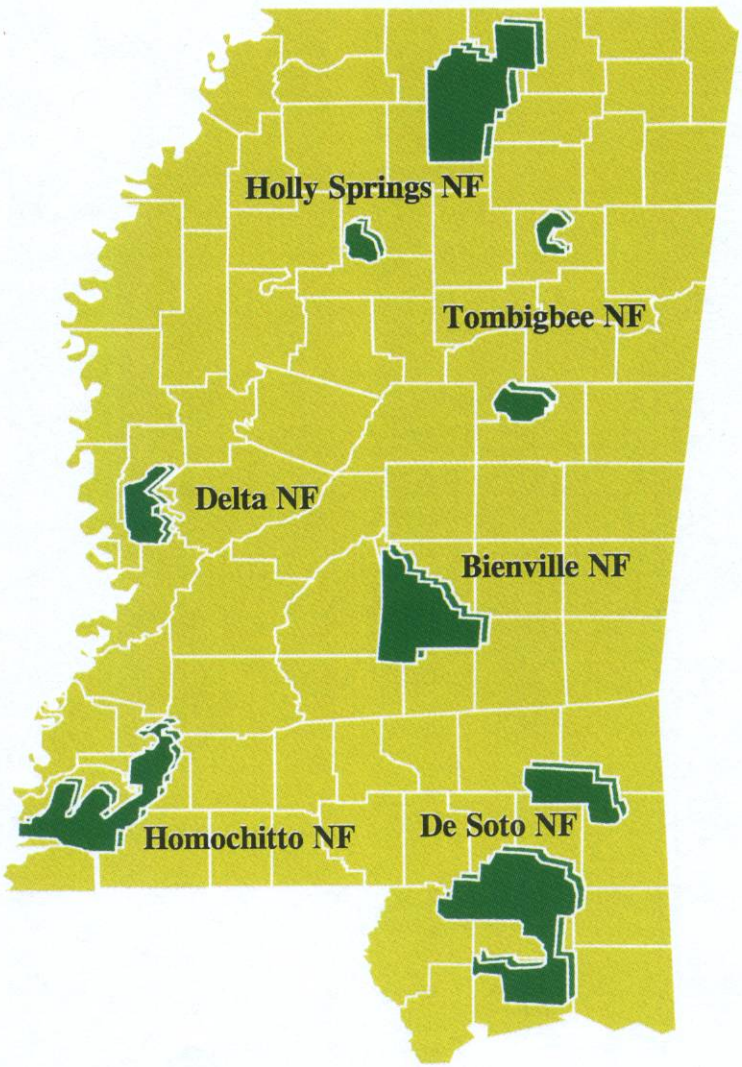
U. S. Department of Agriculture
Forest Service
Southern Region

Fiscal Year 2007 Monitoring Questions

National Forests in Mississippi



July 2009

Monitoring and Evaluation Questions and Answers
FY 2007

The National Forests in Mississippi is currently revising its Forest Land and Resource Management Plan (Forest Plan). Monitoring is an ongoing management activity and will continue when the revised Forest Plan is implemented. As a part of the forest plan revision process, a comprehensive evaluation report has been drafted. Much of the information covered in previous Monitoring and Evaluation Reports has been captured in the Comprehensive Evaluation Report (CER). The CER serves as one of the 'plan set of documents' that supports the revised Forest Plan.

With the completion of a CER supporting the forest plan revision process, monitoring documented for FY 2007 is being presented in an abbreviated question and answer format. When the revised Forest Plan is implemented; annual evaluation reports (AER) will document monitoring efforts and results. Comprehensive Evaluation Reports will be completed every five years and will present trend data supporting the adaptive management strategy that is designed to allow the revised Forest Plan to be more responsive to needs for change.

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National Forests in Mississippi

9/3/09
Date

1) What is the current age class composition of the Forest?

The fiscal year 2006 monitoring report provided information on a trend of declining regeneration resulting in a change in the zero to ten year age class from 11 percent in fiscal year 2000 to 4 percent in 2006. This percentage stayed the same in fiscal year 2007 with 4 percent in the zero to ten age class as of October 31, 2007.

Generally, as areas are selected for regeneration, balancing age classes is one of the objectives. Age classes 61 to 90 years old have a higher proportion of acres than other age classes. The three age classes between 61 and 90 years have 46 percent of the forested acres.

With lower regeneration rates, the forest is attaining more acreage in older age classes. Six percent of the forest is now greater than 100 years old.

Table 1 displays the percent of forested acres for the National Forests in Mississippi by ten year age classes based on inventory in the vegetation database (FSVeg).

Table 1 National Forests in Mississippi Age Class Acreage Distribution as of 10/31/2007

Age Class	Percent of Forested Acres
0 - 10	4
11 - 20	11
21 - 30	9
31 - 40	8
41 - 50	5
51 - 60	6
61 - 70	14
71 - 80	21
81 - 90	11
91 - 100	5
101 - 110	3
111 - 120	1
121 - 130	1
131 +	1

2) What is the current status of the preliminary list of possible old growth?

The preliminary list of possible old growth developed as information for forest plan revision was provided to the public August 10, 2005. The stands identified through this analysis for inclusion on this list were coded in the FSVeg database. This data has been updated since that time as project level inventory and decisions have been made. The 2005 and current status of this list is summarized in the following tables.

Table 2 NFs in MS Preliminary Inventory of Possible Old-Growth Acreage Summarized by District and Selection Criteria (July 8 2005).

Districts	Bien-ville	De Soto	Homo-chitto	Chicka-sawhay	Delta	Holly Springs	Tom-bigbee	NFs in MS
Selection Criteria								
Wilderness (3)		6466						6466
Research Natural Areas (4)	189	1820	230	539	670	186	803	4437
Other Administratively Designated Unregulated Areas (5)	568	5585	84	451	3122	235	72	10117
Red-cockaded Woodpecker Clusters (6)	8505	3236	4230	2007				17978
Late Seral (7)	10770	14578	7300	7239	2946	5138	3004	50975
R8 Old Growth Minumum Age (8)	698	2031	580	14	13581	6393	958	24255
Rare Community Types (9)	937	1175	807	134	759	759	552	4364
Totals	21667	34891	13231	10384	20319	12711	5389	118592

Table 3 NFs in MS Preliminary Inventory of Possible Old-Growth Acreage Summarized by District and Selection Criteria (August 13, 2008).

Districts	Bien-ville	De Soto	Homo-chitto	Chicka-sawhay	Delta	Holly Springs	Tom-bigbee	NFs in MS
Selection Criteria								
Wilderness (3)		6465						6465
Research Natural Areas (4)	159	722	228	539	670	186	815	3319
Other Administratively Designated Unregulated Areas (5)	310	5837	70	451	3122	235	907	10932
Red-cockaded Woodpecker Clusters (6)	8505	3104	4166	2007				17782
Late Seral (7)	10770	14835	7364	7239	2946	4398	2967	50519
R8 Old Growth Minumum Age (8)	678	2169	513	14	13556	5710	958	23598
Rare Community Types (9)	937	1000	875	134		728	152	3826
Totals	21359	34132	13216	10384	20294	11257	5799	116441

Over approximately two years, this list has been reduced through data edits by 2,151 acres (2%).

3) What are the accomplishments for fiscal year (FY) 2007 for Forest Health?

Forest health is improved in some way by all vegetation management activities accomplished. However, the activities that lower the risk for southern pine beetle (SPB) caused mortality, the most prevalent and devastating tree health issue for the National Forests in Mississippi, are those that reduce density and favor trees less susceptible to SPB attack. These include thinning treatments. In FY 2007, 2,641 acres were contracted for commercial thinning. Plantation first thinning for SPB hazard reduction was 769 of these acres. In addition, 871 acres were precommercially thinned.

For context, the estimated annual need for thinning is 46,000 acres, with 16,000 of that first thinning.

4) What is the current forest type classification breakdown compared to the status at plan implementation?

FY 2007 forest type data from FSVeg database queries were analyzed to determine acreage by broad forest cover types (working groups) within lands classified as suitable for timber. The acreages are compared to similar figures compiled when the Forest Plan was written and in FY 2006 to determine magnitude and direction of change in forest cover types.

The distribution in 2007 has slight changes from 2006 data in the last monitoring report. There was a decrease in loblolly by two percent. There was one percent increase in longleaf pine. There is an increase in acreage of pine-hardwood and longleaf, and a decrease in the yellow and slash pine forest types since the Forest Plan was adopted in 1985. Hardwood forest types have remained about the same. The percentage of land suitable for timber production in each forest type in FY 2007, FY 2006 and in 1985 when the Plan was written, are displayed in the following pie charts. (As an explanatory note yellow pine in the 1985 included shortleaf and loblolly.)

Forest Types
National Forests in Mississippi

Figure 1:

1985

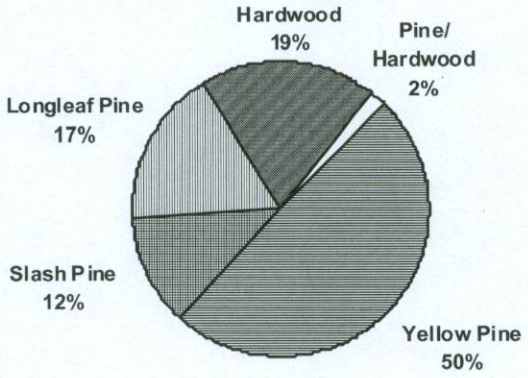


Figure 2:

2006

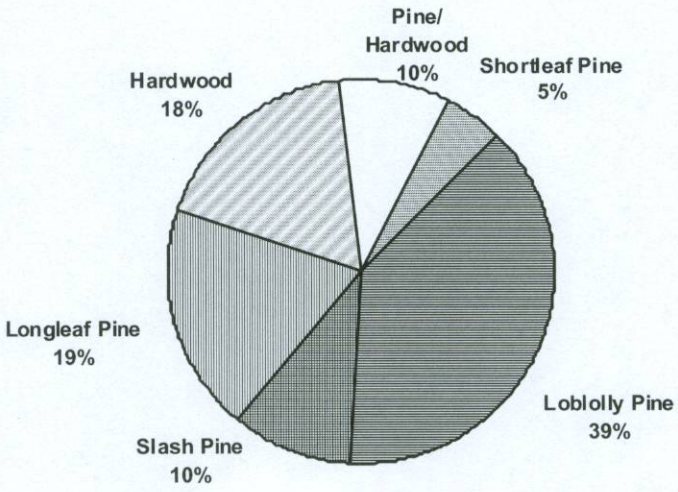
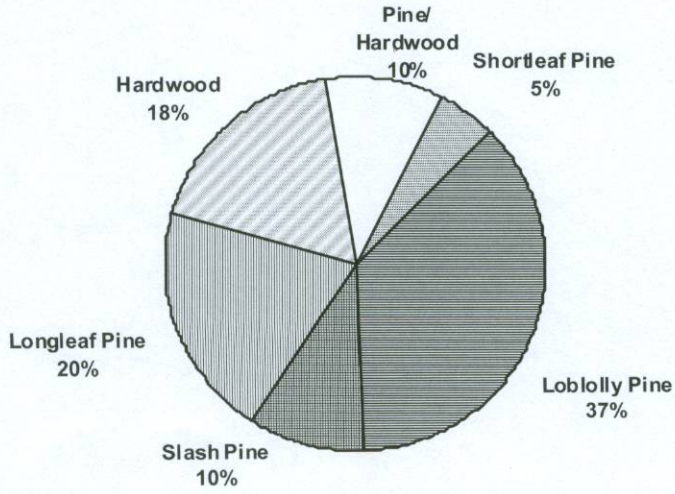


Figure 3:

2007



5) What were the harvest accomplishment trends for the last 7 years in terms of volume and acres?

Recent harvest accomplishment trends are summarized in Table 4 below.

Table 4 National Forests in Mississippi timber harvest volumes and acres 2001 – 2007.

Fiscal Year	2001	2002	2003	2004	2005	2006	2007
Volume - MMBF	30	33	42	89	77	308	62
Volume - MMCF	5	6	8	18	15	62	12
Intermediate M Acres	4	3	2	7	6	112	6
Regeneration M Acres	5	3	1	3	2	2	.3

6) What new information has been documented resulting from the effects of Hurricane Katrina?

Data collection by a number of federal, state and local government agencies and organizations began immediately after Hurricane Katrina made landfall on August 29, 2005 and is, in some cases, ongoing. Damage assessment was an immediate priority. Several reports have documented special inventory efforts accomplished by the Forest Inventory and Analysis (FIA) unit from the Southern Research Station, USDA-Forest Service. Working in conjunction with FIA, the Mississippi Institute for Forest Inventory (MIFI) and the Mississippi Forestry Commission (MFC), timber inventories were assessed. The combined efforts of MFC-MIFI and FIA resulted in 1,349 sample plots in the six coastal counties (Hancock, Harrision, Jackson, Pearl River, Stone and George Counties) that were most impacted by the hurricane. As a generalization, 88 % of the forested plots sampled contained some indication of hurricane damage. For the six coastal counties, blowdown (windthrow) was the most common type of damage observed at the stand level. This type of damage was more common in deciduous forest types, but also occurred in stands of longleaf pine and in denser stands of loblolly and slash pine. Wind-shear damage was the second most common type of damage and was experienced only in coniferous stands.

7) Following Hurricane Katrina, prescribed burning accomplishments for FY 2006 were reduced due to drought conditions and limited availability of personnel. How much prescribed burning was accomplished in 2007? How much of that prescribed burning was accomplished on the De Soto National Forest which was most impacted by Hurricane Katrina?

The NFs in MS burned 230,755 in FY 07 (statewide total) and 221,744 acres of this total was accomplished specifically for hazardous fuels reduction. The following table illustrates accomplishments by Ranger District.

Table 5 FY 2007 Prescribed Burnig Accomplishments – NFs in MS

Ranger District	Acres of Prescribed Burning in 2007
Bienville	32,243
Chickasawhay	33,178
De Soto	86,447
Delta	9
Holly Springs	18,447
Homochitto	37,903
Tombigbee	22,528
Total	230,755

The DeSoto NF burned 119,625 acres in FY 07 (86,447 on the DeSoto RD and 33,178 on the Chickasawhay RD). Recent annual trend data showing detailed accomplishments for the De Soto NF are illustrated in Table 5 above.

8) What progress has been made in gopher tortoise management in FY 2007?

Five year population surveys were conducted on priority soil sites on the De Soto National Forest in FY2007. Surveys included burrow counts and habitat evaluations. Surveys continued into FY2008 and the final report is expected by October 31, 2008 (FY 2009).

In FY 07, the Chickasawhay Ranger District began implementation of a decision (dated 5/11/06) on the Ecosystem Restoration for Gopher Tortoise and Red-cockaded Woodpecker Habitat Improvement Environmental Assessment (EA) and awarded a sale

to treat 502 acres of overstory pine thinning on or near priority soils, 583 acres of midstory reduction on or near priority soils, and 22 acres of noxious weed eradication on or near priority soils and along roads. Additional midstory reduction was accomplished in timber salvage sales related to Hurricane Katrina Recovery. In addition, gopher tortoise population health research was started by the University of Southern Mississippi and results should be available in FY2009. More treatments to improve gopher tortoise habitat will result from the ongoing implementation of the Ecosystem Restoration for Gopher Tortoise and Red-cockaded Woodpecker Habitat Improvement EA.

The De Soto Ranger District signed the Decision Notice for the Gopher Tortoise Habitat Improvement with Herbicide EA on August 20, 2007. The purpose of this EA is to restore and improve gopher tortoise habitat for the recovery of the federally threatened gopher tortoise. This EA includes the treatment with herbicide of all gopher tortoise potential habitat on the District and includes several herbicides and methods. In FY 07 approximately 1240 acres were foliar sprayed with herbicide on gopher tortoise priority soils under this Decision. Several more areas are planned to be treated with herbicide in the future and this EA would continue to be implemented until new information would warrant a revision to the EA.

Generally, all prescribed burns improve gopher tortoise habitat. Although the focus is on applying growing season fire to restore habitat, it is not always possible due to funding, smoke management regulations and environmental factors such as weather conditions. Dormant season fire can be a beneficial tool to maintain habitat or reduce fuel content to allow for a growing season fire at a later date. Table 6 illustrates four years of burning history on the De Soto National Forest. Although it indicates that burning was low in FY06, this is a direct result of impacts from Hurricane Katrina and following short-term drought conditions. Growing season burn acres continue to be low on the De Soto RD because Hurricane Katrina caused a large increase in fuel. As a general strategy, the District plans to first conduct dormant season burns on most of the District to reduce the fuel load before growing season burns are conducted. The Chickasawhay District has increased its growing season burn acres in FY 07 to surpass previous years results and the District strategy intends to continue this trend.

Table 6 Recent Prescribed Burning Accomplishments, De Soto NF

Prescribed Burning Treatment Accomplishment Report for Desoto NF				
	2004	**2005**	**2006**	**2007**
Desoto	Acres	Acres	Acres	Acres
-Dormant	63,700	70,457	13,044	74,017
-Growing	28,377	22,651	1,520	12,430
Total	92,077	93,108	14,564	86,447
Chickasawhay				
-Dormant	20,232	18,107	14,496	8,785
-Growing	17,002	18,204	0	24,393
Total	37,234	36,311	14,496	33,178

9) What progress toward reaching red-cockaded woodpecker population goals has been made?

Currently there are 229 total active clusters. (The previous monitoring questions report listed 210 total active clusters.) Although still far short of current population objectives of 1,595 active clusters, populations have increased during the past 20 years (Figure 4). Red-cockaded woodpecker (RCW) translocations have helped increase populations. Translocations have also enhanced genetic integrity on districts with smaller populations (Chickasawhay and De Soto Ranger Districts). RCW populations have been augmented in recent years by translocating birds from larger populations.

Although total acres of mature yellow pine forest has declined since 1981, the condition of the remaining pine forest habitat is much improved due to an aggressive prescribed fire program, application of midstory control, and installation of artificial cavities (Figure 5). Off-site pine continues to be restored to longleaf pine in areas where longleaf pine historically occurred. As these young longleaf stands are released from competition and grow into mature stands, increased acreage in this forest type will enhance habitat conditions for RCW.

Aggressive application of prescribed fire has been critical to maintaining open habitat conditions on the four districts where RCW occur. Installation of inserts and maintenance of both inserts and natural cavities have substantially enabled increases in both the number of individuals in family groups (increased group size), and in numbers of groups (population expansion) on the Chickasawhay, De Soto and Homochitto Ranger Districts. Maintenance of cavities on all units is critical to RCW occupation and population expansion.

On both the De Soto and Chickasawhay Ranger Districts, translocation has been crucial to sustained population growth. On the Chickasawhay, augmentation has been critical to the survival of the species on this unit. In 1992, only three single males remained on the district. With the augmentation of females to these males, and continued augmentation of both singles and pairs, this population now contains 25 active groups.

The Revised Recovery Plan for the RCW (2003) lists three key management actions as essential to success in recovery of this species: 1) development of large old pines to serve as cavity trees, 2) restoration and maintenance of appropriate habitat structure, and 3) protection of existing cavity trees. The forest should continue to improve and maintain favorable habitat conditions for this endangered species. Multiple techniques are available and effective, and strategies must be tailored to individual populations and habitat conditions. It is the implementation of these strategies, carefully designed to meet the conditions of each of four very different populations and habitat, which will continue to enhance RCW recovery on the National Forests in Mississippi.

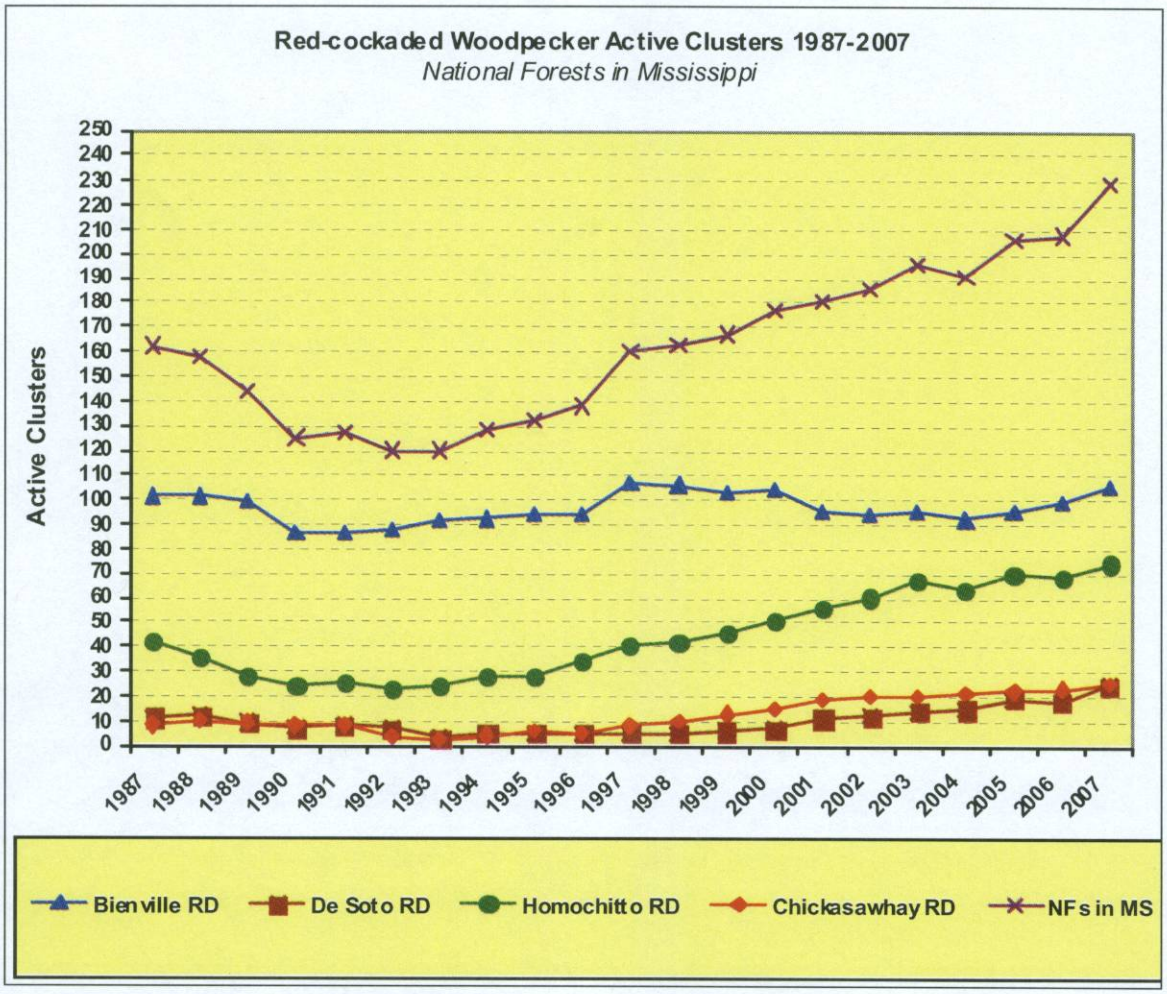


Figure 4. History of active clusters

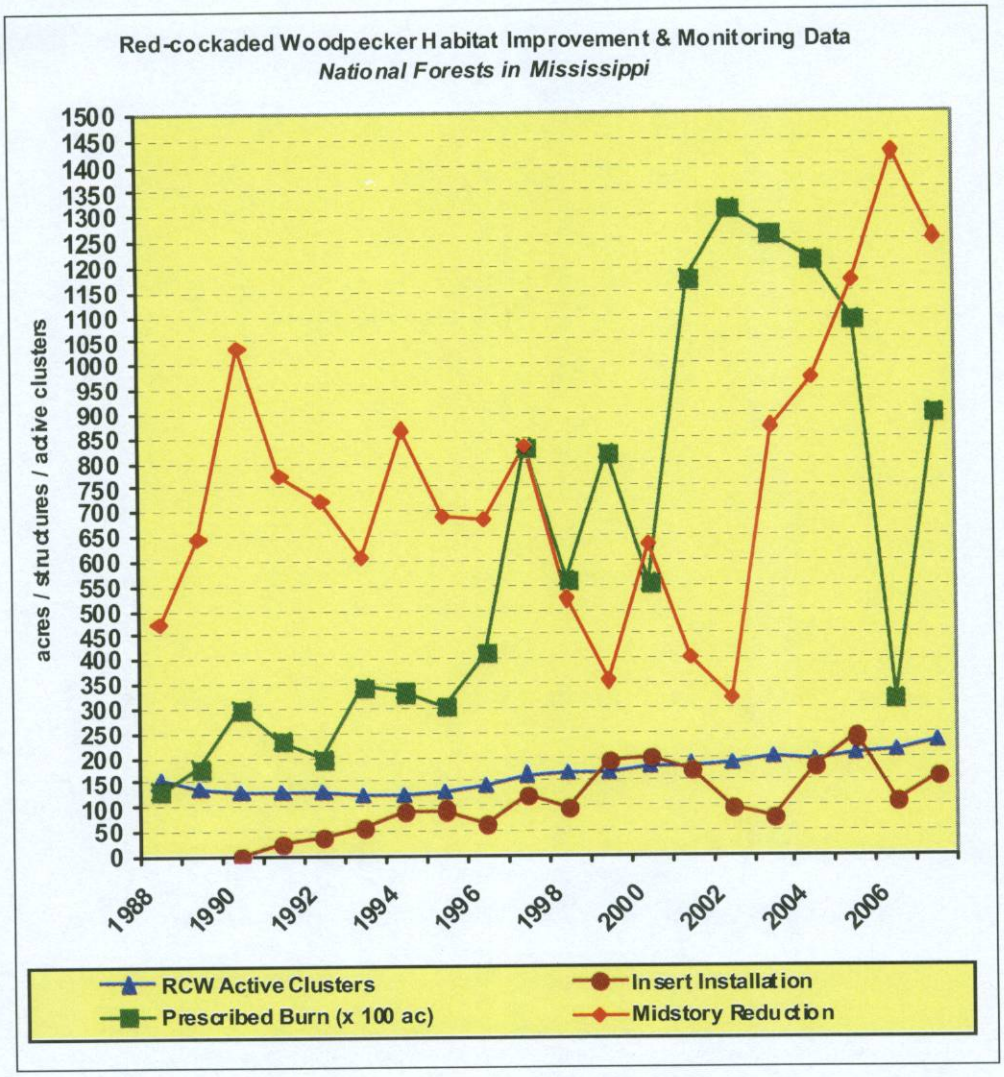


Figure 5. RCW habitat improvement

10) What important activities occurred in FY 2007 to improve the transportation system?

Five road bridges were replaced in FY 07. Customary practice on the Forest prior to 1991 was to build bridges using precast concrete deck sections on wood piles, with wooden crib wall abutments. However, the high heat and humidity in Mississippi provides an excellent environment for fungus growth, which attacks and weakens the wooden substructure components of those type bridges. Beginning in 1991 concrete piles and riprap armored "spill-through" abutments became the standard, eliminating all wooden bridge components and providing much longer bridge service lives. In addition, concrete piles are safer and eliminate the uncertainty associated with the inspection of timber piles, which in turn reduces the number of bridges posted due to the inability to accurately determine the exact load capacity of a deteriorated pile. Prior to FY 07, 47 of the Forest's 85 road bridges had wood piles, so that number was reduced to 42 entering FY 08.