Forest Plan Monitoring and Evaluation Report

Chattahoochee-Oconee National Forests

Through Fiscal Year 2012

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Chapter 1

Forest Supervisor's Certification

I have evaluated the monitoring results and recommendations in this report. I have directed that the Action Plan developed to respond to these recommendations be implemented according to the time frames indicated, unless new information or changed resource conditions warrant otherwise. I have considered funding requirements in the budget necessary to implement these actions.

With these completed changes, the *Revised Land and Resource Management Plan, Chattahoochee-Oconee National Forests* (Forest Plan) is sufficient to guide management activities unless ongoing monitoring and evaluation identify further need for change.

Any amendments or revisions to the Forest Plan will be made using the appropriate National Environmental Policy Act procedures.

Betty M Jewett

Betty M. Jewett
Forest Supervisor

9/17/14

Date

Executive Summary

This section includes a brief summary of the process used to develop this report and the important findings and results for this period.

The Chattahoochee-Oconee National Forests annually monitors and evaluates programs and projects to determine whether these activities are meeting the management direction shown in the Revised Land and Resource Management Plan (Forest Plan). Monitoring and evaluation are specifically designed to insure:

1) Forest Plan goals and objectives are being achieved,
2) Standards are being properly implemented,
3) Environmental effects are occurring as predicted,
4) Our actions are having the expected results,
5) New issues are being identified and addressed.

The evaluation of monitoring results allows the Forest Supervisor to initiate action to improve compliance with standards where needed and determine if any amendments to the Forest Plan are needed to improve resource management. This report also provides a tool to improve internal communications and feedback, and provides for accountability to the public.

Evaluation of the monitoring results is reported by resource activity area and responds to monitoring questions (MQ) established in the Revised Forest Plan.

Introduction

The Chattahoochee-Oconee National Forests annually monitors and evaluates the programs and projects to determine whether these activities are meeting the management direction in the forest plan. The purpose of this report is to document the results of the Forest Plan monitoring and evaluation program for fiscal year 2012.

Monitoring and evaluation is an ongoing process that is documented through reviews made by the individual resource specialists, Forest Leadership Team and District Rangers. The information from these reviews, individual inventory reports, reports and information from cooperators and research are compiled into one comprehensive report after the Fiscal Year (FY) is completed. The Forest however has not completed a formal report since 2008, therefore throughout the report, some resource areas evaluated the last several years of findings.

The monitoring and evaluation report that follows is presented in three chapters and two appendices.

Chapter 1 is primarily an introduction and Forest Supervisor's Certification of the report findings and recommendations.

Chapter 2 documents monitoring processes, actions, and findings of the monitoring completed.

Chapter 3 highlights some of the outcomes of actual projects implementing the Forest Plan that led to the findings and recommendations in Chapter 2. It also contains the Action Plan.

Appendix A is the list of contributors to this report.

Appendix B is the Response Form.

Chapter 2

Monitoring Results and Findings

Chapter 5 of the Forest Plan establishes Monitoring Questions that are to be addressed over the course of Forest Plan implementation. Monitoring questions address whether the desired conditions, goals and objectives of the Forest Plan are being met and whether Forest Plan standards are effective, and are discussed in this chapter.

MQ 1. Are rare communities being protected, maintained, and restored?

Element

1. Trends in the conditions of each known rare community type.
2. Acres and/or number of occurrences of rare communities treated to maintain or restore desired conditions.

Information

This monitoring question is responsive to goals numbers 1, 2, 3, 4, 5, 8, 12, 14, 15, 19, 21, 26, 31, 33, 44, 61 and 75.

Results/Findings

In 2012, restoration of rare communities focused on mountain bogs and pine-oak woodlands.

Wetland Communities:

Southern Appalachian mountain bogs have improved over time. In 2013, restoration activities were occurring in nine mountain bogs through invasive species treatment, vegetation management and prescribed fire. This restoration work is a high priority for the partnership with Georgia Plant Conservation Alliance.

- In 2009/2010, hand clearing occurred to reduce woody competition and open the canopy on 22.6 acres over eight bogs. Hand clearing continues to occur annually.
- Since 2011, invasive species have been treated at one mountain bog. In 2012, 42 acres were treated focusing on Chinese silvergrass.
- Vegetation management also includes prescribed fire. In 2012, two landscape level burns were conducted that included mountain bogs.
- For five bogs with GIS coverage, the number of acres has increased from 4.9 acres to 17.8 acres with improved conditions.
- Rare plants were introduced into the bogs. In 2010, natural recruitment was documented for swamp pink and purple pitcher plant. See Monitoring Question 7 for further discussion.

Glades, Barrens, and Associated Woodlands:

The pine-oak woodland habitat, containing the federally listed smooth purple coneflower and other rare plants such as Georgia aster, is managed to improve the understory diversity on the Chattooga River Ranger District. Habitat management mainly includes prescribed burning with a 460 acre growing season prescribed burn in June 2012. Dormant season burns occurred on 370 acres in the Anderson Road and Lee Mountain areas. Georgia Department of Natural Resources established plots to monitor the effects of management on the habitat and vegetation. As a result of the cooperative management of these sites, it is expected that these communities will increase over the 10-year planning period.

Mountain table mountain pine forest and woodlands are being restored on the Blue Ridge and Chattooga River Ranger Districts. Up to 2012, prescribed fire has been used to restore the community structure to

table mountain pine woodlands. Additional acres of restoration treatments are being planned in the Upper Warwoman project on the Chattooga River Ranger District.

No new information was available for FY12 for other rare communities (basic mesic forests, cliffs and rock outcrops, balds, canebrakes, and caves/mines). Current forest-wide and community-specific standard in the Forest Plan provide direction for protection and management of these communities.

MQ 2: Are landscape-level and stand-level composition and structure of major forest communities within desirable ranges of variability?

Element: Status and trend in forest coverage acreage by major forest and woodland community type and successional stage.

Information: This element of MQ 2 is responsive to Goal 3, Objectives 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8; Goal 4, Objective 4.1; Goal 7, Objective 7.1, 7.2; Goal 8, Objectives 8.1, 8.2, 8.3, 8.4; and Objectives 9.F-03,04.

Results by LRMP Objective:

Objective 3.1: Within first 10 years of Plan implementation restore 1,100 acres of shortleaf pine forests on the Chattahoochee on sites where they once likely occurred.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	0	0	0	0	0	0	10	0	10	720
Blue Ridge	0	0	222	0	0	0	0	0	222	170
Chattooga River	235	30	0	0	0	0	0	0	265	210
Total	235	30	222	0	0	0	10	0	497	1,100
Oconee	0	0	0	0	0	0	0	0	0	1,100
Total	0	0	0	0	0	0	0	0	0	1,100

Since the LRMP was signed in 2004 the Chattahoochee National Forest (CNF) has accomplished 45% of the LRMP objective for restoring shortleaf pine.

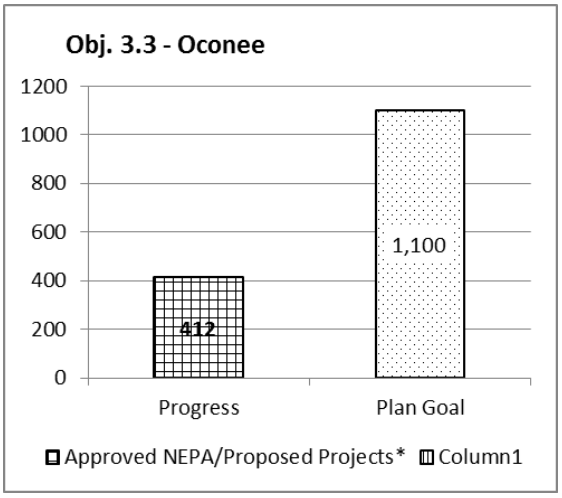
Objective 3.2: Within the first 10 years of Plan implementation restore 1,000 acres of pitch pine forests on the Chattahoochee on sites where it once likely occurred.

The Chattooga River RD planted 15 acres of pitch pine in the Stonewall Knob area in 2011 this is slightly more than 1% of the LRMP objective.

The Chattooga River RD is currently developing the Upper Warwoman project. This project includes proposals to restore fire-dependent oak/yellow pine communities on 221 acres, including pitch pine.

Objective 3.3: Within the first 10 years of Plan implementation restore 1,100 acres of shortleaf pine forests on the Oconee on sites where it once likely occurred.

Since the LRMP was signed in 2004 the Oconee National Forest (ONF) has accomplished 37% of the LRMP objective for restoring shortleaf pine.

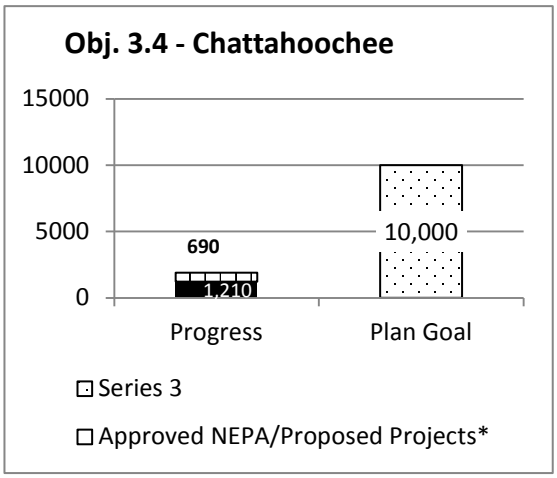


*Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

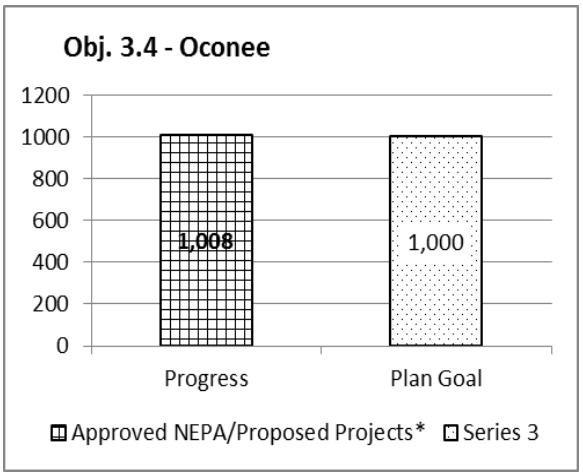
Objective 3.4: Within the first 10 years of Plan implementation restore 10,000 acres of open woodlands, savannas, and grasslands on the Chattahoochee and 1,000 acres on the Oconee. Once created, maintain woodlands, savannas, and grasslands on a five-year burning cycle or less.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	0	0	0	0	0	0	0	0	0	2,320
Blue Ridge	0	0	395	0	0	393	0	0	788	2,790
Chattooga River	0	0	0	442	0	0	0	0	442	4,890
Total	0	0	395	442	0	393	0	0	1,210	10,000
Oconee	0	0	0	0	0	0	0	0	0	1,000
Total	0	0	0	0	0	0	0	0	0	1,000

Since the LRMP was signed in 2004 the CNF has accomplished 12% of the LRMP objective for restoring open woodlands, savannas and grasslands and the ONF has accomplished slightly over 100% of the objective.



*Includes Sumac Creek and Upper Warwoman projects.



*Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

Objective 3.5: Within the first 10 years of Plan implementation restore 1,100 acres of mountain longleaf pine and longleaf pine-oak forests within the Southern Ridge and Valley ecological section on sites where they once likely occurred.

This objective is exclusive to the Armuchee unit of the Conasauga RD.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	0	0	0	0	0	0	151	0	151	1,100
Blue Ridge	-	-	-	-	-	-	-	-	-	N/A
Chattooga River	-	-	-	-	-	-	-	-	-	N/A
Total	0	0	0	0	0	0	151	0	151	1,100
Oconee	-	-	-	-	-	-	-	-	-	N/A
Total	-	-	-	-	-	-	-	-	-	N/A

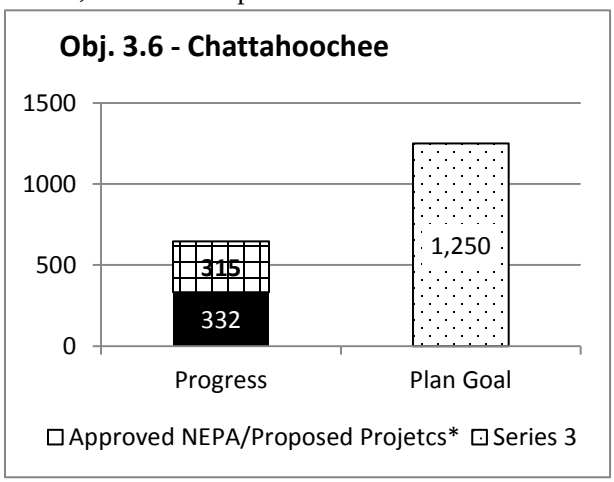
To date, 151 acres of mountain longleaf pine have been restored on the Armuchee unit of the Conasauga RD. An additional 236 acres of mountain longleaf pine restoration are planned in the near future (FY13 or FY14). Collectively, these acres account for approximately 35% of the LRMP objective for restoration of Mountain Longleaf Pine.

The Conasauga RD is currently developing a project on Taylors Ridge which could include opportunities to restore mountain longleaf pine.

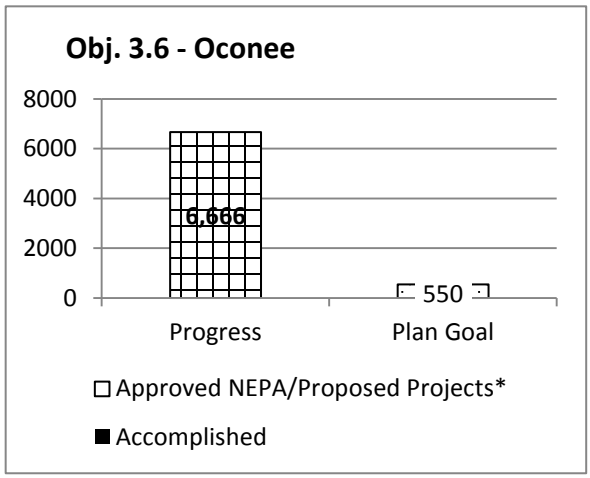
Objective 3.6: Within the first 10 years of Plan implementation restore oak or oak-pine forests on 1,250 acres on the Chattahoochee and 550 acres on the Oconee on appropriate sites currently occupied by pine plantations or other hardwood species such as gum and maple.

District	Year								Total	FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012		
	----Acres Accomplished----									acres
Conasauga	0	0	0	0	0	11	0	0	11	240
Blue Ridge	0	0	181	0	0	0	0	0	181	620
Chattooga River	0	0	0	0	0	0	0	140	140	390
Total	0	0	181	0	0	11	0	140	332	1,250
Oconee	0	0	0	0	0	0	0	0	0	550
Total	0	0	0	0	0	0	0	0	0	550

Since the LRMP was signed in 2004 the CNF has accomplished 27% of LRMP objective for restoring oak or oak-pine forests and the ONF has not accomplished any. This is due to the fact that the CNF has more projects covered under NEPA for oak restoration than the ONF has had. However, the ONF has over 6,600 acres of potential oak restoration sites identified under the OFHWHIP.



*Includes Armuchee Ridges and Upper Warwoman projects.

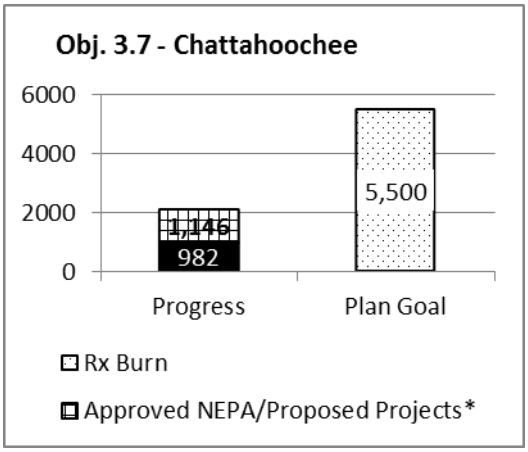


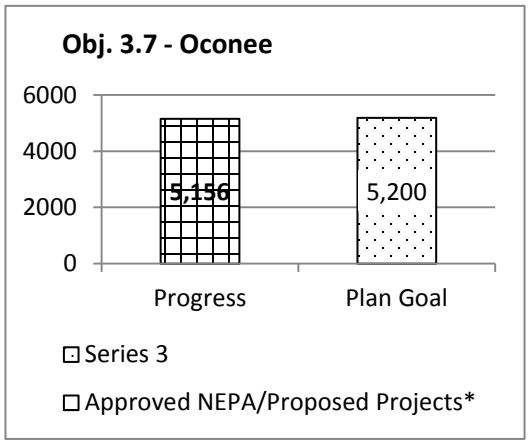
*Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

Objective 3.7: To maintain existing oak and oak-pine forests, reduce stem density on 5,500 acres on the Chattahoochee and 5,200 acres on the Oconee of these forest types within the first 10 years of Plan Implementation.

District	Year								Total	FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012		
	----Acres Accomplished----									acres
Conasauga	0	0	0	0	0	0	201	192	393	2,400
Blue Ridge	0	0	0	0	0	0	300	0	300	980
Chattooga River	0	0	0	0	0	0	289	0	289	2,120
Total	0	0	0	0	0	0	790	192	982	5,500
Oconee	0	0	0	0	0	0	0	0	0	5,200
Total	0	0	0	0	0	0	0	0	0	5,200
Rx Burning (2009-2012) – Chattahoochee (oak)									**Total**	**11,881**
Rx Burning (2009-2012) – Oconee (oak)									**Total**	**7,617**

Since the LRMP was signed in 2004 the CNF has accomplished 27% of the LRMP objective for maintaining oak or oak-pine forests and the ONF has not accomplished any. This is due to the fact that the CNF has more projects covered under NEPA for oak maintenance than the ONF has had. However, the ONF has over 5,000 acres of potential oak maintenance sites identified under the OFHWHIP. In addition to these acres, both the CNF and ONF have completed prescribed burns to maintain oak and oak-pine forests.



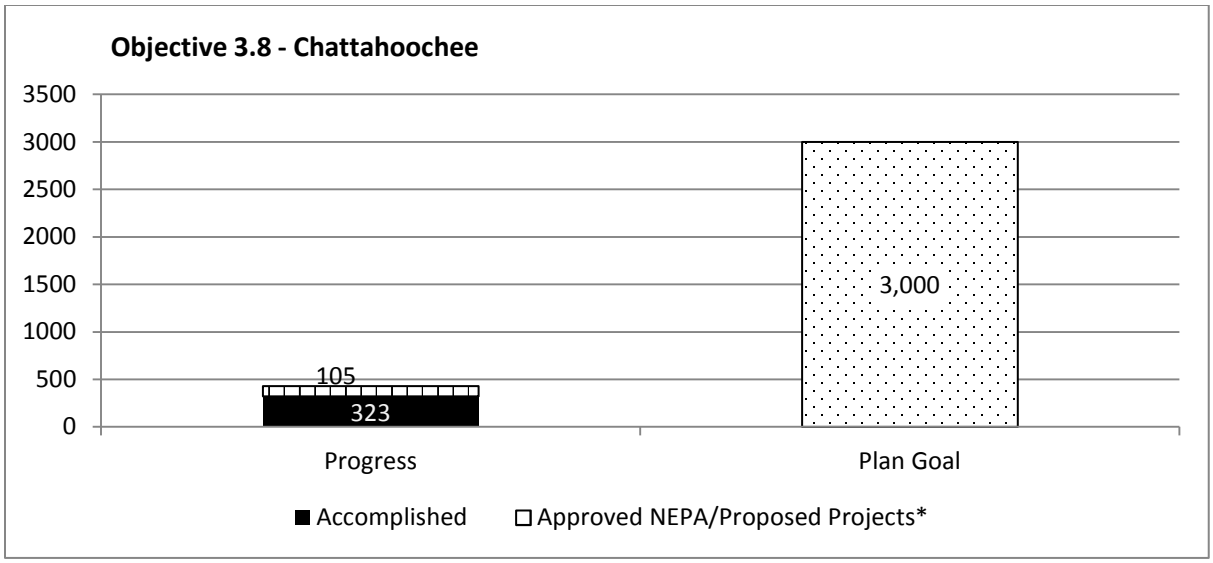


Objective 3.8: Create and maintain an annual average of 300 acres above 3,000 feet elevation in early-successional habitats, achieving 3,000 acres within the first 10 years of Plan implementation. This acreage may be comprised of regenerating forests (0-10 years), utility rights-of-way, and open woodlands.

This objective is exclusive to the Chattahoochee.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	0	120	0	0	0	0	0	0	120	
Blue Ridge	25	0	0	0	0	5	0	0	30	
Chattooga River	0	0	109	0	0	0	0	64	173	
Total	25	120	109	0	0	5	0	64	323	3,000
Oconee	-	-	-	-	-	-	-	-	-	N/A
Total	-	-	-	-	-	-	-	-	-	N/A

Since the LRMP was signed in 2004 the CNF has created 323 acres (11% of LRMP Objective) of high elevation early successional habitat. Disturbance events in high elevations have likely contributed to creation of ESH, however exact acreages that contribute are not known at this time.



*Includes Songbird Wildlife Management Area project.

Objective 4.1: Maintain 1 to 2 percent per decade of the riparian corridor within each 6th level hydrologic unit in early-successional forest conditions. Included would be only those prescriptions hosting riparian associated species as identified in the current viability assessment for the Chattahoochee-Oconee NF and prescriptions with early-successional forest habitat objectives.

An estimated 23 acres of ESH in riparian corridors can be reported across the Forest. This includes activities associated with the Etowah North and Boggs Creek Salvage timber sales located on the Blue Ridge RD.

The Armuchee Ridges project on the Conasauga RD includes objectives to remove off-site planted yellow pine from areas within the riparian corridor in stands being thinned to maintain forest health. To date, an estimated 57 acres have been treated to meet this objective, although this is not be definition creating ESH.

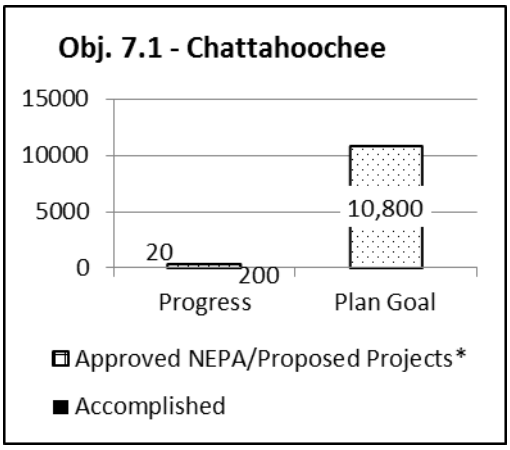
Objective 7.1: Within 10 years of Plan implementation, increase structural diversity by creating canopy gaps within closed-canopied mid-and late-successional mesic deciduous forest, including old growth restoration areas.

10,800 acres on the Chattahoochee

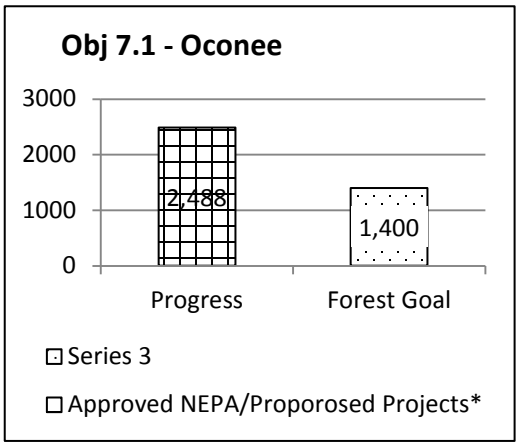
1,400 acres on the Oconee

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	0	0	0	0	0	0	0	0	0	2,680
Blue Ridge	0	200	0	0	0	0	0	0	200	4,380
Chattooga River	0	0	0	0	0	0	0	0	0	3,740
Total	0	200	0	0	0	0	0	0	200	10,800
Oconee	0	0	0	0	0	0	0	0	0	1,400

Since the LRMP was signed in 2004 the CNF has created 200 acres (2% of LRMP Objective) of canopy gaps and the ONF has not created any.



*Includes proposal for canopy gaps in the Sumac Creek project (20 acres).

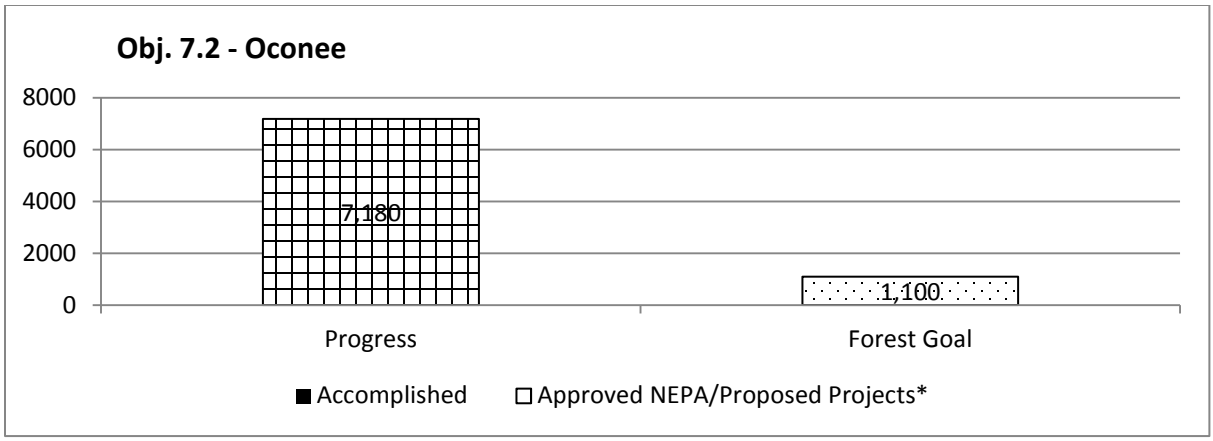


*Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

Objective 7.2: Within 10 years of Plan implementation, restore 1,100 acres of open pine-oak or oak-pine forest on the Oconee outside the RCW HMA. This in addition to the quantity to be restored under the habitat goal above.

	Year								Total	FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012		
District	----Acres Accomplished----									acres
Conasauga	-	-	-	-	-	-	-	-	-	N/A
Blue Ridge	-	-	-	-	-	-	-	-	-	N/A
Chattooga River	-	-	-	-	-	-	-	-	-	N/A
Total	-	-	-	-	-	-	-	-	-	N/A
Oconee	0	0	0	0	0	0	0	0	0	1,100
Total	0	0	0	0	0	0	0	0	0	1,100

Although, no acres have been accomplished toward meeting this objective, the OFHWHIP has identified over 7,000 acres of potential sites to meet this objective. However, it is not likely this amount will be accomplished within the 10 year planning horizon under the current LRMP.



*Oconee Forest Health and Wildlife Habitat Improvement project.

Objective 8.1: To maintain shortleaf pine forests on the Chattahoochee in desired conditions:

Thin overstory trees on an average of 400 acres per year of this forest type

Reduce hardwood mid-story on an average of 6,000 acres per year of this forest type.

Objective 8.3: To maintain shortleaf pine forests on the Oconee in desired conditions:

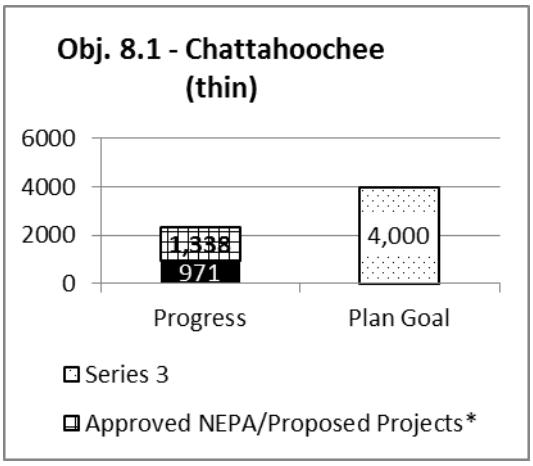
Thin overstory trees on an average of 230 acres per year of this forest type

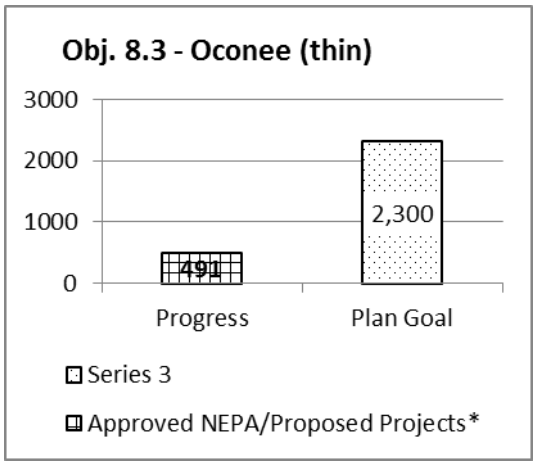
Reduce hardwood mid-story on an average of 500 acres per year of this forest type.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
	----Acres Accomplished----									
District	Thin									acres
Conasauga	0	0	137	160	333	103	16	2	751	1,190
Blue Ridge	0	0	0	0	0	0	0	0	0	830
Chattooga River	0	0	0	0	0	220	0	0	220	1,980
Total	0	0	137	160	333	323	16	2	971	4,000
Reduce Mid-Story (burn)										
Chattahoochee	-	-	-	-	1,519	2,292	953	1,120	5,884	60,000
Thin										
Oconee	0	0	0	0	0	0	0	0	0	2,300
Total	0	0	0	0	0	0	0	0	0	2,300
Reduce Mid-Story (burn)										
Oconee	-	-	-	-	250	87	830	300	1,467	5,000

Since the LRMP was signed in 2004 the CNF has maintained 971 acres (24% of LRMP objective) through thinning and midstory control. Another 5,884 acres of shortleaf pine have been maintained through prescribed burning.

The ONF has not maintained any through thinning or midstory control, but has completed 1,467 acres of prescribed burning. The acreage shown in the graph below again only represent progress in the form of potential areas covered under the OFWHIP.





*Includes Armuchee Ridges, Sumac Creek, East Nottely, and Upper Warwoman projects. *Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

Objective 8.2: To maintain pitch pine forests on the Chattahoochee in desired conditions:

Thin overstory trees on an average of 100 acres per year of this forest type

Reduce hardwood mid-story on an average of 1,400 acres per year of this forest type.

Thin: There is no progress to report for this Plan objective.

Reduce Mid-story: An estimated 501 acres of prescribed fire has been applied in pitch pine forest types on the Chattahoochee. This represents less than four percent of the 10 year goal for this objective (5,000 acres).

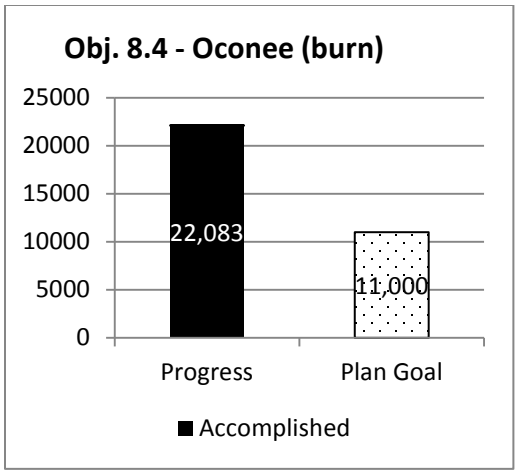
Objective 8.4: To maintain loblolly pine forests on the Oconee outside the RCW HMA in desired conditions:

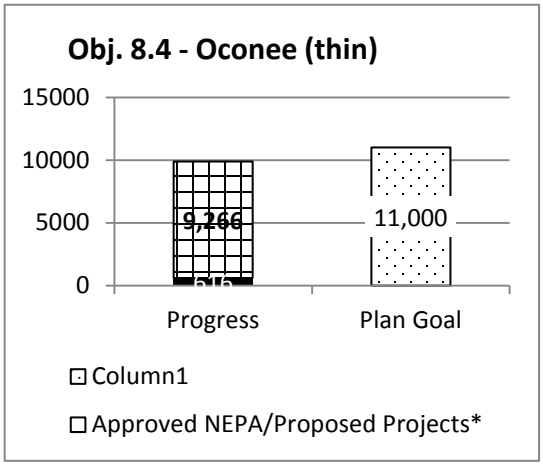
Thin overstory trees on an average of 1,100 acres per year of this forest type

Reduce hardwood mid-story on an average of 1,100 acres per year of this forest type.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	-	-	-	-	-	-	-	-	-	N/A
Blue Ridge	-	-	-	-	-	-	-	-	-	N/A
Chattooga River	-	-	-	-	-	-	-	-	-	N/A
Total	-	-	-	-	-	-	-	-	-	N/A
Thin										
Oconee	0	0	0	0	0	0	245	37140.1	616	11,000
Total	0	0	0	0	0	0	245	371	616	11,000
Reduce Mid-Story (burn)										
Oconee	-	-	-	-	3,758	2,724	10,291	5,310	22,083	11,000

The ONF has thinned 616 acres (6% of LRMP objective) of loblolly pine outside RCW HMAs another 22,083 acres (200% of LRMP objective) has been treated with prescribed fire.





*Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

Objective 9.F-03: To restore table mountain pine forests on the Chattahoochee, reestablish these forest types on sites where they once likely occurred on 2,100 acres within the first 10 years of implementation.

This objective is exclusive to the Blue Ridge and Chattooga River RDs on the Chattahoochee.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	-	-	-	-	-	-	-	-	-	N/A
Blue Ridge	0	0	0	0	108	0	0	0	108	320
Chattooga River	0	0	0	50	0	0	0	0	50	1,780
Total	0	0	0	50	108	0	0	0	158	2,100
Oconee	-	-	-	-	-	-	-	-	-	N/A
Total	-	-	-	-	-	-	-	-	-	N/A

The Forest has made limited progress towards this objective. To date, the Forest has accomplished five percent of the 10 year target for this objective.

The Chattooga River RD is currently developing the Upper Warwoman project. This project includes 65 acres of table mountain pine restoration treatments.

Objective 9.F-04: To maintain table mountain pine forests on the Chattahoochee in desired conditions:

Thin overstory trees on an average of 100 acres per year of these forest types
Reduce hardwood mid-story on an average of 100 acres per year of these forest types
Prescribed burn an average of 200 acres of this type each year over the first 10 years of plan implementation.

This objective is exclusive to the Chattooga River RD on the Chattahoochee, and contains two maintenance components: (1) acres thinned and (2) acres prescribed burned to control mid-story vegetation.

	Year									FLRMP 10 Yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012	Total	
District	----Acres Accomplished----									acres
Conasauga	-	-	-	-	-	-	-	-	-	N/A
Blue Ridge	-	-	-	-	-	-	-	-	-	N/A
Chattooga River	0	0	0	0	0	0	0	0	0	1,000 (thin)
	0	100	0	100	0	0	0	0	200	2,000 (burn)
Total	0	100	0	100	0	0	0	0	200	3,000
Oconee	-	-	-	-	-	-	-	-	-	N/A
Total	-	-	-	-	-	-	-	-	-	N/A

The Forest has achieved approximately 7% of the 10 year combined objective for maintenance of table mountain pine. At the time of Plan revision, this community type was estimated to be present on less than 300 acres. Because of table mountain pine's limited distribution on the Forest, it is doubtful that maintenance objectives for this rare community will be achieved until more acres supporting this community have been restored.

Findings:

- The Forest has made only limited to moderate progress towards the habitat, restoration, and maintenance objectives included under this element of MQ2. In most cases, past accomplishments combined with unimplemented/future proposals are far below specified acres for Plan objectives on the Chattahoochee. It is doubtful Objectives 3.2, 3.4, 3.5, 3.6, 3.8, 4.1, 7.1, 7.2, 8.1, 8.2, 9.F-03, or 9.F-04 will be met on the Chattahoochee within the 10 year Planning cycle. Objective 3.1 could be reasonably achieved based on past accomplishments and future plans for shortleaf pine restoration.

- Projected acres of treatment included in the Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP) are within range of most Plan objectives specified for the Oconee. It is unlikely that these plans would be fully implemented within the 10 year period indicated in the Forest Plan.

- Prescribed fire is being used to achieve maintenance objectives in oak and yellow pine communities across all successional stages, but acres treated are still below Forest Plan objectives for maintaining shortleaf, pitch, and table mountain pine on the Chattahoochee and for maintaining shortleaf pine on the Oconee.

Element:

Acres burned (Wildland and prescribed fire) by forest type, stand condition and season of burn compared to desired fire regimes

All documented data for fuel conditions are in the Forest Service Activity Tracking System (FACTS). The Forest Fire Planner oversee the FACTS database to ensure correct data is entered including; Pre and post conditions including desired conditions, forest type and season of burn. All burns were conducted in the dormant season. The forest is made up of Fire Regime and Condition Class (FRCC) 1, 2 and 3 with the heaviest loading is in 2 and 3. Desired condition would be a FRCC 1 for the forest and we are moving toward that with every burn.

Forty-one wildfires were reported on the Chattahoochee-Oconee NF in FY 2012, for 1,230 acres. Working with the Georgia Forestry Commission in an aggressive campaign has seen Firewise mitigation efforts continue with some twenty-five nationally designated Firewise Communities being listed for the state by the National Fire Protection Association (NFPA). Ten of these communities are adjacent to or border national forest.

In fiscal year 2012 one wildfire was reported in previously treated areas for less than one acre.

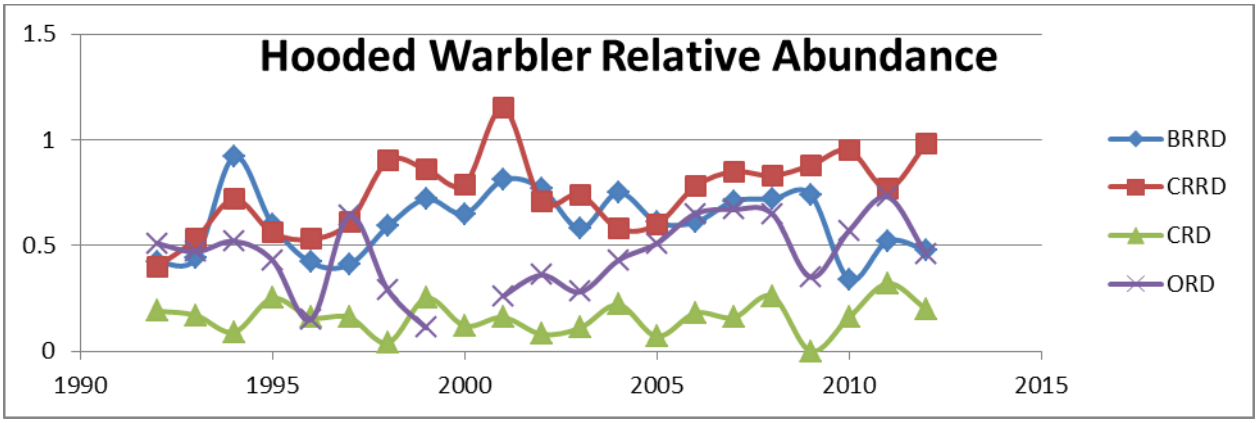
Element:

Trends in hooded warbler occurrence in relationship to mature mesic deciduous forests

Hooded warblers are found in mature, mixed hardwood forests that are structurally diverse. Nesting locations are restricted to large forest patches. It typically inhabits mature forests where large trees fall to create canopy gaps. Management may entail creating canopy gaps and maintaining a shrub layer. This species is of interest as it is sensitive to forest fragmentation, but also requires well developed understories and midstories (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has an significant increasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests suggests that the hooded warbler population has remained stable or increased on the Forests. The overall amount of preferred habitat of older hardwood stands has increased over the past decade, making more suitable habitat available for the hooded warbler. The forest plan provides for maintaining an abundance of mature hardwood sights preferred by this species and other late successional preferring fauna.

Figure - Relative abundance is calculated by dividing the number of hooded warbler occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



Element:

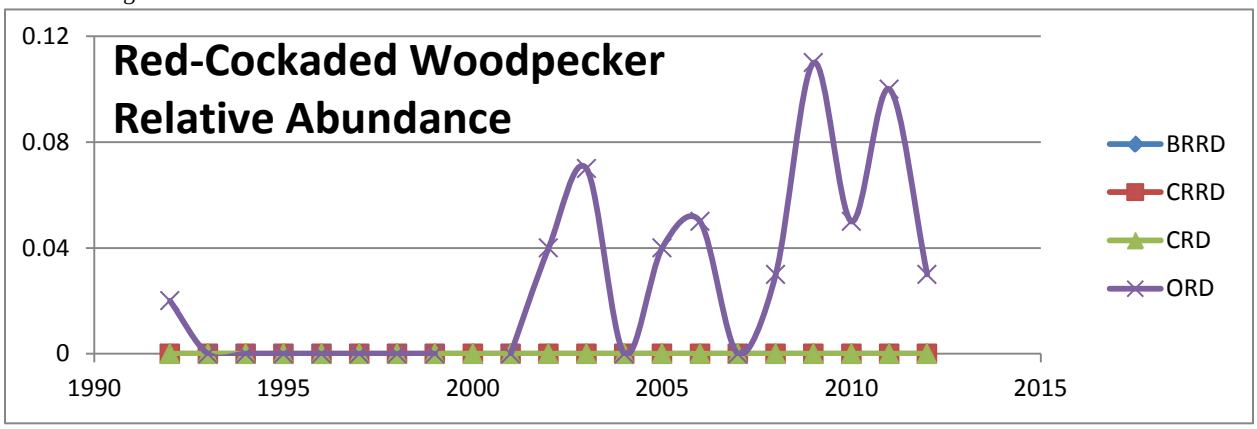
Trends in red-cockaded woodpecker populations in relationship to mature pine forests.

Red-cockaded woodpeckers (RCW) were listed as federally endangered in 1970. They need large expanses of mature, open pine forests, particularly longleaf slash or loblolly pine. Currently, they are not known to occur on the Chattahoochee National Forests, but they do occur and are managed for on the Oconee National Forest. The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) shows that RCWs were not observed on the Oconee from the early 1990's until the early 2000's, but since then they do

show up in small numbers in surveys. The ONF has worked to increase habitat on the Forest for this species and there has been an increase in RCW clusters on the Forest (see Monitoring Question 7A).

Figure - Relative abundance is calculated by dividing the number of RCW occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



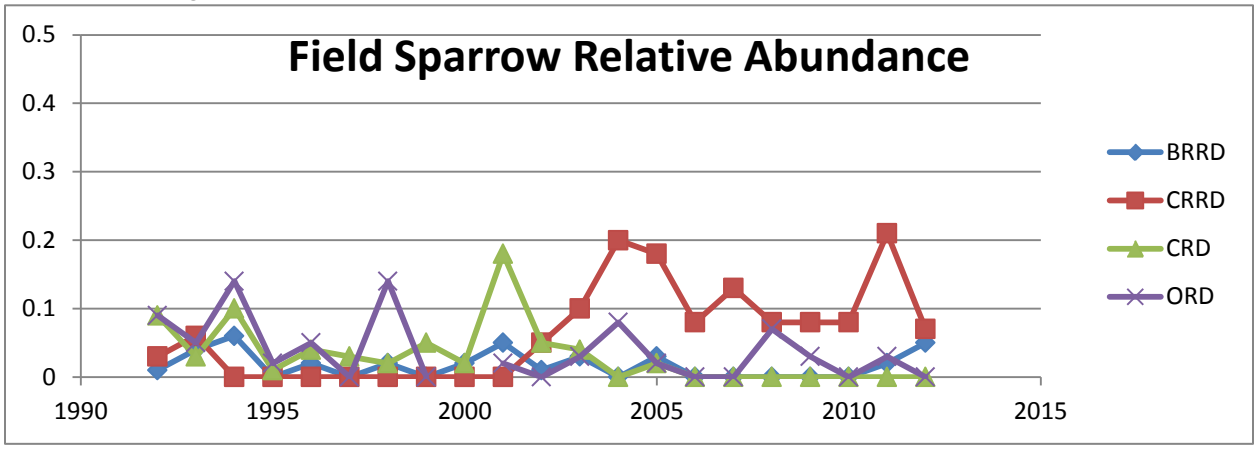
Element:

Trends in field sparrow occurrence in relationship to woodlands, savannas, and grasslands

Field sparrows breed in open grassy areas within forested communities. Its nests are composed almost entirely of grasses and are located near the ground in early spring (La Sorte et al.2006). The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the field sparrow population on the Forests is low with some increase in observances on the CRRD in recent years. The overall amount of preferred habitat for field sparrow has declined on the Forests and woodland and savanna creation has not occurred at the level described in the Forest Plan.

Figure - Relative abundance is calculated by dividing the number of field sparrow occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



MQ 3: Are key successional stage habitats being provided?

Element:

Trends in the abundance and condition of high-elevation early-successional habitats.

This element of MQ 3 is responsive to Goal 3, Objective 3.8. Create and maintain an annual average of 300 acres above 3000 feet elevation in early successional habitats.

Vegetation management, using various treatments, contributes to providing and maintaining habitats. Timber harvest, thinning and regeneration provide and maintain these key successional stages. Since Plan implementation began, approximately 323 acres of high elevation early successional habitat has been created. The Forest is not currently meeting this annual quantitative objective for creating 300 acres per year in high elevation early successional habitats or early successional habitat.

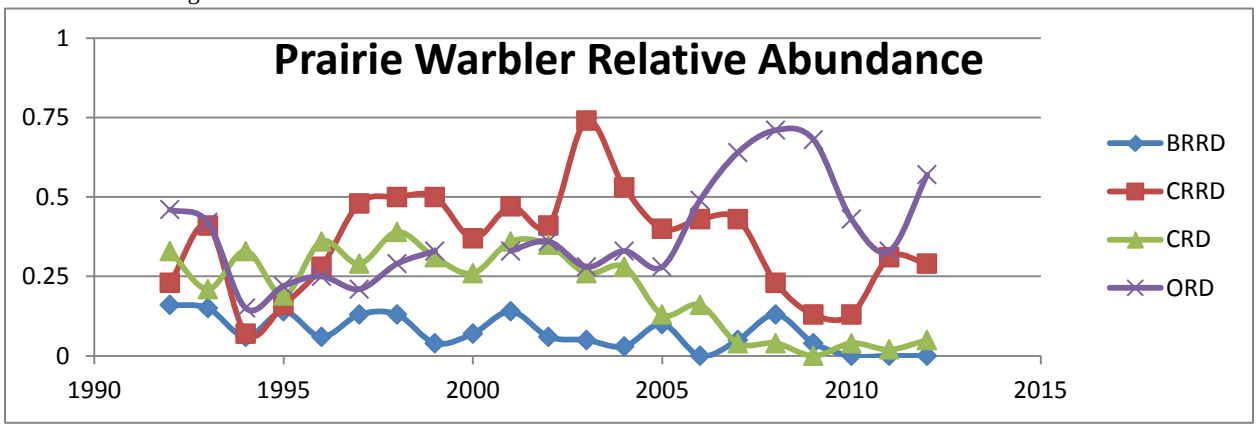
Element:

Trends in prairie warbler occurrence in relationship to the early successional habitat.

Prairie warblers breed in fire–maintained woodlands and other early successional habitats (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the prairie warbler population is low on the Forests with a decline on the CRD in recent years. The overall amount of preferred habitat for prairie warblers has declined on the Forests and woodland and savanna creation has not occurred at the level described in the Forest Plan.

Figure- Relative abundance is calculated by dividing the number of prairie warbler occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



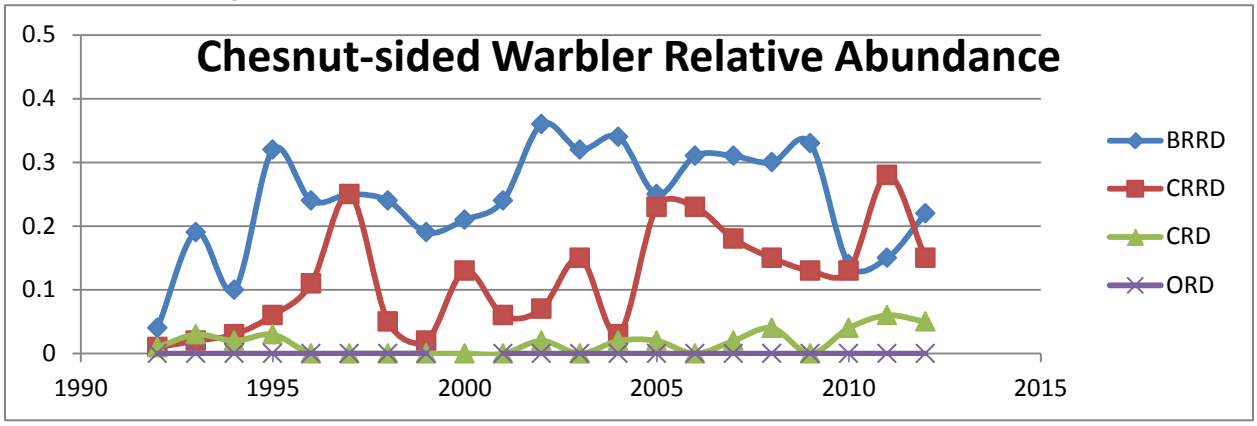
Element:

Trends in chestnut-sided warbler occurrence in relationship to high elevation early-successional habitat.

Chestnut-sided warblers breed in higher elevations in the south and are associated with early successional habitats (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the chestnut-sided warbler's population occurs in low numbers on the BRRD and CRRD with very few observances on the CRD since monitoring started. This ORD is outside the known range of this species. The Forests are well below the level of high elevation early successional habitat objectives as described in the Forest Plan.

Figure- Relative abundance is calculated by dividing the number of chestnut-sided warbler occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



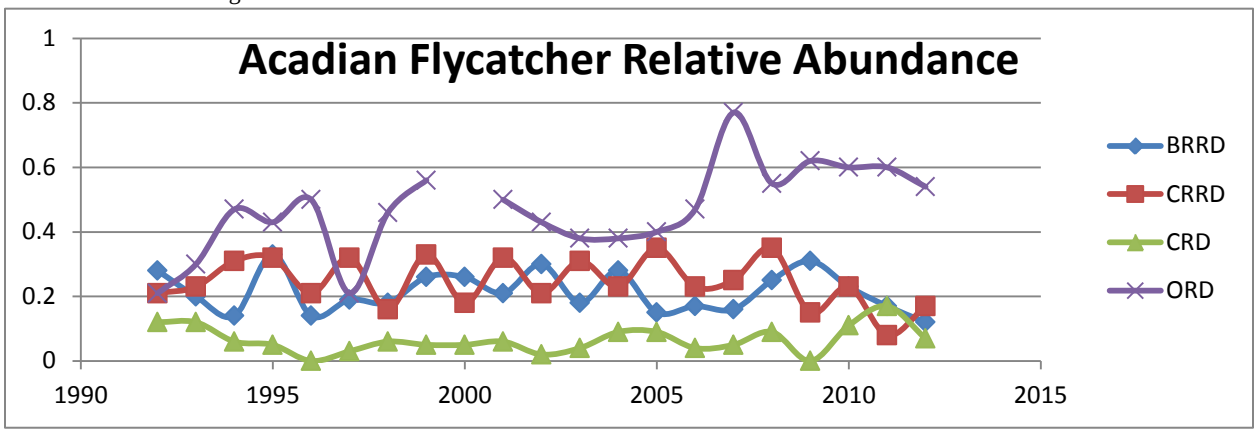
Element:

Trends in Acadian flycatcher occurrence in relationship to mature riparian forests.

Acadian flycatchers breed in mature mesic deciduous forests, often near streams (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the Acadian Flycatcher population is stable on the Forests. The amount of mature riparian forest habitat on the Forests has remained stable as very little management has occurred in riparian areas in recent years.

Figure- Relative abundance is calculated by dividing the number of Acadian flycatcher occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



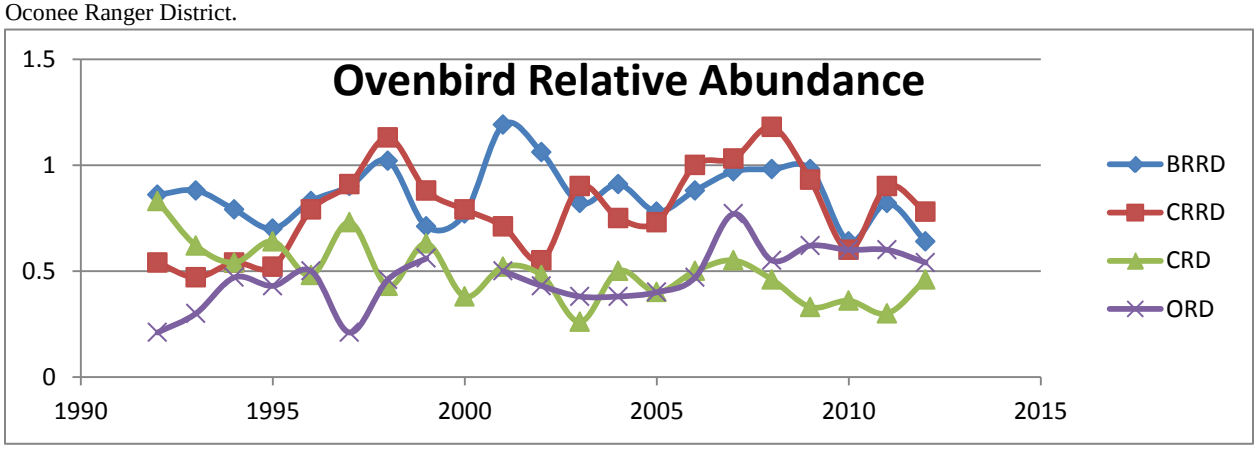
Element:

Trends in ovenbird occurrence in relationship to mountain forest interior communities.

Ovenbirds require large contiguous mature forests for breeding habitats. It is usually found in mature mesic deciduous forests (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a nonsignificant increasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the ovenbird population appears stable on the Forests although there are fluctuations in relative abundance on the Chattooga River and Blue Ridge Ranger Districts. The amount of large blocks of contiguous forest habitat on the Forests has remained stable in recent years.

Figure- Relative abundance is calculated by dividing the number of ovenbird occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



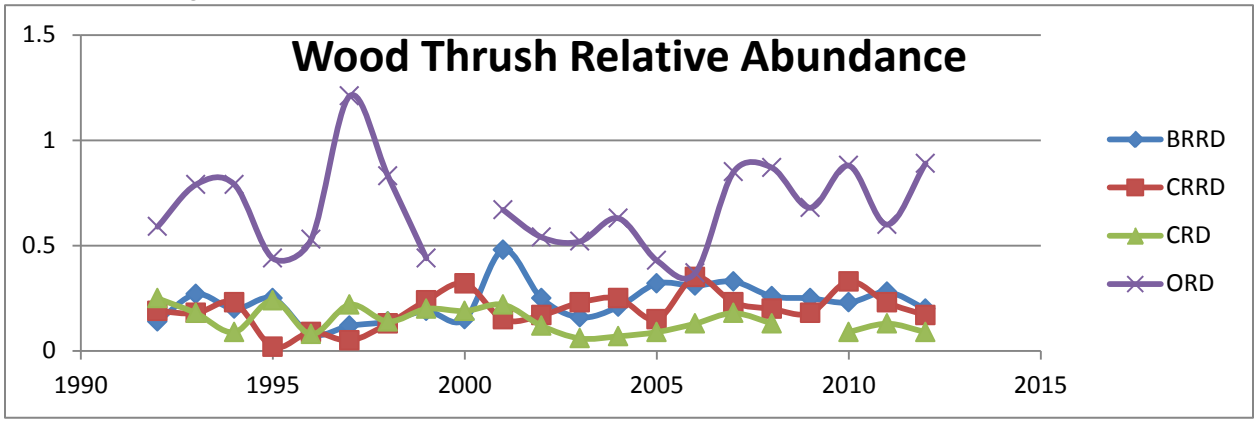
Element:

Trends in wood thrush occurrence in relationship to Piedmont forest interior communities.

Wood thrush breeds in variety of wooded habitats and preferred sites include deciduous tree species, moderate subcanopy and shrub density, shade and a fairly open, moist forest floor (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the wood thrush population appears stable on the Forests with more occurrences on the Oconee National Forest. The Forests have not achieved Forest Plan targets for woodland habitat that this species prefers.

Figure- Relative abundance is calculated by dividing the number of wood thrush occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



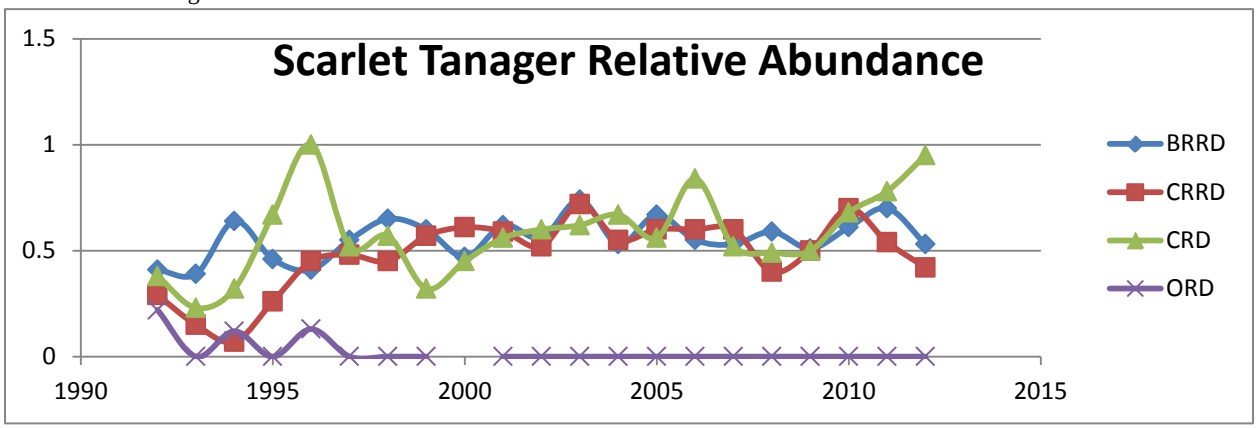
Element:

Trends in scarlet tanager occurrence in relationship to upland oak communities.

Scarlet tanagers breed in variety of deciduous-coniferous forest habitats from mixed mesophytic to xeric pine-oak woodlands. It prefers large blocks of mature forest, especially where oaks are common (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a nonsignificant increasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the scarlet tanager population appears stable on the Forests with occurrences on all districts.

Figure- Relative abundance is calculated by dividing the number of wood thrush occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



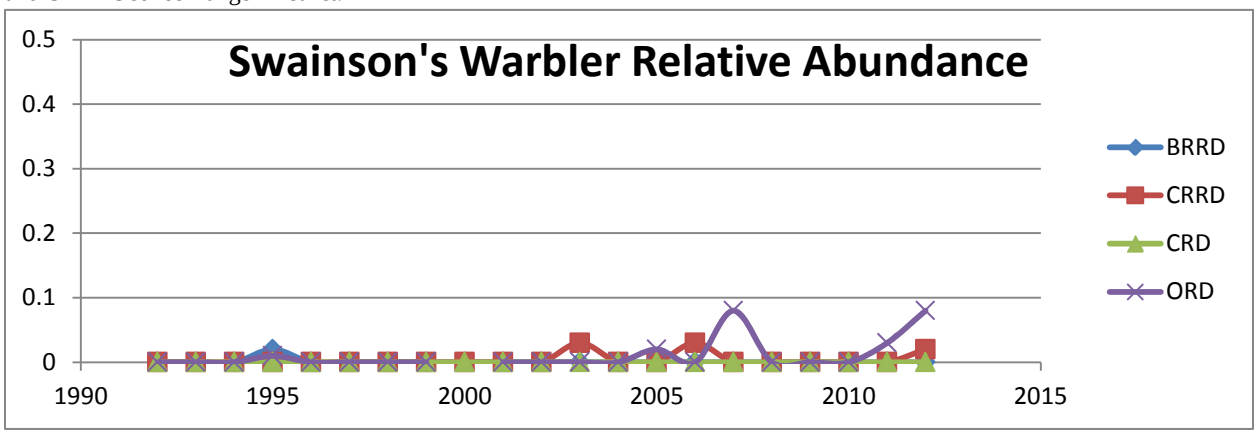
Element:

Trends in Swainson's warbler occurrence in relationship to Piedmont riparian habitat, canebrakes and thickets.

Swainson's warblers breed in understory thickets and canebrakes of the swamps and bottomlands in the Gulf Coastal Plains and in dense shrub layers of mixed mesophytic forests of the southern Appalachian Mountains (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has nonsignificant increasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that Swainson's warbler population on the Forests is small with only a few occurrences on the ONF and Chattooga River District. This is not surprising as most Swainson's warbler occurrences in Georgia are in the floodplains of large rivers (Schneider et al. 2010). The Forests have not implemented canebrake restoration projects that would benefit this species.

Figure- Relative abundance is calculated by dividing the number of Swainson's warbler occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



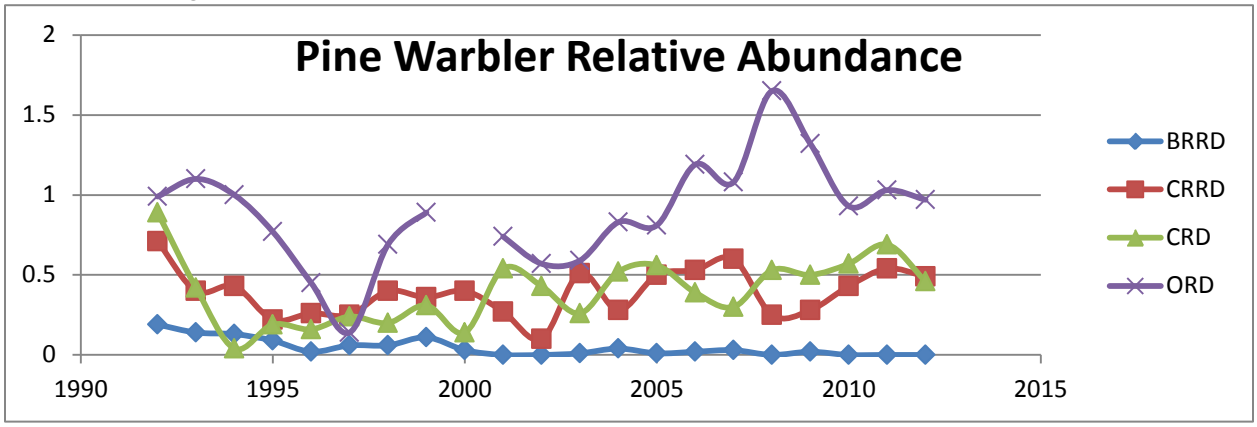
Element:

Trends in pine warbler occurrence in relationship to pine and pine-oak forests.

Pine warblers breed use a variety of upland pine and pine-hardwood forest types. This species is most abundant where the understory is sparse. Forest management centers on retaining mature pine trees with sparse understory maintained by prescribed burning (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant increasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the pine warbler population appears stable on the Forests although this species is rarely observed on the Blue Ridge Ranger District. The Forests has in recent years thinned pine stands and followed up with prescribed burns that will benefit this species.

Figure- Relative abundance is calculated by dividing the number of pine warbler occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



Element:

Trends in acres of wildlife openings.

Over the past ten years there has been a decrease in the amount wildlife openings maintained on the Forests. The maintenance for many of the openings has also become less intensive with less fertilizing and planting and more maintenance by mowing or burning only.

On the Blue Ridge Ranger District there is approximately 520 acres of openings. The district maintains 220 acres and the GA DNR maintains 300 acres on WMA's. The district maintains about 150 acres annually and the GA DNR maintains about 250 acres for a total of 400 acres annually. There were approximately 575 acres +/- 10 years ago. The decrease is primarily due to the elimination of lower Blue Ridge WMA. The district continues to maintain some of the larger openings, but there are a number of small ones that are not being maintained. The district has also abandoned some smaller openings and linear openings that have become too shady.

On the Conasauga Ranger District there are 244 wildlife openings. These 244 openings total 400 acres. The GA DNR maintains 177 acres and the Conasauga Ranger District maintains 223 acres. This includes linear openings (roads sown to grasses).

On the Oconee Ranger District they have seen a decrease in wildlife openings from 625 acres maintained in 2001 to only 338 acres maintained in 2013. The district maintains 193 acres and the GA DNR maintains 145 acres on the Redlands and Cedar Creek WMAs. Most of the decrease has occurred on the Redlands and Cedar Creek WMAs because of lack of funding and personnel.

On the Chattooga River Ranger District there are approximately 375 acres of wildlife openings, this is a decrease of approximately 40 acres in the last ten years. Of the 375 acres approximately 200 acres are maintained by the GA DNR (Warwoman, Chattahoochee and Lake Russell WMAs), and 170 acres are maintained by the district. On an annual basis the district maintains approximately 100 acres of openings and the GA DNR maintains approximately 200 acres per year. Maintenance is done by a combination of

mowing, discing, planting, burning and herbicide application. Over the last five years, the district has stopped managing some smaller openings, and has started focusing on the larger ones. Local volunteers have been critical in assisting the district in managing openings. The district has also recently been converting some existing maintenance level one roads to linear wildlife openings.

Element:

Trends in acres of other permanent openings (pasture, ROW, etc.) and acres of maintenance activity implemented.

The Oconee National Forest manages 723 acres in range allotments of which 482 acres are maintained as permanent openings. The remaining acres are wooded. Since the Plan was signed, 184 acres of closed allotments were converted to wildlife openings, 20 acres were restored with native grasses and 97 acres were left to return to wooded vegetation. There are not any range allotments on the Chattahoochee National Forest.

The Forest also has approximately 191 miles of permitted right of ways (ROW) for a total of 337 acres, but there is not good information on the level of maintenance of these ROW.

Element:

Trend in the abundance and distribution of landscapes important for forest interior birds

As discussed under Monitoring Question 2 the Forest has made only limited to moderate progress towards the habitat, restoration, and maintenance objectives that are important to forest interior birds. In many cases, past accomplishments combined with unimplemented/future proposals are far below specified acres for Plan objectives on the Chattahoochee. It is doubtful Objectives 3.2, 3.4, 3.5, 3.6, 3.8, 4.1, 7.1, 7.2, 8.1, 8.2, 9.F-03, or 9.F-04 will be met on the Chattahoochee within the 10 year Planning cycle. Objective 3.1 could be reasonably achieved based on past accomplishments and future plans for shortleaf pine restoration.

Element:

Trends in acreage of existing and potential old growth by forest community class.

This Element of MQ 3 is responsive to Goal 9 and Goal 20, Objective 20.1.

Objective 20.1: Reserve 5 percent of each 6th level HUC that has at least 1,000 acres of National Forest in management that will conserve existing, or provide for the development of future old growth.

Information:

Current allocation and management of old growth communities under the revised Land and Resource Management Plan for the Chattahoochee-Oconee National Forests is guided by the 1997 report produced by the Forest Service, Southern Region entitled “Guidance for Conserving and Restoring Old-Growth Communities on National Forest in the Southern Region” (USDA Forest Service 1997). At the Ecological Section scale, this guidance generally directed each Forest to provide:

(1) A distribution of old growth blocks in a network;
(2) A mixture of size classes of old growth patches or blocks
    a. Large (> 2,500 acres);
    b. Medium (100 – 2,500 acres);
    c. Small (10 – 99 acres); and
(3) A representation of old growth across regionally defined forest community types (i.e. Old Growth Types), where ecologically appropriate.

The revised (2004) Forest Plan allocated approximately 177,000 acres of large and medium blocks to old growth conservation through old growth emphasized or old growth compatible Management Prescriptions (MRx). These included the following:

Management Prescription (MRx)	**Acres**
0 – Custodial Management-Small, Isolated Land Areas	2,071
1.A – Designated Wilderness Areas	117,430
1.B – Recommended Wilderness Study Areas	8,094
2.A.1 – Designated Wild River Segments	5,998
2.A.2 – Designated Scenic River Segments	468
2.B.1 – Recommended Wild River Segments	2,120
2.B.2 – Recommended Scenic River Segments	4,105
4.B.1 – Murder Creek Research Natural Area	1,005
4.D – Botanical-Zoological Areas	4,578
4.E.1 – Cultural/Heritage Areas	302
6.B – Areas Managed to Restore or Maintain Old-Growth Characteristics	29,676
6.D – Core Areas of Old-Growth Surrounded by Areas with Extended Forest Rotations	598
9.F – Rare Communities	1,098

Data taken from Table 3-85 and 3-86 if the FEIS for the Land and Resource Management Plan, Chattahoochee-Oconee NFs (2004).

Objective 20.1 and associated Forest-wide standards for old growth include directions for allocating small blocks (< 100 acres) of old growth within individual sixth-level HUCs (sub-watersheds) with 1,000 acres or more of National Forest and that currently have less than five percent allocated to old growth conservation by old growth or old growth-compatible Management Prescriptions. This process is intended to be accomplished systematically at the project level. Priority for identifying small blocks of old growth during project design is described in the Forest Plan and supporting EIS and Appendices.

Results/Findings

To date, project-level analyses have identified and/or allocated approximately 3,568 acres of small blocks to old growth conservation in conformance with Objective 20.1 (see table below). Queries of the Forest's spatial stand layer however indicated that only 333 acres (10 percent) of this amount have been updated to reflect the old growth designation. Individuals responsible for the management of stand layers and stand attributes will need to update the Forest stand layer to reflect the designation of individual stands as old growth by changing the current land classification coding.

Project	District	Small Blocks Allocated/Identified for Old Growth Conservation (Acres)
Oconee Forest Health and Wildlife Habitat Improvement	Oconee	2,696
Armuchee Ridges Thinning and Restoration	Conasauga	88
Sumac Creek	Conasauga	333
Davenport Mountain	Blue Ridge	91
Brawley Mountain	Blue Ridge	35
East Nottley	Blue Ridge	325
	Total	3,568

There are a total of 177 sixth-level HUCs located across the Chattahoochee-Oconee National Forests. Of these, 128 HUCs contain at least 1,000 acres of National Forest, and therefore would be subject to the requirements under Forest Plan Objective 20.1. These 128 sixth-level HUCs range in size from slightly more than 1,000 to over 23,000 acres, potentially requiring from 50 to over 1,100 acres of old growth allocation per sixth-level HUC.

Of the 128 sixth-level HUCs with at least 1,000 acres of National Forest, 32 do not contain any Forest Plan old growth allocations via old growth or old growth-compatible Prescriptions. Of the 96 sixth-level HUCs that contain old growth or old growth-compatible Management Prescriptions, only 66 of these meet or exceed the minimum requirements under Objective 20.1 for old growth conservation. Collectively, 62 sixth-level HUCs (> 1,000 acres) do not meet the minimum five percent old growth allocation specified under Forest Plan Objective 20.1. A cumulative total of 15,191 acres of small block old growth allocation would be required within these 62 sixth-level HUCs to meet Objective 20.1. Small blocks for old growth conservation identified and/or allocated during project level analyses (described above) account for approximately 23 percent of this needed acreage. Future projects will need to continue to identify small block old growth conservation areas to meet this objective.

The Forest Plan gives priority for allocation of small blocks of existing old growth to those old growth community types (OGTY) that generally have less than 20 percent of their total old growth community acreage, regardless of age, allocated to an old growth or old growth-compatible prescription within ecological sections. Allocation to small block old growth conservation based on current data from the Forest spatial stand layer (333 acres – described above) among OGTYs and Ecological Sections is given in the table below:

OGTY	Ecological Section															
	Blue Ridge Mountains				So. Ridge & Valley				So. Appalachian Piedmont				Piedmont on CRRD			
	Acres OG MRx	% OG MRx	Acres Small Blocks Allocated	Adj. % OG	Acres OG MRx	% OG MRx	Acres Small Blocks Allocated	Total Percent	Acres OG MRx	% OG MRx	Acres Small Blocks Allocated	Total Percent	Acres OG MRx	% OG MRx	Acres Small Blocks Allocated	Total Percent
2	**9715**	**14**	**-**	**-**	n/a	n/a			n/a	n/a	-	-	**18**	**17**	-	-
5	35211	27	-	-	281	20			**188**	**6**	-	-	**64**	**3**	-	-
13	**74**	**8**	**-**	**-**	55	20			**1603**	**16**	-	-	100	25	-	-
21	65861	29	+212	30	2471	23			**1908**	**13**	-	-	**2005**	**17**	-	-
22	9453	27	+81	27	2313	33			n/a	n/a	-	-	**0**	**0**	-	-
24	**6037**	**18**	**-**	**-**	1063	26			n/a	n/a	-	-	**520**	**14**	-	-
25	**23413**	**16**	**+40**	**16**	9298	22			**2075**	**3**	-	-	**817**	**3**	-	-
27	n/a	n/a	-	-	n/a	n/a			751	23	-	-	n/a	n/a	-	-
28	60	54	-	-	n/a	n/a			n/a	n/a	-	-	8	100	-	-

Data taken from Appendix D, Table D-8, of the Land and Resource Management Plan, Chattahoochee-Oconee NFs. Bold font indicates OGTYs with less than 20 percent representation by ecological section.

Allocation of the 333 acres of small blocks of old growth increase OGTY by 221 acres, OGTY 22 by 81 acres, and OGTY 25 by 40 acres in the Blue Ridge Ecological Section. Only OGTY 25 contained less than the desired 20 percent representation at the time of Forest Plan revision. The 40 acres added only slightly moved (< 1 percent) this OGTY towards the desired range. Identified but yet to be allocated small blocks of old growth described earlier could increase percentages in some of these OGTY still below 20 percent representation.

MQ 4: How well are key terrestrial habitat attributes being provided?

Element:

Trends in hard mast production capability.

This element of MQ 4 is responsive to Goal 10.

Goal 10: Manage for a diversity of oak species to minimize yearly fluctuations in acorn supplies.

Results/Findings:

The Georgia Department of Natural Resources (GA DNR) – Wildlife Division conducts annual acorn mast surveys in Wildlife Management Areas in the Appalachian Region of north Georgia, including the Blue Ridge, Ridge and Valley, and upper Piedmont. Surveys are conducted along 24 routes, with each route consisting of 6-18 stops at approximately 1-mile intervals.

Hard mast survey results collected by GA DNR are summarized in the table below:

	Survey Results – Crop Quality					
Oak Species	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
White Oak	Poor	Good	Poor	Good	No data	Good
Red Oak	Fair	Poor	Good	Good	No data	Good
Chestnut Oak	Poor	Good	Poor	Good	No data	Fair
Combined Oak	Poor	Fair	Fair	Good	No data	Good

Source: GA DNR.

Oak forests are an important source of hard mast (acorns), which are critical winter food for numerous wildlife species. The abundance of oak forest in the future will be primarily dependent on (1) the management of existing oak stands to maintain oak dominance and (2) the ability to increase their abundance through restoration. The Forest Plan uses four key variables to assess the management of oak forests: (1) acres of oak forest burned for maintenance; (2) acres of oak forest thinned for maintenance; (3) acres of oak forests restored; and (4) acres of mid-to-late successional oak forests (an important source of hard mast).

At the time of Plan revision (2004), oak forest accounted for 46 percent of the forest acres on the Chattahoochee and 14 percent of the acres on the Oconee. On both Forests, over 90 percent of oak forests were in mid-late successional stages. Similar conditions within the oak community are still present on the Chattahoochee and Oconee in 2012.

To date, vegetation management activities to maintain or restore oak forests have been accomplished on 1,133 acres on the Chattahoochee. An additional 1,461 acres are included in either currently authorized or proposed projects across the Forest. Oak maintenance and restoration vegetation management projects have not been implemented on the Oconee; however, the Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP) includes plans for 5,156 acres of oak maintenance and 6,666 acres of oak restoration treatments.

The Forest has conducted an estimated 11,881 acres of prescribed burning in oak stands on the Chattahoochee and an estimated 7,517 acres on the Oconee during the last four years (2009 thru 2012).

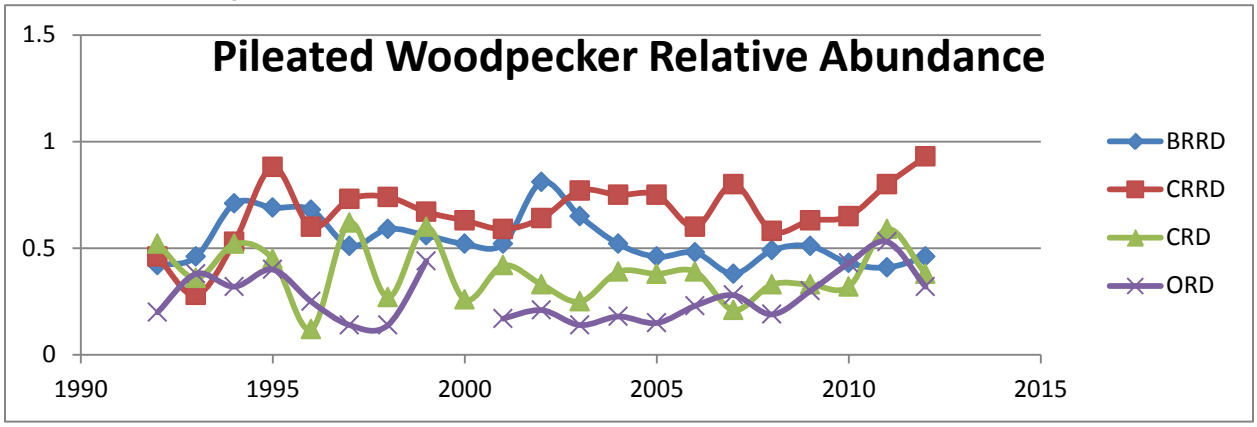
Element:

Trends in pileated woodpecker occurrence as an indicator of snag abundance.

Habitat for this species consists of late successional forests or young forests that retain scattered large dead trees (snags). Forest management activities for this species would include maintaining older forests and retaining dead hollow trees and older live trees to replace snags as over time (La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant increasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

Bird monitoring survey data from the Chattahoochee-Oconee National Forests (Figure) suggests that the pileated woodpecker population appears stable on the Forests. Hemlock die off as a result of Hemlock Wooly Adelgid and natural disturbances have created potential habitat for this species.

Figure- Relative abundance is calculated by dividing the number of pileated woodpecker occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



Element:

Acres of vegetation management implemented in riparian areas by activity type.

Small percentages of vegetation management activities implemented in 2012 and quantified in this document were implemented within riparian areas. They are always done according to the guidelines established in the Forest Plan. Also, each project has mitigation measures established in order to maintain or restore the inherent capabilities of the riparian corridor. For example, the activities of thinning planted pine stands in riparian areas are designed to restore bottomland hardwood vegetation types.

MQ 5: What is the status and trend in aquatic habitat conditions in relationship to aquatic communities?

Elements

Conditions and trends in the overall health of streams.

Trends in water quality parameters and physical habitat conditions in relationship to aquatic communities.

The Forest is currently surveying Acid Neutralizing Capacity (ANC) and other water quality parameters in 10 streams in every sixth level HUC where National Forest ownership is greater than 25% on the Chattahoochee National Forests. Preliminary results indicate that there is not a problem with stream losing neutralizing capability and becoming acidic as has happened in some Great Smoky Mountain National Park streams. In recent years the Forest along with its' partners have focused on improving brook trout habitat on the Forest. A summary of this work can be found under Monitoring Question 7. In addition to this work the Forest has had success in replacing road stream crossing to improve Aquatic Organism Passage (AOP). Further information on watershed conditions can be found under Monitoring Questions 15 and 16.

MQ 6: What are status and Trends of Forest Health Threats on the Chattahoochee/Oconee National Forest?

Element

Conditions and trends of forest fuels.

Hazardous fuels treated through Wildland fire use, prescribed fire, and mechanical treatment.

Preparedness and hazardous fuels personnel achieved 27,710 acres of hazardous fuels reduction during the 2012 fiscal year. An additional 9,469 acres were treated on adjacent lands under Community Protection Grant funding. These acres are within close proximity (3 miles or less) and in many cases adjacent to the forest. The total acreage for prescribed fire was 37,179 acres for FY2012. The majority of these treatments occurred from late January to early April. The Southern Region has allowed forests to set self-imposed targets. Through this means a forest can treat additional acres until the Region reaches its overall target acres for the fiscal year. In fiscal year 2012 the Chattahoochee-Oconee NF had a goal of reaching 30,000 acres in prescribed fire treatments. This was unachievable due in large part to a travel cap that kept personnel from being able to travel overnight to district locations that required additional resources to complete these projects. On several occasions burn plans were out of prescription due to low relative humidity's contributing to the loss of burn days. An Interagency Burn Team agreement continues to provide valuable resources to the forest when multiple units are attempting to conduct projects on the same day.

Treatment	Conasauga (Acres)	Blue Ridge (Acres)	Chattooga River (Acres)	Oconee (Acres)	Treatment Total (Forest Acres)
Prescribed Fire-Hazardous Fuels	1974	3573	1530	20633	27710
Prescribed Fire-Wildlife					313
Prescribed Fire-KV					135
Community Protection Grants	1814	352	251	7052	9469
Mechanical Treatment	0	0	0	0	0
District Total RX Acres	3788	3925	1781	27715	37,627

There were several unplanned ignitions (formerly termed wildland fire use) on the forest due to lightning strikes this past summer. All of these fires were fully suppressed due to safety concerns and fuel conditions.

Element

Trends in the number of occurrences and/or acreage of selected non-native species?

Information:

This element of MQ6 is responsive to Goal (39, 40, and 43).

Objective 39.1: Develop species-to-site relationships for nonnative invasive species to predict their probably locations within five years of Plan implementation.

Results

Inventories of non-native invasive species have been part of botanical surveys for the past 3 years. Also, additional survey efforts for NNIS have focused on roads and wilderness area. For the inventories and treatments in the TESP/IS database through FY2012, 25% of the area surveyed was infested with at least one priority species. In FY2011 and FY2012, 310 acres have been treated at least once. Multiple treatments are often required to control a site.

In general, NNIS plants are found on roads and trails. Other species occur in areas where they were likely planted along roadside, wildlife openings, and temporary roads. Nepal grass and privet appear to be increasing along riparian areas as well once introduced. Naturalized species such as Japanese honeysuckle have naturalized at low densities across the landscape. Other species were planted along most roads and wildlife openings such as sericea lespedeza and tall fescue.

New invasive species were found and treated. For example, fig buttercup (*Ranunculus ficaria*) was found in Sosebee Cove and treated. Japanese climbing fern (*Lygopodium japonicum*) was also located on the Forest in small patches and treatment continues.

Findings

The Forest needs to continue updating the TESP/IS database with legacy data to better understand the distribution of species across the Forest.

Element

Trends in the amount of air pollutants and their effects on forest vegetation, particularly ozone susceptible species.

Compliance with NAAQS air particulate emissions from NF lands [36 CFR 219.27(a)(12)].

Air quality information has been updated for all monitoring sites near the Chattahoochee/Oconee National Forest. Ozone and fine particulate ($PM_{2.5}$) levels continue to remain below the national ambient air quality standards (NAAQS).

Ambient Air monitoring Information:

The two criteria pollutants of most interest to Forest managers are ozone and fine particulate matter. The Georgia Environmental Protection Division (GEPD) operates a network of air quality monitors state-wide (http://www.gaepd.org), both for fine particulate matter ($PM_{2.5}$) and ozone. Air quality monitoring for particulate matter includes both fine and coarse particulates, although from a human health stand-point, fine particulates are of the most concern. The state-wide monitoring network is not distributed uniformly across the State; most monitors are concentrated near urban areas. Data collected by IMPROVE (http://vista.cira.colostate.edu/improve/) and CASTNET (http://epa.gov/castnet/javaweb/index.html) provide information on the constituents of particulates in the atmosphere, as well as a measure of visibility.

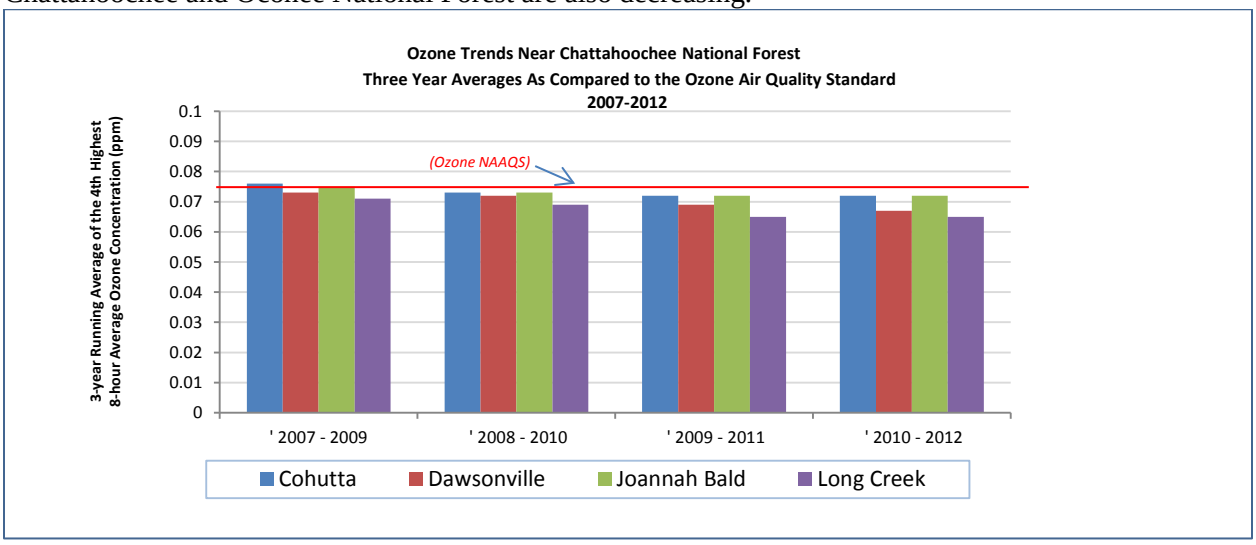
National Ambient Air Quality Standards (NAAQS):

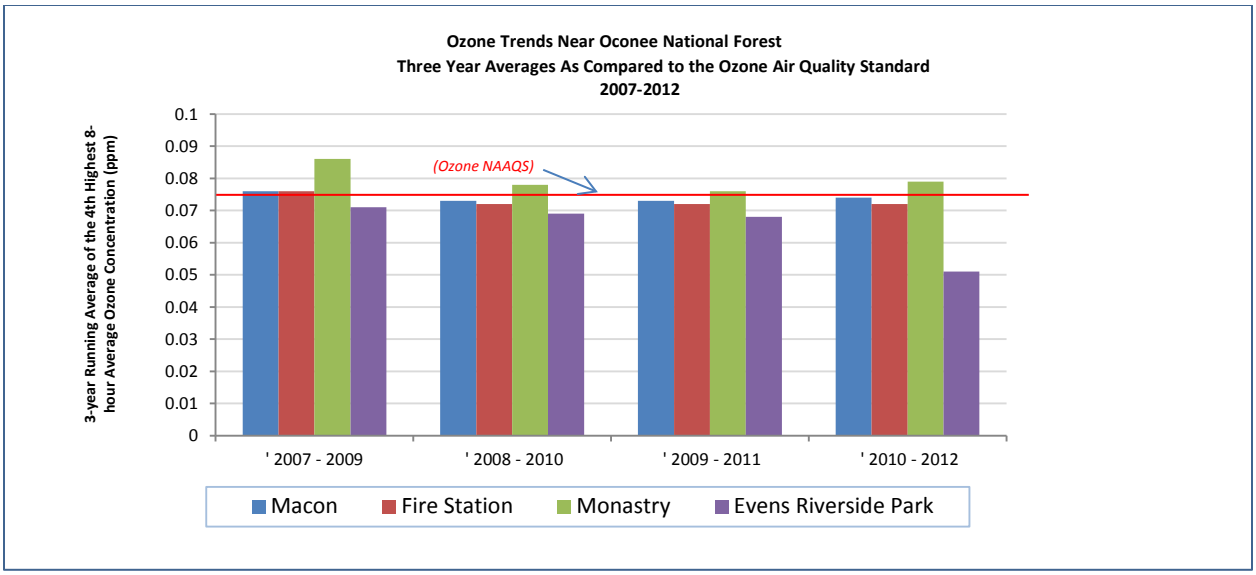
There are NAAQS for six air pollutants, but in the eastern US, ozone and fine particulates cause the most concern. Each state maintains a monitoring network designed to track attainment of the ozone and fine particulate standards. It is important to note that the NAAQS for 8-hour average ozone level was decreased from 0.08 parts per billion (ppb) to 0.075 parts per billion in March of 2008.
The EPA is required to re-assess the standards every five years based on most recent scientific research, and as a result more stringent standards may be proposed in the future. In December 2012, the EPA revised the fine particulate ($PM_{2.5}$) NAAQS and decreased the annual standard from 15 ug/m^3 to 12 ug/m^3.

Ozone:

The following graphs show the ozone concentrations at monitoring sites close to the Chattahoochee and Oconee National Forests. The measured concentrations for the years 2007-2012 at sites near the Chattahoochee and Oconee National Forests are compared to the ozone NAAQS. For the last several cycles of three year-averages, the ozone monitors closest to the Chattahoochee National Forest recorded ozone concentrations below the NAAQS. The Monastry ozone monitor is closest to the Oconee National Forest and it had several three-year ozone averages slightly above the NAAQS. The Monastry monitoring site is also influenced by a major urban area (Atlanta) and therefore has a higher average concentration of ozone than the other monitoring sites. The other 3 sites monitoring ozone near the Oconee National Forest show 3-year averages below the NAAQS.

Overall, all the ozone monitoring sites near the Chattahoochee and Oconee National Forests are recording decreasing ozone concentrations. Air quality impacts to sensitive plant species are caused by exposure to elevated and chronic concentrations of ground level ozone. Since ozone concentrations are generally improving, it is expected that the percentage of plants and the amount of foliar symptoms on sensitive plant species in the Chattahoochee and Oconee National Forest are also decreasing.





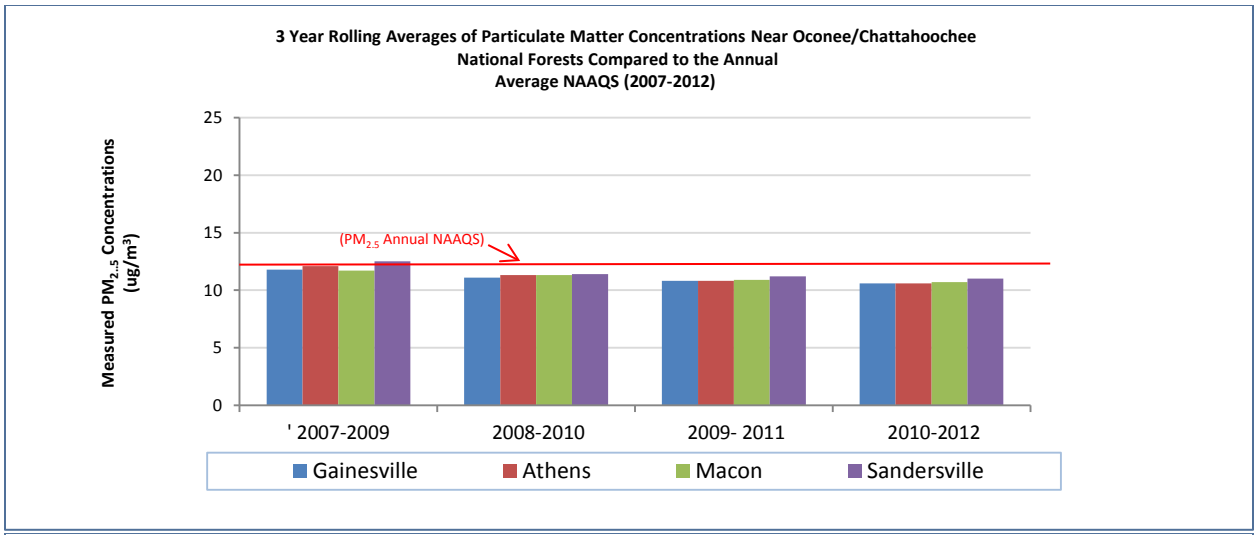
Fine Particulate Matter:

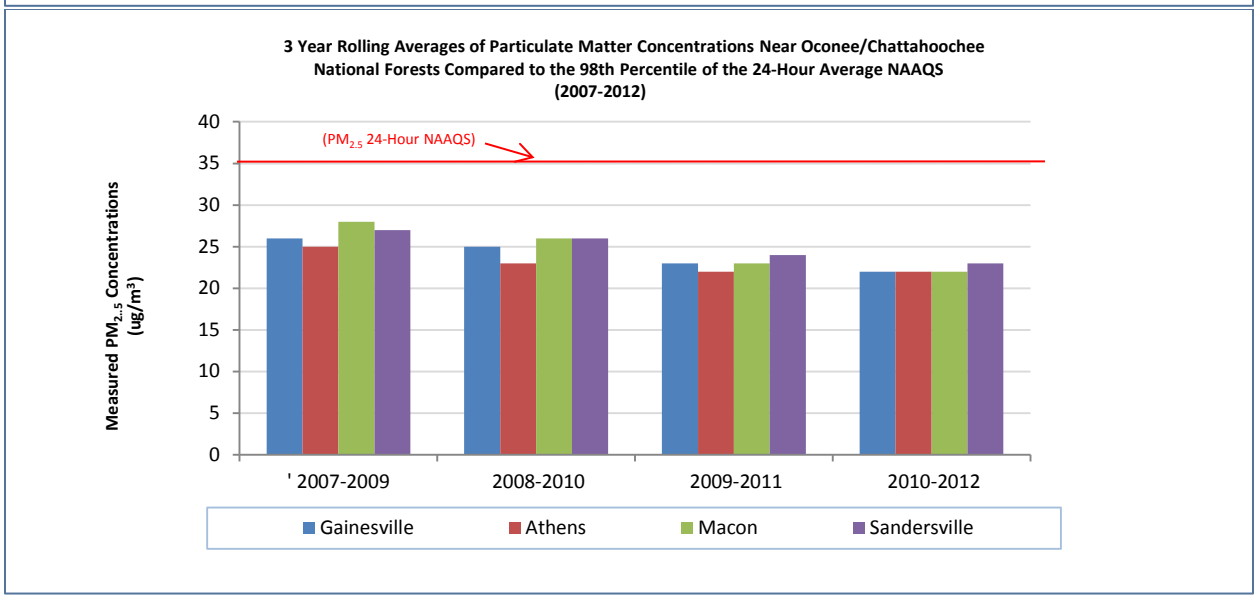
Fine particulate matter is defined as airborne particles with diameters less than or equal to 2.5 microns, or $PM_{2.5}$. These very small particles remain suspended in the air much longer (on average) than the larger (PM_{10}) particles and behave more like a regional air pollutant.

The $PM_{2.5}$ particulate standard has two parts; the 24-hour or daily standard and the annual standard. The 24-hour standard is 35 ug/m^3 and the annual standard is 12 ug/m^3. In order to attain these standards monitoring data must show that:

1. the 98th percentile of the distribution of the 24-hour concentrations for a period of 1 year, averaged over 3 years, does not exceed 35 ug/m^3 and
2. the three-year running average of the annual arithmetic mean of the 24-hour concentrations does not exceed 12 ug/m^3.

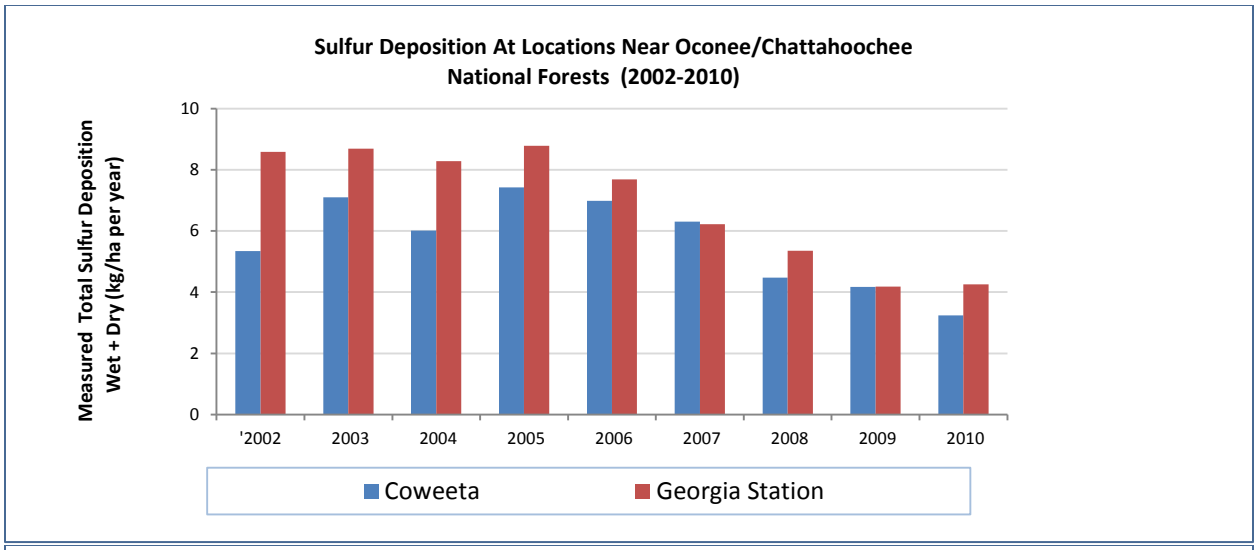
Prescribed fires do release large quantities of fine particles, for a short duration, into the atmosphere. During the calendar year of 2012, the Chattahoochee/Oconee National Forest burned about 27,000 acres in accordance to their prescribed burning program. The following graph shows the measured fine particle matter concentrations near the Chattahoochee and Oconee National Forests in comparison to both the annual and 24-hour average NAAQS. None of the four fine particulate matter monitors near the Chattahoochee or the Oconee National Forest are currently exceeding the fine particulate NAAQS in 2012. The Environmental Protection Agency (EPA) is required to re-assess the standards every five years, and as a result more stringent standards may once again be proposed sometime in the future.

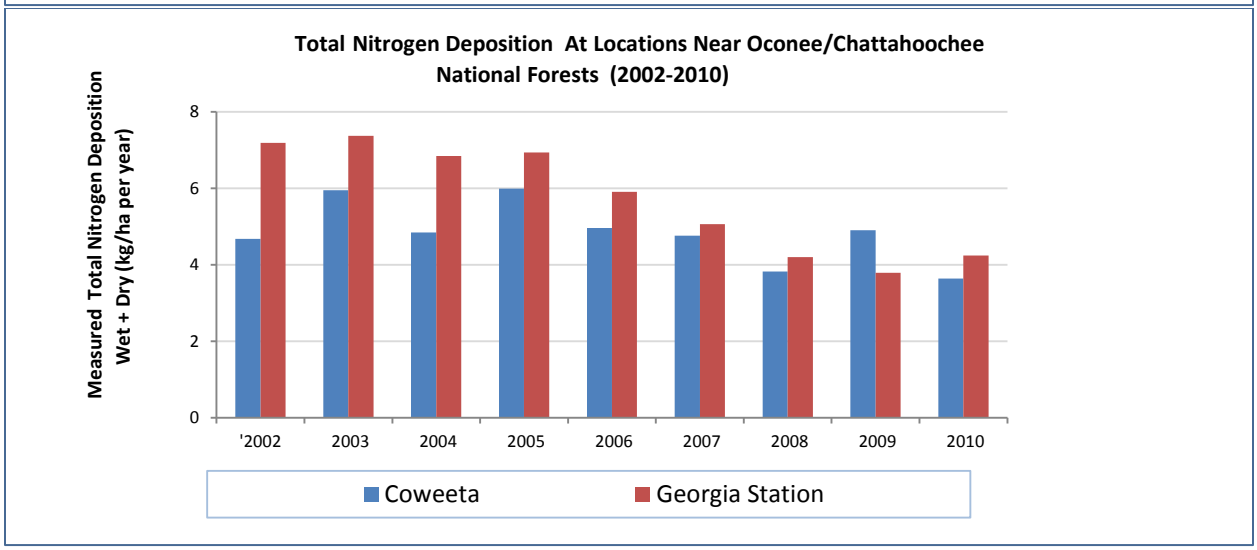




<u>Acid Deposition</u>:

CASTNET and NADP operate two sites near the Chattahoochee and Oconee National Forest that measure wet and dry deposition of sulfur and nitrogen. One site (Coweeta-COW137, NC25) is located near the upper northern border of the state in Macon County, North Carolina, and the other site (Georgia Station-GAS153, GA41) is located near the west central part of Georgia in Pike County. Both of these sites have been collecting data for more than 10 years. The chart below shows the historical levels (2002-2010) of total sulfur and nitrogen deposition at locations near the Chattahoochee and Oconee National Forests. At the Coweeta monitoring site, sulfur deposition fell 56% between 2005 and 2010, from 7.43 kilograms/hectare/year (kg/ha/yr) to 3.24 kg/ha/yr. Also, at the Georgia Station monitoring site, sulfur deposition fell 52% between 2005 and 2010, from 8.79 kg/ha/yr to 4.25 kg/ha/yr. At both the Coweeta and Georgia Station monitoring sites, nitrogen deposition decreased 39% between 2005 and 2010, from 5.99 kg/ha/yr to 3.64 kg/ha/yr, and 6.94 kg/ha/yr to 4.24 kg/ha/yr respectively.





Element

Trends in native insect and disease effects.

Information

This element of MQ6 is responsive to Goal 40, Objective 40.2.

Objective 40.2: Annually monitor populations and trends of southern pine beetle.

Results

Southern pine beetle (SPB) activity is annually surveyed by state agencies and the U.S Forest Service across the Southern Region using ground and aerial surveys. Additionally, prediction trapping surveys

are conducted at selected sites across the Region each year, including sites located on the Chattahoochee-Oconee National Forests

Prediction traps indicated low SPB populations and activity during 2012 across the Chattahoochee-Oconee National Forests. During the last four years (2009 through 2012), SPB populations, activity and damage have remained low across the state of Georgia. Only six counties reported damaging SPB activity from 2009 through 2011. None of this activity was reported from National Forest lands in Georgia.

Findings

The Forest needs to continue its cooperation with prediction trap surveys assembled by state agencies and the U.S. Forest Service, Forest Health Protection unit.

The Forest needs to implement **Objective 40.4**, which includes rating all National Forest stands for existing and future hazard levels related to southern pine beetle (and other forest pests). A formal field in the Forest corporate stand layer database (FSVeg Spatial) will need to be created and maintained to store the hazard rating information for each stand.

Element

Trends in forest composition and condition that have been associated with epidemic insects and diseases.

Information

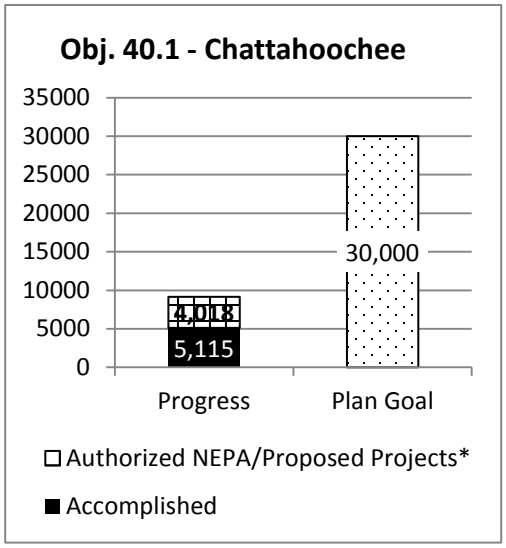
This element of MQ6 is responsive to Goal 40, Objective 40.1

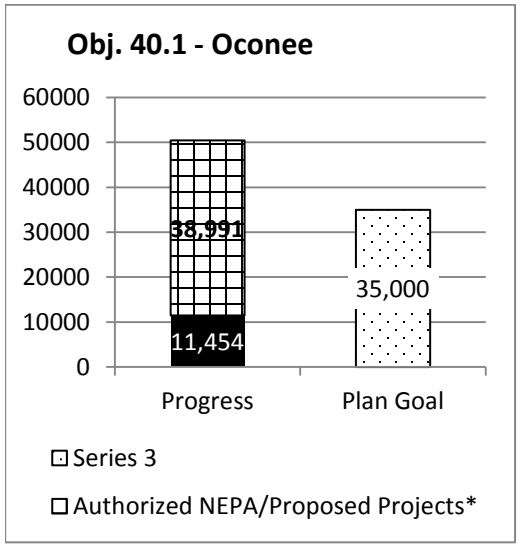
Objective 40.1: Maintain forest-stocking levels at no more than 'fully stocked' for the species, age, and site quality with priority for treatment given to those vegetation communities at highest risk of insect and disease attack.

- Reduce stem density on an annual average of 3,500 acres of overstocked loblolly pine stands less than 30 years old on the Oconee during the first 10 years of Plan implementation.
- Reduce stem density on an annual average of 1,500 acres of overstocked loblolly pine stands less than 30 years old on the Chattahoochee during the first 10 years of Plan implementation.
- Reduce stem density on an annual average of 1,500 acres of overstocked shortleaf pine stands less than 30 years old on the Chattahoochee during the first 10 years of Plan implementation.

Results

	Year								Total	FLRMP 10 yr. Obj.
	2005	2006	2007	2008	2009	2010	2011	2012		
	----Acres Accomplished----									
Chattahoochee: Thin Loblolly Pine	162	135	194	549	337	978	559	1,230	4,144	15,000
Chattahoochee: Thin Shortleaf Pine	0	0	137	160	333	323	16	2	971	15,000
							Total		**5,115**	**30,000**
Oconee: Thin Loblolly Pine	92	1,431	2,472	1,764	1,222	785	1,896	1,792	**11,454**	**35,000**





*Includes Armuchee Ridges, Sumac Creek, east Nottely, and Eastside Forest Health projects.

*Oconee Forest Health and Wildlife Habitat Improvement project (OFHWHIP).

Findings

While the Forest has treated a significant amount of acreage in support of forest health Objective 40.1, acres accomplished and future planned treatments are still well below the 10 year goal for this objective on the Chattahoochee (30 percent).

Likewise, treatments to maintain forest health on the Oconee have been significant during the last eight years, but current accomplishments (33 percent) are still below the 35,000 acre goal for Objective 40.1. The Oconee Forest Health and Wildlife Habitat Improvement Project (OFHWHIP) includes plans to treat an additional 39,000 acres for forest health objectives. It is unlikely that these plans will be fully implemented within the 10 year timeframe specified in the Forest Plan.

The Forest needs to implement **Objective 40.4**, which includes rating all National Forest stands for existing and future hazard levels related to southern pine beetle (and other forest pests). A formal field in the Forest corporate stand layer database (FSVeg Spatial) will need to be created and maintained to store the hazard rating information for each stand. This system could be utilized to prioritize stands in need of

treatment for forest health purposes based on assigned hazard ratings and would assist in future project proposals.

MQ 7: What are the status and trends of federally-listed species and species with viability concerns on the forest?

Element

Population trends in red-cockaded wood-pecker as an indicator of effectiveness of management on recovery of the species

Approximately 52,000 acres of the Oconee National Forest (ONF) in Jasper and Jones Counties is part of the Sub- HMA being managed under the guidelines of the Red-cockaded Woodpecker Recovery Plan (US FWS 2003). In 1985, the ONF had 25 cluster sites (11 active, 15 inactive) with all but one of the active cluster sites on the Hitchiti Experimental Forest. From 1985 until 1996 the thinning of pine stands continued although not all units were within the Sub-HMA. Due to appeals from Sierra Club and Georgia Forest Watch further thinning of pines and related silvicultural treatments within these mature pine stands did not get approved for management until 2004. The table of harvested acres 2004-2013 on the ONF reflects that thinning of mature pine stands has made a difference in RCW management. This has allowed the improvement of foraging and nesting habitat. The ONF thinned mature pines along the corridor near the Piedmont National Wildlife Refuge and this resulted in an increase in the number of active clusters. Thinning of mature stands along with improving the foraging and nesting habitat has maintained and increased the number of active clusters to show that the population is stable and slightly increasing on the Forest.

Current population information reflects that 24 of 26 clusters are now active with an additional 14 inactive recruitment stands. Of the 24 active clusters 23 supported a potential breeding group; we have one single bird and the other groups nested producing 20 fledglings. Work on approximately 6,774 acres within the Sub- HMA has been accomplished since 2004. Thinning of these acres both within the mature sites as well as adjoining pre-commercial thinning has contributed to a stable population and growth.

Table- Shows the number of red-cockaded woodpecker clusters and acres of prescribed burning on the Oconee National Forest from 1985-2012.

Year	Active Clusters	Inactive Clusters	Acres Burned
1985	11	15	500
1986	10	16	750
1987	11	15	1000
1988	11	15	1000
1989	12	14	1000
1990	12	14	3629
1991	12	14	3484
1992	13	13	2891

1993	16	10	2800
1994	16	10	1988
1995	16	10	1517
1996	13	13	5021
1997	16	10	14,480
1998	18	8	19,828
1999	16	10	24,532
2000	19	7	28,704
2001	17	9	15,183
2002	16	10	13,161
2003	15	10	15,157
2004	14	11	18,135
2005	16	9	13,244
2006	14	25	16,442
2007	18	24	16,962
2008	18	26	9100
2009	19	30	16,796
2010	19	30	18,764
2011	22	30	20,684
2012	24	36	22,000

Element

Population trends in smooth coneflower as an indicator of effectiveness of management on recovery of the species.

Information

This monitoring question is responsive to Goals 15 and 18.

Objective 15.1 states that smooth coneflower populations will be maintained through protection and maintenance of existing sites, and will be expanded by improving and/or increasing available habitat with the assistance of reintroduction efforts.

Objective 18.1: Cooperate with the USFWS, Georgia Department of Natural Resources, academia and the Georgia Plant Conservation Alliance to develop a management plan for the smooth coneflower over the next 3 years.

Results

The number of smooth purple coneflower (*Echinacea laevigata*) known occurrences has declined since 2004. Trend in abundance cannot be determined since sampling has differed by timing, methods, and level of effort. Census data from 2012/2013 was compared to data from 2000/2001 or early data. Population changes were assessed as follows:

- Maintaining (plant were present) – 12 sites
- Decrease (no plants observed) – 5 sites
- Extirpated (based on USFWS 5-Year Review from 2010) – 3 sites
- Unknown (sites not visited) – 6 sites
-

Most sites are small with only a few individuals with only 4 occurrences have more than 50 rosettes in 2012/2013.

From 2000 to 2010, Georgia Plant Conservation Alliance out planted to 5 sites and helps to maintain the safeguarding sites. Survival data will be analyzed in FY2014 as part of the GPCA safeguarding database development.

In 2007, a habitat management plan was developed with USFWS. The plan identifies a potential coneflower management area over approximately 25,270 acres. Habitat management continues to occur. All but 2 sites are in prescribed burn units. Both growing (2 sites) and dormant (5 sites) season prescribed burns occurred in the habitat in 2012. Initial response was an increase in the number of basal rosettes and flowers counted in 2013. Other management actions include hand thinning and removal of woody sprouts.

Findings

A standard protocol for inventory and monitoring smooth purple coneflower should be developed and implemented. Habitat management will continue and focus on reduction of overstory canopy cover in surrounding habitat and removal of resprouting hardwoods in 2014. GPCA will continue to maintain the safeguarding sites.

Element

Status and trends in selected birds and their associated habitats.

The status and trends of selected bird indicator species are discussed under Monitoring Questions 2,3,6 and 7.

Element

Status and trends of cerulean warbler.

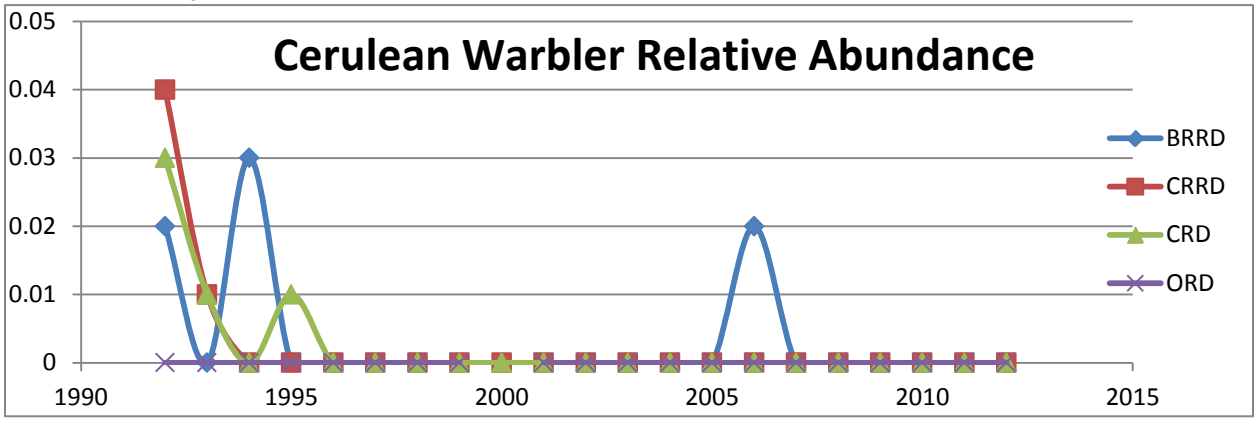
Cerulean warblers breed in mature and older deciduous forests with broken canopies (Hamel 2000 and La Sorte et al. 2006). The Breeding Bird Survey indicates this species has a significant decreasing trend in the survey area from 1966 to 2011 (Sauer et al. 2012).

In 1995, strong winds generated by Hurricane Opal damaged the forest canopy along Ivylog and Gumlog ridges in Union County. The disturbance created desirable habitat for cerulean warblers and their numbers increased dramatically afterwards. There were believed to be up to 30 breeding territories along the two ridges after the disturbance (Schneider et al. 2010). Over time the canopy gaps created by Opal have closed in and there are considerably less than 30 pairs now (Wentworth personal communication). The Forest also did a small scale (<100 acres) canopy gap treatment in the mid 1990's and cerulean

warblers were documented using 7 of 10 stands in the first 4-5 years after treatment. Many of those canopy gaps have since begun to close in and just a few birds have been observed in the area the last few years.

Bird monitoring survey data from the Chattahoochee-Oconee National Forests shows that since the mid 1990's only one cerulean warbler has been counted during bird point surveys since the LRMP was signed (Figure). The Forests have not achieved Forest Plan targets for canopy gap creation which would benefit this species.

Figure- Relative abundance is calculated by dividing the number of cerulean warbler occurrences by the total number of survey points. BRRD- Blue Ridge Ranger District, CRRD – Chattooga River Ranger District, CRD- Conasauga Ranger District and ORD- Oconee Ranger District.



Element

Status and trends of golden winged warbler.

Element

Status and trends of selected aquatic biota.

Since 2007, the Forest has worked with the GA DNR and the Georgia Council of Trout Unlimited to restore native brook trout on the Chattahoochee National Forest. The partnership is called the Georgia Back-the-Brookie Partnership and the partnership has used the Georgia Brook Trout Conservation Strategies outlined in the Conserving the Eastern Brook Trout: Action Strategies (Eastern Brook Trout Joint Venture) as a guide for the restoration work. To date the partnership has accomplished the following,

- Brook trout habitat was improved in approximately 80 miles of 32 streams through the placement of large woody debris (LWD). Monitoring of treated areas to reference areas showed an increase of LWD (109%), pool habitat (60%), adult trout density (34%) and young-of-year brook trout (17%) in treated areas.
- Barriers were constructed in two streams to restrict movement of non-native trout from moving into areas with native brook trout.
- A perched culvert on Bryant Creek was replaced with a bottomless arch structure to allow movement by native brook trout.

- Native brook trout populations were restored in reaches of four streams by the removal of non-native trout.
- Native brook trout were stocked into one stream where they had been extirpated.
- Habitat and population monitoring was conducted at 59 sampling stations in 28 streams.
- Summer water temperatures were monitored annually in 15 streams.
- Acid Neutralizing Capacity and pH were measured in 15 streams quarterly after storm events.
- Georgia Council of Trout Unlimited annually hosted a weeklong Trout Camp for 24 children aged 12 to 15. Campers would spend one day of camp helping install habitat improvement structures.
- In 2013, four previously undocumented brook trout streams in three different major river basins were identified.

The partnership has now expanded its efforts from just brook trout streams into streams with brown and rainbow trout on the Chattahoochee National Forest.

Element

Status and trends of selected bat communities.

In 2010, the Forests partnered with the Southeastern Bat Diversity Network and the GA DNR to help host a Bat Blitz on and around the Conasauga Ranger District. Sites on state and federal land in the area were surveyed and that data is available although no trends can be detected from this information as it was an intensive one-time sampling effort.

In 2010, the Forest also began running acoustic survey routes annually to detect trends in bat communities, but at this time the software to analyze the data is still being revised so there is some uncertainty in the results. However, the Forest is archiving this data and when the software updates are complete we will be able to analyze the information more thoroughly.

In 2012, a federally endangered Indiana bat was radio tracked from a cave in Tennessee to state land near Elijay, GA. Since then the Forest has been working with GA DNR and US FWS to complete mist nesting along with acoustic surveys, but not enough information has been obtained to monitor trends on the Forest. However, with the spread of White Nose Syndrome (WNS) many species of bats are suffering range wide declines. WNS was discovered in Georgia in 2013.

The Forest is also developing new Forest Plan standards to help protect some bat species and their habitat and we plan to continue our monitoring efforts.

Element

Status and trends of selected plant communities

Information

This monitoring question is responsive to goals numbers 1, 2, 3, 4, 5, 7, 8, 12, 13, 15, 16, 17, 18, 19, 22, 23, 26, 44, 45, 51 and 72.

Results/Findings

Sphagnum bog communities containing the rare purple pitcher plan and sheep laurel are increasing in size and habitat quality due to management discussed in Monitoring Question #1.

Eleven (11) species are the focus of mountain bog restoration and safeguarding of which 5 have increased in the number of mountain bog sites. Mountain bog restoration and safeguarding of rare plants is a high priority of the Georgia Plant Conservation Alliance using volunteers and other partnerships. Atlanta Botanical Garden and State Botanical Garden of Georgia provide plant material, technical expertise and monitoring for these rare plants.

Species	**Status**	**2004**	**2012**
Swamp pink (*Helonias bullata*)	Federally listed – threatened	Safeguarded – 1 bog	Safeguarded – 3 bogs
Cuthbert's turtlehead (*Chelone cuthbertii*)	R8 Sensitive	Naturally occurring – 1 bog	Naturally occurring – 1 bog Safeguarded – 2 bogs
Small spreading pogonia (*Cliestesiopsis bifaria*)	R8 Sensitive	Naturally occurring – 1 bog	Naturally occurring – 1 bog
Fraser's loosestrife (*Lysimachia fraseri*)	R8 Sensitive	Naturally occurring – 1 bog	Naturally occurring – 1 bog
White fringeless orchid (*Platanthera integrilabia*)	R8 Sensitive Candidate	Naturally occurring – 1 bog	Naturally occurring – 1 bog
Fraser sedge (*Cymophyllus fraserianus*)	Locally rare	Augmented natural occurrence – 1 bog	Augmented natural occurrence – 1 bog
Sheep laurel (*Kalmia carolina*)	Locally rare	Augmented natural occurrence – 1 bog Safeguarded – 1 bogs	Augmented natural occurrence – 1 bog Safeguarded – 2 bogs
Fringeless purple orchid (*Platanthera peramoena*)	Locally rare	Naturally occurring – 1 bog	Naturally occurring – 1 bog
Canada burnet (*Sanguisorba canadensis*)	Locally rare		Safeguarded – 1 bog
Purple pitcher plant (*Sarracenia purpurea* var. *montana*)	Locally rare	Augmented natural occurrence – 1 bog Safeguarded – 2 bogs	Augmented natural occurrence – 1 bog Safeguarded – 4 bogs
Bog turtle (*Clemmys muhlenbergii*)	Threatened by similar appearance	Naturally occurring – 1 bog	Naturally occurring – 2 bogs Safeguarded – 1 bog

Outplanting has been successful in establishing rare plant populations in the mountain bogs. In 2010, GPCA volunteers found natural recruitment of swamp pink and purple pitcher plant.

- In 2012, survival rare for outplanted material of purple pitcher plant was 76%. 43 purple pitcher seedlings recruited in 2012 (Cruse-Sanders 2012).
- In 2012, survival rare for outplanted material of swamp pink was 88%. 33 seedlings recruited in 2011/2012 (Cruse-Sanders 2012).

The open woodland habitat containing the federally listed smooth purple coneflower and other rare plants such as Georgia aster, Fraser loosestrife and curly heads is being managed to expand the community. Prescribed burning and removal of encroaching vegetation by hand tools is being conducted to maintain and expand sites currently containing these species as discussed in MQ1. As part of partnerships, the State Botanical Garden of Georgia (SBG) and Atlanta Botanical Gardens collected and grew species found in these rare communities. Local ecotypes for more common species such as native warm season grasses and pollinator-loving wildflowers are being developed in partnership with SBG. Some of the resulting plants have been planted back into appropriate sites, and these activities will continue. As a result of the cooperative management of these sites, it is expected that these communities will increase over the 10-year planning period.

Element

Status and trends of other federally listed and viability concern species.

Information

This monitoring question is responsive to goals numbers 1, 2, 3, 4, 5, 7, 8, 12, 13, 15, 16, 17, 18, 19, 22, 23, 26, 44, 45, 51 and 72.

Objective 15.1 list objectives for threatened, endangered, and candidate plantain to contribute to the recovery of threatened, endangered, and candidate plants.

Results

To review the status and trend of federally listed and viability concern species, the number of populations or occurrence found in 2012 were compared to the known populations/occurrence in 2004. This comparison was done for threatened, endangered, and candidate plant species as listed in the table.

Table: Number of populations/occurrences of threatened, endangered, and candidate plant species from 2004 and 2012.

	Management Objectives	Known Populations or Occurrences in 2004	Known Populations or Occurrences in 2012
Smooth purple coneflower (*Echinacea laevigata*)	Increase/improve known sites and new introductions	25	22 & 5 safeguarding sites
Georgia aster (*Symphyotrichum georgianum*)	Increase by habitat improvement	4	9
Small-whorled pogonia (*Isotria medeolides*)	Maintain	32	33
Rock gnome lichen (*Gymnoderma lineare*)	Maintain	1	1
Persistent trillium (*Trillium persistens*)	Maintain	1	1
Relict trillium (*Trillium reliquum*)	Survey	0	1
Green pitcher plant (*Sarracenia oreophila*)	Increase by habitat improvement and introduction	1	Unknown
Swamp pink (*Helonias bullata*)	Increase by new introduction	1	3
Large flowered skullcap (*Scutellaria montana*)	Increase by new introduction	4	3
White fringeless orchid (*Platanthera integrilabia*)	Maintain	1	1

Small-whorled pogonia:

Small-whorled pogonia was selected for focused inventory and monitoring. The plant appears to be to be a mid-successional species, and research is still being conducted to determine if there are management regimes that would benefit this orchid. Plant numbers appear to decrease as the midstory matures, but conversely, increasing light to the area has been observed to increase competing vegetation such as poison ivy.

The number of sites has decreased from 32 sites in 2004 to 29 sites in 2012. Two of the largest sites, Bailey Creek and Blackwell Creek, continue to decline. In 7 sites, no plants have been observed in the last 5 years. The new four (4) sites that have been located since 2004 are all small with less than 10 individuals. Survey efforts in potential habitat have declined over the last decade.

In the known sites, monitoring results show a fluctuation in numbers of above ground shoots and fruiting year to year for the past 10 years, but there appears to be a downward trend in population sizes (Schmidt and Cruse-Sanders, 2013, draft report). Of the 10 sites identified for long-term monitoring, Keener Creek has not been visited since 2002. The remaining sites continue to decline in number of above ground shoots. Only 30% of the observed plants were reproductive. Causes of the declines may be due to a combination of factors such as a several-year drought and succession of the surrounding Forest. These populations are dynamic with plants being dormant for more than one year.

	Bailey Creek	Blackwell Creek	Bushyhead Gap	Cashes Valley	Cooper Creek	Flat Creek	Long Creek	Peter Knob	Woody Branch
2003	48	39	1	45	4	10	5	21	6
2005	52	34	0	33	8	4	11	40	6
2010	21	8*	0	13	2*	1		27	2
2011	34	26	0	0*	4	1	12	13	6
2012	19*	14*	0	4	0	0		4	1

*potentially incomplete count

In 2012, 63% of the tracked reproductive plants produced viable seed capsules (Richards and Sanders 2012). Although germination trails were not successful, viable embroyos were found in seed collected from the field. Seed was successfully stored to start development of an *ex situ* seed bank.

Findings

- Progress is being made toward Objective 15.1 for threatened, endangered, and candidate plants.

- Increases in the number of populations of Georgia aster are due to recent surveys identifying new populations on the Conasauga Ranger District and on the Chattooga River Ranger Districts in the Lake Russell Wildlife Management Area. Most sites are still restricted to roadsides or utility right-of-ways. In 2011, a cooperative project among National Forests (AL, GA, NC, and SC), USFWS, Atlanta Botanical Garden, NC Botanical Garden, and The Citadel investigated the genetics and long term seed viability.

- For small-whorled pogonia, the number of sites and number of plants at each site has decreased. A cooperative project with Atlanta Botanical Garden and University of Georgia is assessing monitoring data, seed vitality, propagation techniques, and model potential habitat and will be completed in 2014. In 2014, monitoring for prescribed fire effects at one site will occur. Future projects have been identified to improve small-whorled pogonia habitat in Bailey Creek.

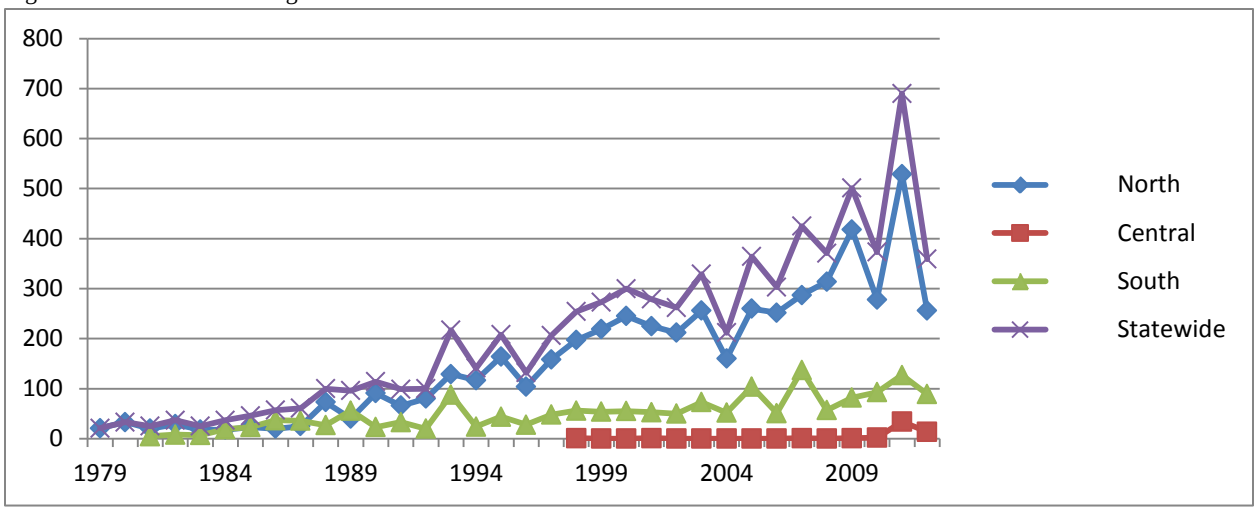
- A standard protocol for inventory and monitoring smooth purple coneflower should be developed and implemented. Initial monitoring indicates a positive response from smooth purple coneflower by increased number of rosettes and flowers. Habitat management should continue and focus on reduction of overstory canopy cover in surrounding habitat and removal of resprouting hardwoods in 2014.

MQ 8: What are the trends for demand species and their use?

Element

Trends in harvest data for white-tailed deer and black bear in relationship to habitat improvement activities for those animals.

Figure- Bear Harvest in Georgia from 1979 – 2012.



Element

Trends in the number of permits issued and harvest levels for selected special forest products.

Information

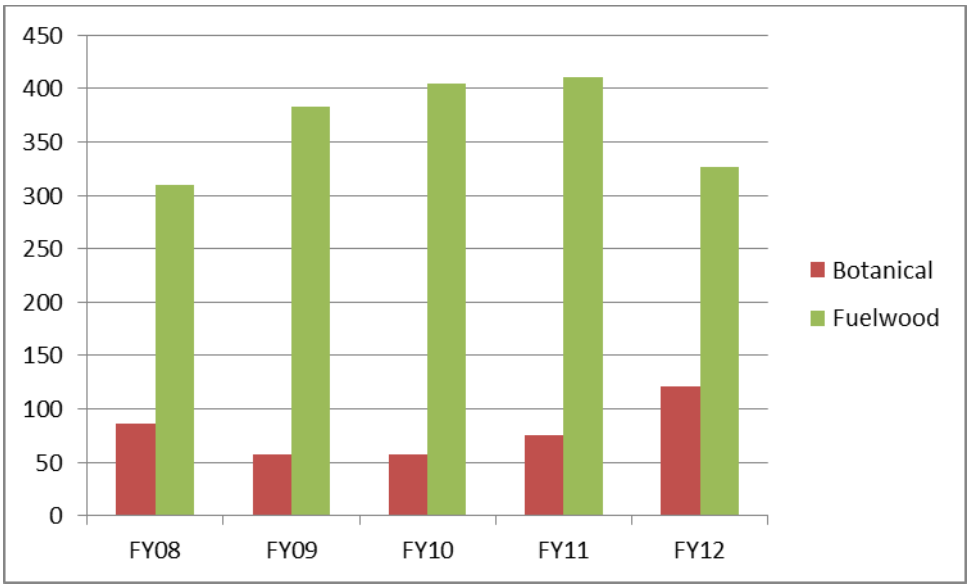
This monitoring question is responsive to goals numbers 1, 2, 3, 4, 6, 7, 16, 26, and 72.

The number of permit and harvest levels were compiled from the TIM database for all species forest products including fuelwood. Permits for pulpwood and sawtimber were not included.

Results

The number permits issued has remain steady over the past four years (Table 1). The majority of the special forest product permits are issued for fuelwood (Figure). Botanical products included ginseng, ramps, hay, sticks from trees and shrubs, locust posts, and miscellaneous dug plants and rootstocks. The increase in botanical products from FY10 to FY12 was due to an increase in the number of permits issued for ginseng collection from 33 permits in FY2010 to 91 permits in 2012. Harvest levels follow the same patterns.

District	FY08	FY09	FY10	FY11	FY12
Blue Ridge	107	137	154	213	219
Chattooga River	262	274	271	240	194
Conasauga	12	6	11	10	21
Oconee	15	23	26	23	14
Total	396	440	462	486	448



Element

Fish stocking levels by type and location.

The Georgia Department of Natural Resources coordinates trout stocking in North Georgia. Fish for these efforts are raised at state hatcheries at Lake Burton, the Buford Hatchery below Lake Lanier and the U.S. FWS Hatchery near Suches, Georgia. More information on the trout stocking program can be found at,

http://www.georgiawildlife.com/Trout%20Stocking

this includes information on which streams are stocked and the frequency of stocking efforts.

The Forest also continues to work with the Georgia Department of Natural Resources and the Rabun Chapter of Trout Unlimited to implement trout stocking with a helicopter in reaches of the Chattooga River that are inaccessible by vehicle.

MQ 9: Are high quality, nature-based recreation experiences being provided and what are the trends?

Results and trends in user satisfaction ratings

The Chattahoochee-Oconee NF conducted the National Visitor Use Monitoring (NVUM) survey in 2008. The results evaluate user satisfaction in the areas of developed facilities, access, services and feeling of safety. Satisfied survey respondents range from 65.3% – 94.8% in the varying categories.

Satisfaction Element	Satisfied Survey Respondents (%)		
	Developed Sites	Undeveloped Areas	Designated Wilderness
Developed Facilities	71.0	71.2	93.7
Access	92.5	87.9	90.8
Services	76.2	65.3	67.0
Feeling of Safety	94.8	93.2	92.9

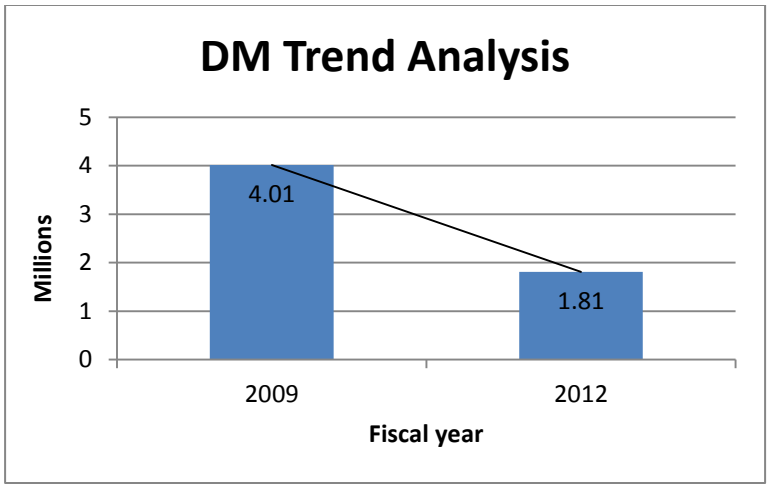
Restroom cleanliness and signage adequacy scored low and contributed to the lower satisfaction scores for developed day use sites. Restroom cleanliness and recreation information available scored low for undeveloped areas. Overnight facilities and wilderness scored generally high in all areas.
Local comment cards are collected and the web portal provides Forest users the opportunity to comments on user satisfaction.

Backlog of facility and trail maintenance needs and trends

The Natural Resource Manager (NRM) application documents all trail maintenance work and is updated annually. The collaborative initiative CoTrails has worked to assess and evaluate nearly all of the CONF trail system to document the current state of the trail system and its maintenance needs. The trails deferred maintenance needs on the CONF are well-documented.

Accomplishing deferred maintenance projects remains a challenge in the Trails Program due limited funding. However, due to programs like Recreation Trail Program (RTP) grants, ARRA, Legacy funds and a very dedicated trail volunteer workforce deferred maintenance projects are being accomplished albeit on a relatively small scale.

Based on the DM_Buildings_Trend_Analysis_Report in our data warehouse (CDW)for our forest it shows that in FY 09 there was $ 4,012,723 in Deferred Maintenance, and $ 1,811,766 for FY12, that is a difference of $2,200,957 in DM.



Trends in health and safety associated with recreation programs

The Chattahoochee Oconee National Forest has undertaken renovation of developed facilities and trails to provide the public with an improved quality of recreation experiences, while identifying safety issues that need correcting. In 2009-2010, the Forest utilized approximately $5 million to upgrade outdated campground and trail infrastructure. The Forest initiated 41 projects during the process to update our backlog maintenance that resulted in more than $3 million of upgrades in campgrounds and other infrastructure in developed campgrounds.

In addition, the Forest has undertaken a forestwide evaluation of most designated trails. This evaluation has included a professional and volunteer assessment of more than 500 miles of hiking, biking, and equestrian trails. The result of this effort has allowed the Forest to prioritize trails than need decommissioning, reroutes, and increased maintenance. The Forest's motorized trails are being assessed on a case-by-case basis. Assessments have been completed on Beasley Knob and Locust Stake motorized trail systems. Proposed changes to Beasley Knob Trail System have been reviewed and a decision will be made this year pertaining to reroutes and other changes that will eliminate dead-end trails and safety concerns. The Locust Stake Trail System has been temporarily closed and options are being evaluated to resolve safety and environmental concerns. No final decision has been made on this trail system.

Changes in accessibility of developed sites and facilities

Since 2009 CONF has constructed many facilities which meet accessibility guidelines. Below is a summary of these facilities.

FY	Recreation Area	Type of Facilities	Accessibility element
2010	The Pocket	CXT (Pre-cast Vault toilet)	Accessible parking space adjacent to building
	Frank Gross	CXT (Pre-cast Vault toilet)	Accessible parking space adjacent to building
	Lake Winfield Scott	CXT (Pre-cast Vault toilet)	Accessible parking space adjacent to building
	Mulkey	CXT (Pre-cast Vault toilet)	Accessible parking space adjacent to building
	Sarah's Creek (2x)	CXT (Pre-cast Vault toilet)	Accessible parking space adjacent to building
	Whissenhunt	CXT (Pre-cast Vault toilet)	Accessible parking space adjacent to building
	Brasstown Bald Parking Restroom	Restroom	Restroom, sidewalks, water fountain
2012	Desoto Falls	CXT (Pre-cast Vault toilet) 2 campsites	Accessible parking space adjacent to building Fire rings, lantern posts, tables and pad

2013	Lake Sinclair	Restroom	Accessible parking space adjacent to building and building itself

User impacts, conflicts and effects within the A.T. Corridor

The AT corridor continues to be a popular hiking destination for day use, backpacking and thru-hiking opportunities. NVUM data shows hiking, backpacking and other activities common to the AT corridot have some of the highest participation rates across the Forest. AT shelter sites can be areas of user congestion and that concentrated use has impact on natural resources. The privy toilet systems at multiple shelter sites are not meeting demand. An additional composting bin has been added to at least one privy. Few user conflicts are documented along the AT due to its primary use being hikers.

The Georgia Appalachian Trail Club contributes 1000's of hours of trail and facility work annually that help to mitigate user impacts. The Konnarock Trail Crew performs one deferred maintenance project annually. Extensive efforts are made to maintain and AT and its facilities and it considered one of the best maintained trails on the CONF.

MQ 10: What are the status and trends of recreation use impacts on the environment?

Trends in illegal or unauthorized recreational uses observed and the effects of these uses.

Trends in the illegal use or unauthorized uses have gradually increased over the last few years. The Forest requires all ATV and OHV (unlicensed 4-wheeled drive vehicle) use occur on

Forest designated ATV/OHV trails. However, sporadic illegal use has occurred in remote areas and close proximity of designated trails systems. Law Enforcement personnel and Forest Protection Officers have worked to curtail this activity. However, the activity is ongoing, but recognized as an issue to be dealt with.

In addition, some commercial use of trail systems, especially the Appalachian Trail, has been noted. The Forest is working to formalize guidelines for any commercial use related to a recreation event.

Recreation activities contribution to the degradation of terrestrial, aquatic, rare or riparian areas or adversely affecting water quality

The primary impact contributing to the degradation of unique habitats, riparian areas, and water quality are coming from user created trails associated with fishing access and developed trail systems that have not been maintained to standard. The forest has implemented a program where more than 500 miles of trails have received a trail assessment. These assessments have identified issues associated with the trails, including trail management in riparian areas, soil erosion concerns, and other problems related to lack of trail maintenance.

The issues have identified and work is underway to resolve problems associated with water quality degradation, riparian zone protection and other issues. The forest is utilizing a host of technique to

resolve these issues including decommissioning of dispersed campsites and trails, rerouting of trails identified as problem areas, increased maintenance of designated trails, and closing of undesignated trail systems. The public have volunteered to assist with maintenance of trails, but the FS is accomplishing decommissioning on a case by case basis.

Continued validity of Plan decisions regarding OHV use designations and determining whether an area is open or closed to OHV use.

The Locust Stake OHV area was closed the entire 2012 season to conduct an assessment. The sustainability of this trail system is currently being evaluated.

The Beasley Knob OHV area began to implement selected recommendations from an assessment conducted in 2011. Extensive maintenance and approximately 3 miles of new trail will be constructed started in 2013.

The CONF and some partners monitor historic road and OHV trail closures. Closures that have been breached are closed again.

MQ 11: What is the status and trend of wilderness character?

Elements to Measure:

1) Trends in Air Quality Related Values (AQRV) in Class I Wilderness areas (Water, Visibility)

2) Status and Trends of Visibility in Class I areas

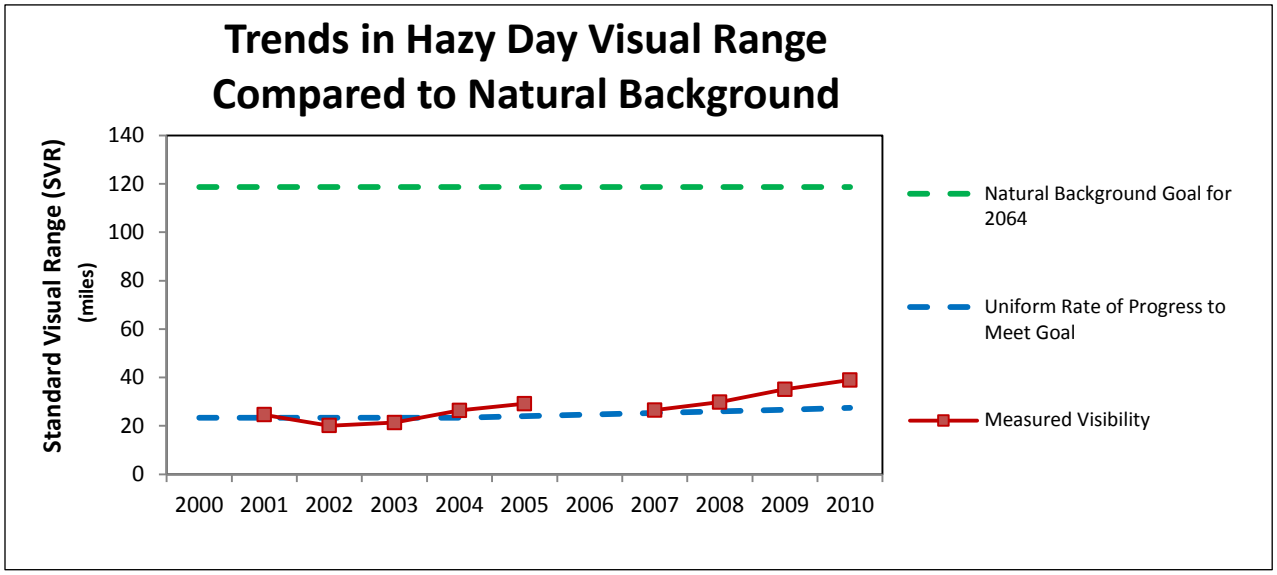
Cohutta Wilderness Area:

Water: Water quality is one of the Air Quality Related Values (AQRV) for the Cohutta Wilderness, the only federally mandated Class I area on the Forest. In 2012, several streams near or in the Cohutta Wilderness have been sampled for water chemistry. The analyses on these stream samples have not been completed and the results are not available at this time.

Visibility: One of the most noticeable forms of air pollution is haze, a veil of smog that blurs the view of many urban and rural areas. As part of the Clean Air Act, Congress has established a goal to prevent future and remedy existing visibility impairment in 156 protected national parks, national wildlife refuges, and wildernesses, which are designated as Class I Areas. Federal rules require state and federal agencies to work together to improve visibility in these areas so that natural background conditions are achieved by the year 2064. Within a wilderness area, such as Cohutta Wilderness, visitors will find the views obscured by manmade air pollution. One way to quantify visibility is by using a statistic called the standard visual range (SVR). The SVR is the farthest distance a person can see a dark object against a light background as measured in kilometers or miles; higher values are, of course, better.

The EPA implemented the Regional Haze Rule in 1999 to achieve the national goal of no man-made impairment to visibility at the federally mandated Class I areas. The Regional Haze Rule established a uniform rate of progress, also called a glide slope, for each Class I area to measure if enough progress is being made to meet natural background conditions. The chart below illustrates the 2064 goals for natural background (green dashed line) and the uniform rate of progress (blue dashed line) for the Cohutta

Wilderness Area. The red line represents actual data recorded nearby at the Cohutta Wilderness IMPROVE monitoring site, located less than 5 miles from the wilderness boundary. From 2001 to 2010, the SVR has improved at the Cohutta Wilderness about 58%, or fourteen miles. Based on historical and current data, the Cohutta Wilderness Area is progressing above the glide slope to achieve natural background conditions by 2064. An analysis of the monitoring data reveals that ammonium sulfates (originating from sulfur dioxide emissions) are the largest contributor to visibility impairment, while organic matter (from gasses released by vegetation) also contributes to visibility reductions at Cohutta Wilderness.



Visibility has improved primarily from sulfur dioxide emission reductions due to the final implementation of pollution controls by electric generation utilities, as required by the 1990 Clean Air Act Amendments Title IV (Acid Rain) program; continued implementation of the Clean Air Interstate Rule; the Georgia Multi-pollutant Control for Electric Utility Steam Generating Units [Georgia rule 391-3-1.02(2)(sss)]; and voluntary reductions made by utilities and industry by switching from coal to natural gas as a fuel source. It should be noted that recent improvements in visibility, starting in 2008, are also associated with the economic down turn that occurred in the United States.

Is wilderness visitor use within limits that do not impair the values for which the wilderness was established?

NVUM wilderness respondents generally have above average satisfaction levels with slight dissatisfaction in the signage and recreation information availability areas. Due to the CONF's proximity of a large urban population, traditional wilderness experiences may be difficult to find. Specific overlooks, waterfalls, popular trails and easy access points within multiple wilderness areas do not provide a traditional wilderness experiences, particularly on busy weekends.

Traditional wilderness experiences can be found during the week and in areas that require longer access times.

Trends in fire regimes and effects on fire- dependent communities in Wilderness.

In fiscal year 2012 no wildfires were reported in any of the Chattahoochee-Oconee NF wildernesses. One lightning caused wildfire in May on the Conasauga Ranger District burned eighteen acres in the Ken Mountain wilderness study area adjacent to the Cohutta Wilderness. Fire personnel conducted operations using the districts wilderness fire operations plan in order to conduct the least amount of disturbance and also used a resource adviser on the incident.

MQ 12: What are the status and trend of Wild and Scenic River conditions?

Are the Outstandingly Remarkable Values being protected?

A renewed emphasis on Chattooga River corridor management and monitoring started in 2012. Extensive recreation use is occurring throughout the corridor, including non-motorized boating, fishing, hiking, dispersed camping, scenic viewing and other day-use activities. There is minimal recreation development in the corridor that primarily consists of access points and trails.

The decision ***Managing Recreation Uses in the Upper Segment of the Chattooga Wild and Scenic River Corridor*** was signed in 2012 that allowed boating on the Upper Chattooga River under certain conditions. The decision is currently being litigated.

MQ 13: Are the scenery and recreation settings changing and why?

Amount of National Forest land that meet or exceed established scenic quality objectives and changes over time

The amount of timber harvested and acres impacted by HWA and other natural disturbance factors may affect scenery and recreation settings for a relatively short length of time, however other than these two factors, no major changes in settings over the length of the plan.

MQ 14: Are heritage sites being protected?

Element: Heritage sites are identified for protection?

In Fiscal Year 2012 (FY12) the Forest completed a new Programmatic Agreement regarding the process for compliance with Section 106 of the National Historic Preservation Act that will be in effect for 10 years. Under the terms of this PA there are some types of undertakings for which we are required to consult and others that do not require consultation. The Forest consults with the Georgia State Historic Preservation Officer (SHPO) and nine American Indian tribes (Alabama-Coushatta Tribe of Texas, Alabama-Quassarte Tribal Town, Cherokee Nation, Eastern Band of Cherokee Indians, Kialegee Tribal Town of the Creek Nation of Oklahoma, Muscogee (Creek) Nation, Poarch Band of Creek Indians, Thlopthlocco Tribal Town, United Keetoowah Band of Cherokee Indians). In FY12 the Forest completed nine survey projects for which consultation was carried out. These projects inventoried 818 acres and recorded or updated 76 archaeological sites. There were an additional twelve survey projects reviewed by archaeologists that did not result in consultation under the terms of the PA. These inventoried 55 acres and recorded no archaeological sites. An additional 40 undertakings affecting approximately 1,700 acres were approved by Forest archaeologists without surveys under terms of the PA.

Element: Effectiveness of heritage protection measures

There are two categories of sites that are monitored on the Forest. These are Priority Heritage Assets and sites revisited as part of project implementation. Priority Heritage Assets are cultural resource sites of distinct public value that should be actively maintained and is monitoring of these sites is required at least once every five years. A total of 19 have been identified on the Chattahoochee-Oconee National Forests, management Plans have been prepared for all 19, and monitoring is up to date. The only site where disturbance has been noted is archaeological site 9UN367, where user created trails and unmanaged use have the potential to disturb this site. During FY12 the Forest actively tried to address these issues and consulted with the SHPO and tribes on these efforts.

The other type of monitoring involves sites revisited as part of project implementation. A total of 29 previously recorded sites were revisited during FY12. None of these sites demonstrated signs of disturbance, either from vandalism or resource management activities. Based on these monitoring results, it can be stated that heritage protection measures are effective and heritage sites are being protected on the Chattahoochee-Oconee National Forests.

MQ 15: Are watersheds maintained (and where necessary restored) to provide resilient and stable conditions to support the quality and quantity of water necessary to protect ecological functions and support intended beneficial uses?

Element – Status and trends of impaired streams

Identifying and classifying the water quality of streams in Georgia is the responsibility of the Environmental Protection Division (EPD), the state's environmental regulatory agency. A brief description of stream designations follows, from the GA EPD website:

Every waterbody in the State of Georgia has one or more designated uses. Examples of designated uses are "fishing", "recreation", and "drinking water". The State has adopted water quality criteria to protect these uses. GA EPD determines whether a waterbody is supporting its designated uses by collecting water quality data and comparing this data against the water quality criteria. If it is determined that a water is not supporting its designated use, then GA EPD will typically develop a total maximum daily load (TMDL) as the start of the process of restoring the water.

The GA EPD maintains a List of Waters in the State, known as the 305(b)/303(d) list; the connection to the Federal Clean Water Act regulations. The listing is updated every two years and reported to the US EPA, and posted on the GA EPD website. Waters are assessed as 1) supporting their designated use; 2) not supporting their designated use; or 3) assessment pending. The most recent 305(b)/303(d) listings by GA EPD were reported in January 2012. Sixteen streams with segments on National Forest lands were listed as impaired in 2002 and reported in the 2004 Forest Plan and Environmental Impact Statement (Table 3-13). These stream segments, on National Forest lands, total 31.7 miles in length. Total Maximum Daily Load (TMDL) reports have been prepared, by EPA or EPD in the past ten years, for the impaired streams by river basin and watershed. No additional stream segments have been added to the GA 303(d) listing for impaired streams on National Forest lands. Most of the classified streams on the Forest carry the designated use of fishing.

Sediment is the primary pollutant identified for these streams, listed as "not supporting designated use" or impaired, with segments on National Forest System lands. This determination was made from stream surveys conducted by the GA EPD, GA DNR Wildlife Resources Division, or the Forest Service. The TMDL reports identify categories of land use in the watershed, the average percent sediment load, and the average sediment load production (tons/acre/year). TMDLs make the determination of sediment loads that can enter impaired streams without causing additional sediment impairment to the streams. For example, forest land in the Ocmulgee River basin occupies 55.3% of the classified land use. This category contributes 3.2% of the average percent sediment load, or 0.03 tons/acre/year. Roads, in comparison, contribute 29.9% of the sediment load, and row crops 20.0%, both categories having on-going, annual soil disturbance. TMDL reports recommend management practices that can be used to help maintain the sediment loads at current or lower levels, to avoid impairment of streams. Implementation of Georgia's Best Management Practices for Forestry (BMPs) is the recommended approach to address sediment from forest land operations. No projects occurred on National Forest lands in watersheds with impaired streams in 2011 or 2012. Projects proposed in these watersheds in the future will require compliance with TMDL direction.

Stream mileages on the Forest include 2763 miles of cold water perennial streams on the Chattahoochee, 393 miles of warm water perennials on the Oconee, and a Forest-wide total of 10,800 miles of non-perennial streams.

An interdisciplinary team completed Step One of a Forest Service national six-step watershed condition framework process in March 2011 to determine watershed condition classes that can be applied consistently across all national forests. The process, "Watershed Condition Classification" (WCC), evaluated all sixth level HUCs that include at least 25 percent or more National Forest land ownership. The technical guide for this classification describes three classes of watershed condition, directly related to the degree or level of watershed functionality or integrity:

- Class 1 – Functioning Properly
- Class 2 – Functioning at Risk
- Class 3 – Impaired Function

The classification process uses 12 indicators composed of attributes related to watershed processes including; water quality, water quantity, aquatic habitat, aquatic biota, riparian/wetland vegetation, roads and trails, soils, fire regime, forest cover, rangeland vegetation, terrestrial invasive species and forest health. These indicators are grouped into four process categories; aquatic physical, aquatic biological, terrestrial physical, and terrestrial biological. An explanation of these categories and the entire classification process can be reviewed on the Internet at: http://wwwtest.fs.fed.us/publications/watershed. Classification maps showing the Chattahoochee-Oconee National Forest HUCs can also be viewed at this website.

The initial classification of HUCs was completed in March 2011 with the number of HUCs by Category on the Forest as follows: Class 1 – 54, Class 2 – 83, Class 3 – 1.

Eight watersheds were classified across boundaries shared with adjoining National Forests.

Step Two of the process is prioritizing watersheds for restoration, targeted for improvement through a 5 year program of work. The next step is to complete a Watershed Restoration Action Plan (WRAP) that identifies comprehensive project-level improvement activities.

The Forest selected one HUC on the Forest as a Priority Watershed in 2011, Cooper Creek, located on the Blue Ridge Ranger District (HUC # 060200030102). The Watershed Restoration Action Plan can be viewed at the website noted above by "zooming" in to the Cooper Creek Watershed and further selecting the tab for the watershed action plan. The Plan identifies a 5 year program of work with essential projects, potential partners and estimated costs. First year projects will begin after the completion of appropriate NEPA decisions.

Element – Application of Forest standards to protect and maintain soil and water resources

Protection and/or improvement of soil and water resources on the National Forests are a requirement to comply with Federal and state water quality regulations, including the Federal Clean Water Act and the Georgia Water Quality Control Act regulations. It is also a primary agency mission of the Forest Service, to provide high-quality water in sufficient quantities to meet the needs of natural resources and human requirements.

Active participation in the planning, design, implementation and completion of projects on National Forest lands is a key element of this approach, to insure appropriate management practices are included in project plans.

One Forest Plan objective related to this element is Objective 25.2, completing watershed assessments at the sixth level hydrologic unit (HUC). These evaluations are used to analyze the condition of resources, the impacts to their normal function, and to identify opportunities to make improvements or enhancements. Watershed assessments have been completed on each Ranger District in 2010 and 2011. The assessments are not decision making reports, but provide data and information that can be used to develop projects evaluated through the NEPA decision making process.

The primary method to insure application of Forest Plan standards for soil and water protection is at the planning and design phase of projects. Projects are initially evaluated to identify the locations of streams, floodplains, wetlands, bogs, riparian areas and other landscape areas that need protection during operations and use. Forest personnel evaluate proposed treatments in the planning phase to identify needed protections and design the appropriate practices to be included during projects.

As an example, timber harvest projects use "*Georgia's Best Management Practices for Forestry (2009)*" as a key guidance document to identify protection measures to be used. These practices, BMPs, are implemented through timber sale contract provisions. Timber sale administrators and inspectors monitor operations on a regular basis to ensure erosion control measures are installed and maintained. The Georgia Forestry Commission staffs a program throughout the state to assess water quality related to forestry activities, and report findings to the Georgia Environmental Protection Division. The Forest Service and the Commission have an agreement to conduct BMP evaluations on National Forest lands as part of the overall monitoring program.

Element – Effectiveness of Forest Standards in minimizing non-point source pollution

Forest Service activities on the Forest requiring ground, or soil, disturbance occurred in several resource management programs during 2010 to 2012. Monitoring the effectiveness of practices to minimize non-point source pollution (erosion and sedimentation) occurred on a cross-section of projects throughout the time period.

Timber sales occurred on all four Ranger Districts including planned "green" timber sales offered for bid and award, and also on un-planned salvage operations as a result of wind or tornado events. The Forest completed 3,864 acres of timber harvest over the period 2009-2012, primarily in areas previously treated 25 to 30 years ago. Silvicultural treatments were primarily first time thinning to reduce the risk of loss to insect and disease, using existing access roads in the harvest areas where possible. This use of existing roads provides the opportunity to minimize construction of new roads, thereby reducing the impacts of erosion, compaction and sedimentation. Three timber salvage operations were conducted on 405 acres as a result of April 2011 tornados that began in Mississippi and swept across several states before ending. Timber salvage activities were operational from August 2011 through October 2012. Georgia Forestry Commission water quality staff completed a BMP audit on the Martin's Branch salvage sale in September 2012 with a 95.8% BMP implementation assigned. Two stream crossings on the sale unit were evaluated with no issues identified on temporary crossings that used a combination of culverts, logs and dirt covering. Silt fences were used to control soil movement to the stream channels. At sale closure the crossings were rehabilitated, exposed soils revegetated and normal stream channel function restored. One permanent stream crossing on a short system road was noted with deficiencies due to the age of the pipe, deteriorated and caving in from recent log truck traffic. The pipe shoulders were also noted as out of compliance with BMPs. These deficiencies were corrected at sale closure.

Additional GFC audits of BMP compliance were conducted on planned timber sales; Water Gauge and Etowah North. The Water Gauge sale did not involve any stream crossings, and was found to be 100% compliant with BMP implementation. Etowah North sale involved two stream crossings on a permanent Forest Service road with culverts not in compliance with BMPs; undersized, short length, deteriorated condition. A GFC audit noted a 76% compliance with BMPs due to the crossings, identified as water quality risks. The culverts at the crossings were replaced with correct size pipes, armored slopes at the inlet and outlet, and additional roadbed surfacing added on the road, displayed in the photos below. Additional stream crossing road culverts were replaced and upgraded on a second Forest Service system

road (FS 141) for the Etowah North sale prior to timber operations to address BMP compliance.

MQ 16 - What are the conditions and trends of riparian area, wetlands and floodplains functions and values?

Riparian areas have been defined as follows: "*three-dimensional ecotones of interaction that include terrestrial and aquatic ecosystems extending down into the groundwater, above the canopy, outward across the floodplain, up the near slopes that drain to the water, laterally into the terrestrial ecosystem, and along the water course at a variable width.*" (Ilhardt et al, 2000). For the Forest Plan, a GIS analysis was completed to model an approximate acreage on the Forest meeting the definition of riparian areas (FEIS, page 3-74). This analysis identified an estimated 8 to 9 percent of the total land area on the Forest, or approximately 66,234 acres in riparian areas. These acres are based on a 100 foot horizontal width on either side of perennial streams, from the channel bank upslope. Forest Plan Management Prescription 11, Riparian Corridors, is allocated to all perennial and intermittent streams on the Forest as the direction to be followed in these areas. The emphasis of this Prescription is to manage to retain, restore and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian, and upland components within the corridor (Forest Plan, page 3-172).

Impacts to riparian corridors or areas can be both short- and/or long-term, and can be caused by natural disturbances (e.g. floods) or human activities. Human activities can include permanent roads, recreation trails, timber harvesting, prescribed burning, camping, wildlife openings, range allotments and others. The objective of management treatments is to minimize the duration and extent of impacts, and to mitigate the effects that disturb normal functions and processes, particularly soil, water and ground cover.

The primary means of assessing riparian condition is during project planning and design, e.g. review of areas before a project is implemented. Surveys are made of existing conditions to identify needed actions. Concerns could include a lack of woody debris, active erosion, unmanaged recreation uses, or unstable stream banks or channels. Locations are also sought to improve riparian conditions or functions, e.g. restoring canebrake vegetation along streams.

Timber sale operations in 2011-2012 occurred on all four Districts including these projects: Watergauge, Martin Branch, Panther Creek, Etowah North, Etowah South, Camp Merrill Airstrip, Brawley Mountain, Davenport Mountain, Narrows, Hammond Gap, Pocket, Deep Wells, Little Glady, Caney Creek, and Stalkinghead. Storm salvage sales also occurred on these areas: Martin's Branch, Timpson Creek and Boggs Creek. Riparian corridors occur in each of these project areas. Efforts were made to insure that streams and associated riparian areas were appropriately protected during project layout and operations. Forest Service timber sale administrators monitor sale operations on a continuous basis, with periodic reviews by Supervisors Office personnel to insure compliance with standards and Best Management Practices (BMPs). Projects reviewed demonstrated compliance, including temporary crossings of streams through riparian areas.

Prescribed burning was conducted on 60 individual project areas for a Forest total of 55,532 acres in the period of 2011-2012. A majority of these areas contain riparian areas along perennial streams, with streams commonly used as natural firebreaks where possible. Streams are used, along with existing roads, to minimize the amount of bladed fire line construction, requiring soil disturbance. Constructed control lines required 72 miles of line, or about 32% of the total perimeter around the burns. Firing techniques are also used that minimize fire intensity in riparian areas. Prescribed burns are typically "fired" or ignited outside of riparian areas where the objective for the burns is to reduce fuel loadings or vegetation competition. Fire is allowed to burn into riparian areas where it typically burns out, or extinguishes due to higher moisture and/or shade conditions exist, not favorable for burning.

Element – Condition of soil and ground cover in riparian areas

Forest Plan emphasis for riparian corridors/areas is to manage to retain, restore and/or enhance the inherent ecological processes and functions of the associated aquatic, riparian and upland components. This emphasis seeks to maintain soil productivity, natural vegetation communities, and water quality to reflect the environmental and ecological components and processes. Riparian corridors occur along all defined perennial and intermittent streams on the Forest that show signs of scour, and around natural ponds, lakeshores, wetlands, springs and seeps (Forest Plan, page 3-172).

The condition of riparian corridors is typically assessed during project planning, design and the on-going implementation of projects. Surveys are conducted in project areas to determine the riparian health and function. These surveys identify natural or human-caused impacts that affect riparian conditions, such as active erosion, soil compaction, lack of woody debris in streams, excessive sediment, fecal coliform, damage from recreation uses, or invasive exotic plant species.

Recreation uses on the Forest are often associated with riparian areas and streams, either crossing these areas, or located within them. Dispersed recreation sites are typically along streams managed for trout fisheries, creating a desirable use location but often resulting in sites where continued overuse can impact riparian conditions. The photo below is an example of one site in a Forest watershed where a campsite has been in continuous use for several years within fifty (50) feet of the stream channel in the back of the photo. The yellow tape measures 50 feet out from the stream. The second photo displays a similar area where large rocks have been placed to control vehicle access and reduce the impact area.

Element – Forest Plan standards are being applied in riparian area

When riparian areas are involved, projects are designed to minimize impacts by use of appropriate use of mitigation measures such as Best Management Practices, particularly to avoid disturbance of stream banks and entry of erosion into streams. Several timber harvest projects have been completed on the Forest to restore native vegetation communities in riparian areas, generally favoring hardwood species over pine species. The photos below display a timber sale area on Chattahoochee where thinning harvest occurred (2012)in the riparian corridor, including a skidder stream crossing of a perennial stream (photo left) that was restored after use. The photo right shows the stream channel downstream of crossing.

Element – Effects on riparian values, soil and water quality, and streambank stability

Since 2004 and the revision of the Forest Land Management Plan an on-going emphasis on the Forest has been to address the effects of both authorized and unauthorized uses on the Forest that cause impacts to soil and water related resources. Projects have been planned and implemented to reduce the on-going

impacts to soil and water quality such as poorly maintained roads, eroding recreation trails, over-used dispersed recreation sites, and other actions that cause detrimental impacts.

In 2011 and 2012 a total of 580 acres of National Forest lands were treated, as part of a variety of projects, to restore soil productivity and water quality across a number of areas impacted by both authorized and unauthorized uses. Examples include obliteration of fire control lines used by horses, replacement of culverts, closure of log landings and skid trails in harvest areas, closure of illegal OHV trails, bank stabilization, and control of invasive plant species. These treatments are part of on-going emphasis of the Forest to address erosion and water quality problems to the extent projects can be funded and implemented. Although all 580 acres are not directly involving riparian areas, the areas often are upslope or connected in other ways.

Several assessment or monitoring methods have been developed by agency and interagency efforts to address impacts to riparian values, soil and water quality and streambank stability or aquatic habitats. These include the Watershed Condition Framework, Soil Disturbance and Monitoring protocols, Aquatic Organism Passage, and surveys for non-native invasive species. These protocols are not yet fully implemented, but indicate an emphasis in direction to identify impacts and develop treatments to address them.

Assessment and survey of the condition of riparian areas, streambank stability, stream crossings, and soil productivity and water quality in general continue to be needed. Most of this effort occurs during the planning, design and layout of projects; however there are areas outside the boundaries of projects that also need survey to maintain knowledge of the condition of these elements.

Element - Project in 100-year floodplains comply with Executive Order 11988

Executive Order (E.O.) 11988, signed in 1977, is Federal direction related to the management of floodplains. On National Forest system lands this E.O. requires analysis of projects with the potential to be locate facilities or other features in 100-year floodplains, to minimize or mitigate adverse effects.

On the Chattahoochee-Oconee National Forests, permanent recreation areas with facilities and permanent roads with crossings of streams are the primary features that can impact 100-year floodplains. During the period from 2009 to 2012 several projects were planned in these areas requiring evaluation and design. Projects completed in this category included replacement of restroom buildings, campsites and the addition of accessible parking spaces. Projects were completed both by contractors and Forest Service agency personnel. These sites were reviewed by the Forest Hydrologist and the Forest Landscape Architect during the design phase to identify the projected 100 year floodplain zone and locate structures in suitable locations. Examples of these projects include Sarah's Creek Campground, Frank Gross Campground, Mulky Campground and Boggs Creek Campground. Evaluations of the projects both during, and post construction did not identify any non-compliance situations.

The Forest Service Southern Region office initiated a project in 2012 to survey eleven Forest recreation areas adjacent to perennial streams, to identify potential 100 year and 500 year floodplain zones. These surveys are being conducted to develop maps of the zones to Federal Emergency Management Agency standards, and design appropriate direction for the use of these areas with regard to flood risks or hazards.

Pre-survey site evaluations did not identify any existing significant concerns; however the sites will be re-evaluated when the maps are approved.

Several stream crossings on permanent Forest Service roads have been improved in the period 2009-2012, primarily to upgrade existing structures and address aquatic organism passage concerns. Most of the new structures are bottomless arch culverts, designed to allow stream flows in the natural stream channel. These culverts are also designed to pass flood flows during storm events. Crossings replaced included Sarah's Creek and Walnut Fork in Rabun County, Bryant Creek in Union County, Farmer Mountain Road, Frady Branch Road, and Red Root Road in Stephens County, and Power Line Road, Long Hole Road, and Goolsby Road in Jones County. The first three projects were replacements of existing culverts to address aquatic passage barriers and restore the habitat. The crossings in Stephens County and Jones County were projects implemented following flood damage from heavy rainfall storms in September 2009. The Red Root Road project required reconstruction of a river bank along the Middle Fork of the Broad River on a section where FS Road 92 parallels the stream channel. The September 2009 storm undercut the stream bank causing road failure into the channel. A photo of the Bryant Creek culvert, before and after, is shown below.

Additional projects on Forest involving streams and floodplains completed in 2011-2012 included replacement of two bridges on Tallulah River Road, repair of a road bank slide on Wildcat Creek.

Bryant Creek crossing (FS Road 33A) before replacement – outlet view of round culvert creates barrier to aquatic movement and impacts stream channel.

Bryant Creek crossing (FS Road 33A) after replacement – inlet view of arch culvert – removes barrier, restores natural channel.

Element – Wetland maintenance or mitigation during project planning and implementation comply with Executive Order 11990

Executive Order 11990, signed in 1977, is Federal direction to minimize the destruction, loss or degradation of wetlands, and to preserve or enhance the natural and beneficial values. Wetlands have been delineated and inventoried nationally as part of the National Wetland Inventory (USFWS) to provide information on the distribution and type of wetlands. Wetland boundaries and classification are further confirmed and identified at the project level.

Wetlands make up a small percentage of the total land area of the Forest (0.5%) and the larger contiguous areas occur on the Oconee Ranger District, primarily on the Oconee and Ocmulgee Rivers and their larger tributaries. Mountain wetlands are typically small in size, often described as "mountain bogs" which are currently undergoing restoration to restore natural vegetation communities and wetland function. Most of this restoration involves mechanical control of undesirable vegetation to allow natural species to expand or be maintained.

The primary method to maintain or mitigate impacts to wetlands is pre-project inventory and mapping, followed by design of treatments to minimize entry or disturbance into wetlands. Based on field surveys of projects implemented in 2011 and 2012 there were not impacts identified to wetlands during projects. Stream crossings replaced on the Forest were also surveyed prior to treatment to determine presence of any wetland communities and need for mitigation.

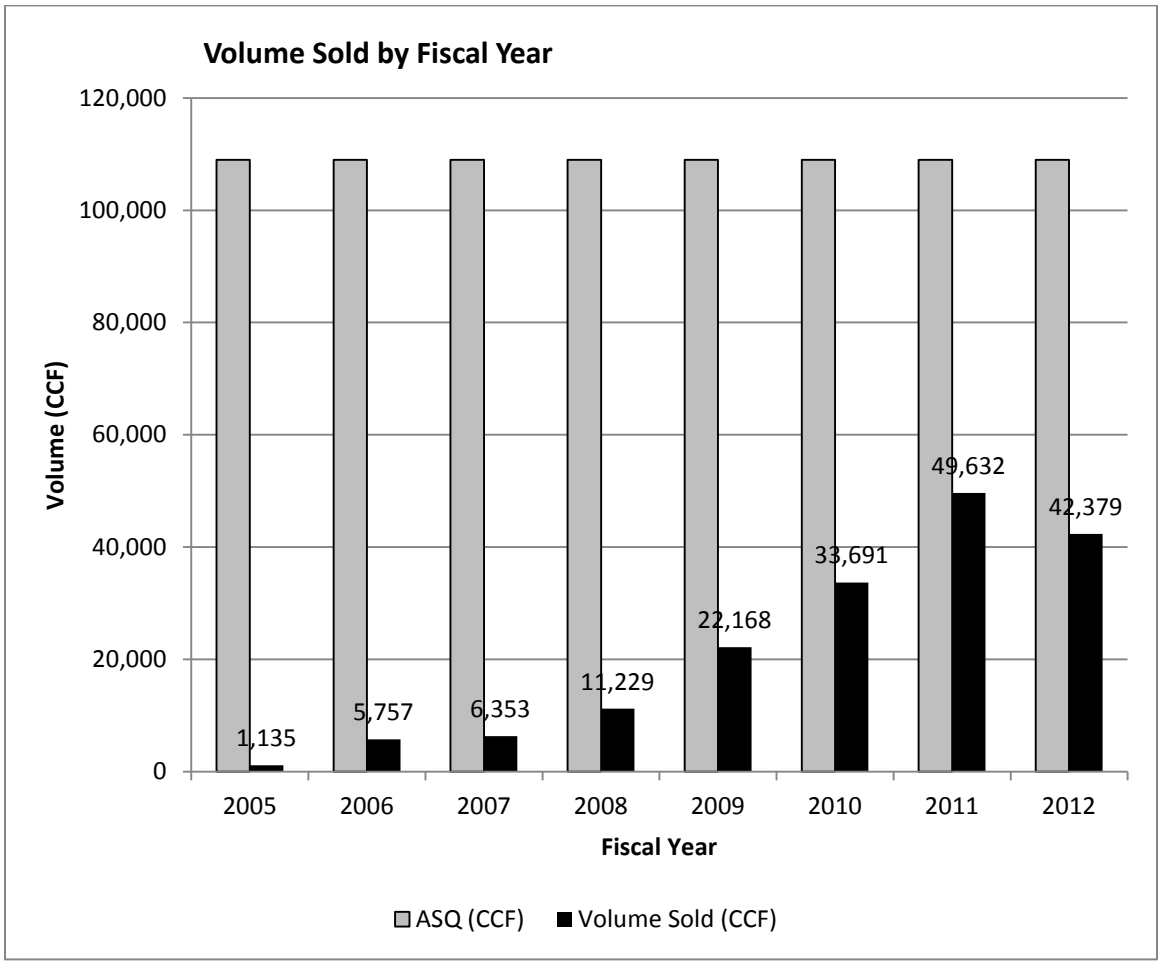
A project benefiting wetland function was completed in late 2010 on the Town Creek OHV trail on the Oconee Ranger District in Greene County. One portion of the existing trail crossed the main channel of Town Creek in a wetland area, using a wooden boardwalk structure. The existing structure had reached its useful "life" and needed replacement. A new design was developed by the Forest Service Trails Unlimited Enterprise Team that raised the structure above the wetland surface, allowing natural flow, vegetation growth, and minimal impact to its overall function. Construction used helical steel pipes for vertical support, "screwing" the pipes into the soil to provide strength. The wooden boardwalk decking was built on the pipes. A photo of the structure is below. The elevated structure allows natural flow of water and organisms under the platform while reducing impacts from its use.

Town Creek OHV Trail in Greene County with boardwalk structure through wetland

MQ 17: How do actual outputs and services compare with projected?

Element: Trends in Forest products production.

Forest management activities are employed to attain desired future conditions, wildlife habitat improvement, and recreation settings, etc., and also result in outputs such as timber volume. The forest plan and FEIS projected possible activities and outputs that may occur over the life of the plan. These projected possible outputs and activities result from activities such as timber harvesting. Timber Outputs are described in the forest plan in terms of Allowable Sale Quantity (ASQ), which is the average annual volume per decade and the maximum quantity of timber that may be sold from the land suitable for timber production for a specified time period (10 years). The average annual ASQ for the CONF is 109,000 ccf for the first period, 2005-2012.



Timber volume sold has steadily increased during the eight year period since Plan revision in support of the forest health, restoration, maintenance, and wildlife habitat objectives being implemented across the

Forest. Peak production in 2011(and 2012) is still far below the annual Allowable Sale Quantity (ASQ) of 109,000 CCF.

Adequacy of constructed roads for the planned uses and revegetation following completion of use.

As a result of the Eastside Forest Health Improvement analysis it was determined that most of the roads on the Chattahoochee National Forest would need to have some portion of their road template reconstructed in order to accommodate current logging vehicles.

Adequacy of designated transportation and utility corridors.

The forest is in the midst of a Transportation Analysis Process to determine the most sustainable road system based upon the mix of maintenance levels and projected future budgetary levels. That report is expected to be completed in FY 2013. It is expected the recommend road system will have fewer roads open to the public, and encourage decommissioning of roads that are environmentally sustainable.

Below is a table showing the number of miles of roads improved, maintained and decommissioned by fund code over the last 5 years. The fund codes are divided into appropriated dollars which also include funds contributed by our outfitters and guides and miles from the Schedule A agreements with our partners such as Camp Merrill.

The other fund code is timber purchaser and stewardship.

Fund Code	Activity	Unit of Measure	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12
CM	Improved Rds.	Miles	23.6	24.1	7.1	15.8	-	12.7
Timber	Improved Rds.	Miles	-	-	-	7.9	6.5	1.0
CM	Maintained Rds.	Miles	524.3	586.4	612.7	688.7	229	396.1
Timber	Maintained Rds.	Miles	9	2.4	2	-	12	61.8
CM	Decommissioned system Rds.	Miles	0.5	1.0	4.9	-	-	-
CM	Decommissioned non-system Rds.	Miles	1.0	-	2.4	-	5.8	1.8

MQ 18: Are silvicultural requirements of the Forest Plan being met?

Many forest plan goals and objectives are met through vegetation management using silvicultural practices such as timber harvesting, site preparation, timber stand improvement and tree planting. Forest plan standards along with forest service handbooks and manuals provide the direction and how these practices are applied. Field reviews, spot checks, and annual reports are utilized to monitor the compliance with this direction. Integrated resource reviews are to be conducted annually. Additionally, prior to making decisions, the decision documents are reviewed for compliance with the forest plan. Reviews, spot checks, and reporting databases (FACTS) indicate that silvicultural practices and project decisions are in compliance with the forest plan. Also, by reviewing these documents it is ensured that the harvesting methods, size of harvest limits, suitability of the land, and application of vegetation management requirements will all be appropriate and will follow forest plan guidance.

MQ 19: Are Forest Plan objectives and standards being applied and accomplishing their intended purpose?

An important part of the forest planning process is to determine if the projects being implemented are indeed moving toward the desired future resource conditions, meeting goals and objectives, and applying standards as they are described in the Revised Forest Plan. Many valuable projects were began or completed over the last several years and more are currently being planned that will help move the Forest towards its goals. Through this process of forest plan monitoring and evaluation, it was evident that several of the quantitative objectives are not being met and are falling short of the 10 year goals set by the Plan. The Forest feels that many factors have contributed to these shortfalls, including budget constraints, available resources, key personnel vacancies, personnel turnover rates, and environmental concerns; however, the Forest will continue to move ahead in planning and implementing projects that will help achieve these goals and objectives.

Chapter 3

Evaluation of Outcomes on the Land and Evaluating New Information

The following list contains the most current issues, concerns and opportunities for the Chattahoochee-Oconee National Forest.

- The need to restore native ecosystems and habitats that have become less abundant due to lack of management activities and past land use.
- Non-native invasive species (NNIS), including both invasive plants and invasive insects such as the Hemlock Woolly Adelgid (HWA), continue as a forest health issue for the forest.
- Emerging threats to forest health include spreading insects such as the emerald ash borer, and diseases such as thousand cankers disease. These and other threats will continue to be monitored for presence and preventative actions, such as those that maintain forest health, will be in place to respond to this threat.
- The need for thinning young pine stands that are overstocked for the purpose of reducing their risk to attacks from native pests, such as the southern pine beetle (SPB).
- The need to gather more information as it becomes available in order to adapt to changes in the environment due to global climate change.
- The need to adapt to fluctuating budgets and implement an adaptive budgeting process in order to prioritize projects based on available funding and resources needed to meet our objectives.

--Longleaf Restoration Goals for Conasauga Ranger District (Armuchee Ridge Area)

One of the primary restoration goals on the Conasauga Ranger District is the restoration of the montane longleaf pine ecosystem. Mountain longleaf pine is rare; comprising only 2% of longleaf's total remnant acreage, and there is an extremely small amount of mountain longleaf pine on the Conasauga Ranger District. It exists only on isolated forested ridges in northeast Alabama and northwest Georgia, such as the xeric ridges in the Armuchee Ridges analysis area which are underlain with Red Mountain sandstone (Wharton 1978). Today, relict mountain longleaf pine occurs in combination with other yellow pine and xeric oak species on parallel side ridges on Taylor Ridge. Some of the trees are in the 70-90 year range; one was aged as over 200 years old. Very little longleaf regeneration is present in the stands due to the closed canopy and history of fire suppression. The restoration of 1,100 acres of mountain longleaf pine over the next 7-8 years is a key objective in the Forest Plan. The Armuchee Ridges analysis area contains the entire potential habitat for this restoration.

Restoration activities have begun and to date, the district has planted approximately 80 acres of longleaf pine on the Armuchee Ridges project with more scheduled for the future (since 2012, approximately 95 additional acres have been restored through the implementation of the Mack White Gap project).

--NNIS Eradication

The Forest continues treatment of invasive plants and insects, including the Hemlock Woolly Adelgid Treatment to limit the spread of these species. The Blue Ridge RD continues with it's Partnership with Save Georgia Hemlocks and all three districts will continue treatment in the foreseeable future. Invasive plant eradication and native plant restoration continue to be a priority for the Forest.

--Large-scale Ecological Restoration

Fiscal Year 2012 began the Implementation of a large scale ecosystem restoration project on the Oconee Ranger District.

The adaptive management project on the Oconee Ranger District, entitled Oconee Forest Health and Wildlife Habitat Improvement Project (OFHWHIP) designed and defined a 10 year strategy to:

- Improve ecosystem resiliency and resistance to disease, insects and fire…provides for longleaf pine introduction on appropriate sites, maintenance of bottomland hardwoods, and placing the correct species on the right site
- Develops strategies to protect national forest resources by minimizing adverse effects of invasive non-native species
- Provides opportunities to improve RCW habitat

In addition to this project and what guided and provided insight into it, was the completion of an Ecological Classification System (ECS) for the Oconee Ranger District.
This ECS guided all management actions for the OFHWHIP by identifying inherent capabilities of the land and defined the best location on the landscape to implement the goals and objectives defined in the Revised Forest Plan.

Since 2012, a large-scale ECS has been completed on the Blue Ridge RD in the Cooper's Creek watershed. The ECS identified multiple opportunities for ecological restoration and the district is nearing completion of the environmental assessment that will help contribute to meeting plan objectives, including but not limited to oak restoration and maintenance and woodland habitat restoration.

In 2014, the Forest is beginning to implement a watershed restoration identification process, called the Landscape Scale Project Prioritization Process to establish a long term order of entry for large projects. This process is being implemented in order to allow for more FP Objectives to be met over a larger area, and hopefully accelerate restoration goals across the Forest.

Adapting to Economic and Budget Fluctuations

The annual budget continues to fluctuate over time. The FY 2012 budget continued the downward trend.

Annual Forest Budget	
FY 2008	18,620,808
FY 2009	23,089,317
FY 2010	17,258,078
FY 2011	16,465,099
FY 2012	14,837,469

The fluctuations impact our ability to adequately manage the forest in many ways. Vacant positions go unfilled. Many monitoring activities are accomplished using agreements and partnerships, which can be done through cost share activities and are instrumental in accomplishing this much needed work at a reduced cost to the forest.

There are a large number of new and important issues facing the forest including increasing urban interface, non-native invasive species, increased public interest, new policies, litigation and others. Budget fluctuations create new challenges and opportunities for the forest. To respond to these, the forest

is implementing a project based budgeting approach that prioritizes projects and identifies needed funding early in the planning process. This will help alleviate some of the constraints caused by budget fluctuations and allow the forest to readily adapt to funding increases and decreases during the fiscal year.

Action Plan and Status

Actions Needed That Do Not Require Forest Plan Amendment or Revision

Action: Baseline acreage, condition and distribution of rare communities on the Forest.
Responsibility: Forest biologists and biological technicians
Date: Ongoing
Status: Survey the location and condition of rare communities on the Forest, including but not limited to canebrakes, basic mesic forests, glades, barrens, and woodlands, and table mountain/pitch pine communities, to be collected and tracked in GIS. Project effects to rare communities and the introduction and spread of invasive plants on understory plant communities are to be addressed in project analysis.

Action: Integrate projects to restore forest structure, rare communities, native understory, and major forest communities in decline, such as shortleaf pine and oak communities, into large-scale projects and analysis areas.
Responsibility: Forest biologists and silviculturists
Date: Ongoing
Status: Projects are currently being planned on the Districts that will address these issues.

Action: Incorporate wetland, riparian habitat inventory and hardwood restoration activities into FSVEG and analysis area projects on the forest.
Responsibility: Forest biologists and silviculturists
Date: Ongoing
Status: Vegetation inventories will be conducted in priority in riparian and other hardwood communities within priority watersheds.

Action: The Forest will establish 'Implementation Projects' in the FACTS database in order to link applicable treatment activities and polygons. This will more accurately track progress being made in meeting plan objectives related to ecological and vegetative restoration that are entered into the database annually.
Responsibility: Forest FACTS coordinator.
Date: Completed

Action: The Forest will work with the State of Georgia and supply information relative to prescribe burning on the Forest in order to help the State meet air quality standards relative to fine particulates and ozone.
Responsibility: Districts and SO.
Date: On-going

Action: Continue to improve forest health conditions and limiting forest health threats on the Chattahoochee-Oconee National Forest. The objective is to control non-native invasive plants emphasizing management prescriptions where biodiversity or restoration is a primary objective.
Responsibility: Biologists and silviculturists
Date: Ongoing
Status: in-progress

Actions Which Require Forest Plan Amendment or Revision

A review of visitor capacity on the Chattooga Wild and Scenic River has resulted in a forest plan amendment and is currently still in progress.

With the recent finding of the federally endangered Indiana bat in north Georgia, a forest plan amendment is currently being completed to identify mitigation measures needed to protect this species.

Appendix A – List of Contributors

The following individuals contributed to this report:

Brian Jackson	Forest Silviculturist
Mike Joyce	Forest Fisheries Biologist
Joanne Baggs	Forest Botanist/Ecologist
Dick Rightmyer	Forest Soil Scientist
James Wettstaed	Forest Archaeologist
Danny Skojac	District Silviculturist/Timber Manager
Alex Jaume	Forest GIS Trainee
Mike Davis	Forest Fire Management Officer
Deborah Byrd	Forest Roads Engineer
Joel Ortiz	Forest Facilities Engineer
John Campbell	Forest Recreation/Wilderness Manager
Jim Wentworth	District Wildlife Biologist
Ruth Stokes	District Wildlife Biologist
Elizabeth Caldwell	District Wildlife Biologist
Mike Brod	District Wildlife Biologist
Blaine Boydstun	District Realty Specialist
Karen Brent	Forest Fire Planner (Retired)
Daniel Stratton	Regional Air Specialist
Erika Mavity	Forest GIS Coordinator
Jeffrey McDonald	District Recreation Manager
John Westbrook	District Ecosystem Health Manager/Timber Mgr.
Ray Ellis	Natural Resources Staff Officer (Retired)
Alan Polk	Recreation and Engineering Staff Officer

Appendix B- Chattahoochee-Oconee National Forest
MONITORING AND EVALUATION ANNUAL REPORT
COMMENT FORM

If you have any comments on this report, please fill out this form, fold and staple with USDA Forest Service address outside, add postage and drop in the mail. Please include your name and address at the bottom of this form.

I have the following comments on the Monitoring and Evaluation Annual Report:

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