

CONTENTS

Preface	. 1
Key Findings and	
Certification	. 2
FY 2004 Monitoring Results	5
1. Ecosystem Health	. 5
2. Multiple Benefits to People	24
3. Effective Public Service	30
Action Plan	36
List of Preparers	36



Forest plan monitoring and evaluation reports are essential elements for maintaining valid, effective and implementable Land and Resource Management Plans (Plans). Nantahala and Pisgah National Forests (N/P Forests) operate under an LRMP signed in 1987 and significantly amended (Amendment 5) in 1994. Revision of this plan is set to begin in FY 2007. The LRMP for Uwharrie was signed in 1986 and is scheduled to be revised in FY 2006. The Croatan National Forest LRMP revision was signed in FY 2003. The various Plans are available online at http://www.cs.unca.edu/nfsnc/nepa/nepa.htm.

The Annual Monitoring and Evaluation Report for FY 2004 is organized into broad resource topic areas. A summary of the historical context for management of the four Forests is available online at

http://www.cs.unca.edu/nfsnc/me2003/nfsnchistory.pdf.



Cold Mountain, Shining Rock Wilderness – Pisgah National Forest

The organization of the Monitoring Results for FY 2004 presented here broadly follows three main emphasis areas of the Government Performance and Results Act (GPRA) as outlined in the USDA Forest Service Strategic Plan (2000 Revision). Those emphasis areas are Ecosystem Health, Multiple Benefits to People, and Effective Public Service. See http://www.fs.fed.us/plan/.

KEY FINDINGS AND CERTIFICATION

- Massive flooding from three hurricanes in September 2004 have impacted stream channels, roads, trails, and facilities across Nantahala and Pisgah National Forests through scouring, slides, washouts, and fallen trees.
- Responding to these impacts will be a major management activity during FY 2005.
- Forest health issues continue to play a significant role in shaping policies and programs. Infestations of Hemlock Woolly Adelgids are increasing; other insects and diseases are threatening the forests; and there is renewed focus on the need to increase the amount of prescribed fire in the forests.
- Creation of Early Successional Habitat continues to be lower than the amounts anticipated in the Nantahala/Pisgah and Uwharrie Plans.
- In FY 2004, the \$1,281,614 collected in fee demo helped to fund numerous recreation projects.
- Trend information for timber harvesting over the past 17 years indicates an approximate 80 percent decline in acres harvested, and a change in the nature of those harvests; from removing most of the trees on most harvest units to leaving most of the trees on half or more of harvest units. This represents a switch of emphasis from forest regeneration to forest thinning. For 2004, acres receiving some type of harvest was approximately 54% of what was anticipated in the Plans, and the volume of timber removed was about 11% of the amount anticipated in the plans, due to this change in treatment emphasis.
- The Forest continued to work in partnership with other agencies, American Indian Tribes, local communities and universities on the Trail of Tears and Overmountain Victory National Historic Trails. The Forest developed and directs the Statewide Rock Art Survey.

- An analysis of the road system for the Uwharrie National Forests was completed in FY 2004. Findings from this analysis will be used in the Uwharrie Plan revision to begin in FY 2006.
- Implementation of the National Fire Plan is proceeding on the Forest. In FY 2004 the Forests continued implementing structured prescribed fire monitoring.

Forest Supervisor's Certification

I have evaluated the monitoring results and I have directed that the Action Plan 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.

During FY 2005, the Plan for Nantahala and Pisgah National Forests would be amended to streamline the list of Management Indicator Species. The revised Croatan National Forest Plan, signed December 2002, is sufficient to guide forest management for FY 2005. For the Uwharrie National Forest work in preparation for Plan revision would proceed in FY 2005.

Any amendments or revisions to the Forest Plans will be made using the appropriate National Environmental Policy Act (NEPA) procedures.

/s/ R E Vann (for)	August 2, 2005
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Forest Supervisor

Date

FY 2004 Monitoring Results

Monitoring Results Related to Ecosystem Health

ECOSYSTEM DIVERSITY

Goal or Desired Condition: Maintain, and where possible, enhance the diversity of plant and animal communities.

Monitoring Item	Results				
Creation of early successional habitat	Early Successional Habitat Created Con Regeneration/Early Successional Habitat Created in FY 2004 (acres)		mpared to Desired Level Desired Annual Amount Established per Plans (acres) (approximation)		
	Nantahala/Pisgah Uwharrie	624 (regeneration) 104 (regeneration)	Nantahala/Pisgah Uwharrie	1560 400	
Status and management of major forest pests and diseases	Hemlock Woolly Ade Pisgah and Nantahala monitoring. In FY 200	elgid: The first detect a National Forests was 04 hemlock mortality b	ion of hemlock woolly a s made in FY 2001 afte became apparent, espe	adelgid (HWA) o r several years cially in Grahar	on the of m
Predator begile esting hemlock	County and the Linvill numerous developed of beetles that prey or significant ramping up the need for a Forest- landscape, and would	le Gorge. Chemical tre recreation areas and a n adelgids also occurre o of treatments and pre- wide Environmental A d complete that and be	eatments to combat the administrative sites. Ex ed. The prognosis is po edator beetle releases. Assessment for treating egin implementation in F	adelgid occurre kperimental rele or without a The Forest ide HWA across th FY 2005.	ed in eases ntified te
woolly adelaids					

Monitoring Item	Results
	Non-native Invasive Plants: The following projects were reported for FY 2004:
	Cheoah Ranger District – Project to control oriental bittersweet
	<u>Grandfather Ranger District - Steels Creek</u> : Used herbicides to control about one acre of invasive non-native (exotic) plants. Herbicides using the active ingredients Glyphosate or Triclopyr were used to kill the invading plume grass (<i>Miscanthus</i> <i>sinensis</i>) located on Forest Service Road (FSR) 228; tree of heaven (<i>Ailanthus</i> <i>altissima</i>) located on FSRs 496, 228, State Highway 281, and stand 307-14; Japanese privet (<i>Ligustrum sinense</i>) located on FSR 496; and princess tree (<i>Paulownia</i> <i>tomentosa</i>) located on FSR 496.
	<u>Grandfather Ranger District - Stateline</u> : Used herbicides (Triclopyr and Glyphosate) to control about five to ten acres of non-native, invasive exotic plants along FSRs 275 and 3512 and existing stands. In addition mowing, hand pulling, and herbicides were used within the project area to begin attempts to control <i>Microstegium vimineum</i> (Japanese stiltgrass) and <i>Lonicera japonica</i> (Japanese honeysuckle).
	Wayah Ranger District: (1) Treatment of approximately 5 acres of multiflora rose and kudzu in the Nantahala Gorge. (2) Treatment of a 1-acre kudzu patch in the Trimont Ridge project area.

Goal or Desired Condition: Attributes and resources of special interest areas including wilderness, research natural areas, and areas registered by the North Carolina Natural Heritage Program are maintained.

Monitoring Item	Results
Attributes and Resources of Wilderness	Significant decline of eastern and Carolina hemlocks due to infestations of the hemlock woolly adelgid is evident in several Wildernesses, especially Joyce Kilmer and Linville Gorge. This is expected to impact the wilderness character of these areas unless treatments are initiated. In September 2004, three hurricanes hit the mountains of Western North Carolina, damaging many wilderness trails, and impacting the wilderness experience for visitors.
	Recovery efforts are underway in 2005.
Attributes and Resources of Wild and Scenic Rivers	Work continued this year on development of a Comprehensive River Management Plan for Wilson Creek. Wilson Creek was designated a National Wild and Scenic River in 2000. A draft Comprehensive River Management Plan is available for review in 2005, and a Forest Plan amendment is set to be complete by the end of 2005.
	Prescribed burning was used to maintain or improve conditions of a pine/oak heath/rock outcrop site on the Grandfather District, and the Buck Creek Serpentine Barrens on the Tusquitee District.
Attributes and Resources of Special Interest Areas	<u>The Buck Creek Serpentine Barren</u> is the largest and floristically most distinctive of the Southern Appalachian serpentine barrens. The hierarchical United States National Vegetation Classification classifies the community association type as a <i>Quercus alba - Pinus rigida / Sporobolus heterolepis – Andropogon gerardii</i> Woodland and globally ranks it as G1 (NatureServe 2005). This community is included within the Buck Creek special interest area (SIA) registered with the North Carolina Natural Heritage Program.
	The Buck Creek serpentine barren, approximately 350 acres in size, has been periodically burned since 1995. Fifty acres of a west-facing slope within this SIA were burned within early spring of 2004. Four sensitive plants and 1 sensitive terrestrial animal species are known from the barren as well as 13 locally rare plants, including 1 new to science, and three locally rare terrestrial animals.

SPECIES DIVERSITY

Goal or Desired Condition: Maintain viable populations of existing native wildlife, fish, and plants. Threatened and endangered plant and animal species are protected, managed or recovered consistent with the Endangered Species Act; and sensitive species are conserved.

abitat and	Species	Forest	Estimated Population	Estimated Population	Reason for Change
opulation status of	Black bear	NPCU			ΝΔ
Management	Carolina northern flying squirrel	N,P	Static	Static	N.A.
	White tailed deer	N,P,U	Static to decreasing	Decreasing	N.A.
/113)	Racoon	N,PU,	Increasing	Increasing	N.A.
	Rabbit	N,P,U	Decreasing	Decreasing	N.A.
	Gray Squirrel	N,P,U	Static	Static	N.A.
	Bobcat	N,P,U	Static	Decreasing	Decreasing prey
	Mink	N,P	Static	Static	N.A.
	Bats	N,P	Varies by species	Varies by species	N.A.
	Pileated woodpecker	N,P	Increasing	Increasing	N.A.
	Golden crowned kinglet	N,P	Decreasing	Decreasing	N.A.
	Veery	N,P	Static	Static	N.A.
	Solitary vireo	N,P	Increasing	Increasing	N.A.
	Northern parula warbler	N,P	Static	Static	N.A.
	Ovenbird	N,P	Decreasing	Decreasing	N.A.
	Yellow-bellied sapsucker	N,P	Decreasing	Decreasing	N.A.
	Rufous-sided towhee	N,P	Decreasing	Decreasing	N.A.
	White-breasted nuthatch	N,P	Increasing	Increasing	N.A.
	Cedar waxwing	N,P	Static	Static	N.A.
	Pine warbler	N,P	Static	Static	N.A.
	Raven	N,P	Static	Static	N.A.

Habitat and	Species	Forest	Estimated Population	Estimated Population	Reason for Change
population status of			Trend 2001	Trend 2004	
Management	Field sparrow	N,P	Decreasing	Decreasing	N.A.
Indicator Species	Eastern wild turkey	N,P,C,U	Northern mtns –	Northern mtns –	N.A.
(MIS) [cont]			increasing; Southern	increasing; Southern	
			mtns – decreasing	mtns – decreasing	
	Ruffed grouse	N,P	Static	Static	N.A.
	Peregrine falcon	N,P	Increasing	Increasing	N.A.
	Eastern meadowlark	N,P	Absent	Absent	N.A.
	Green salamander	N,P	Static	Static	N.A.
	Jordan's salamander	N,P	Static	Static	N.A.
	Spotted salamander	N,P	Static	Static	N.A.
	Blue Ridge two-lied salamander	N,P	Static	Static	N.A.
	Brook, brown and rainbow trout, sculpin	N,P	Static	Static	N.A.
	Largemouth bass, bluegill	N,P	Static	Static	N.A.
	Blacknose dace	N,P	Static	Static	N.A.
	Freshwater mussels	N,P	Varies by species	Increasing	Surveys are detecting
	Smallmauth base	ND	Statio	Statio	
	white/redhorses	IN,P	Static	Static	N.A.
	Spotfin chub	N,P	Static	Static	N.A.
	Aquatic invertebrates	N,P	N.A.	N.A.	N.A.
	Index of biotic integrity	N,P	N.A.	N.A.	N.A.
	Fraser fir	N,P	Increasing	Static	More accurate information from surveys
	Carolina hemlock	N,P	Increasing	Decreasing	Mortality due to hemlock woolly adelgid
	Ginseng	N,P	Decreasing	Static	Tagging reduces illegal harvest
	Red oak, whiteoak, hickories	N,P	Static	Red oak – increasing; white oak – decreasing; hickories – decreasing	Based on WNC-wide Forest Inventory data not limited to NFS lands
	Mountain oat-grass	N,P	Dereasing	Increasing	Mowing and grazing at Roan Mountain

Species Catawba	Forest	Estimated Population Trend 2001	Estimated Population Trend 2004	Reason for Change
Catawba	NP	Increasing		
rhododendron		increasing	Increasing	N.A.
Golden saxifrage	N,P	Static	Static	N.A.
Prairie dropseed	N,P	Increasing	Static	N.A.
Alumroots	N,P	Increasing	Not Available	
Saxifrages	N,P	Increasing	Not Available	
Biltmore sedge, wretched sedge	N,P	Decreasing	Not Available	
Sphagnum spp	N,P	Static	Static	N.A.
Black cherry	N,P	Increasing	Increasing	N.A.
Basswood	N,P	Static	Static to Increasing	Aging of coves
Twisted stalk	N,P	Increasing	Not Available	
Pitch pine, table nountain pine, turkey beard	N,P	Decreasing	Decreasing	Lack of fire and pine beetle epidenic
Lung lichen	N,P	Increasing	Increasing	N.A.
Grapes	N,P	Decreasing	Decreasing	N.A.
White pine	N,P	Increasing	Static	Pine Beetle epidemic
Exotic species: Japanese honeyese honeysuckle, nicrostegium, privet, periwinkle	N,P	Increasing	Increasing	N.A.
Red-cockaded woodpecker	С	Increasing	Increasing	N.A.
Longleaf pine	С	Not Available	Increasing	Increased in prescribed fire and restoration efforts
Wiregrass	С	Not Available	Increasing	Increased in prescribed fire and restoration efforts
	Golden saxirrage Prairie dropseed Alumroots Saxifrages Biltmore sedge, wretched sedge Sphagnum spp Black cherry Basswood Twisted stalk Pitch pine, table nountain pine, turkey beard Lung lichen Grapes White pine Exotic species: lapanese honeyese honeysuckle, nicrostegium, privet, periwinkle Red-cockaded woodpecker Longleaf pine	Golden saxifrageN,PPrairie dropseedN,PAlumrootsN,PSaxifragesN,PBiltmore sedge, wretched sedgeN,PBlack cherryN,PBlack cherryN,PBasswoodN,PTwisted stalkN,PPitch pine, table beardN,PGrapesN,PWhite pineN,PExotic species:N,PIapanese honeyese honeysuckle, microstegium, privet, periwinkleN,PRed-cockaded woodpeckerCWiregrassC	Golden saxirrageN,PStaticPrairie dropseedN,PIncreasingAlumrootsN,PIncreasingSaxifragesN,PIncreasingBiltmore sedge, wretched sedgeN,PDecreasingSphagnum spp.N,PStaticBlack cherryN,PIncreasingBasswoodN,PStaticTwisted stalkN,PIncreasingPitch pine, table beardN,PDecreasingCrapesN,PIncreasingGrapesN,PIncreasingWhite pineN,PIncreasingExotic species: honeysuckle, nicrostegium, privet, periwinkleN,PIncreasingRed-cockaded woodpeckerCIncreasingWiregrassCNot Available	Golden saxifrageN,PStaticStaticPrairie dropseedN,PIncreasingNot AvailableAlumrootsN,PIncreasingNot AvailableSaxifragesN,PIncreasingNot AvailableBiltmore sedge, wretched sedgeN,PDecreasingNot AvailableSphagnum sppN,PStaticStaticBlack cherryN,PIncreasingIncreasingBasswoodN,PStaticStatic to IncreasingTwisted stalkN,PIncreasingDecreasingPitch pine, table beardN,PDecreasingDecreasingLung lichenN,PIncreasingIncreasingWhite pineN,PIncreasingIncreasingWhite pineN,PIncreasingIncreasingkortic species: honeysuckle, nicrostegium, privet, periwinkleN,PIncreasingRed-cockaded woodpeckerCIncreasingIncreasingWiregrassCNot AvailableIncreasingWiregrassCNot AvailableIncreasing

Habitat and	2004 Regional Landbird Strateg	У							
population status of	Forest neotropical migratory bird surveys were accomplished through 10-minute point counts on								
Management	353 established plots across the National Forests in North Carolina (114 points on the Nantahala								
Indicator Species	NF, 144 points on the Pisgah NF, 55 points on the Uwharrie NF, and 40 points on the Croatan NF)								
(MIS) [cont.]	during the spring (May-June 15) of FY2004. A total of 5,035 birds were heard or seen, consisting								
	of 106 species.	of 106 species.							
	Result of 2003 spring bird monitor	ing are provided for compariso	on						
	Species	# Individuals detected	# Individuals detected						
		during point counts in	during point counts in						
		2003	2004						
	Acadian Flycatcher	91	104						
	Alder Flycatcher	0	(
	American Coot	1	0						
	American Crow	147	187						
	American Goldfinch	60	29						
	American Redstart	2	4						
	American Robin	39	58						
	Bachman's Sparrow	5	9						
	Barred Owl	1	4						
	Barn Swallow	1	2						
	Black-and-white Warbler	41	67						
	Blackburnian Warbler	12	30						
	Black-billed Cuckoo	3	0						
	Black-capped Chickadee	6	8						
	Black-throated Blue Warbler	55	66						
	Black-throated Green Warbler	70	98						
	Blue Grosbeak	2	2						
	Blue Jay	50	64						
	Blue-gray Gnatcatcher	50	49						
	Blue-headed Vireo	35	65						
	Blue-winged Warbler	3	4						

Habitat and	Broad-winged Hawk	1	2	
population status of	Brown Creeper	2	8	
Management	Brown Thrasher	10	14	
Indicator Species	Brown-headed Cowbird	17	23	
(MIS) [cont.]	Brown-headed Nuthatch	25	10	
	Canada Goose	3	6	
	Canada Warbler	18	45	
	Carolina Chickadee	64	72	
	Carolina Wren	167	225	
	Cedar Waxwing	9	18	
	Chestnut-sided Warbler	141	123	
	Chimney Swift	9	17	
	Chipping Sparrow	5	7	
	Common Grackle	13	20	
	Common Nighthawk	2	5	
	Common Raven	1	8	
	Common Yellowthroat	182	212	
	Dark-eyed Junco	88	134	
	Downy Woodpecker	18	18	
	Eastern Bluebird	2	8	
	Eastern Kingbird	3	3	
	Eastern Phoebe	2	4	
	Eastern Towhee	345	362	
	Eastern Tufted Titmouse	121	157	
	Eastern Wood-Pewee	37	35	
	European Starling	2	0	
	Field Sparrow	15	17	
	Fish Crow	7	6	
	Golden-crowned Kinglet	43	85	
	Golden-winged Warbler	1	1	
	Grasshopper Sparrow	0	1	
	Gray Catbird	81	91	

Habitat and	Great Crested Flycatcher	80	76	
population status of	Great Horned Owl	0	1	
Management	Green Heron	1	1	
Indicator Species	Hairy Woodpecker	6	13	
(MIS) [cont.]	Hermit Thrush	0	10	
	Hooded Warbler	113	101	
	House Wren	74	2	
	Indigo Bunting	119	143	
	Kentucky Warbler	6	4	
	Least Flycatcher	3	4	
	Louisiana Waterthrush	1	1	
	Mourning Dove	58	70	
	Northern Bobwhite	10	15	
	Northern Cardinal	95	132	
	Northern Flicker	30	26	
	Northern Parula	72	82	
	Northern Rough-winged			
	Swallow	0	16	
	Orchard Oriole	5	3	
	Ovenbird	202	200	
	Palm Warbler	0	2	
	Peregrine Falcon	1	0	
	Pileated Woodpecker	58	78	
	Pine Siskin	0	8	
	Pine Warbler	75	47	
	Prairie Warbler	163	161	
	Prothonotary Warbler	29	74	
	Purple Martin	5	9	
	Red Crossbill	0	16	
	Red-bellied Woodpecker	33	52	
	Red-breasted Nuthatch	7	19	
	Red-cockaded Woodpecker	10	10	

Habitat and	Red-eyed Vireo	347	345	
population status of	Red-headed Woodpecker	12	6	
Management	Red-shouldered Hawk	1	1	
Indicator Species	Red-tailed Hawk	0	1	
(MIS) [cont.]	Red-winged Blackbird	0	2	
	Rose-breasted Grosbeak	28	29	
	Ruby-throated Hummingbird	10	15	
	Ruffed Grouse	1	2	
	Scarlet Tanager	70	84	
	Song Sparrow	23	40	
	Summer Tanager	30	30	
	Swainson's Warbler	15	12	
	Tree Swallow	2	0	
	Turkey Vulture	5	0	
	Veery	56	110	
	Whip-poor-will	0	2	
	White-breasted Nuthatch	35	38	
	White-eyed Vireo	72	55	
	Wild Turkey	3	3	
	Winter Wren	7	33	
	Wood Duck	1	1	
	Wood Thrush	41	82	
	Worm-eating Warbler	23	32	
	Yellow Warbler	5	4	
	Yellow-bellied Sapsucker	2	0	
	Yellow-billed Cuckoo	31	43	
	Yellow-breasted Chat	39	30	
	Yellow-throated Vireo	16	13	
	Yellow-throated Warbler	41	52	
	Total # Species=112	Total # Birds=4,280	Total # Birds=5,035	

	2004 Bat Surveys			
Habitat and	Forest bat monitoring was accomplished through mist netting of likely travel corridors and foraging			
population status of	areas at eight areas on the Nantahala and Pisgah National Forests during the summer of FY2004.			
Management	These included Big Indian Creek, Alarka Creek, Pier	cy Creek, Tuni Creek and Wilson Lake on the		
Indicator Species	Nantahala National Forest; and Pink Beds, Upper Cr	eek and Timbered Branch on the Pisgah		
(MIS) [cont.]	National Forest. A total of 65 bats were captured, co	nsisting of 6 species. One species of interest,		
	Myotis leibii (eastern small-footed bat), was captured	at the Timbered Branch site.		
	Result of 2004 summer bat monitoring, Nantahala	a and Pisgah National Forest.		
	Species	# Individuals captured		
	Lasiurus borealis	27		
	Pipistrellus subflavus	2+*		
	Eptesicus fuscus	7+*		
	Myotis septentrionalis	17		
	Myotis lucitugus	11+*		
	Myotis leibii			
		lotal 65		
	*Additional bats of these species were detected on the	ne Pisgah National Forest using Anabat.		
	Note: No additional <i>Myotis sodalis</i> (Indiana Bat) s	sightings occurred on NFSNC in 2000 –		
	2004.			
	Myotis			
	leibii			
	714			

Habitat and population status of Management Indicator Species (MIS) [cont.]

SPECIAL REPORT – UWHARRIE NATIONAL FOREST/PEE DEE NATIONAL WILDLIFE REFUGE BAT BLITZ:

Forty-seven volunteers from 11 states came from as far as Michigan, California, New Mexico and Texas, to help us understand more about our bats in the piedmont of North Carolina. These volunteers contributed their time, equipment, and expertise to survey over 30 sites in three counties. In just three nights our bat biologists captured 77 bats representing five different species from the Uwharrie National Forest and the Pee Dee National Wildlife Refuge. In addition we saw evidence of, and recorded echolocation calls of, two other species. That brings our total number of bat species from this Bat Blitz to seven. The seven species were red bats, evening bats, seminole bats, big brown bats, eastern pipistrelle bats, Brazilian free-tailed bats, and the southeastern *Myotis*. In addition to the baseline survey data we collected, we also recorded echolocation calls from all seven species and collected tissue, hair, fecal samples, and ectoparasites from the 77 individuals captured. This data will be used for local studies on the foraging behavior and diet of bats in North Carolina's water sheds as well as for studies on the co-evolution of bats and parasites, the evolutionary relationships of North American bats, and the ecology of migratory bat species.



Male ruffed grouse on a drumming log in spring..

Ruffed Grouse/Wild Turkey monitoring occurred on the Nantahala and Pisgah National Forests during the spring (late March-early April) of 2004. The following table displays the results of the monitoring effort.

<u>2004</u>	<u>#Grouse</u>	<u>#Turkey</u>	#Stations	Grouse/station	Turkey/station
Total	189	71	1207	0.1566	0.0588
Appalachian	39	8	302	0.1291	0.0265
Cheoah	52	15	199	0.2613	0.0754
Grandfather	0	5	69	0.0000	0.0725
Highlands	36	20	206	0.1748	0.0971
Pisgah	19	9	159	0.1195	0.0566
Tusquitee	13	1	76	0.1711	0.0132
Wayah	30	13	196	0.1531	0.0663

Coldwater stream fish populations trends	Long-term trout population monitoring continued in FY 2004. Monitoring on approximately 20 miles of streams within Nantahala and Pisgah National Forests continues to support earlier findings that while individual populations exhibit high annual variability in age class structure and biomass, overall trends in brook, brown, and rainbow trout, and associated nongame species populations across the Nantahala and Pisgah have remained stable during the last 10 years.
Odonate Diversity on the Pisgah National Forest	Adult and nymphal odonates (dragonflies and damselflies) were collected from across the Forests during FY 2002 and FY 2003. This large-scale inventory effort continues because of the proportion of odonate species appearing on the rare species list. Many of these species are thought to be on the list due to a lack of survey and habitat association data rather than actual rarity. Results of these surveys proved just that, although several new occurrences of rare odonate species were documented. Analysis and reporting of this information has been integrated into, and is available in, the North Carolina Natural Heritage Program database. Copies of survey results are also available from any Forest Service fisheries biologist.
Reservoir Fish Communities	Long-term monitoring of reservoir fish communities continued on approximately 200 acres of mountain reservoirs in FY 2004. Reservoirs included in this monitoring are Hiwassee Lake, Fontana Lake, Santeetlah Lake, and Chatuge Lake on the Nantahala National Forest and Badin Lake on the Uwharrie National Forest. Based on the age of the reservoirs and results of long-term population monitoring efforts, it is thought that habitat enhancement is one key to maintaining reservoir fish population stability on the Nantahala National Forest. To this effect, approximately 150 acres of reservoir shoreline habitat were improved on the Nantahala National Forest during FY04. As with coldwater stream fish populations, reservoir fish communities exhibit high annual variability in age class structure and biomass, although overall trends in reservoir fish species populations have remained stable during the last 10 years.
Aquatic rare species and habitat	Approximately 100 miles of stream across the National Forests in North Carolina were evaluated for rare aquatic species presence and suitable habitat during FY 2004. These inventories were done to maintain compliance with environmental laws and regulations during the NEPA process for forest management activities, as well as to further the science of individual species.

Aquatic invertebrate populations	Aquatic invertebrate populations were monitored in 10 streams across the Nantahala and Pisgah National Forests. As with fish populations, aquatic invertebrate populations tend to exhibit high annual variability in community structure and biomass; however, overall trends in aquatic invertebrate populations across the Nantahala and Pisgah National Forests have remained stable.
Freshwater mussel populations	Freshwater mussel populations continue to be monitored in the Little Tennessee and Nolichucky Rivers through cooperative efforts with the U.S. Fish and Wildlife Service and North Carolina Wildlife Resources Commission to implement the recovery plan for the endangered Appalachian Elktoe (<i>Alasmidonta raveneliana</i>). In addition, aquatic habitats suitable for all freshwater mussels continue to be inventoried to improve the reliability of mapped species' ranges and distributions across the National Forests in North Carolina. Despite regional declines in some species' populations, no declines have been documented on the Forests. In fact, the known range and distribution of freshwater mussels on the Forests continues to expand as inventories of suitable habitat are completed. In FY04, the range of the brook floater (Alasmidonta varicosa) was expanded into Wilson and Upper Creeks through these surveys efforts.
Channel habitat conditions	Aquatic habitat conditions were mapped at the channel unit scale along approximately 20 miles of mountain streams. Part of this effort was to complete baseline inventories of "reference stream condition", while other miles were part of project-level monitoring. As this database grows in individual records and statistical reliability, it will allow Forest aquatic biologists to make accurate, scientifically valid presentations and decisions about resource conditions and potential effects during the land management process.
Native Species Restoration (brook trout)	In FY04, the cumulative total of brook trout populations analyzed for strain origin topped 250. Most of these populations occur on the Nantahala and Pisgah National Forests. To date, it has been determined that approximately 36% of these populations are the strain native to the Southern Appalachian Mountains (often referred to as "speckled trout"), while 10% show evidence of northern strain genetics, and 54 % show evidence of both northern and southern strain genes. These efforts continue as the first steps towards the restoration of native brook trout in North Carolina.

Progress being	There were 32 Threatened and Endangered species that occur or may occur on the National			
made toward	Forests in North Carolina at the end of FY 2004:			
recovery of T&E				
Species	Activities in FY 2004:			
	Monitoring of 5 species:			
	Species Monitored	Monitoring Activity & Results		
	Red-cockaded woodpecker	Nest checks, banding young, fledge checks, population census: 106 nestlings banded, 132 adults observed		
	Rough-leaved loosestrife	Assessed habitat restoration needs for one subpopulation		
	Mountain golden heather	Acquired 14 years of photo monitoring of changes in abundance and regeneration		
	Peregrine falcon	Assessed nesting success and adult census at all sites		
	Bald eagle	Assessed nesting success and adult census at all sites		
	<u>Coordination with US Fish &</u> and Asheville offices on regeneration harvests, re data for the following spe Indiana bat, Mountain go <u>Site protection</u> – 11 species projects on the Nantahal sites that are suitable for moss spider, noonday sr woodpecker, Schweinitz	 <u>Wildlife Service</u> - 5 species: informal consultation with Raleigh habitat restoration projects, pine plantation thinning, ecreation site development, and design for analysis of monitoring ecies: Red-cockaded woodpecker, Schweinitz's sunflower, olden heather, American alligator. project design altered and/or mitigation measures included in a, Pisgah, Uwharrie, and Croatan National Forests to protect the following species: Swamp pink, peregrine falcon, spruce-fir nail, Appalachian elktoe mussel, spotfin chub, red-cockaded 's sunflower. 		
	Red cockaded woodpecker – prescribed burning and mechanical mid-canopy contro forage and nest habitat Bog turtle – control of woody shrub encroachment in bogs			

Status of	ANIMALS	YEAR LISTED	STATUS	ON FORESTS?
Threatened and	Appalachian Elktoe Mussel	1994	E	Occurs
Endangered	Red Wolf	1967	E	Extirpated
Animolo	Spotfin Chub	1977	Т	Occurs
Animais	Peregrine Falcon	1970	Т	Occurs
	Eastern Cougar	1973	E	May occur
	Carolina Northern Flying Squirrel	1985	E	Occurs
	Spruce-fir Moss Spider	1995	E	Occurs
	Noonday Snail	1978	Т	Occurs
	Indiana Bat	1967	E	Occurs
	Little-Wing Pearly Mussel	1988	E	Occurs
	Virginia Big-eared Bat	1979	E	May occur
	Red cockaded Woodpecker	1970	E	Occurs
	Bald Eagle	1967	Т	Occurs
	American Alligator	1967	TSA*	Occurs
	Bog turtle	1997	TSA*	Occurs
	*Threatened due to similarity in app	earance to another s	species.	
Status of	*Threatened due to similarity in app	YEAR LISTED	species.	ON FORESTS?
Status of	*Threatened due to similarity in app PLANTS Sensitive Jointvetch	YEAR LISTED	species. STATUS T	ON FORESTS? May occur
Status of Threatened and	*Threatened due to similarity in app PLANTS Sensitive Jointvetch Spreading Avens	YEAR LISTED 1992 1990	species. STATUS T E	ON FORESTS? May occur Occurs
Status of Threatened and Endangered Plants	*Threatened due to similarity in app PLANTS Sensitive Jointvetch Spreading Avens Swamp Pink	YEAR LISTED 1992 1990 1988	species. STATUS T E T	ON FORESTS? May occur Occurs Occurs
Status of Threatened and Endangered Plants	*Threatened due to similarity in app PLANTS Sensitive Jointvetch Spreading Avens Swamp Pink Dwarf-flowered Heartleaf	YEAR LISTED 1992 1990 1988 1989	species. T E T T T	ON FORESTS? May occur Occurs Occurs May occur
Status of Threatened and Endangered Plants	*Threatened due to similarity in app PLANTS Sensitive Jointvetch Spreading Avens Swamp Pink Dwarf-flowered Heartleaf Mountain Bluet	YEAR LISTED 1992 1990 1988 1989 1989	species. T T E T T E E	ON FORESTS? May occur Occurs Occurs May occur Occurs
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Status of Threatened and Endangered Plants	*Threatened due to similarity in app PLANTS Sensitive Jointvetch Spreading Avens Swamp Pink Dwarf-flowered Heartleaf Mountain Bluet Mountain Golden Heather Small Whorled Pogonia Heller's Blazingstar Bunched Arrowhead	YEAR LISTED 1992 1990 1988 1989 1980 1980 1982 1987 1979	species. T E T T E T E T E T E T E	ON FORESTS? May occur Occurs Occurs May occur Occurs Occurs Occurs Occurs Occurs May occur
Status of Threatened and Endangered Plants	*Threatened due to similarity in app PLANTS Sensitive Jointvetch Spreading Avens Swamp Pink Dwarf-flowered Heartleaf Mountain Bluet Mountain Golden Heather Small Whorled Pogonia Heller's Blazingstar Bunched Arrowhead Mountain Sweet Pitcher Plant	YEAR LISTED 1992 1990 1988 1989 1980 1980 1982 1987 1979 1988	species. T E T T E T E T E T E E E E E	ON FORESTS?May occurOccursOccursMay occurOccursOccursOccursOccursOccursOccursMay occurMay occurMay occurMay occurMay occur
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WATERSHED CONDITIONS

Goal or Desired Condition: Riparian areas, flood plains, wetlands, and their existing ecosystems are perpetuated and enhanced. Water quality and soil productivity are maintained.

Monitoring Item	Results
Changes in Land Productivity	 Notwithstanding the regular program accomplishments, as addressed in the subsequent paragraphs, events during the latter weeks of the fiscal year drastically impacted the western NC mountains. Heavy rainfall from the remnants of Hurricanes Frances and Ivan (less than two weeks apart) caused extensive damages to lands managed by the National Forests in North Carolina. Widespread damage occurred on the Appalachian, Grandfather, and Pisgah RDs of the Pisgah NF and the Highlands and Wayah RDs of the Nantahala NF. (Air miles from NE to SW approximately 130.) Damages included: numerous landslides and debris flows ranging in size from <1 acre to 32 acres (NF acres only), including four >10 acres in size (NF only) and one >2 miles in length (including all ownerships); and significant stream channel erosion and/or deposition, stream bank erosion, and instances of stream course rerouting (blockages/new channels).
	As the fiscal year drew to a close, the Forest requested funding to address the major immediate response and longer term treatment needs during the subsequent fiscal year(s).
	Prior to the time of the previously addressed storm events , soil and water improvements were accomplished on approximately 71 acres in twelve project areas on seven of the NFsNC districts. (Accomplishments were 165% of target due to receipt of additional funds that were applied to this activity). The work included closure/restoration of more than 60 miles of old roads or trails and approximately 12 miles of open road runoff control (Note: One 10-acre project area, where treatments had been implemented less than two weeks prior to the event sustained significant

Changes in Land	damage from the late-FY storms.)
Productivity	
(cont.)	 Significant notes relative to pre-treatment conditions within the twelve project areas: Illegal ATV use had exacerbated problems in portions of four of the areas; and Dispersed recreational activities had adversely impacted some portions of one area.
	Research plots on the Croatan that were established as a part of the Long Term Soil Productivity Study (LTSP) network attained eleven years of age during the FY04 reporting period. The LTSP is a major research endeavor that could yield valuable information on the effects of forest management over a period of several decades (see <u>http://www.fs.fed.us/research/pdf/SoilProd.pdf</u>). However, the future status of the study (funding, etc.) is uncertain. In order for the plots at this location to remain viable for purposes of research and long term monitoring, it is imperative that the established loblolly pine stands (twenty-seven 1-acre plots) be thinned within the next two years. Moreover, thinning in such manner as to maintain the integrity of the plots will entail high operating costs probably much higher than the usual cost of thinning and, perhaps, exceeding the value of products removed by a considerable margin.
	Effects of Management on Site Productivity
	ONSITE is a systematic procedure for monitoring, evaluating, and documenting soil/site disturbances associated with management activities. ONSITE monitoring is conducted on a relatively small number of randomly selected, late-stage to recently closed projects/units that have been implemented as standard practices under current management guidelines. ONSITE findings are evaluated on the basis of the following performance requirement: "At least 85 percent of an activity unit is left in a condition of acceptable productivity potential for trees or other managed vegetation following any management activity.
	ONSITEs were conducted on five timber sale units in FY04, for a total of eighteen units during the FY01 thru FY04 period. None have exceeded acceptable standards for percent areal disturbance. Two pre-FY04 units and one FY04 unit were well within

Changes in Land Productivity (cont.)	acceptable limits for areal disturbance but warranted follow-up action relative to localized site-specific conditions. Both pre-FY04 units were later evaluated jointly (by Forest Soil Scientist and Forest Hydrologist) and would not require further follow-up action.

Monitoring Results Related to Multiple Benefits to People

OUTDOOR RECREATION

Desired Condition: Protect the beauty of the Forests through special attention to visually sensitive areas and careful application of resource management activities.

Desired Condition: Provide different environmental and social settings for outdoor recreation opportunities that range from primitive to developed. Provide for a variety of recreational activities appropriate to these settings and the forest environment. Provide all recreation visitors to the National Forests the opportunity to participate in activities and programs and use facilities to the highest level of access practicable.

Monitoring Item	Results
Amount and Types of Recreation Use	The Fee Demonstration Program continued to support forest recreation in 2004. As appropriated funding has dropped over the last decade, the fee demo program has become increasingly important in allowing the forest to maintain existing services and fund site improvements. In FY 2004, the \$1,281,614 collected in fee demo helped to fund the following projects:
	 Repaired water systems at four campgrounds.
	Repaired buildings at three sites.
	 Removed hazard trees at six sites.
	 Repaired wastewater treatment plants at three campgrounds.
	Repaired roads at four sites.
	 Reconstructed campsites at four campgrounds.
	 Maintained 61 miles of OHV/mountain bike trails.
	Constructed one accessible campsite.
	 Kept two campgrounds open an additional110 days each.
	• Some funds were kept in reserve to complete construction projects in FY05.
	Although official use counts are not scheduled to occur until FY 2008, revenue figures seem to indicate that use was approximately the same as in FY 2003.

FORESTRY/SILVICULTURE

Goal or Desired Condition: A variety of silvicultural treatments are used to provide a continuous supply of wood products with emphasis on high quality hardwoods.

Monitoring Item	Results			
Timber Stand Improvements (TSI), FY 2004	TOTAL for FY 2004 = 2,100 acres PLANS PROJECTED = 2,487 acres Southern Pine Beetle Restoration = 678 acres Reforestation = 1,376 acres			
		ALL NFsNC FC	DRESTS	
	Method	FY 2004 Harvested Acres		Plan Projections
Acros Harvostod in EV	Even-Aged/ Two-Aged	525		2,767
2004 by Method and Plan	Uneven-Aged	111		500
Projected Harvest	Thinning	909		-
T Tojected T larvest	Salvage	208		-
	Shelterwood Removal	18		-
	TOTAL	1,77	71	3,267
Timber Sale Volume	Allowable Sale Quantity (ASQ)	Volume Harvested 2004	Volume Offered 2004	Volume Sold 2004
	TOTAL = 43 MMBF/Year	9,455 ccf or 4.7 mmbf	29,553 ccf or 14.7 mmbf	29,553 ccf or 14.7 mmbf
	CCF = hundred cubic feet	MMBF = million b	oard feet	





HERITAGE RESOURCES

General Direction: Heritage Resources, which are listed on or eligible for the National Register of Historic Places or the National Register of Historic Landmarks, are protected. Suitable sites are developed and/or interpreted for public use and enjoyment.



Monitoring Item	Results		
Heritage Resource Sites		Sites & Properties Identified	Acres Surveyed
Identified in Relation to	FY 2004	101	3,194
Acres Surveyed	ALL-TIME TOTAL	5,128	174,357
Tribal Relations Activities	The Forest continued to Tribes, local communitie Victory National Historic Art Survey.	work in partnership with other agen es and universities on the Trail of Te trails. The Forest developed and	ncies, American Indian ears and Overmountain directs the Statewide Rock



Monitoring Item	Results
Site Protection (cont.)	Several sites have been determined to be larger and more significant than when originally reported and recorded. Archeologists will conduct more intensive site documentation and fully evaluate sites for NRHP eligibility.
	While Forest management projects haven't greatly impacted these resources, increasing numbers of Forest users have made some impact. Dispersed recreation activities, off-highway vehicles, horse trail use, mountain bike trail use, and dispersed camping are impacting significant archeological resources. Impacts were observed at many sites, ranging from minor to severe erosion and exposure of artifacts. Unauthorized OHV use on the Uwharrie, Grandfather and Tusquitee Ranger Disitricts continues to impact heritage resources while increased law enforcement activities have resulted in less impacts in some areas of unauthorized OHV use.
	The Forest has seen an increase of illegal metal detector use as well as requests for the activity. There needs to be a consistent Forest-wide policy instituted.
	Historic structures, fire lookouts and cabins, continue to deteriorate at an increasing rate. These structures need to be documented and evaluated for eligibility to the NRHP, and maintained appropriately. They have been identified in the Forest's Facilities Master Plan. The Thornburg Property, an 1840 farmstead on the Uwharrie Ranger District, was determined eligible for listing in the NRHP. Eight segments of trail and associated sites along the Trail of Tears on the Wayah, Tusquitee and Cheoah Ranger Districts were also found eligible for listing in the NRHP.

Monitoring Results Related to Effective Public Service

Monitoring Item	Results
Land Adjustment in Support of LRMP Goals	Acres Acquired by Exchange = 184 Acres Conveyed by Exchange =11 Acres Purchased = 163
Special Uses Compatible With LRMP Goals	Special use authorizations allow for the use of National Forest System lands for a wide variety of purposes. Some authorize facilities and services necessary for public health, welfare, and safety while others authorize uses of a private nature. In North Carolina we have approximately 1,350 Special Use permits authorizing use of approximately 80,000 acres of National Forest System lands ranging from small spring developments and driveways to major federal highway systems and gas pipelines.
	Of these permits, approximately 1,033 are for land-based uses and 315 permits are for recreation activities such as outfitting, guiding, and whitewater rafting. Key projects include:
	 42 NC Department of Transportation Projects for the improvement of existing public roads to include repairing slides caused by the hurricanes on Interstate 40, NC 215 and NC 151.
	- Three Federal Highway projects for major multi-lane highways- Havelock Bypass (Croatan), Corridor K (Cheoah), and NC 215 (Pisgah).
	- Relicensing of five hydroelectric projects involving 12 impoundments.

Monitoring Item	Results
	Program emphasis will continue to be the monitoring of existing uses to ensure they are
Special Uses Compatible	operated and maintained with minimal impact on the land. New applications are
With LRMP Goals	managed to ensure they are consistent with the Forest Land and Resource
(cont.)	Management Plans and Forest Service Regulations.

Road Management

SPECIAL REPORT: Uwharrie National Forest Roads Analysis

In January 2004 the National Forests in North Carolina completed an analysis of the open system roads across Uwharrie National Forest. Below are some findings from

Unclassified roads

There are approximately 107 miles of road that are classified as part of the Uwharrie National Forest road system. Although these roads make up the majority of the roads on the forest, there is an additional 33 miles of road on National Forest lands that are considered "unclassified", and are not formally recognized as part of the National Forest road system. These roads have not been given a management designation and may largely consist of unplanned or abandoned travel ways that have not been decommissioned.

Due to a lack of road specific information for unclassified roads, the relative values and associated risks of these roads are not detailed in this analysis. However, the 33 the report. The complete report is available at http://www.cs.unca.edu/nfsnc/roads/nfsnc_roads.htm

miles of identified unclassified roads were determined to be "passable" and of native material surface type during the GPS survey performed in preparation for this analysis.

Although actual use levels for these roads are not known, it may be assumed that unclassified roads are traversed by hikers, bikers, horseback riders, and OHV users wherever they cross a trail or system road. Because unclassified roads are not given a management designation, they are not maintained for safe public use or sustained at a level that ensures the protection of the natural resources associated with them. Thus, horseback riding, OHV, and mountain bike use of these roads may pose a risk to public safety and adversely affect sensitive natural and cultural resources.

Road densities and potential roads for closure

Road densities are currently exceeding management goals set forth in the Uwharrie National Forest Plan. Some of the road mileage contributing to higher than projected road densities is attributable to unclassified road mileage. However, even complete decommissioning of the unclassified roads on the forest would not reduce the road densities below levels proposed in the Plan.

More than 80% of the current road system is considered highly valued for timber/fire management purposes, while nearly 50% is considered highly valueable for recreation uses. This suggests that the majority of the system roads on the Uwharrie National Forest are currently providing valuable access for timber/fire management, recreation,

Cultural Resource Management

Road systems close to paleontological, archaeological, and historical sites enable the general public to more easily access these sites, frequently resulting in vandalism, looting, or other detriments to the integrity of a given site. The looting of archeological sites in the Uwharrie National Forest is made easier by the close proximity with which many sites are located relative to roads and recreation areas. In some cases, sites are found less than 100 feet of a road or recreation area, allowing for increased access for looting and potential for unintentional damage.

32

and other administrative purposes. At the same time, only 3% of the roads were considered to pose high risk for wildlife, aquatic communities, or sensitive species. For this reason, no system roads in this analysis were determined to be unneeded at this time.

Although no roads were determined to be unneeded, it should be noted that some roads were identified as possible candidates for closure, seasonal closure, or reduced maintenance. These would be the roads with the lowest value scores, and especially those with a corresponding high risk score, that are not required to be open for specific reasons such as providing access to private property.

In this analysis, more than 1/5th of all Uwharrie National Forest system roads (and 1/4th of the system road mileage) are considered as "high risk" for potential to provide access to sensitive cultural and archeological resource sites. For most of these roads, this ranking implied that greater than 6 sites/mile were found within 500 feet of the road (some roads with less were also considered within this category if a site within 500 feet was deemed especially sensitive). It should also be considered that access provided by unclassified roads has not been analyzed, and it is likely that these roads also provide some access to sensitive archeological sites. Thus, the overall assessment of the level of access provided to these sensitive sites is likely underestimated.

Although public involvement and coordination by the USFS and State is helping to reduce the threat looters pose to archaeological sites on the Uwharrie National Forest, instances of looting and vandalism continues. Because many archaeological sites are not continuous, closing roads that lead directly to archaeological sites may be a good way to alleviate some looting. Closed roads coupled with closer surveillance of archeological sites could prove an even more effective means of preventing and deterring looting.

Hydrologic and Aquatic Impacts

Poorly functioning drainage structures can limit the passage of aquatic organisms, destabilize stream banks, degrade aquatic habitat through increased sediment loading to streams, impair or eliminate the function of a given road, and potentially pose a risk to public safety. A variety of drainage related maintenance items are currently part of the maintenance backlog for system roads on the forest. This backlog consists of culvert replacement or improvements, improvements to low water crossings, drainage ditch repairs, and other general drainage maintenance needs.

Approximately 6% of the roads on the Uwharrie are considered to pose a "high risk" to aquatic communities. These roads have either numerous road stream crossings, cross streams with sensitive aquatic communities, or parallel a stream for some duration. Of particular concern are those roads that have both a high number of stream crossings and parallel a stream for some distance. FS 514, 553, 555, and 6656 all have this characteristic, and should be considered first for drainage maintenance and improvements. Dutch John Road (FS 553) is of particular concern due to its long parallel of a tributary of Dutch John Creek and Moccasin Creek, and its numerous streams crossings.

In addition to the above roads, several road stream crossings are specifically noted for the presence of highly erodible soils in the top 30" of the soil profile. These stream crossings are also of specific concern for management and maintenance opportunities.

Use of public roads for private land access

There are no cost-share agreements with private or public landowners on the Forest. There is a need to pursue agreements of this type. Rights of access by law, reciprocal rights, or easements are recorded in Forest files and county courthouse documents. The Forest recognizes these rights and works with the owners to preserve access while protecting the natural resources and facilities on adjacent National Forest Lands. Two FS roads, FS 597 and FS 6584, currently provide access to large private land developments (Woodland Estates and Green Gap Development, respectively) and agreements of this type should be pursued.

In addition to FS roads that serve larger private communities, there is currently a 0.8 mile stretch of unclassified road that serves a private land holding in the Birkhead Wilderness Area. This road has historically, and will continue to, provide access to a private home in the interior of the wilderness area. A formal agreement or designation of this road is currently needed.

Air Quality Monitoring

For detailed reports on air quality for the four National Forests in North Carolina go to: <u>http://www.cs.unca.edu/nfsnc/</u>. Specific air quality reports are at the following links:

http://www.cs.unca.edu/nfsnc/me2004/2004_croatan_air.pdf http://www.cs.unca.edu/nfsnc/me2004/2004_uwharrie_air.pdf http://www.cs.unca.edu/nfsnc/me2004/2004_nantahala_pisgah_air.pdf

Fire Management

Monitoring Item	Results
National Fire Plan Accomplishments for FY 2004	The National Forests in North Carolina experienced a multitude of natural events in 2004. The challenges notwithstanding, the National Forests in North Carolina treated 26,287 acres with prescribed fire for fuel reduction.
	During 2004 the National Forests in North Carolina experienced 109 wildfires that burned a total of 1,423 acres. A majority of the burned acres were the result of debris burning on private land that got out of control.
	The 2004 Hurricane season brought significant flooding events to the Pisgah and Nantahala National Forests from Hurricane Ivan and Francis. Assessments from the 22 inches of rain resulted in 47 million dollars worth of damage to roads, bridges, recreation sites, trails, landlines, heritage sites, fish and wildlife structures, watersheds and facilities. Work will continue long into FY 2005.
	The 2004 Asheville Hotshots, an Interagency Type I crew, consisted of seventeen employees from the Forest Service and Fish and Wildlife Service, detailed from January 11 th through May 15 th . This was the first year in the history of the crew that all crewmembers were from the Southern Area. They were dispatched to 15 wildfires and 17 prescribed burns for which they accomplished 13,700 acres of fuel reduction.
	Last year a new system for monitoring prescribed burns was put into place, utilizing photo points. Forests will begin collecting additional data on some prescribed burns, based on direction in the Forest Service Manual Region 8 Supplement (Chapter 5140, Fire Use). Each district will install two project-level (as opposed to Forest Plan-level) fire effects monitoring plots per year, up to a total of 20 plots over time. Qualitative data will be collected pre-and post-burn to track changes in fuels and vegetation. Photos will be taken as well.

FY 2005 Action Plan

- 1) Complete a Forest-wide EA to respond to the increasing threat from Hemlock Woolly Adelgid.
- Consider amending the Nantahala/Pisgah Plan to streamline the list of Management Indicator Species.
- Institute a method of tracking activities such as treatments to suppress non-native invasive species to facilitate easier monitoring.
- 4) Consider establishing a consistent Forest-wide policy for use of metal detectors.

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