Ouachita National Forest Monitoring Activities

(Major headings correspond to Desired Condition headings in Chapter 1 of the Revised Forest Plan; also see Monitoring Strategy on pages 71-72 of the 2005 Forest Plan)

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Land Ownership and Land Administration				
Land Line Location, Maintenance, or Management				
DESIRED CONDITION: Public lands are easily accessible. Land adjustment administration contributes to the reduction of the complexity of landownership patterns and consolidates the National Forest System land base; reduces administrative problems and costs; enhances public access and use; and supports resource management objectives, including the protection and improvement of habitat condition and linkage. Clear title to National Forest System land is retained. Unauthorized Occupancy is eliminated, and National Forest boundaries are clearly posted. OBJ. 17. Maintain landlines on a 10-year cycle. **Performance Indicator:** miles of boundary line maintained per decade. MONITORING ELEMENT: Landline Location or Maintenance	1. How many miles of Forest boundary landlines have been maintained? 2. How many miles of Forest boundary landlines have been surveyed and corrected? 3. How many unauthorized occupancies have been resolved?	PAR	Report miles of boundary line maintained. Report percent maintained per decade. Report acres of land adjustment miles surveyed to establish clear boundaries, and the number of occupancy trespasses resolved. Every fifth year, an evaluation of progress in reducing the amount of interface with private lands and the number of unauthorized occupancies will be conducted.	Forest Land Surveyor
Landownership Pattern and Land Exchanges				
MONITORING ELEMENT: Land Purchase, Exchange or interchange	How many acres of land have been purchased, exchanged, or interchanged?		Report acres of land purchased, exchanged or interchanged. Also report efforts to consolidate Forest Service ownership.	Lands Program Manager

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Transportation System and Access Management				
Transportation System				
DESIRED CONDITION: The number of inventoried unclassified roads and trails is reduced, and the development and proliferation of new unclassified roads is minimized	1. How many miles of open road and miles of open trail by type are in inventory? 2. How many miles of roads were maintained? 3. How many miles of road were removed from the system?	Forest GIS Coverage of Unclassified Roads	Report the number of miles of road and trails maintained and operated to meet the objective maintenance level and class; report the miles of unclassified roads removed or classified into the system. Every fifth year, evaluate trends in miles of road and trail facilities and trends in number of accidents per year. Report the total miles of roads and trails available for use by off-highway vehicles.	Forest Transportation Engineer
MONITORING ELEMENT: Arterial/Collector Roads Reconstructed	How many miles of arterial/collector roads have been reconstructed for this and the preceding year?	INFRA/Forest reported PAR Accomplishments	Report number of miles of arterial/collector roads reconstructed.	Forest Transportation Engineer
MONITORING ELEMENT: Local Roads Reconstructed	How many miles of local roads have been reconstructed for this and the preceding year?	INFRA/Forest reported PAR Accomplishments	Report number of miles of local roads reconstructed.	Forest Transportation Engineer
MONITORING ELEMENT: Local Roads Constructed	How many miles of local roads have been constructed for this and the preceding year?	INFRA/Forest reported PAR Accomplishments	Report number of miles of local roads constructed.	Forest Transportation Engineer

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OBJECTIVE: OBJ05. For wildlife purposes strive to achieve a total open road density of 1.0 mile per square mile or less for all Management Areas (MA) except MAs 1 and 4 (where the desired density is zero open roads per square mile) and MAs 2, 16, 17, 19 and 21 (where the desired density is 0.75 mile of open road per square mile or less during critical periods for wildlife, i.e., March to August).	1. What are the road densities by Management Area? 2. How many travel analyses were completed by year? 3. What was the total road density accomplished by EA by year? 4. How many miles of road were decommissioned?	GIS Spatial Analysis	Report the data required to answer the monitoring questions.	Forest Transportation Engineer & GIS Analyst
OBJECTIVE: OBJ36. Complete a transportation plan for the Ouachita National Forest by late 2007 that addresses the backlog of maintenance and reconstruction needs (among other things).	What progress has been accomplished towards completing the transportation plan?	Road Inventory, Transportation (Travel Management) Plan	Forest Facility Coordinator transportation (travel management plan) date of 2007.	Forest Transportation Engineer, Forest Planner
OBJECTIVE: OBJ37. By 2015, identify all system roads that should be obliterated.	How many road miles have been decommissioned and removed from the road inventory?	Travel Analyses	Report miles of system roads decommissioned and removed from the road inventory.	Forest Transportation Engineer, Forest Hydrologist, Forest Soil Scientist
OBJECTIVE: OBJ38. Obliterate 25 percent of roads identified under the previous Objective by 2015 (many such needs to obliterate roads will be identified well before 2015).	How many road miles have been obliterated and what progress has been made towards Objective OBJ38?	Travel Analyses	Report miles of road obliterated and progress towards 25 percent (OBJ38).	Forest Transportation Engineer
OBJECTIVE: OBJ39. Reduce miles of road under Forest Service maintenance.	1. How many road miles by maintenance level exist in Infra? 2. How many road miles have been eliminated each year from road maintenance inventory – express nominally as well as a percentage?	INFRA	Report the change in the number of miles of system roads in the road maintenance inventory and how many miles have been eliminated each year.	Forest Transportation Engineer

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Bridge Inspections				
Desired Condition: The transportation system of roads and trails is safe, affordable, and environmentally sound, responds to public needs, and is efficient to manage. The system provides public access for recreation, special uses, and fire protection activities and supports Forest management objectives. The system is well maintained commensurate with levels of use and available funding. The system is connected to state, county, or local public roads and trails. Unnecessary roads and trails are removed and the landscape restored. Rights-of-way to access National Forest System lands satisfy public needs and facilitate planned resource activities. Over the planning period, the number of inventoried unclassified roads and trails is reduced, and the development and proliferation of new unclassified roads is minimized.	Bridge Safety: 1. How many bridges are in inventory? 2. How many bridges were inspected by year? 3. What is the number of Bridges with deficiencies? Were there any bridges with multiple deficiencies, if so how many? 4. How many corrective procedures were completed to correct or prevent deficiencies? 5. How many bridges were closed due to safety concerns by year?	As reported by the Bridge Engineer	Report on bridge safety and the underlying inventories, inspections, findings and corrective actions.	Forest Bridge Engineer
Access/Travel Management				
OBJECTIVE: OBJ26. Designate and sign a system of roads and trails suitable for public access by motor vehicle, including off-highway vehicles, no later than October 2009; at the same time, initiate the process to prohibit cross country travel by motorized vehicles except for emergency purposes and specific authorized uses.	1. Was the annual MVUM review accomplished each FY? 2. Are signs in place and in good repair?	Road Inventory, Transportation (Travel Management) Plan	Report percentage of designated routes signed. Report annual MVUM updates.	Forest Sign Coordinator, Forest Transportation Engineer

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MA-8 Administrative Sites				
Facility Operation and Maintenance				
DESIRED CONDITION: Progress towards facilities and infrastructure are high-quality, well maintained, safe, accessible, and consistent with visitor expectations and the Built Environment Image Guide (BEIG) principles. Facility maintenance meets established national standards. Structures are well integrated into the landscape and advance environmentally sensitive technology.	How many facilities were brought up to FS standards?	Facility Inspections for Compliance in INFRA	Report the number of facilities maintained to standard. Every fifth year, trends in the facility condition index and maintenance backlog will be evaluated to determine progress toward the desired condition.	Forest Facility Engineer
OBJECTIVE: OBJ31. Eliminate three leased facilities by 2015.	How many leased facilities have been eliminated?	Review Leases	Report leases eliminated (by 2015).	Forest Facility Engineer
OBJECTIVE: OBJ32. Eliminate 30 percent of other non-essential administrative facilities by 2015.	How many non-essential facilities remain as a percentage of the FY 2005 baseline (to be determined)?	Administrative Facility Reviews	Report non-essential facilities remaining as a percentage of the FY 2005 baseline (to be determined).	Forest Facility Engineer
OBJECTIVE: OBJ33. Upgrade all identified public facilities to Architectural Barriers Act standards by 2015.	Identify Public Facilities. What percent of identified public facilities are accessible?	Facility Inspections	Report percentage of identified public facilities that are accessible.	Forest Facility Engineer
OBJECTIVE: OBJ34. Complete energy efficiency upgrades on all administrative buildings and complete identified work on 10 percent of administrative buildings needing upgrades by 2015.	1. Inventory administrative buildings for energy efficiency needs. 2. What percent of administrative buildings need work and *what* percentage of energy efficiency upgrades *are complete?*	Facility Inspections	Report percentage of administrative buildings needing work and percentage energy efficiency upgrades completed (by 2015).	Forest Facility Engineer
OBJECTIVE: OBJ35. Inspect all buildings compliance with health and safety standards and address all identified health and safety issues.	What percent of inspected buildings met health and safety standards?	Facility Inspections	Report percentage of inspected buildings that met health and safety standards.	Forest Facility Engineer

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Special Uses				
DESIRED CONDITION: Facilities are centrally located or concentrated on existing sites or designated corridors, minimizing the number of acres encumbered by special use authorizations. Special uses serve public needs, provide public benefits, and conform to resource management and protection Objectives. All uses are authorized and are in full compliance with the terms and conditions of the authorization.	How many of the permits are administered to standard, including number of permits with resource conflicts resolved versus unresolved?	INFRA/Special Use Database	Report number of permits: 1. that were administered to standard with resource conflicts resolved; and 2. with resource conflicts unresolved. Every fifth year, evaluate whether suitable areas are being used efficiently (minimizing acres encumbered), in harmony with other uses and resources, and environmentally sustainable, and analyze and compare the total number of acres under permit for trends, identifying any major projects.	Forest Special-Use Coordinator
MONITORING ELEMENT: Rights of Way (ROW)	How many ROW cases have been accomplished?	ROW Program Accomplishment Report FS5600-26	Report number of ROW cases accomplished.	Forest Special-Use Coordinator
Commodity and Commercial Uses				
Minerals and Energy Development				
MONITORING ELEMENT: Minerals Administration	How many minerals cases were administered?	As Reported by the Forest Geologist & Infra	Report number of minerals cases that were *active and* administered *each of the past two years. Also report minerals cases open but not active.*	Forest Geologist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
DESIRED CONDITION: Minerals and energy developments meet legal mandates to facilitate production of mineral and energy resources on the Forest in a manner that minimizes adverse impacts to surface and groundwater resources.	1. How many active mineral leases, licenses, contracts, and permits were inspected during the reporting period? 2. Are Plans of Operation for the mineral sites being followed? 3. How many notices of non-compliance were issued?	As Reported by the Forest Geologist & Infra	Report any new legislation or mandates related to program administration. Report number of inspections conducted for each of the past two years and include results from those inspections. Report the number of non-compliance issues, number of non-compliance letters issued, and number of sites restored to compliance as a result of the non-compliance letter.	Forest Geologist
OBJECTIVE: OBJ18. Process applications for federal mineral leases, licenses, and permits within 120 days.	Are minerals leases, licenses and/or permits applications received and processed within 120 days?	As Reported by the Forest Geologist & Infra	Report percent of applications processed within 120 days by year.	Forest Geologist
OBJECTIVE: OBJ19. Process operations proposed under outstanding and reserved mineral rights within 60 days and 90 days, respectively.	How many outstanding and reserved mineral rights operations were proposed and how many were processed within 60 and 90 days, respectively?	As Reported by the Forest Geologist & Infra	Report percent of operations processed within specified timelines by year.	Forest Geologist
Livestock Grazing/Range Activities				
DESIRED CONDITION: Livestock grazing opportunities are maintained consistent with other resource values in designated livestock grazing areas (allotments).	What is the number of acres in allotments managed to standard?	As Reported by the Forest Range Specialist & INFRA	Report the number of acres in allotments managed to standard. Every fifth year, an evaluation of rangeland conditions and trends will determine progress toward the desired condition.	Range Specialist
MONITORING ELEMENT: Number of Permittees	How many permittees are permitted on the Forest?		Report the number of permittees that are permitted on the Forest.	Range Specialist
MONITORING ELEMENT: Number of Head Months (HM)	How many HMs occurred on the Forest?		Report number of HMs that occurred on the Forest.	Range Specialist
MONITORING ELEMENT: Number of Head Months (AUM)	How many AUMs occurred on the Forest?		Report number of AUMs that occurred on the Forest.	Range Specialist
MONITORING ELEMENT: Number Head Livestock	How many head of livestock occurred on the Forest?		Report number of head of livestock that occurred on the Forest.	Range Specialist
MONITORING ELEMENT: Range Forage Improvement	How many acres of range forage improvement accomplished on the Forest?		Report number of acres of range forage improvement accomplished on the Forest.	Range Specialist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MONITORING ELEMENT: Number of Active Allotments	How many allotments are currently active on the Forest?		Report number of allotments currently active on the Forest.	Range Specialist
MONITORING ELEMENT: Noxious Weed Treated Acres OBJECTIVE: OBJ03. Treat at least 300 acres per year for non-native, invasive species.	How many acres have been treated for non-native, invasive species?	As Reported by the NNIS Coordinator & FACTS	Report number of acres treated for non-native, invasive species accomplished on the Forest.	Forest Botanist
Timber Sale Program				
Firewood				
MONITORING ELEMENT: Firewood Sold	How many cords of firewood have been sold?	TIMS, FACTS	Report number of cords of firewood sold.	Timber Sale Administrator
Timber – Allowable Sale Quantity (ASQ)				
OBJECTIVE: OBJ41. Sell an average of at least 200,000 hundred cubic feet (ccf) of timber per year.	How many hundred cubic feet (ccf) of timber have been sold?	TIMS, FACTS	Report volume of timber sold in comparison to the projected annual average.	Timber Sale Administrator
MONITORING ELEMENT: Timber Offered	How many hundred cubic feet (ccf) of timber have been offered?	TIMS, FACTS	Report volume of timber offered in comparison to the projected annual average.	Timber Sale Administrator
MONITORING ELEMENT: Timber Harvested	How many hundred cubic feet (ccf) of timber have been harvested?	TIMS, FACTS	Report volume of timber harvested in comparison to the projected annual average.	Timber Sale Administrator
Timber Volume Offered and Sold				
MONITORING ELEMENT: Timber Harvest Method by Acres Sold	Clearcut Seedtree Shelterwood Removal UAEM-Single-tree selection UAEM-Group selection Thinning Salvage	TIMS, FACTS	Report acres by timber harvest method.	Timber Sale Administrator

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Air Quality				
Fine Particulate Matter, Ozone				
OBJECTIVE: OBJ16. Protect and improve the Air Quality Related Values (AQRV) of the Class I Area (Caney Creek Wilderness Area).	What measures have been taken to monitor the AQRV of the Class I Area?	BASS, PSD permit reviews	Report on the potential influence from acid rain on water quality condition from periodic Basin Area Stream Surveys' (BASS) results. Report progress toward meeting the Forest Plan objective.	Zone Air Resource Specialist
MONITORING ELEMENT: Air Visibility Monitoring	What are the results of the air visibility monitoring efforts?	Twice weekly air filter checks are documented on the IMPROVE Monitoring Network	Report the results of air visibility monitoring efforts at Particulate Matter (PM) 2.5 and the findings (and trends) in comparison to previous monitoring efforts.	Zone Air Resource Specialist
MONITORING ELEMENT: Ozone Concentrations	How do ozone concentrations near the Forest compare to air quality standards?	Data from ozone monitoring stations near the Forest (Polk County)	Report the results of ozone monitoring and trends in comparison to previous monitoring efforts.	Zone Air Resource Specialist

Focus monitoring and reporting on the following Forest Plan priorities:

- Meet Federal and State goals concerning air and water quality (e.g., National Ambient Air Quality Standard (NAAQS), Environmental Protection Agency (EPA)/state water quality goals).
- Monitor compliance with Forest Plan design criteria intended to protect soil, air, and water quality.
- Minimize air pollution impacts to the Air Quality Related Values (AQRV) of the Class I Area, Caney Creek Wilderness, through a cooperative working relationship with agencies managing air quality.

Monitor for compliance with Forest Plan standards:

- AQ001 Conduct all Forest management activities (including activities conducted under permit) in a manner that does not result in (1) a significant contribution to a violation of National Ambient Air Quality Standards or (2) a violation of applicable provisions in State Implementation Plans.
- AQ002 Best available smoke management practices (FSM 5140, State Smoke Management Plans and State Implementation Plans) will be used to minimize the adverse effects of prescribed burning on public health and safety and to protect visibility in Class I areas (Caney Creek and Upper Buffalo Wildernesses).
- AQ003 Prescribed burning may be conducted in, or adjacent to, counties with forecasted high Air Quality Index (AQI) values (AQI equals orange or higher) only if meteorological conditions indicate that smoke will be carried away from the high AQI area.

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Terrestrial Ecosystems				
Terrestrial Community Types				
Common Upland Communities, MA 6 – Rare Upland Communities, MA 14 – Ouachita Mountains and MA 15 – West Gulf Coastal Plain (Habitat Diversity Emphasis), MA 21 – Old Growth Restoration (Pine Grass Emphasis), MA 22 – Renewal of the Shortleaf Pine/Blue Stem Grass Ecosystem and RCW Habitat				
DESIRED CONDITION: These common upland communities will be represented in a mosaic of shortleaf pine-hardwood (including pine-dominated, hardwood-dominated, and evenly mixed forests and woodlands). Within this MA, grass-forb and seedling-sapling conditions will be well represented, particularly in the portions suitable for timber management, where they make up at least 6 percent of the landscape. These "early successional" conditions will exist primarily under partial canopies of overstory pines and/or hardwood trees. Mid-successional and mature forests and woodlands will be even more widespread, making up at least 70 percent of the landscape. Desired condition particular to each common upland community may be found in the Revised Plan on pages 7-11.	Are landscape-level and stand-level composition and structure of the following major forest communities within desired ranges of variability? Ouachita Shortleaf Pine-Oak Forest Ouachita Shortleaf Pine-Oak Woodland Ouachita Shortleaf Pine-Bluestem (Red-cockaded Woodpecker Habitat) West Gulf Coastal Plain Pine-Hardwood Forest Ouachita Dry-Mesic Oak Forest	FACTS, FSVeg	Address the 5 common upland communities in one section. Report acres of vegetation management treatments, including thinning for restoration to woodland condition, regeneration harvests, and acres burned in cool season and in growing season. At five-year intervals, evaluate appropriate vertical structure/age classes, canopy closure, and fire regime and progress toward achievement of the desired condition of 40-65 percent of pine-oak dominated systems in pine-oak forest versus woodland condition. Address activities taken to improve forest health. Emphasize restoration efforts in the Shortleaf pine-bluestem grass ecosystem and "old growth" restoration.	Forest Silviculturist
Focus monitoring and reporting for the five common upland communities on acres exhibiting the community characteristics and the areal extent (percent of the forest occupied by the community type) and any changes to that percentage since the last reports. Report SVE condition scores when available (especially any declines or increases in species associated with the community type) and report vegetation management treatments, additions to early seral stage, overall road density, and overall and changes to the fire regime when available. To address climate change, answer this question: What are the status and trends of forest health threats on the Forest?				

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
OBJECTIVE: OBJ06. Establish 5,500 acres per year in grass/forb condition within the pine-oak forest subsystem while maintaining 60-90 percent in mature to late seral condition. See also Monitoring Element on Vertical Structure.	Are landscape-level and stand-level horizontal and vertical structure of major forest communities established within desirable ranges of variability?	FACTS, FSVeg	Report acres of regeneration harvest under irregular shelterwood or irregular seedtree system per year; acres of mature pine-oak forest. Provide this information by community type and indicate progress toward meeting the Forest Plan objective.	Forest Silviculturist
OBJECTIVE: BJ07. Increase cumulative total area being restored to shortleaf pine-bluestem grass or shortleaf pine-oak woodland conditions to 350,000 acres by 2021.	How much restoration to shortleaf pine-bluestem grass or shortleaf pine-oak woodland conditions has occurred?	FACTS, FSVeg	Report acreage of landscapes in which active management (e.g., thinning, burning) to restore a significant pine-bluestem or pine-oak woodland component are underway and progress toward meeting the Forest Plan objective.	Forest Silviculturist, Fire Management Officer
OBJECTIVE: OBJ08. Establish and maintain the following mix of seral stages in pine-bluestem woodland: 3-9% early, 15-30% mid, and 60-90% late seral. See also Monitoring Element on Vertical Structure.	Are landscape-level and stand-level percent seral stages in the pine-bluestem woodland community within desirable ranges of variability?	FSVeg, FACTS	Report percentages of pine-bluestem in early and late seral stages and acres burned and thinned in the pine-bluestem condition and progress toward meeting the Forest Plan objective.	Forest Silviculturist, Fire Management Officer
OBJECTIVE: OBJ10. Reduce susceptibility to southern pine or Ips beetle outbreaks on at least 25,000 acres per year.	How many acres of pine forests and woodlands have been treated for southern pine beetle susceptibility?	FACTS, Acres at Risk Model	Report acres treated (thinned) and acres at risk. Report acres of pine harvest. Report acres at risk every five years. Report progress toward meeting the Forest Plan objective.	Forest Silviculturist, Forest Health
OBJECTIVE: OBJ11. Apply management practices to begin replacing off-site loblolly pine plantations with shortleaf pine and native hardwoods where such plantations were installed outside the natural range of loblolly pine (i.e., most of the Ouachita Mountains); treat at least 500 acres per year.	How many acres of off-site loblolly pine forests and woodlands have been replaced with shortleaf pine and native hardwoods?	FACTS, FSVeg	Report acres of off-site loblolly pine plantation treated and acres of off-site loblolly pine remaining. Report progress toward meeting the Forest Plan objective of treating at least 500 acres per year.	Timber Sales Administrator, Forest Silviculturist

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
OBJECTIVE: OBJ13. Refine the Forest-wide inventory of possible old growth by verifying or modifying the existing inventory, as needed.	Are stands being inventoried for additions to potential old growth?	Old Growth Inventory (Table D-1 in 2005 Forest Plan also see Standard VM002)	Report acres of each type of possible old growth added and, if appropriate, subtracted from the inventory. Report progress toward meeting the Forest Plan objective of refining the Forest-wide inventory of old growth.	Forest Silviculturist, District Biologists, GIS Specialists
MONITORING ELEMENT: Timber Resource Inventory	How many acres of timber resource inventory have been accomplished?	FSVeg	Report number of acres of timber resource inventory accomplished.	Forest Silviculturist
MONITORING ELEMENT: Timber Reforestation Accomplishments	How many acres of timber reforestation have been accomplished?	FACTS, FSVeg	Report number of acres of timber reforestation accomplished.	Forest Silviculturist
MONITORING ELEMENT: Timber Stand Improvement Accomplishments	How many acres of timber stand improvement have been accomplished through herbicide treatments and through non-herbicide treatments?	FACTS, FSVeg	Report number of acres of timber stand improvement accomplished.	Forest Silviculturist
DESIRED CONDITION: Rare Upland Communities, including upland (non-riparian; non-bottomland) areas supporting one or more natural communities, are relatively rare or uncommon in the Ouachita Mountains or West Gulf Coastal Plain. Desired Condition for each of the Rare Upland Communities are found in the Revised Plan on pages 12-16.	Are these rare communities being protected, maintained and/or restored as a component of the landscape?	FACTS, NFPORS	Report maintenance or restoration treatments. At five-year intervals, progress toward the desired conditions of appropriate vertical structure/age classes, canopy closure, and fire regime will be evaluated.	District Silviculturists, District Biologists, Forest Botanist
	Ouachita Mesic Hardwood Forest			
	Ouachita Montane Oak Forest			
	Ouachita Dry Oak Woodland			
	Ouachita Novaculite Glade and Woodland			
	Central Interior Highlands Dry Acidic Glade and Barrens			
	Central Interior Acidic Cliff and Talus			
	Calcareous Prairie			

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
OBJECTIVE: OBJ12. Refine the Forest-wide inventory of rare natural systems (upland systems named in MA 6, plus Ouachita Mountains Forested Seep) by ensuring that such systems are identified during forest vegetation surveys and by other means, which may include remote sensing, GIS analyses, and special surveys. Add newly located upland rare systems or communities to MA 6 and newly located seeps or other rare wet or riparian systems to MA 9.	Are rare communities being inventoried for landscape-level and stand-level composition and structure within desirable ranges of variability?	FSVeg, Special Surveys, GIS Spatial Analysis	Report acres of each rare natural system added and, if appropriate, subtracted from the inventory.	District Silviculturists, District Biologists, Forest Botanist
Terrestrial Habitat and Health				
Soils				
OBJECTIVE: OBJ15. Conduct watershed improvement actions on at least 40 acres per year.	How many acres of watershed improvement actions have been accomplished?	District Reported PAR Accomplishments	Report acres treated.	Forest Soil Scientist
MONITORING ELEMENT: Soil Inventory	How many acres of soil inventory have been accomplished?	Forest Soil Scientist	Report number of acres of soil inventory accomplished.	Forest Soil Scientist
Geologic Resources				
DESIRED CONDITION: Unique geological resources and values on the Forest are sustained. Threats from geologic hazards to human life, natural resources, or financial investment are minimized.	When geological resources and hazards have been identified, how will they be and monitored for value (resources) and risk (hazards)?	As Reported by the Forest Geologist	Geologic resources and hazards when identified, will be monitored for value and risk, and reported.	Forest Geologist
Fire Influences and Fuels				
OBJECTIVE: OBJ02. Move 5,000 acres into fire regime condition class I annually.	How many acres were moved into fire regime condition class I by community type? Pine Oak Forest Pine Oak Woodland SLP Bluestem Dry-Mesic Hardwood	NFPORS, FACTS, GIS Spatial Analysis	Report number of acres moved into fire regime condition class I annually by community type.	Fire Management Officers (District & Forest)

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
OBJECTIVE: OBJ01. Increase prescribed fire to an average of 180,000 acres per year by 2011 to help achieve and maintain desired community conditions.	1. How many total acres of prescribed fire were accomplished? 2. How many acres by purpose were accomplished? Fuel Reduction Wildlife Stand Improvement Site Prep Wildland Fire Use	NFPORS, FACTS, GIS Spatial Analysis	Report acres treated with prescribed fire per year.	Fire Management Officers (District & Forest)
MONITORING ELEMENT: Prescribed Fire under Watershed Restoration and Enhancement Agreement Authority, popularly known as the Wyden Amendment	How many acres were accomplished under prescribed fire agreements?	NFPORS, FACTS, GIS Spatial Analysis	Report acres per year accomplished under prescribed fire agreements.	Fire Management Officers (District & Forest)
MONITORING ELEMENT: Fire Activity	Provide the following information to capture fire accomplishments: Wildland Fire – Number of Fires Number of Acres Average Acres/Fire Lightning Fires – Number of Fires	NFPORS, FACTS, GIS Spatial Analysis	Report acres treated with prescribed fire and acres burned by lightning per year.	Fire Management Officers (District & Forest)
MONITORING ELEMENT: Acres of prescribed fire in the growing season: March-September	How many acres of growing season prescribed fire were accomplished?	NFPORS, FACTS, GIS Spatial Analysis	Report acres treated with prescribed fire during the growing season (March-September).	Fire Management Officers (District & Forest)

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Fire (Community Protection and Safety)				
DESIRED CONDITION: The goals within the WUI are to reduce the risk of loss of human life, enhance protection of homes and improvements, and provide an area where firefighters can safely conduct tactical operations to stop the spread of a wildland fire. In Wildland Urban Interface (WUI) areas, vegetation management to restore, maintain, or enhance fire-adapted ecosystems to an approximate "reference condition" will be vigorously undertaken.	How many acres within the WUI have had hazardous fuel reduction treatments and what condition class changes have occurred?	NFPORS, FACTS, GIS Spatial Analysis	Report the condition class changes and the number of acres of hazardous fuel reduction in the WUI, including those implemented through cooperative agreements. Every fifth year, evaluate progress toward the desired condition through an analysis of the status of high hazard and high-risk areas.	Fire Management Officers (District & Forest)
OBJECTIVE: OBJ42. Treat the highest priority areas at a rate of 500 to 1,000 acres per year. Most of these areas (i.e., adjacent NF lands) should be restored to condition class 1 by FY 2011.	How many of the 500-1000 highest priority areas were treated?	NFPORS, FACTS, GIS Spatial Analysis	Report highest priority acres burned (near communities at risk and other significant WUI areas).	Fire Management Officers (District & Forest)
OBJECTIVE: OBJ43. Complete 50,000 to 100,000 acres per year of hazardous fuel reduction in the other moderate to high priority areas (within 1/2 mile of private land with improvements).	How many acres of hazardous fuel reduction in the WUI were accomplished?	NFPORS, FACTS, GIS Spatial Analysis	Report acres burned per year within the WUI.	Fire Management Officers (District & Forest)
Terrestrial Non-native Invasive Species				
OBJECTIVE: OBJ29. Conduct inventories to determine the presence and extent of non-native invasive species in wildernesses by 2010; based on results of these inventories, develop and implement appropriate monitoring and treatment programs.	1. How many acres of Wilderness have been surveyed for non-native invasive species? 2. What non-native invasive species have been identified and treatment and monitoring plans implemented?	Wilderness Non-native, Invasive Species Inventory	Report inventories completed (acres); acres treated for invasive species control in wilderness; and monitoring (and treatment) plans completed.	Forest Botanist, Forest Wilderness Specialist

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Insects and Disease				
OBJECTIVE: OBJ09. Apply management actions to restore ecosystem health in at least 5,000 acres per year of oak forests and woodlands affected by oak decline and other hardwood diseases, insect problems, and drought.	How many acres of oak forests and woodlands have been treated for oak decline and other hardwood forest health problems?	NFPORS, FACTS	Report acres of oak forest and woodland burned; acres thinned or regenerated and progress toward meeting the Forest Plan objective.	Fire Management Officer, Forest Silviculturist
Vegetation Management				
Forest Regeneration				
MONITORING ELEMENT: Acres Harvest by Method of Cut	Harvest- Method of Cut (Acres) Clearcut Even-aged Management (Seedtree/Shelterwood) Uneven-aged Management (Group/Single Tree)	FACTS	Report acres of harvest by method of cut	Forest Silviculturist, Timber Sale Administrator

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Terrestrial Habitats and Conditions				
Vertical Structure Early Seral Stage; Mid-Seral Stage; Late Seral Stage				
MONITORING ELEMENT: At five-year intervals, evaluate appropriate vertical structure/age classes by community type. WF001: On a project-by-project basis, provide grass-forb or shrub-seedling habitats (include regeneration areas 0-10 years in age, areas of recent heavy storm or insect damage, and woodland conditions) at a rate of: • a minimum of 6 percent of the suitable acres in MAs 14, 15, 16, 17, and 19 (Ouachita Mountains Habitat Diversity Emphasis, West Gulf Coastal Plain Habitat Diversity Emphasis, Lands around Lakes, Semi-primitive Areas, and Winding Stair Mountain National Recreation Area and Associated Non-Wilderness Designations, respectively) • a minimum of 3 percent of the suitable acres in MA 21, Old Growth • a minimum of 4 percent of the suitable acres in MA 22, Shortleaf Pine/Bluestem Grass/RCW	Are project level activities to create early seral habitat, occurring at the appropriate rate?	Forest Wildlife Biologist, GIS Analyst, Project Level Reports	Report on early seral stage creation by reviewing project level reports and conducting GIS analysis. Every five years, review the status of community types and ascertain whether the desired conditions have been achieved through project level work and/or what additional actions may be required.	District Wildlife Biologist, Forest Wildlife Biologist

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Other Terrestrial Habitat Components – Wildlife Cave and Mine Habitat; Large Trees near Water; Snags, Cavity/Den Trees, and Down Logs/Woody Debris; Mast Production; Old Growth Habitat				
MONITORING ELEMENT: Describe the importance of the other terrestrial habitat components to wildlife. WF003: Provide for and designate areas for mast production at the approximate rate of 20 percent of each project area. Hardwood and hardwood-pine forest types, age 50 and older, comprise this component. WF004: Retain clumps of deciduous trees at a rate of one-half acre clump per 20 acres of regeneration cutting by even-aged methods in order to create den trees. Retain clumps around existing den trees. In addition, existing den trees will not be felled unless necessary for insect or disease control or to provide for safety. WF005: Where timber is harvested, retain or create at least two snags per acre, minimum 12-inch diameter at breast height (dbh) with an objective of 16-inch dbh or larger. Where naturally occurring snags of this size are unavailable or cannot be created, retain or create snags near the required size. Standing snags will not be felled, unless necessary for insect or disease control or to provide for safety.	1. By habitat component, describe the work accomplished at the Forest level to provide these types of habitat and the species benefited. 2. What projects contributed to the development of these habitat components?	Cave and Mine	Report activities by Ranger District that contributed to development of terrestrial habitat components.	District Biologists, Forest Wildlife Biologist, and Forest Monitoring Coordinator
		Large Trees Near Water		
		Snags		
		Cavity/Den Trees		
		Downed Logs/Woody Debris		
		Mast Production		
		Old Growth Habitat		

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Management Indicator Species and Wildlife Habitat Management Eastern Wild Turkey; Northern Bobwhite; Pileated Woodpecker; Prairie Warbler; Scarlet Tanager; White-tailed deer				
DESIRED CONDITION: Wildlife and Fish Habitat. Habitat conditions sustain healthy populations of native and desired non-native wildlife and fish species. Wildlife habitat functions are sustained or improved, including primary feeding areas, breeding areas, and migration corridors. Reintroduction of extirpated species is given serious consideration when proposals originate from or have strong support from the appropriate state and federal fish and wildlife agencies. Fishable waters support high-quality angling opportunities. Vegetation conditions reflect the desired conditions described for each system in the previous section. Habitat conditions are stable or improving over time as indicated by the status of management indicator species. Movement of fish and other aquatic organisms are not obstructed by road crossings, culverts, or other human-caused obstructions.	By MIS, what key habitat improvements have been accomplished?	Waterhole Development	Report status of habitat by species and improvement activities in numbers or acres.	District Biologists, Forest Wildlife Biologist, Forest Fisheries Biologist
		Nest Boxes		
		Road Closures		
		Midstory Reduction		
		WSI-Overstory/ Mast Development		
		Prescribed Fire		
		Seeding/Planting		
		Permanent Openings		
		Temporary Openings		
		Opening Rehabilitation		
		Snag/Log Development		

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Habitat Capability Modeling				
Management Indicator Species: Maintain habitat sufficient to support viable populations of the following terrestrial species: Northern Bobwhite, White-tailed deer, Eastern Wild Turkey, Pileated Woodpecker, Scarlet Tanager, Prairie Warbler (Red-cockaded Woodpecker* See also T & E monitoring)	By MIS, what key successional stage improvement activities have been accomplished?	Early Successional Habitat Acres (created and maintained)	Report early successional habitat created and maintained and trends in comparison to previous surveys.	Forest Wildlife Biologist
		Habitat Capability Model	Report actual acres available and trends in comparison to previous surveys.	
		Mast Capability		
		Acres in Mature Hardwood Forest		
		Acres in Mature Pine Forest		
		MIS Population Trends (Deer, Quail, Turkey & Breeding Bird Monitoring)	Report populations' survey data and trends in comparison to previous surveys.	
Other Habitat Considerations – Wildlife Hunting Wildlife; Management Areas; Walk-In Turkey Areas				
MONITORING ELEMENT: Evaluate the effects of management on meeting public hunting demand	1. How many Walk-In Turkey Areas are in inventory? 2. Where there any projects that impacted either positively or negatively the management of the Walk-In Turkey Areas? 3. Are there any species that required an adjustment in hunting season due to population concerns?	Reports from AGFC and ODWC and District/Forest Biologists	Report monitoring results and research with regard to hunting species and conditions on the Forest.	District Wildlife Biologists, Forest Wildlife Biologist

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
R8 Sensitive Species and Terrestrial Species of Viability Concern **Bald Eagle; Caddo Mountain Salamanders; Rich Mountain Slit-mouth Snail; Sensitive Bats (Eastern small-footed bat and Southeastern Myotis)**				
MONITORING ELEMENT: Maintain or improve the habitat and subsequently the population status of all species that are on the R8 Sensitive Species List and/or of viability concern.	What are the status and trends of R8 Sensitive or Species of Viability Concern populations?	Bald Eagle	Report findings of all monitoring and research efforts involving Sensitive species and/or species of viability concern. At five-year intervals, evaluate population or habitat availability trends. Every five years, accumulate previous and current year data to report survey data and trends in comparison to previous surveys.	District Wildlife Biologists, Forest Wildlife Biologist
		Slit-mouth Snail		
		Sensitive Bats Monitoring Bear Den Cave		
		Periodic Endemic Salamander Monitoring	Report survey results in comparison to past surveys for the Rich Mtn., Caddo Mtn., and Fourche Mtn. Salamanders	
Terrestrial Proposed, Endangered, and Threatened Species Habitat American Burying Beetle; Indiana Bat; Least Tern; Northern Long-Eared Bat; Piping Plover; Red-cockaded Woodpecker; American Alligator				
DESIRED CONDITION: Proposed, Endangered, Threatened, and Sensitive (PETS) Species Habitat. Habitats for federally listed species (and those proposed for listing) are conserved or restored, and listed species are recovered. Habitats for sensitive species and other species of concern are sufficient to prevent downward trends in populations or habitat capability and to prevent federal listing. Flow regimes and habitat connectivity in streams that provide habitat for Proposed, Endangered, Threatened, and Sensitive aquatic and riparian-dependent species are sufficient to allow the affected species to complete all phases of their life cycles. Vegetation conditions reflect the desired conditions identified for each system in the previous section.	What habitat protection, enhancement and/or maintenance activities concerning federally listed species have been accomplished?	Monitoring and/or research efforts particular to any of the PETS	Report findings of all monitoring and research efforts involving PETS. At five-year intervals, evaluate population or habitat availability trends.	District Wildlife Biologists, Forest Wildlife Biologist
		American Burying Beetle		
		Indiana Bat Northern Long-Eared Bat		
		Least Tern		
		Piping Plover		
		Red-cockaded Woodpecker		
		American Alligator		

Type of Monitoring	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
OBJECTIVE: OBJ04. Maintain or improve the population status of all species that are federally listed or proposed for listing when evaluated at 5-year intervals.	What are the status and trends of federally listed species' populations?	American Burying Beetle Indiana Bat Northern Long-Eared Bat Least Tern Piping Plover Red-cockaded Woodpecker American Alligator	Report numbers or acres accomplished for each activity. -- American Burying Beetle Inventory and Monitoring Transects -- Cave/Mine Gate Construction -- RCW Cavity Restrictors -- RCW Predator Guards -- RCW Colony Monumentation -- RCW Colony Predator Control -- RCW Midstory Reduction -- RCW Prescribed Burns Report survey data and trends in comparison to previous surveys.	District Wildlife Biologists, Forest Wildlife Biologist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Riparian and Aquatic Ecosystems				
MA - 9 Water and Riparian Communities Ouachita Riparian; Ouachita Mountain Forested Seep; West Gulf Coastal Plain Small Stream and River Forest; South-Central Interior Large Floodplain; West Gulf Coastal Plain Wet Hardwood Flatwoods (Red Slough); Ouachita Rivers and Streams; Ouachita Ponds, Lakes, and Waterholes				
DESIRED CONDITION: These Water and Riparian Communities, including streams, rivers, lakes and ponds, terrestrial areas with riparian vegetation, and terrestrial areas identified as necessary to protect water quality and associated beneficial uses, are found within the Ouachita Mountains, Arkansas River Valley, and West Gulf Coastal Plain. Included are flowing and non-flowing aquatic habitats; wetlands; woodland seeps and springs; portions of floodplains; variable distances (but at least 100 feet) from both edges of all perennial streams and from the shores of bodies of water equal to or greater than one-half acre; variable distances (but at least 30 feet) from both edges of other streams with defined stream channels and ponds less than one-half acre in size; and certain lands surrounding public water supplies, lakes, and streams. Desired condition particular to each water and riparian community may be found in the Revised Plan on pages 17-19.	What is the status and trend in aquatic habitat conditions in relation to aquatic communities?	FSVeg, Implementation Monitoring Reviews, Basin Area Stream Surveys, Habitat enhancement activities such as liming, fertilizing, and adding fish structures. FSVeg, Special Surveys, GIS Analysis FSVeg, Special Surveys, GIS Analysis	Report lake, pond, stream, and river surveys; amphibian surveys; water chemistry data; and habitat enhancement activities such as liming, fertilizing, and adding fish structures. When a forested seep or community associated with streams, rivers, or lakes occurs within an area affected by a management project that is reviewed as part of an Implementation Monitoring Review (IMR), compliance with all applicable standards will be reviewed. Basin Area Stream Surveys will be conducted periodically (typically on a five-year cycle). At five-year intervals, evaluate the desired condition status of this habitat.	Forest Hydrologist, Fisheries Biologist or Contract/Agreement
	Ouachita Riparian			
	Ouachita Mountain Forested Seep			
	West Gulf Coastal Plain Small Stream and River Forest			
	South-Central Interior Large Floodplain			
	West Gulf Coastal Plain Wet Hardwood Flatwoods (Red Slough)			
	Ouachita Rivers and Streams			
	Ouachita Ponds, Lakes, and Waterholes			

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
OBJECTIVE: OBJ12. Refine the Forest-wide inventory of rare natural systems (upland systems named in MA 6, plus Ouachita Mountains Forested Seep) by ensuring that such systems are identified during forest vegetation surveys and by other means, which may include remote sensing, GIS analyses, and special surveys. Add newly located upland rare systems or communities to MA 6 and newly located seeps or other rare wet or riparian systems to MA 9.	Are aquatic and aquatic-associated communities being inventoried at the landscape and stand levels for composition and structure within desirable ranges of variability?	FSVeg, Special Surveys, GIS Analysis	Report acres of each aquatic and aquatic-associated system added and, if appropriate, subtracted from the inventory.	Forest Planner, GIS Analyst

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Watersheds, Aquatic Habitat and Health				
Aquatic Management Indicator Species (MIS)				
Ponds, Lakes, and Waterhole MIS *Bluegill; Largemouth Bass; Redear Sunfish*				
Other Pond, Lake, and Waterhole Species *White Crappie; Gizzard Shad; Threadfin Shad; Shoreline Seining*				
Arkansas River Valley Stream MIS *Highland (Central Stoneroller); Creek Chubsucker; Green Sunfish; Longear Sunfish; Pirate Perch; Redfin Darter; Yellow Bullhead*				
Gulf Coastal Plain Stream MIS *Highland (Central Stoneroller); Green Sunfish; Longear Sunfish; Orangebelly Darter; Northern Studfish; Northern Hog Sucker; Redfin Darter; Smallmouth Bass; Striped Shiner; Johnny Darter; Channel Darter*				
DESIRED CONDITION: Wildlife and Fish Habitat. Habitat conditions sustain healthy populations of native and desired non-native wildlife and fish species. Wildlife habitat functions are sustained or improved, including primary feeding areas, breeding areas, and migration corridors. Reintroduction of extirpated species is given serious consideration when proposals originate from or have strong support from the appropriate state and federal fish and wildlife agencies. Fishable waters support high-quality angling opportunities. Vegetation conditions reflect the desired conditions described for each system in the previous section. Habitat conditions are stable or improving over time as indicated by the status of management indicator species. Movement of fish and other aquatic organisms are not obstructed by road crossings, culverts, or other human-caused obstructions.	1. What key habitat improvements have been accomplished? 2. What monitoring or research for MIS species has been accomplished?	Lake Fish Attractors Fishing Pond/Lake Construction Fishing Pond/Lake Enhancement/ fertilize, lime, etc.	Report numbers or acres for aquatic species improvement. Report findings of all monitoring and research efforts involving aquatic MIS species. At five-year intervals, evaluate population or habitat availability trends.	District Biologists, Forest Wildlife Biologist, Forest Fisheries Biologist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Pond, Lake and Waterhole Concerns				
MONITORING ELEMENT: Report any pond, lake or waterhole concerns	As monitoring occurs, identify any measures that would simplify or enhance management.	Forest Fisheries Biologist	Report measures that should be implemented or changed to simplify or enhance management.	Forest Fisheries Biologist
Basin Area Stream Survey (BASS)				
MONITORING ELEMENT: Every 5 years, through the paired-stream Basin Area Stream Survey (BASS), watershed condition is to be evaluated to determine if the progress in condition ratings has occurred.	Are watershed conditions improving or declining over time?	BASS	Every 5 years, report findings of the BASS and evaluate trends.	Forest Hydrologist or Contract/Agreement
Connectivity of Aquatic Organism Habitat				
FOREST PRIORITY: Manage the forest transportation system, including the open road density, to minimize wildlife habitat disturbance during the critical reproductive period (March–August), optimize road maintenance, reduce road-related barriers to aquatic organism passage, and reduce conflicts with non-motorized recreational activities. OBJ40: Improve aquatic organism passage on an average of no less than six stream crossings per year (where there are road-related barriers to passage).	1. How many structures are in inventory that are barriers to aquatic organism passage? 2. How many miles of aquatic organism passage were improved by year? 3. How many crossings were improved for aquatic organisms? 4. How many miles of stream habitat were stabilized?	Number of stream crossings where aquatic organism passage is improved. INFRA/Forest reported PAR Accomplishments	Report structures that are aquatic organism barriers. Report structures that have been removed or improved, miles of improvement, number of crossing improved, and miles of habitat stabilized.	Forest Fisheries Biologist, Forest Transportation Engineer

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Aquatic Dependent Proposed, Endangered, Threatened and Sensitive Species Habitat Freshwater Mussels (Scaleshell; Ouachita Rock-pocketbook; Arkansas Fatmucket; Rabbitsfoot; Spectaclecase); Leopard Darter; Harperella **R8 Sensitive and Other Aquatic Species of Viability Concern** *Ouachita Darter*				
OBJECTIVE: OBJ04. Maintain or improve the population status of all species that are federally listed or proposed for listing when evaluated at 5-year intervals.	What are the status and trends of federally listed species' populations?	Monitoring and/or research particular to any one of the PETS.	Report survey data and trends in comparison to previous surveys. Report findings of all monitoring and research efforts involving Aquatic Dependent Proposed, Endangered and/or Threatened species. At five-year intervals, evaluate population or habitat availability trends.	District Wildlife Biologists, Forest Fisheries Biologist, Forest Wildlife Biologist, Forest Botanist
DESIRED CONDITION: Proposed, Endangered, Threatened, and Sensitive (PETS) Species Habitat. Habitats for federally listed species (and those proposed for listing) are conserved or restored, and listed species are recovered. Habitats for sensitive species and other species of concern are sufficient to prevent downward trends in populations or habitat capability and to prevent federal listing. Flow regimes and habitat connectivity in streams that provide habitat for Proposed, Endangered, Threatened, and Sensitive aquatic and riparian-dependent species are sufficient to allow the affected species to complete all phases of their life cycles. Vegetation conditions reflect the desired conditions identified for each system in the previous section.	What habitat protection, enhancement and/or maintenance activities concerning federally listed and Sensitive species have been accomplished?	Maintain TES Structures	Report numbers or acres accomplished for each activity.	District Wildlife Biologists, Forest Fisheries Biologist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MONITORING ELEMENT: Maintain or improve the habitat and subsequently the population status of all species that are on the R8 Sensitive Species List and/or of viability concern when evaluated at 5-year intervals.	What are the status and trends of R8 Sensitive species and species of viability concern habitat and/or populations?	Monitoring and/or research efforts particular to any Sensitive and/or species of viability concern habitat and/or populations.	Report findings of all monitoring and research efforts involving Sensitive species and/or species of viability concern. At five-year intervals, evaluate population or habitat availability trends.	Forest Fisheries Biologist
Watershed Function and Public Water Supply				
OBJECTIVE: OBJ14. Maintain or improve watershed health.	How well are the stream and river aquatic habitat and watershed conditions being protected, enhanced or maintained?	Basin Area Stream Survey, Project Cumulative Effects Model, IMRs, ADEQ and ODEQ 305B Reports	Report Basin Area Stream Survey results (conducted approximately every five years). Report number of impaired waterbodies that are on or downstream of the Forest; soil quality monitoring results; percent of treatment units meeting soil quality standards.	Forest Hydrologist, Forest Soil Scientist, or Contract/Agreement
MONITORING ELEMENT: Baseline Water Quality Monitoring		ADEQ and ODEQ Water Quality Monitoring Stations	AR:http://www.adeq.state.ar.us/techsvs/water_quality/monitors.asp OK:http://www.deq.state.ok.us/	Forest Hydrologist or Contract/Agreement
MONITORING ELEMENT: Basin Area Stream Survey (BASS)	How many acres of stream inventory have been accomplished?	At five-year intervals, conduct Basin Area Stream Surveys	At five-year intervals report the findings of the Basin Area Stream Surveys and trends in comparison to previous surveys.	Forest Hydrologist or Contract/Agreement
MONITORING ELEMENT: Stream Surveys	How many acres of stream inventory have been accomplished?	When necessary, conduct Stream Surveys using BASS methodology	Report the findings of the Stream Surveys and trends in comparison to previous surveys.	Forest Hydrologist or Contract/Agreement

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MONITORING ELEMENT: Herbicide Monitoring	What percent of the herbicide treatment sites have been monitored?	Monitor 10% of herbicide application projects for detectable presence in water and any herbicide application in Streamside Management Areas or on dam faces.	Report findings of herbicide monitoring accomplishments.	Forest Hydrologist or Contract/Agreement
MONITORING ELEMENT: Swim Water Monitoring	How many swim-water sites have been monitored throughout the open season?	Monitor swim areas five times per month during open season for fecal coliform with immediate closures for areas with high counts (<200 colonies/100 mg.).	Report number of swim area monitoring accomplishments.	Forest Hydrologist or Contract/Agreement
MONITORING ELEMENT: Watershed Improvement Construction	How many acres of new watershed improvement construction have been accomplished?	District Reported PAR Accomplishments	Report number of acres of new watershed improvement construction accomplished.	Forest Soil Scientist
MONITORING ELEMENT: Watershed Improvement Maintenance	How many acres of watershed improvement maintenance have been accomplished?	Forest Soil Scientist	Report number of acres of watershed improvement maintenance accomplished.	Forest Soil Scientist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Management Indicator Species: Maintain habitat sufficient to support viable populations of the following Ponds and Lakes species: bluegill, redear sunfish, and largemouth bass.	How well are the pond and lake aquatic habitat conditions being protected, enhanced or maintained?	Electrofish Samples, shoreline seining, and water chemistry sampling	Report percentage of MIS game fish of harvestable size; electrofishing catch per unit (time) effort; number of ponds shoreline seined for spawning success (09/11/06).	Forest Fisheries Biologist
OBJECTIVE: OBJ27. Maintain recreational fishing opportunities of stocked lakes and ponds.	How well are the recreational fishing opportunities being protected, enhanced or maintained?			
Management Indicator Species: Maintain habitat sufficient to support viable populations of the following Arkansas River Valley Stream species: Yellow Bullhead, Central Stoneroller, Redfin Darter.	How well are the stream and river aquatic habitat conditions being protected, enhanced or maintained?	When conducting Stream Monitoring utilize BASS methodology. At five-year intervals, conduct Basin Area Stream Surveys	Report results of the Stream Monitoring efforts and trends in comparison to previous surveys. At five-year intervals report the findings of the Basin Area Stream Surveys and trends in comparison to previous surveys.	Forest Fisheries Biologist, Forest Hydrologist or Contract/Agreement
Management Indicator Species: Maintain habitat sufficient to support viable populations of the following Gulf Coastal Plain Ecoregion Stream species: Pirate Perch, Central Stoneroller, Creek Chubsucker, Green Sunfish, Longear Sunfish.				
Management Indicator Species: Maintain habitat sufficient to support viable populations of the following Ouachita Mountain Ecoregion Stream species: Central Stoneroller, Orangebelly Darter, Redfin Darter, and Northern Studfish. Johnny Darter and Channel Darter only in the Glover & Mtn. Fork Rivers.				

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Heritage Resources				
Heritage Stewardship				
DESIRED CONDITION: Significant heritage resource sites are identified, preserved, or enhanced. Connections are made with the American people on the importance of public land heritage stewardship through public involvement programs. The past, present, and future of heritage resources' role in ecosystem management, including socio-cultural values in an environmental context, are recognized.	How many Heritage Resource sites were managed to standard?	PAR	Report sites managed to standard (sites inventoried, evaluated, protected, promoted, preserved, restored, rehabilitated, monitored, or enhanced). Include the number of site management plans developed, conflicting site-specific land use activities identified and resolved, Section 110 targets achieved, the number of public involvement programs/projects initiated, agreements with research entities, and report and database updates. Every fifth year, progress in increasing the number of heritage resources protected and managed to standard will be evaluated.	Forest Archeologist
MONITORING ELEMENT: Heritage Resource Evaluations	How many properties of heritage resource evaluation have been accomplished?	PAR	Report number of properties of heritage resource evaluation accomplished.	Forest Archeologist
MONITORING ELEMENT: Heritage Resource Survey	How many acres of heritage resource survey have been accomplished?	PAR	Report number of acres of heritage resource survey accomplished.	Forest Archeologist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Tribal and Native American Interests				
DESIRED CONDITION: The Forest is maintained in a condition that allows Native American tribes and individuals to retain traditional connections to the land and to foster both traditional and contemporary cultural uses of the Forest. The Forest has active agreements and protocols to facilitate consultation (all resources) and government-to-government relationships.	How many of what types of agreements and protocols have been executed?	PAR	Report the number and types of agreements and protocols executed and the number of consultations. Every fifth year, feedback and satisfaction will be evaluated as indicators of progress toward the desired condition.	Forest Archeologist
OBJECTIVE: OBJ20. Complete a forest overview of heritage resources by 2007 incorporating the results of 20+ years of Section 106 and Section 110 work and documentation.	What progress has been accomplished towards a forest overview of heritage resources?	PAR	Report forest heritage overview progress until overview is completed. Performance Indicator: date forest heritage overview completed.	Forest Archeologist
OBJECTIVE: OBJ21. Drawing upon the heritage resources overview, complete a Heritage Resources Management Plan by 2010.	What progress has been accomplished towards a Heritage Resources Management Plan?	PAR	Report progress towards a Heritage Resources Management Plan until Plan is completed. Performance Indicator: date Heritage Resources Management Plan completed.	Forest Archeologist
OBJECTIVE: OBJ22. Revise the Programmatic Agreement with SHPOs and THPOs by 2011.	What progress has been accomplished towards revising the Programmatic Agreement with SHPOs and THPOs?	PAR	Report progress towards revision of the Programmatic Agreement with SHPOs and THPOs. Performance Indicator: date revision completed.	Forest Archeologist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Recreation and Scenery Management				
Recreation Management				
MA 1 – Wilderness				
DESIRED CONDITION: Naturally occurring processes will predominate. People are temporary visitors who leave no permanent imprint. Opportunities will abound for primitive recreation featuring solitude, physical and mental challenges, freedom from the intrusion of unnatural sights, sounds and odors, and the chance to experience relatively unmodified ecosystems. Except for trails and designated primitive campsites, no facilities will be available. Manipulation of flora, fauna, or the surface of the land will occur only to the extent necessary to maintain trails and primitive campsites and to meet provisions of the wilderness acts, the Endangered Species Act, and other pertinent laws. MONITORING ELEMENT: Wilderness Area Administration	1. How many acres of Wilderness Area are in inventory? --Designated --Eligible for Designation 2. How many acres of Wilderness Area Administration have been accomplished? 3. Were there any notable changes to the Wilderness areas in the last year? 4. Were there any management activities that impacted the Wilderness areas? 5. Was the character of these areas protected?	Forest Wilderness Specialist	Report the number of acres of Wilderness Area administered.	Forest Wilderness Specialist
OBJECTIVE: OBJ30. Update all Wilderness Management Plans, including monitoring components, wilderness education, and restoration needs, by 2008	What progress has been accomplished towards updating all Wilderness Management Plans?	Wilderness Management Plans	Report Wilderness Management Plans updated and wilderness education components completed.	Forest Wilderness Specialist

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MA 20 – Wild and Scenic Rivers				
Desired Condition A variety of dispersed and developed recreational opportunities are available. Visitors encounter natural landscapes featuring exceptionally scenic, free-flowing mountain rivers. Little evidence of human-caused disturbance are visible, except in the form of a few system roads, prescribed fire, control activities to address pest outbreaks, trails, and river access facilities. Much of the vegetation in the corridor has old-growth characteristics. Signs of natural disturbances may be evident.	1. How many Wild and Scenic River Corridors are in inventory by type (wild, scenic, recreational)? --Designated --Eligible for Designation 2. Were there any management activities that impacted these corridors? 3. What protective measures were utilized to protect the wild and scenic character of these corridors?	Forest Wild and Scenic Program Manager	Report status of the character of MA 20. Report Projects in the near vicinity to MA 20 and whether there were consultations and/or mitigation measures to minimize impacts to the character of MA 20.	Recreation Program Manager
MA 17 – Semi-Primitive Areas				
Desired Condition Visitors view a predominately naturally appearing landscape with some evidence of vegetation manipulation in the form of small openings, individual tree cutting, prescribed fire, and some stands managed as more open, shortleaf pine-bluestem grass or oak woodland communities. Dispersed recreation experiences, including hunting and hiking, are available with fewer disturbances from motorized traffic than the general forest area. A moderate level of solitude is present in most areas.	1. Were there any notable changes to the Semi-primitive areas in the last year? 2. Were there any management activities that impacted these semi-primitive areas? 3. Was the character of these areas protected?	Forest Recreation Program Manager	Report status of the character of MA 17. Report Projects in the near vicinity to MA 17 and whether there were consultations and/or mitigation measures to minimize impacts to the character of MA 17.	Recreation Program Manager

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Scenery Management				
MA 2 – Special Interest Areas				
Desired Condition The landscape will generally be modified but still present a forest-type setting. Little to no evidence of non-recreation resource development will be noticed; however, vegetation management activities may include planting, pruning, cutting, herbicide application (e.g., for, poison ivy control), or hazard-tree removal. Facilities, such as roads, buildings, camping sites and tables, will be evident but compatible with the overall setting of the area. Various levels of human activity and sounds from vehicles and other motorized equipment will be evident. Depending upon the particular location, easy access for activities such as fishing and hiking, swimming, and group events will be available. Visitors will find a moderate level of user restrictions to ensure public health and safety and protection of resource values.	1. Were there any notable changes to the special interest areas in the last year? 2. Were there any management activities that impacted these special interest areas? 3. Was the character of these areas protected?	Forest Recreation Program Manager	Report status of the character of MA 2. Report Projects in the near vicinity to MA 2 and whether there were consultations and/or mitigation measures to minimize impacts to the resources of MA 2.	Recreation Program Manager

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MA 16 – Lands Surrounding Lake Ouachita and Broken Bow Lake				
DESIRED CONDITION: A variety of dispersed recreational opportunities are available. Visitors encounter varied forest conditions, from fairly open, "park-like" stands of native pines and hardwoods with a forest floor rich in grasses and forbs to stands having a nearly continuous high canopy and sparse ground layer. Abrupt changes in vegetation are few, limited mainly to small openings in the forest and places where Forest land abuts private land, roads, or developed areas on other public land. Mature forest predominates, but some younger forests may be observed as well. Evidence of prescribed fire is apparent at times. A pattern of mixed hardwood and pine contributes to the visual attractiveness of the area. An adequate variety of sizes and forest conditions are present to support populations of many animal species native to the uplands of the Lake Ouachita and Broken Bow Lake areas. Visitors on the lake or shoreline view the surrounding National Forest lands as predominantly naturally appearing, with resource management activities not usually evident. Lands surrounding the lakes may be accessed by trails and by a variety of roads, but there is little or no addition of road miles to the transportation system.	1. Were there any notable changes to the lands surrounding the large lakes in the last year? 2. Were there any management activities that impacted these areas? 3. Was the character of these areas protected?	Forest Recreation Program Manager	Report status of the character of MA 16. Report Projects in the near vicinity to MA 16 and whether there were consultations and/or mitigation measures to minimize impacts to the character of MA 16.	Recreation Program Manager

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MA 17 – Semi-Primitive Areas				
DESIRED CONDITION: Determine if the biological, physical, and cultural features of landscapes that provide for a "sense of place" … are intact. Determine if 50% of projects undertaken on the ONF within High Scenic Integrity Objective (SIO) areas will attain a high SIO, 65% of projects undertaken in Moderate SIO areas will attain Moderate SIO rating, and 100% of projects located in Low SIO areas will attain that rating.	1. How many of what project types were conducted in areas with a high SIO? 2. How many SIO consultations occurred? 3. In reviewed projects, to what degree were SIOs maintained/achieved?	During IMRs, determine if the project under review adequately considered SIOs.	Report the number and type of management projects conducted in areas having a high SIO. Report whether a landscape architect was consulted in each case where project implementation was likely to affect scenic integrity, and if applicable, to what degree SIOs were maintained/achieved.	Recreation Program Manager
MA 19 – Winding Stair Mountain Recreation National Area and Associated Non-Wilderness Designations				
DESIRED CONDITION: Along the Talimena Scenic Drive, visitors view predominately hardwood vegetation that is naturally appearing… Some vegetation management in the form of small openings, individual tree cutting, and prescribed fire is evident. Resource management treatments viewed from scenic points within the area meet high SIO. Paved roads and state highways provide primary access to developed recreation facilities and State parks. Additional access is provided by unpaved roads and trails.	1. Were there any notable changes to MA 19 in the last year? 2. Were there any management activities that impacted MA 19? 3. Was the character of MA 19 protected?	PAR	Report status of the character of MA 19. Report Projects in the near vicinity to MA 19 and whether there were consultations to minimize impacts to the character of MA 19.	Forest Recreation Program Manager

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
MA 3 – Developed Recreation Areas				
Recreation Participation				
DESIRED CONDITION: Recreation participation, activities, and services contribute to visitors' physical and mental well-being and represent a variety of skill levels, needs, and desires. Quality fish and wildlife habitat and a variety of access opportunities are available to the public. Facilities and infrastructure are high quality, well maintained, safe, accessible, and consistent with visitors' expectations. Primitive recreation opportunities are maintained on at least 70,000 acres, semi-primitive recreation opportunities on at least 136,000 acres, and roaded-natural recreation opportunities on much of the remainder of the National Forest. Existing "rural" recreation opportunities in developed recreation areas are maintained.	1. What was the occupancy/use rate for each recreation site? 2. Has the facility condition index and maintenance backlog been maintained?	PAR	Report the recreation sites occupancy/use rates. A facility condition index and maintenance backlog will be maintained. Every fifth year, the forest will evaluate trends in annual indicators and visitor satisfaction surveys to determine if the Forest has provided quality recreational experiences that result in increased visitor satisfaction.	Recreation Program Manager
OBJECTIVE: OBJ23. Conduct maintenance on at least 300 miles of trails (non-motorized use) per year.	How many miles of trails' (non-motorized use) maintenance were accomplished?	PAR	Report miles of trail maintained to standard.	Recreation Program Manager
MONITORING ELEMENT: Trail Construction	How many miles of trail construction have been accomplished?	PAR	Report number of miles of trail construction accomplished.	Recreation Program Manager
OBJECTIVE: OBJ24. Maintain all recreation facilities to standard.	How many recreation sites were maintained to standard?	PAR	Report facilities maintained to standard.	Recreation Program Manager
OBJECTIVE: OBJ25. Improve accessibility within at least one recreation site per year.	How many recreation sites' accessibility were improved?	PAR	Report sites improved for accessibility.	Recreation Program Manager
OBJECTIVE: OBJ28. Improve or maintain all designated scenic overlooks at least once per decade.	How many scenic overlooks were improved?	PAR	Report number of scenic overlooks improved or maintained. Report percent maintained or improved per decade.	Recreation Program Manager

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Conservation Education and Stewardship				
DESIRED CONDITION: People connect to the land and to each other through high-quality public information, interpretive services, and environmental education programs/activities, with well-supported nonprofit partners in a lead role. Proactive efforts reach both traditional and nontraditional users and lead to a greater citizen understanding, appreciation, advocacy, and participation in forest stewardship and ecosystem conservation. Connections are made with the American people on the importance of public land heritage stewardship through public involvement programs. Recreation and natural resource management, as well as conservation education, is improved through increased knowledge of social science. The role that heritage resources play in the ecosystem management, including the role of socio-cultural values within an environmental context, is recognized – past, present, and future. Better services are supplied to Forest visitors with current knowledge of who is using the Forest and how.	How many nongovernmental organizations, groups, and volunteers were involved in stewardship activities, and environmental education programs/activities?	NICE database	Document the number of nongovernmental organizations, groups, and volunteers involved in stewardship activities.	Public Affairs Office
	How many conservation education products/ presentations were presented and what is the estimated number of people reached?	NICE database	Document the number of conservation education products/presentations and the estimated number of people reached.	Public Affairs Office

	Question or Parameter	Monitoring Indicator	Frequency and Reporting Interval	Responsibility
Public and Agency Safety				
Law Enforcement Activities				
DESIRED CONDITION: A safe environment for the public and agency employees is provided on National Forest System land; natural resources and other property under the agency's jurisdiction are protected.	1. How many accident reports were written? 2. How many citations were issued? 3. How many acres were involved in what types of illegal activities?	Law Enforcement & Investigations Management Attainment Reporting System (LEIMARS)	Report on the number of accidents, citations by type, and acres and type of impact of each illegal activity. Every fifth year, evaluate trends in unlawful or criminal behaviors.	Law Enforcement Office
Climate Change				
ADDED BY ADMINISTRATIVE CHANGE 2 - MAY 2016 What are the status and trends of forest health threats on the Forest? The Forest will also use the regional office broad-scale monitoring strategy for climate change and the following associated questions: --During this monitoring cycle, where any stressors observed that affected natural resources? --What events occurred during the monitoring period (periods of drought; insect or disease infestations)? --Is there any measurable evidence that event were related to climate changes?				