

United States
Department of
Agriculture

Forest Service
Southern Region



Arkansas

Land and Resources Management Plan

Ozark- St. Francis

**National
Forests**



PREFACE

The Ozark-St. Francis National Forests Land and Resource Management Plan (Plan) provides a management program that allows Forest resource use and protection; fulfills legislative requirement, and addresses local, regional, and national issues and concerns. The Forest Plan accomplishes the following—

- ESTABLISHES TEN TO FIFTEEN YEAR FOREST MANAGEMENT DIRECTION, LONG-RANGE GOALS AND OBJECTIVES;
- SPECIFIES MANAGEMENT REQUIREMENTS, APPROXIMATE TIMING AND VICINITY OF PRACTICES FOR THAT DIRECTION; and
- ESTABLISHES MONITORING AND EVALUATION REQUIREMENTS FOR COMPLIANCE AND TO DETERMINE ACCURACY OF PREDICTED EFFECTS.

Plan reviews (and updates, if necessary) will occur at least every five years with revisions on a ten to fifteen year cycle.

Forest and Rangeland Renewable Resources Planning Act (RPA), as amended by National Forest Management Act (NFMA) requires Plan preparation. National Environmental Policy Act (NEPA) AND NFMA 36 Code of Federal Regulations (CFR) 219 require assessment of its environmental impacts. The Plan replaces all previous Forest resource management plans.

PUBLIC REVIEW AND APPEAL RIGHTS

An appeal of the Plan and Environmental Impact Statement is limited to the period after a Record of Decision.

If any provision of this Plan or application thereof to any person or circumstances is held invalid, the rest of the Plan and application of its provision to other persons or circumstances shall not be affected.

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Introduction

PURPOSE OF THE PLAN

The Plan guides natural resource management activities, establishes management requirements for Ozark-St. Francis National Forests and describes resource practices, management levels and land suitability for resource management.

The Plan embodies National Forest Management Act (NFMA) provisions, regulations, and other guiding documents. Land allocation, prescriptions, and management requirements provides Plan direction; however, production, services, and implementation rates depend on annual budgeting.

RELATIONSHIP OF THE PLAN TO OTHER DOCUMENTS

Plan development occurs within Forest Service regional and national planning framework. The Resource Planning Act (RPA) program sets national direction and tentative production levels for National Forest System lands based on suitability and capability of each Forest Service Region. Each Region allocates its share of national production levels based on Forest information. Final production levels are subject to funding.

The Plan is the selected alternative from the accompanying Environmental Impact Statement (EIS). The planning process and analysis procedure used to develop this Plan and other alternatives are described in the EIS.

Coordination Requirements

Activities and projects to carry out Plan direction will be "tiered" to the EIS (40 CFR 1502.20). Local project environmental analyses will use data and evaluations in the Plan and EIS along with additional site specific data as their base.

PLAN STRUCTURE

The Plan provides two direction levels--
 --general Forestwide direction including goals, objectives and management requirements.
 --management area direction as management requirements.

Plan structure is:

Chapter 1 introduces the Forest Planning process.

Chapter 2 summarizes Analysis of the Management Situation including--

- current Forest program assessment.
- Goods and service production potential.
- Forest resources demand.
- issues, management concerns, and opportunities (ICO's) addressed by this management direction.

Chapter 3 discusses how the Plan addresses ICO's.

Chapter 4 contains Forestwide goals, objectives and management requirements and expected activities.

Chapter 5 presents Plan implementation, monitoring and evaluation requirements to indicate how well Plan direction meets targets, goals, and objectives. This chapter also guides project planning, amendments or revisions.

Chapter 6 (glossary) References Chapter 7, EIS.

Chapter 7, appendix presents activity schedules for other resources and a ten year timber sale action plan.

More supporting information is in Forest Planning records, available for review at Ozark-St. Francis National Forest Supervisor's Office, Russellville, Arkansas.

FOREST DESCRIPTION

Figure 1-1 shows Ozark-St. Francis National Forests location in Arkansas. The Ozark has six geographical units in northwest Arkansas. The St. Francis is a single geographic unit in eastern Arkansas adjacent to St. Francis and Mississippi Rivers, 50 miles southwest of Memphis, Tennessee.

Ozark National Forest units are Wedington, Lee Creek, Main Division, Magazine, Sylamore, and Henry R. Koen Experimental Forest, containing 1,118,500 National Forest acres in Baxter, Benton, Conway, Crawford, Franklin, Johnson, Logan, Madison, Marion, Newton, Pope, Searcy, Stone, Van Buren, Washington, and Yell Counties. St. Francis contains 20,900 National Forest acres in Lee and Phillips Counties.

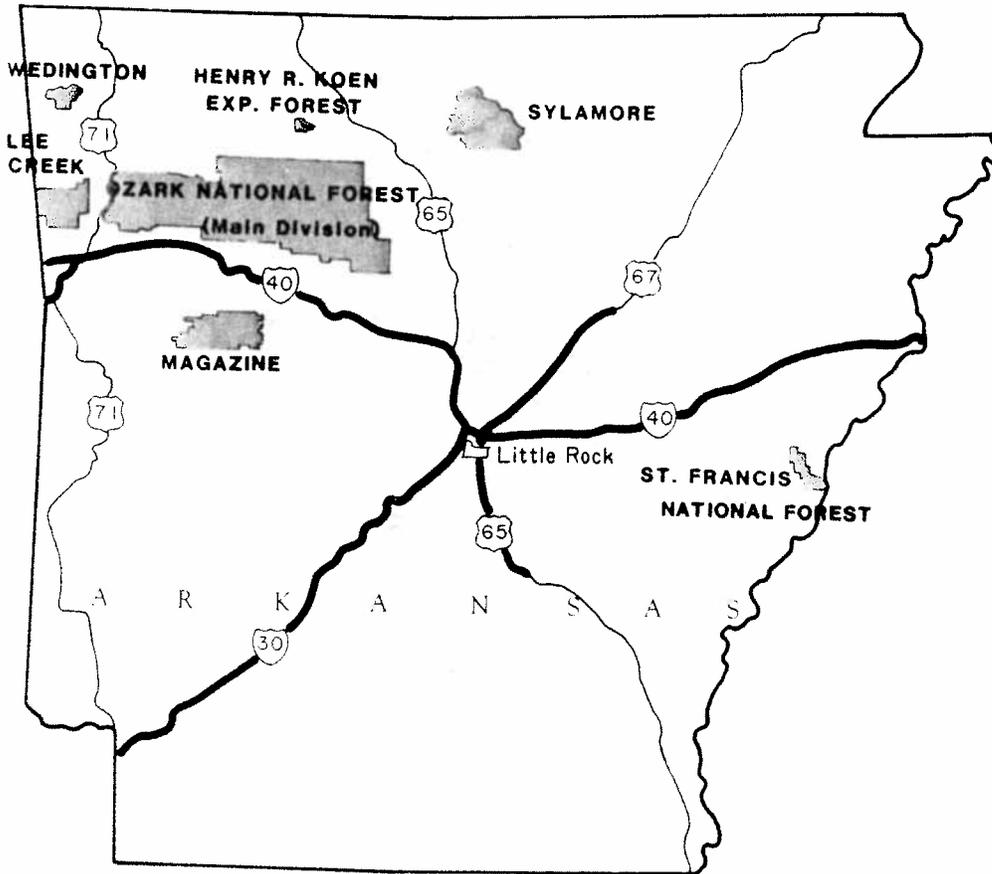
The Forest Supervisor in Russellville, Arkansas administers Ozark-St. Francis National Forests.

The Ozark has six Ranger Districts: Bayou headquartered in Hector; Boston Mountain in Ozark; Buffalo in Jasper; Magazine in Paris; Pleasant Hill in Clarksville; and Sylamore in Mountain View. St. Francis is one District headquartered at Marianna, Arkansas. Each of these is administered by a District Ranger.

The Ozark also includes Cass Civilian Conservation Corps Center at Cass, Arkansas.

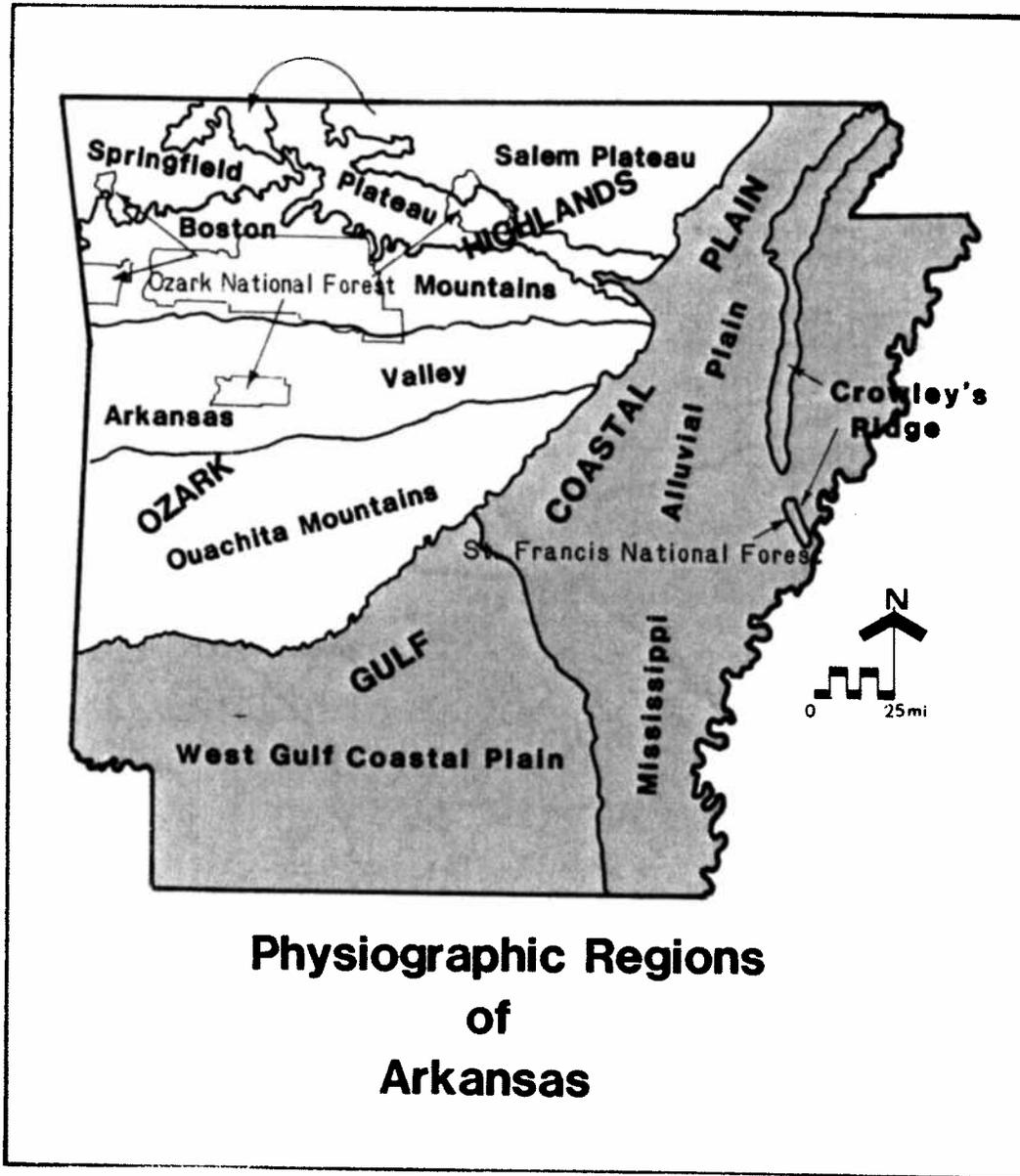
Figure 1-2 shows Forest's location within physiographic regions.

FIGURE 1-1



**VICINITY MAP
FOR THE
OZARK-ST. FRANCIS NATIONAL FORESTS**

FIGURE 1-2



Analysis of the Management Situation

OVERVIEW

This chapter summarizes supply and demand conditions for market and non-market goods and services in the planning area and research needs. Table 2-1 identifies the Forests' ability to supply goods and services compared to demands and current resource production levels.

More detailed management situation analysis is in Plan, Chapter 3; Plan Appendix A, Table A-1, Appendix B; and Ozark-St. Francis National Forests Analysis of the Management Situation (AMS).

SUPPLY AND DEMAND CONDITIONS

Although this Plan covers 10 years, the AMS analyzes supply and demand for 50-years to determine long-term capability to meet projected demand. A horizontal demand curve is assumed for all resources. This assumption indicates that resources could increase or decrease within a defined range without affecting value.

Recreation

The 29 developed recreation sites, ranging from 5 unit semi-primitive camps to Blanchard Springs Caverns accommodate about 7,800 people at one time.

Recreation Opportunity Spectrum (ROS) inventory determined the following:

<u>ROS CLASS</u>	<u>N.F. M. ACRES *</u>	<u>PERCENT</u>	<u>CAPACITY MRVD'S**</u>	<u>USE MRVD'S</u>
Primitive	0	0	0	0
Semi-Primitive				
Non-Motorized	71	6	200	13
Semi-Primitive				
Motorized	400	35	1,540	282
Roaded Natural	663	58	8,122	585
Rural	6	1	535	350
Urban	0	0	0	0
Totals	<u>1,140</u>	<u>100</u>	<u>10,397</u>	<u>1,230</u>

*M.ACRES - Thousand Acres

**MRVD's - Thousand Recreation Visitor Days

Three trails including the 140-mile Ozark Highlands Trail, are designated as National Recreation Trails.

Hang gliding, canoeing, kayaking, all-terrain vehicle driving, rock climbing and rappelling are new and increasing recreation

activities. Concern for new recreation sites includes a major complex on Mt. Magazine.

Several state and other federal recreation facilities within the Forests' influence zone provide an adequate supply to meet most future recreational demands. See Table 2-1 for recreation use demand.

Wild and
Scenic Rivers

The U. S. Department of Interior, in cooperation with state and local agencies, has developed a Nationwide River Inventory for potential national classification. EIS Appendix C, describes the process and stream characteristics. The 13 rivers and streams having National Forest ownership along one or both sides and their eligibility determinations are shown in EIS Table 2-18. Preliminary evaluation determined four rivers and their segments eligible for Wild, Scenic or Recreation River study by Forest Service.

Cultural
And
Historic

Cultural resource sample surveys, complete on 4-5% of the Forest, recorded 212 sites including prehistoric hunting, resource gathering, occupation area, bluff shelter, rock art sites and 52 homestead, industrial, Civilian Conservation Corps camp, cemetery, stage station and school historic period sites. Information from Forest workers and local residents resulted in recording 530 more prehistoric and 70 historic period sites. Many appear eligible for National Register listing.

River bottoms and blufflines are high potential zones for prehistoric resources. River bottoms and upland slopes are high potential zones for historic period sites. These zones are high priority for intensive survey.

Present sample surveys indicate about one historic period site per 800 acres, and one prehistoric site per 200 acres. Within 1,095,400 acres remaining to be sampled, predictions indicate 1,300 historic and 5,500 prehistoric sites. Predicted site density is expected to change as survey methods improve.

Visual

All variety classes occur on the Forests, with 8 percent variety class A (Distinctive); 80 percent variety class B (Common); and 12 percent variety class C (Minimal).

Initial scenic resource inventory combining visual attractiveness (variety class) and public expectations, resulted in visual quality objectives as follows—

—Preservation	67,200 Acres
—Retention	111,400 Acres
—Partial Retention	289,500 Acres
—Modification	553,400 Acres
—Maximum Modification	117,900 Acres

Research
Natural
Area

A 400-acre Turkey Ridge Research Natural Area on the St. Francis is nominated and will be managed in an undisturbed status. It has 90-100 year-old white oak - red oak - hickory (SAF Type 52) and swamp chestnut oak - cherrybark oak (SAF Type 91) stands.

Wilderness

The Arkansas Wilderness Act of 1984 established 15,200-acre Hurricane Creek, 11,800-acre Richland Creek, 10,800-acre East Fork, 17,000-acre Leatherwood Wildernesses and added 1,500 acres to the 10,500-acre Upper Buffalo Wilderness.

Roadless areas not designated Wilderness are released for other uses.

Annual wilderness capacity in the five areas now is about 133,600 visitor days. Ozark Wilderness areas established in October, 1984, have a combined 11,500 visitor day use. Based on regional demand projections, visitor day use will be 48,000 in 2030.

Wildlife
And
Fish

At least 65 of the 74 mammal species occurring in Arkansas are found on the Forests.

Threatened and endangered species, occasionally seen on the Forests include bald eagles and rare reported sightings of Florida panthers. Indiana and Gray Bats occur in several Sylamore District caves, and a small Ozark Big-eared Bat population hibernates near the Ozark. Sixteen young American Alligators were released on the St. Francis in 1979 to reestablish this species.

Management indicator species selected to estimate management activity effects on wildlife populations, habitat requirements and reasons for selection are shown in EIS Table 3-4.

Hunting fluctuates with game population changes.

The fishery is warm and cold water streams and lakes, however, most fishing use occurs in large lakes and rivers off the Forests, but projections indicate Forest use should stabilize around 60,000 annual user days.

No threatened or endangered fish species occur on the Forests.

Range

The Forests are divided into 157 allotments for management purposes. Only ninety-five are active.

Suitable range is mostly on ridgetops, along streams, in old fields and along benches in pine. Bottomland sites have moderate to high forage production and slight to moderate erosion hazard.

A downward trend in permittee and livestock numbers over the last 5 years is due to inefficiency of woodland grazing, increased grazing fees and term permit requirements.

Demand includes livestock owners in and adjacent to the Forests.

Vegetation

Oak-hickory forest types dominate and develop best on north and east-facing slopes and along drainages. Hardwoods occupy about 65 percent, while shortleaf pine and shortleaf pine-oak types occupy 35 percent of the land. Cedar glades and scrub hardwood stands occur on rocky shallow soil areas.

Native and domestic grasses occur on pastures and in semi-open forest conditions.

While no Federal threatened or endangered plant species occur on the Forests; nine plants are now under review for possible listing. Ten plants found on the Forests are also on State threatened and endangered lists. Arkansas Natural Heritage Commission has identified "species of special concern" for protection on the Forests.

Timber

Four working groups and rotations are: Pine, 80 years; hardwood, 100 years on the Ozark and 80 years on the St. Francis; Old Growth, 200 years; and Marginal, no rotation.

Primary silvicultural cutting methods are: intermediate for stand improvement; and clearcut, seedtree, and shelterwood for regeneration.

Average annual Ozark-St. Francis harvest between 1977-1982 was 7.0 MMCF. About 85% of this annual cut was pine and 15% hardwood. About half the pine was sawtimber and half poletimber. Most hardwood was sawtimber.

Markets vary according to timber species. Pine markets are more local than hardwood markets which range up to 100 miles from the Forests.

The estimated million cubic foot product demand by decade from the Forests is:

<u>Product</u>	<u>1981</u> <u>1990</u>	<u>1991</u> <u>2000</u>	<u>2001</u> <u>2010</u>	<u>2011</u> <u>2020</u>	<u>2021</u> <u>2030</u>
Pine Sawtimber	34.5	49.8	84.2	92.3	94.6
Pine Small Roundwood	32.1	54.9	97.1	131.5	144.6
Hardwood Sawtimber	9.4	14.3	23.6	30.6	32.3
Hardwood Small Roundwood	2.3	4.3	8.4	12.3	15.2
TOTAL	<u>78.3</u>	<u>123.3</u>	<u>213.3</u>	<u>266.7</u>	<u>286.7</u>

Soils

Ozark Forest soils vary from deep to shallow clayey and loamy, to very deep cherty and silty loams. Soil problems include surface compaction, erosion, droughtiness, infertility, and landslide potential.

St. Francis Forest soils are deep silt loams and deep stratified clays and loams which are productive and have high moisture holding capacity. Gully erosion, piping, compaction and high shrink-swell ratios exist in these soils.

Hydrological conditions in forested areas are stable or trending upward, but about 215 Forest acres need watershed improvement and maintenance.

Water

About 1000 stream miles are perennial. The Forests' average total annual water flow is estimated at 1,774,000 acre feet.

The Forest Service controls all or part of the shoreline on 16 lakes and controls 9 of these lakes. These 16 lakes contain over 2,800 surface acres and 62,200 acre feet normal storage volume.

About 31,000 acres (3 percent) are in the 100-year floodplain and 24,000 acres in perennial stream riparian management zones. About 1/2 of the riparian zone is common with the 100-year floodplain. No true wetlands exist.

Stream use includes canoeing, kayaking, fishing, domestic water supplies, wildlife and fish habitat, swimming, livestock use and aesthetics.

In Arkansas riparian doctrine and judicial system govern both surface and groundwater uses. The State is now studying comprehensive water law needs.

Air

Northern Arkansas air quality is better than National Ambient Air Quality Standards (NAAQS). No major industrial developments or large cities are near to the southwest, west or northwest to allow prevailing winds to pollute the air. Occasionally, northeast winds continue long enough to pollute the air from the northeastern United States.

Stagnant summer air masses, high humidity and temperatures cause poor visibility; however, inversions limiting smoke dispersal are seldom a problem.

Minerals

Minerals production consists of natural gas, surface stone, and shale gravel. U. S. owned oil and gas rights to most National Forest lands are leased or under lease application. The Forests have no active mines.

The Forest had over 60 producing gas wells in June 1982 within Forest boundaries, about 45 percent on Forest land.

Annually about 3,500 tons of surface stone are sold and used locally. The market area extends to surrounding states.

About 35,000 tons of Ozark shale and gravel are used annually for surfacing Forest Service and other public roads in the Forest.

Based on national demands for energy minerals and known mineral potential of the Forests, natural gas exploration and production will continue for at least the next 10 years. Shale, gravel and crushed stone production is expected to increase to meet local and inservice demand.

Rural Community
And
Human Resources

The Forests participate in 5 human resource programs: Senior Community Service Employment Program (SCSEP), Youth Conservation Corps (YCC), Job Corps (JC), Volunteers and Hosted programs.

Population

The population lives in mostly rural areas with small communities centered around country stores selling dry goods, foods, seed and gasoline.

Arkansas' average annual growth rate between 1970 and 1980 was 1.7%. Persons 65 and over increased 32% during the same period and account for 13.7% of the state population. Total population in 1980 was 2,285,500.

Approximate percentage by race is: white - 83; black - 16; American Indian - 0.4 ; Asian - 0.3 ; and other - 0.3. In the 16 counties within Ozark National Forest land, minority population is less than 4%. In the two St. Francis Counties (Phillips and Lee), minority population is about 55%.

Tourism and retirement economy segments have increased demand for service trades. This situation is more closely associated with the mountainous region which has a large tourist and retirement population.

Lands

St. Francis area labor and industry is based on agriculture, timber, grazing and recreation.

National Forest acreage increases about 1,230 acres per year, mostly through purchases.

The 10-year program for National Forest lands available for exchange is about 80 acres on the St. Francis and 8,000 acres on the Ozark.

Most needed rights-of-way are acquired on the St. Francis, but about 200 more rights-of-way are needed on the Ozark.

There are over 3,400 property line miles and 11,300 corners between National Forest lands and other owners. About half are accurately located and marked.

Special Uses

The Forests had 252 non-recreation special uses and 63 recreation special uses, including 52 summer homes on the St. Francis, on September 30, 1981. Various documents authorize 32 different kinds of non-recreation uses. These uses require about 4,500 acres and right-of-way 630 miles.

Roads

The Forests' road network includes state, county and forest development roads. This road system is about complete, but some roads are inadequate for projected traffic. Timber access roads have been the dominant factor in recent road reconstruction and construction.

Traffic service levels are 1% "A", providing free flowing traffic with adequate passing opportunities; 25% "B"; 30% "C" and 44% "D", providing difficult two-way traffic, possibly slowed or obstructed by activities.

The existing road system has about 4,000 miles, including about 2,800 inventoried miles and about 1,200 uninventoried old woods road miles. Ninety-one percent of the managed roads are for constant use while 9% provide only periodic use and are closed between use periods. Half of the reconstructed or new roads are operated for intermittent service.

Fire

Heavy fuel concentrations seldom occur, but pine or pine-hardwood stands produce fine, flashy, ground fuels. Good road access and intermingled private ownership patterns contribute to frequent hunter camp fire use, debris burning and land clearing, increasing potential fire damage and frequency.

Prescribed burning is used on 4,000 to 5,000 acres annually to improve wildlife habitat, range and timber stands.

Insects And Disease

Endemic pest damage has been low with no epidemic outbreaks. Some pest caused timber mortality is salvaged annually during routine harvests.

Supply and Demand

Table 2-1 displays supply, potential supply, resource demand, and compares these values with Regional and Plan objectives.

TABLE 2-1

Current Production, Projected Demand and Supply Potential

Activity	Category	Unit of Measure	1981 Level	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
		Average Per Year						
<u>RECREATION</u>								
Developed Use	Current Management	Thousand RVDs *	485	528	610	685	742	841
	Assigned Regional Objective			494	509	567	682	806
	Demand Trends			552	690	853	1,007	1,150
	Supply Potential		1,100	1,125	1,175	1,210	1,210	1,272
	Plan Objective		552	690	853	1,007	1,007	1,150
Dispersed Use	Current Management	Thousand RVDs **	740	809	888	1,001	1,113	1,284
	Assigned Regional Objective			677	677	706	1,328	1,451
	Demand Trends			881	1,029	1,231	1,466	1,739
	Supply Potential		10,280	11,304	12,328	13,352	13,352	14,376
	Plan Objective		853	1,017	1,199	1,377	1,377	1,581

* Recreation Visitor Days

** Includes Hunting and Fishing

TABLE 2-1, continued

Current Production, Projected Demand and Supply Potential

Activity	Category	Unit of Measure	1981 Level	1986- 1990	1991- 2000	2001- 2010	2011- 2020	2021- 2030
		Average Per Year						
<u>WILDERNESS</u>								
Wilderness Use	Current Management	Thousand RVDs	2	11.5	16.1	22.5	29.3	32.2
	Assigned Regional Objective			No Regional Objective				
	Demand Trends			14.0	22.4	30.0	39.5	48.0
	Supply Potential			133.6	133.6	133.6	133.6	133.6
	Plan Objective			14.0	22.4	30.0	39.5	48.0
<u>WILDLIFE</u>								
Hunting & Fishing Use	Current Management	Thousand Wildlife & Fish User Days	262	339	376	416	454	552
	Assigned Regional Objective			Target Included in Dispersed Recreation Use				
	Demand Trends			349	387	422	457	531
	Supply Potential			367	403	446	483	563
	Plan Objective			349	387	422	457	531

TABLE 2-1, continued

Current Production, Projected Demand and Supply Potential

Activity	Category	Unit of Measure Average Per Year	1981 Level	1986- 1990	1991- 2000	2001- 2010	2011- 2020	2021- 2030
RANGE								
Grazing Use	Current Management	Thousand AUMs*	35	35	36	35	34	35
	Assigned Regional Objective			49	50	50	51	51
	Demand Trends			48	50	50	51	51
	Supply Potential			73	75	76	76	77
	Plan Objective			30	30	30	30	30
TIMBER								
Programmed Sales	Current Management	Million Cubic Feet	7.4	7.7	7.7	9.4	10.6	11.4
	Assigned Regional Objective			7.8	12.3	21.3	26.7	28.7
	Demand Trends			7.8	12.3	21.3	26.7	28.7
	Supply Potential			11.7	17.5	26.3	35.5	35.4
	Plan Objective			9.6	12.0	15.0	18.7	21.7
	Softwood			6.2	7.1	9.1	12.1	14.8
	Hardwood			3.4	4.9	5.9	6.6	6.9

*Animal Unit Months

TABLE 2-1, continued

Current Production, Projected Demand and Supply Potential

Activity	Category	Unit of Measure	1981 Level	1986- 1990	1991- 2000	2001- 2010	2011- 2020	2021- 2030
TIMBER, continued								
Reforestation	Current Management	Thousand Acres	8.2	3.5	3.8	4.2	4.7	5.3
	Assigned Regional Objective			7.7	7.7	7.7	7.7	8.0
	Plan Objective			5.2	4.8	4.9	7.1	14.0
Timber Stand Improvement	Current Management	Thousand Acres	10.9	4.1	3.9	5.2	4.2	6.7
	Assigned Regional Objective			9.1	10.2	10.2	10.2	10.2
	Plan Objective			11.3	6.8	9.8	6.8	10.0
WATER								
Meeting Quality Standards	Current Management	Million Acre Feet	1.8	1.8	1.7	1.7	1.7	1.7
	Assigned Regional Objective			1.5	1.5	1.5	1.5	1.5
	Demand Trends			1.5	1.5	1.5	1.5	1.5
	Supply Potential			1.8	1.8	1.8	1.7	1.8
	Plan Objective			1.8	1.7	1.7	1.7	1.8

TABLE 2-L, continued

Current Production, Projected Demand and Supply Potential

Activity	Category	Unit of Measure	1981 Level	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
SOILS								
Soil & Water Resource Improvement	Current Management	Acres	25	25	25	25	25	25
	Assigned Regional Objective			15	15	20	20	20
	Maximum Needed			25	25	25	25	25
	Plan Objective			25	25	25	25	25
MINERALS								
Leases & Permits	Current Management	Operation Plans	135	287	243	219	125	81
	Assigned Regional Objectives			287	243	219	125	81
	Demand Trends			287	243	219	125	81
	Supply Potential			287	243	219	125	81
	Plan Objective			287	243	219	125	81
					287	243	219	125

TABLE 2-1, continued

Current Production, Projected Demand and Supply Potential		Unit of Measure						
Activity	Category	Average Per Year	1981 Level	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
ROAD WORK								
Reconstruction/Construction								
Local Roads	Current Management	Miles	59	99	88	90	141	125
	Assigned Regional Objective			87	90	90	92	98
	Plan Objective			64	87	105	128	118
Main Road (Arterial Collector)	Current Management	Miles		3	3	3	3	3
	Assigned Regional Objective			5	4	4		
	Plan Objective			3	3	3	3	3

RESEARCH NEEDS

The following research needs have been identified during plan development. This list will be updated during periodic Plan evaluation.

- Determine various site preparation methods effect to seedling survival and action needed to improve survival.
- Determine complete growth and yields for Forests shortleaf pine, upland hardwood and mixed stand sites.
- Determine factors affecting advanced oak regeneration in naturally occurring oak stands, and methods needed to ensure adequate advance regeneration prior to final harvest.
- Determine oak artificial regeneration methods.
- Determine refinement needed to improve predictive model for cultural resource site locations.
- Determine uneven-aged hardwood management effects on specific sites.

Plan Responses to Issues, Concerns and Opportunities

National Forest land and resource management planning is issue oriented. NFMA Regulations [36 CFR 219.12(f) (4)] state that "Alternatives shall provide different ways to address and respond to major public issues, management concerns and resource opportunities identified during the planning process."

This chapter describes how Ozark-St. Francis National Forests Land and Resource Management Plan responds to major ICO's. Responses to issues are found throughout this Plan, within Chapter 4 Management Goals, Management Requirements, Future Forest Conditions, figures, tables and Appendix Chapter 7.

The ICO process identified eight issues incorporating many facets. (This phase is detailed in process record Identification and Evaluation of Issues to be Addressed in the Forest Land Management Plan on file in the Forest Supervisor's Office in Russellville, AR.)

ISSUE 1: HOW SHOULD TIMBER BE MANAGED ON THE OZARK-ST. FRANCIS NATIONAL

Long term sustained yield capacity for the Forests is 283 million cubic feet (MMCF). This will occur in period 12. Total 50-year harvest is 770 MMCF. Both uneven-aged and even-aged silviculture systems are specified as well as no timber management to meet resource management objectives and consider site conditions. The following summary shows how various situations will be managed—

—Wilderness Areas	66,800 Ac.	No timber mgmt.
—Special Areas	23,100 Ac.	No timber mgmt.
—Research Natural Areas	400 Ac.	No timber mgmt.
—Developed Rec. Areas	8,800 Ac.	No timber mgmt.
—Visually sensitive areas along major roads and streams	85,000 Ac.	Unevenaged Silvi. Systems
—Old growth condition	150,000 Ac. (Includes the 85,000 acres of uneven aged management.	Silvi. practices designed to produce old trees
—Experimental Forests	4,900 Ac.	Research
—Poor and steep sites and areas un-needed for resource production.	300,000 Ac.	"Light" Timber Management

In hardwood stands, shelterwood cuts will be used on about 2,500 acres each decade.

Even though this Plan calls for using uneven-aged management for certain situations, many unresolved questions about its

application, especially on areas where timber production is a prime consideration, remain.

To help answer these questions, the Forest Service will develop a study plan using an ad hoc committee with members from the environmental community, timber industry, state agencies, universities, Extension Service, Forest Experiment Stations, State & Private Forestry, and National Forest Administration.

Increased shelterwood regeneration in hardwoods as proposed in the Plan will also reduce clearcutting in response to one facet of this ICO.

A silvicultural examination and prescription will determine specific vegetation management practices following NEPA procedures. If this prescription recommends herbicide use, the environmental analysis will consider herbicide kind, application rate, method and potential environmental effects. The Forest will not use herbicide aerial application.

The Forest Service will not deviate from court stipulations and decree from Newton County Wildlife Association's lawsuit challenging Forest herbicide program until preparation of a new herbicide Environmental Impact Statement.

The Forest will not convert hardwood timber type stands to pine timber types.

Forestwide and Management Area Requirements in Chapter 4 address timber sale sizes, wildlife coordination measures, regeneration area size and dispersal, herbicide use, wood use (including fuelwood) and ground disturbance ICO facets.

ISSUE 2: TO WHAT EXTENT AND WHAT STANDARDS SHOULD ROADS ON NATIONAL FOREST LANDS BE DEVELOPED AND HOW SHOULD THEY BE MANAGED?

Road management emphasis in the Plan is to provide passenger car comfort and convenience to developed recreation sites and high clearance vehicle access for timber sales. Intermittent use is planned for timber sale roads unneeded for other resource uses. Since the Forest is well roaded, road work is to replace drainage structures and surfacing. Forestwide Management Requirements in Chapter 4 address ICO facets dealing with road work, maintenance and closure standards.

ISSUE 3: HOW SHOULD NATIONAL FOREST STREAMS BE USED?

Stream management direction in the Plan requires environmental analysis for municipal and industrial water supply applications on Forest streams. Unless such analysis determines a direction change, Forest streams will be managed in free-flowing condition as addressed in Forestwide Management Requirements in Chapter 4.

ISSUE 4: WHAT DISPERSED AND DEVELOPED RECREATION OPPORTUNITIES

The Plan provides recreation area expansion for heavily used sites, increases developed experience quality, provides day use facilities at Natural Dam, canoe access points on Mulberry River and Big Piney Creek, and motorbike and horse trails.

SHOULD BE PROVIDED, HOW MUCH SUPPLIED AND WHERE SHOULD THEY BE LOCATED?

Forestwide Management Requirements in Chapter 4 address dispersed recreation opportunity, visual, cultural resource, ORV, undeveloped cave, sensitive resource, and trail management ICO facets.

Management Area 3 requirements in Chapter 4 address other developed recreation management ICO facets.

ISSUE 5: HOW SHOULD DELICATE OR SPECIAL RESOURCE SITES AND AREAS BE MANAGED?

The Plan recommends establishing Turkey Ridge as a Research Natural Area, establishes Clifty Canyons (including Cole Fork, Cap Fork, Stewart's Fork and Clifty Canyon) and Dismal Hollow as Botanical areas and recognizes Alum Cove Natural Bridge, Blue Hole, Buzzard Roost Rocks, City Rock Bluff, Devil's Canyon Dismal Creek, Hare Mountain, Magazine Mountain, North Twin, Pedestal Rocks, Penhook, Sam's Throne, Sandstone Hollow, Stack Rock, Sugarloaf Mountain, Waldo Mountain- Wainscott Bottoms and White Rock as special interest areas. Other small sites with sensitive features or plants are identified in silvicultural prescriptions where protective or enhancement measures are prescribed on a case by case basis. The Plan also provides wild cave classification and management. Chapter 4 addresses cultural resource requirements.

Management Area 7 requirements in Chapter 4 provide direction to address these ICO facets. Silvicultural prescriptions will also identify and prescribe management direction for small, isolated areas with sensitive plants or features.

ISSUE 6: HOW SHOULD LIVESTOCK BE MANAGED TO ASSURE THE PROTECTION OF OTHER RESOURCE VALUES?

The Plan provides about 30,000 Animal Unit Months (AUM's) livestock grazing annually on about 3,500 managed pastures and 6,000 acres of transitory grazing in pine type with a 1/.76 benefit/cost ratio.

Forestwide Management Requirements in Chapter 4 address other ICO facets.

ISSUE 7: WHAT OFFERED PRIVATE LANDS SHOULD BE ACQUIRED, WHAT EXISTING NATIONAL FOREST LAND SHOULD BE EXCHANGED FOR PRIVATE LANDS AND EXCHANGED FOR WHERE SHOULD ROAD OR TRAIL RIGHTS-OF-WAY BE ACQUIRED NEED?

Planned landownership adjustment objectives in descending priority are to —

—acquire rights-of-way for trails, recreation access and other resource uses.

—consolidate public ownership in wilderness areas,

—acquire lands to meet recreation needs, protect watersheds, favor timber production, resolve administration problems and for other resource uses,

—select for exchange scattered, isolated tracts with low recreation potential or tracts which block community development or resolve ownership disputes,

Forestwide Management Requirements in Chapter 4 further address these ICO facets.

ISSUE 8: HOW SHOULD WILDLIFE HABITAT BE MANAGED?

The Plan contains several policies, practices and management requirements to benefit Forest wildlife species.

Coordination with Arkansas Game and Fish Commission remains a

top priority in annual wildlife and fisheries program. Hunting and fishing regulation is State responsibility while habitat protection and management is Forest Service responsibility. Forest personnel will coordinate all management activities with the State.

This Plan uses Management Indicator Species (MIS) to measure management effects on wildlife and plant habitat. The featured species concept is incorporated into management indicator species selection. The Plan proposes the following mix and acreage devoted to featured species --

--White-tailed deer	588,000 acres,
--Eastern wild turkey	413,400 acres,
--Gray squirrel	111,000 acres,
--Small game species	14,000 acres,
--Non game species	4,000 acres.

This Plan maintains viable native vertebrate and plant populations and improves habitat for deer, turkey, and squirrel. The plan provides 150,000 acres managed to provide groups of older trees scattered across the Forests. About 66,800 wilderness acres in 5 areas and the 300,000 low intensity management acres will eventually provide late successional stage habitat.

Forestwide Management Requirements in Chapter 4 also address facets of this ICO.