

United States
Department of
Agriculture

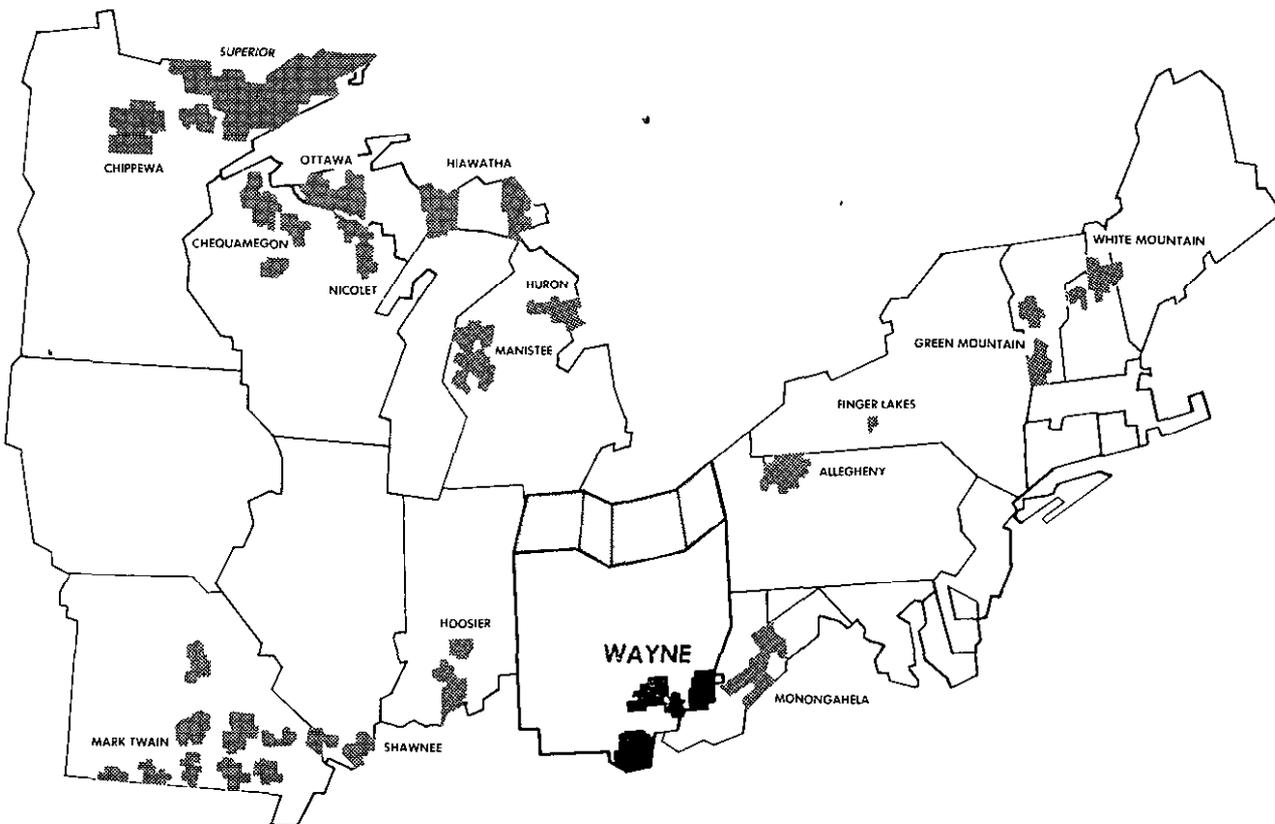
Forest
Service

Eastern
Region



Land and Resource Management Plan

WAYNE NATIONAL FOREST



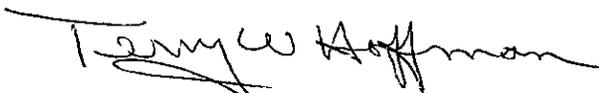
This Wayne National Forest Land and Resource Management Plan and accompanying Final Environmental Impact Statement represents a lot of hard work by a lot of people. My sincere thanks to everyone who had any part in the preparation of the draft and final Plans and Environmental Impact Statements.

I especially want to thank all of our friends who were interested enough in the future of the Wayne National Forest to participate in all the meetings that were held to come up with the best way to manage the Forest. Many of you took off from work and some of you had to travel many miles to attend the meetings. Your willingness to compromise on many important issues helped us to develop a Forest Plan that provides much of what all of you wanted.

And I appreciate all those that took the time to comment on the Proposed Plan and Draft Environmental Impact Statement. We used your comments wherever we could to make a better Plan. We could not satisfy everyone's wants and desires totally because some things are not compatible on the same area of the Forest. But this final Forest Plan represents an attempt to provide the best overall Plan for the management of the Wayne National Forest.

To put together and distribute the Forest Plan, Final Environmental Impact Statement, and Summary required a great deal of stamina and a wide variety of skills from Forest Service personnel. Tasks like typing the documents, and countless review drafts, logging in public letters upon receipt, photo-copying letters and draft responses, and preparing the documents for mailing were all essential to the completion of this project. Other jobs such as data collection and analysis; development of management prescriptions, alternatives, and standards and guidelines; and analysis of environmental effects required a different but equally valuable set of skills and abilities. A lot of effort went into responding to public comments. This effort included such tasks as reading all comment letters, extracting all substantive comments, designing a system for filing and retrieving letters and individual comments, and developing responses to public comments. The final effort of organizing and laying out the documents; developing maps, charts, tables, and graphs; typing all the material; and extensive reviewing and editing by district, supervisor's office and regional office personnel, required one last push from many people who had previously been involved in various aspects of the Forest planning job.

I congratulate everyone involved in this planning process for a job well done. Without the efforts of everyone, whether it was participating in public workshops or working on specific planning tasks, this job could not have been accomplished. This was truly a team effort. Thank you.



TERRY W. HOFFMAN
Acting Forest Supervisor

PREFACE

PURPOSE & LEGISLATIVE BACKGROUND

This document represents one integrated plan for the Wayne National Forest, which will guide all natural resource management activities. The purpose of the Forest Plan is to provide direction for multiple use management and the sustained yield of goods and services from National Forest System lands in an environmentally sound manner. The Forest Plan covers management actions for 10 years. A revision of the Plan will be scheduled at the end of 10 years, or at least no later than 15 years. It may be revised sooner if conditions or demands change significantly.

Preparation of the Forest Plan is required by the Forest and Rangeland Renewable Resources Planning Act (RPA), as amended by the National Forest Management Act (NFMA).

RELATIONSHIP TO OTHER PLANNING LEVELS AND DOCUMENTS

Development of a Forest Plan occurs within the framework of regional and national planning. The Resources Planning Act Program, developed every 5 years, recommends a level of future outputs and associated costs for all Forest Service programs.

National RPA Program

The Recommended Program is developed by comparing land and resource capabilities determined at the local level to national needs as determined by the RPA Assessment.

Regional Guide

The Regional Guide links the RPA Assessment and Recommended Program with National Forest planning. It plays the dual role of providing input to development of RPA programs and providing direction for the development of Forest Plans. The Regional Guide displays the Regional RPA Program and sets tentative resource targets for the National Forests. Forest Plans then blend national and regional demands with local Forest capabilities and needs.

Environmental Impact Statement

This Forest Plan is companion document to the Final Environmental Impact Statement (FEIS). The FEIS has been prepared according to the Council on Environmental Quality rules implementing the National Environmental Policy Act (NEPA).

The FEIS describes the range of alternatives considered and discloses their significant environmental effects. Each of the alternatives could have been the basis of a Forest Plan. The preferred alternative in the FEIS has been developed as this Forest Plan.

FOREST PLAN IMPLEMENTATION

Implementation is the on-the-ground application of the Forest Plan management direction. This is achieved through an integrated resource management approach. All of the multiple uses are addressed. Interdisciplinary teamwork within the Forest Service and working with the publics are vital parts of implementation.

**ADMINISTRATIVE
REVIEW & APPEAL
RIGHTS**

The Regional Forester has documented his decision on the Forest Plan in the Record of Decision. The public has an opportunity to request an administrative review of the Regional Forester's decision as provided by 36 CFR 211.18 (Federal Register Volume 48, FR 13425, March 31, 1983, as amended at 49 FR 26591, June 28, 1984.

**EXTENT OF FINAL
FOREST PLAN
ACTION**

If any particular provision of the Forest Plan or its application becomes invalid, the remainder of the Plan and its application will not be affected.

TABLE OF CONTENTS

Preface	i
List of Tables	iv
List of Figures and Maps	v
CHAPTER 1--INTRODUCTION	1-1
o Organization of the Forest Plan	1-1
o Location of the Forest	1-2
CHAPTER 2--MANAGEMENT SITUATION	2-1
o Supply Conditions	2-1
o Resource Demands	2-2
CHAPTER 3--PLAN RESPONSE TO ISSUES, CONCERNS, AND OPPORTUNITIES	3-1
o Introduction	3-1
o Management Problems	3-1
o Research Needs	3-9
CHAPTER 4--FOREST MANAGEMENT DIRECTION	4-1
o Introduction	4-1
o Forest-wide Direction	4-1
o Forest Management Goals	4-1
o Forest Management Objectives	4-4
o Forest-wide Standards and Guidelines	4-13
o Management Area Direction	4-63
o Management Area Standards and Guidelines	4-63
o Proposed and Probable Practices	4-162
CHAPTER 5--IMPLEMENTATION, MONITORING AND EVALUATION	5-1
o Implementation	5-1
o Monitoring and Evaluation Program	5-3
CHAPTER 6--INDEX	6-1
APPENDIX A--IMPLEMENTATION SCHEDULES	A-1
APPENDIX B--MANAGEMENT INDICATOR SPECIES	B-1
APPENDIX C--VEGETATION MANAGEMENT PRACTICES - RATIONALE FOR CHOICES	C-1
APPENDIX D--MAP OF TRANSMISSION AND UTILITY CORRIDOR RESTRICTIONS	D-1
APPENDIX E--STOCKING LEVELS REQUIRED TO MEET OAK-HICKORY OBJECTIVES	E-1
APPENDIX F--SOIL LIMITATIONS TO VEGETATIVE MANAGEMENT ACTIVITIES	F-1
APPENDIX G--CULTURAL RESOURCES	G-1

LIST OF TABLES

<u>Table No.</u>	<u>Table</u>	<u>Page</u>
2-1	Current Outputs, Projected Demand, and Supply Potential	2-4
4-1	Projected Outputs	4-5
4-2	Land Suitability Summary	4-7
4-3	Lands Unsuitable for Timber Production by Management Area	4-8
4-4	Allowable Sale Quantity and Base Sale Schedule	4-9
4-5	Allowable Sale Quantity and Vegetation Management Practices	4-10
4-6	Forest Timber Productivity Classification	4-11
4-7	Age-Class Distribution of Suitable Lands	4-11
4-8	Present and Future Forest Conditions	4-12
4-9	Utilization Standards and Guidelines	4-21
4-10	Species Selection Guide for Reforestation on the Wayne National Forest	4-26
4-11	Filterstrips in Which Earth-Disturbing Activities Will Not Occur	4-31
4-12	Calculation of Riparian Zone Site Sensitivity	4-32
4-13	K Values (Soil Erodibility) of Soil Series	4-35
4-14	Proposed and Probable Practices--Management Area 2.1	4-162
4-15	Proposed and Probable Practices--Management Area 2.2	4-164
4-16	Proposed and Probable Practices--Management Area 2.3	4-166
4-17	Proposed and Probable Practices--Management Area 3.1	4-168
4-18	Proposed and Probable Practices--Management Area 3.2	4-170
4-19	Proposed and Probable Practices--Management Area 3.3	4-172
4-20	Proposed and Probable Practices--Management Area 6.1	4-174
4-21	Proposed and Probable Practices--Management Area 6.2	4-176
4-22	Proposed and Probable Practices--Management Area 7.1	4-177
4-23	Proposed and Probable Practices--Management Area 8.1	4-178
4-24	Proposed and Probable Practices--All Management Area 8.2	4-178
4-25	Proposed and Probable Practices--Management Area 9.1	4-179
4-26	Proposed and Probable Practices--Management Area 9.2	4-179
4-27	Proposed and Probable Practices--Total for All Management Areas	4-180
5-1	Wayne National Forest Monitoring and Evaluation	5-5

LIST OF TABLES

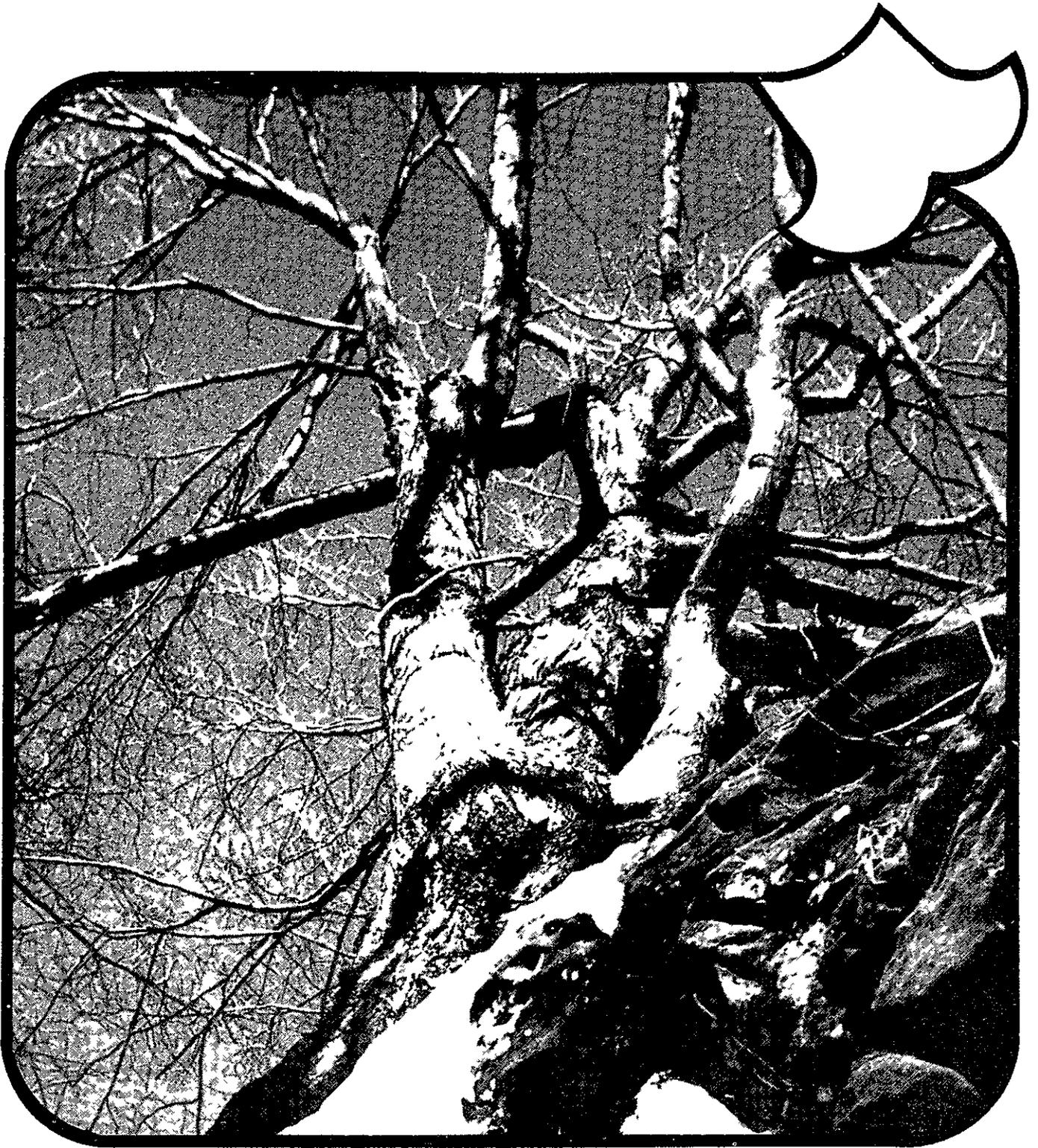
<u>Table No.</u>	<u>Table</u>	<u>Page</u>
A-1	Three-year Vegetation Treatment Program Accomplished by Timber Sales	A-2
A-2	Annual Vegetative Management Implementation Summary by Management Area for Decade 1	A-7
A-3	Primary Benefits Produced by Vegetative Treatments	A-10
A-4	Land Acquisition Goals by Management Unit	A-16
B-1	Potential Management Indicator Species and their Attributes by Evaluation Criteria	B-3
B-2	Management Indicator Species and Reasons for Omitting Other Potential Indicator Species	B-7
B-3	Relationship of Management Indicator Species to Other Species Indigenous to the Wayne National Forest	B-10
B-4	Management Provisions for Vertebrate Species with Special Habitats not Adequately Represented by Management Indicator Species	B-19
B-5	Population Trend Objectives of Management Indicator Species	B-20
E-1	Minimum Number of Dominant and Co-dominant Oak-hickory	E-2
F-1	Soil Ratings for Timber Harvest Activities	F-5
F-2	Soil Ratings for Regeneration and Silvicultural Activities	F-21

LIST OF FIGURES

5-1	Personnel Responsible for Monitoring/ Evaluation/Updating of Forest Plan	5-12
E-1	Stocking Levels Required to Meet Oak-hickory Objectives	E-2

LIST OF MAPS

Location Map, Wayne National Forest	1-3
Maps of Transmission and Utility Corridor Restrictions	D-2
Forest Plan Maps	Map Packet



CHAPTER 1

Introduction

CHAPTER 1 - INTRODUCTION

ORGANIZATION OF THE FOREST PLAN

The long-term direction for managing the Wayne National Forest is defined in this National Forest Land and Resource Management Plan (Forest Plan). The Forest Plan document consists of two parts, the Forest Plan and management area maps. The Forest Plan gives overall direction and details activities required to achieve the desired conditions of the Forest. The management area maps accompany the plan. In addition, implementation maps showing estimated timing and vicinity of proposed management practices during the first 10 years will be maintained in the appropriate Ranger District offices.

Chapter 2 describes the management situation. It summarizes the supply and demand conditions for significant multiple-use goods and services associated with the planning area. Special conditions affecting supply or demand are also described in this chapter.

Chapter 3 describes how the Forest Plan responds to management problems and major issues, concerns, and opportunities identified during the planning process. This chapter also includes research needs which were identified by the Forest Supervisor in consideration of the input of other Federal, State and local governments, and universities.

Chapter 4 includes the main body of Forest management direction, divided into five sections. The first section contains the Forest management goals that drive the management direction for the preferred alternative. The second section lists the overall objectives in terms of projected resource outputs and displays the levels of goods and services which are anticipated as the Forest Plan is implemented. The third section contains Forest direction, detailing the Forest-wide Standards and Guidelines that specify how the Forest is to be managed throughout the planning period. The fourth section describes management areas and contains management practices and standards and guidelines for specific management areas. Management area direction is directly related to the management area maps. The fifth section contains the scheduled proposed and probable management practices comprising each prescription.

Chapter 5 consists of Implementation and Monitoring and Evaluation. The section on implementation addresses the subjects of consistency of other management instruments with the Plan, formulation of budget proposals, and environmental assessment needs in relation to projects.

The section on monitoring and evaluation lists the methods and techniques that will be used to monitor and evaluate implementation of the Forest Plan, and includes the frequency and accuracy of monitoring and evaluation. The objective is to measure variations from the planned course of action, to evaluate assumptions, expectations, and results of the chosen course of action in terms of tradeoffs between the future and the present, and to spur adjustments to the Plan as required by 36 CFR 219.10 (g) and 36 CFR 219.12(k).

Chapter 6 contains the Index to the Forest Plan.

Appendices to the Forest Plan follow Chapter 6.

A companion document to the Forest Plan is the Final Environmental Impact Statement (FEIS). Because the refinements made to Alternative 3, the Proposed Plan, as a result of public comments created only slight changes in environmental effects, the FEIS is an "abbreviated" document. The FEIS compares the effects of the Alternative 3 before and after refinements were made.

Future environmental analyses associated with the above processes will be tiered to the Forest Plan and the Final Environmental Impact Statement (FEIS). Additional information appropriate for project-related decisions will normally be used in such environmental analyses.

Projects and activities permitted within the Forest Plan will be subjected to environmental analysis as they are planned for implementation. If the environmental analysis for a project shows that: (1) the management area prescription and standards and guidelines can be complied with and (2) little or no environmental effects are expected beyond those identified and documented in the Forest Plan FEIS; the analysis will probably result in a categorical exclusion. A decision notice may be used to document the decision (FSM 1951). An analysis file/project file will be available for public review.

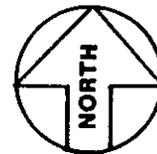
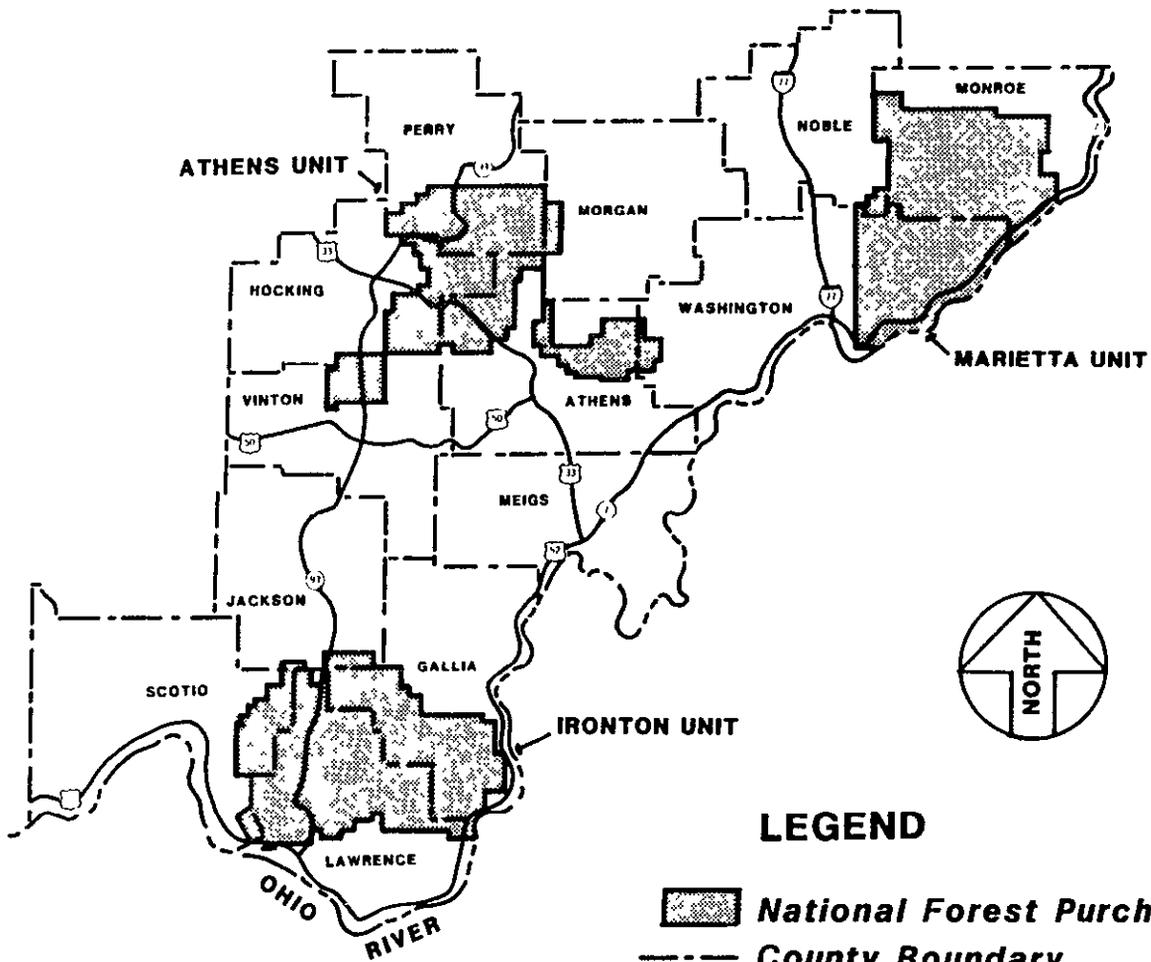
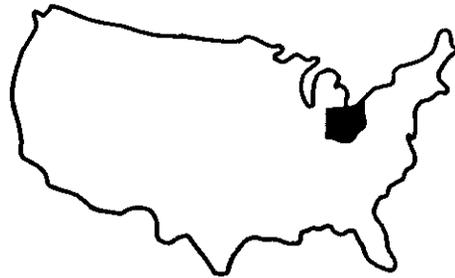
LOCATION OF THE FOREST

The Wayne National Forest is located in the Unglaciated Appalachian Plateau of southeastern Ohio. Bordered on the south by the Ohio River, this Forest is within 100 miles of the populated centers of Canton, Cincinnati, and Columbus, Ohio and Charleston and Huntington, West Virginia. It is a land of rolling timbered hills, deep valleys, striking rock outcroppings, and a network of winding streams, rivers, and some human made lakes.

The Forest has two Ranger Districts. The Athens Ranger District is composed of the Athens Unit and the Marietta Unit. The Ironton District contains the Ironton Unit. Principal access routes to the Wayne National Forest radiate from the population centers. The map on page 1-3 shows the location of these units and the major highways that provide access.

LOCATION MAP

Wayne National Forest



LEGEND

- National Forest Purchase Unit**
- County Boundary**

NO SCALE



CHAPTER 2

Management Situation

CHAPTER 2

MANAGEMENT SITUATION

Forest Plans must assure that they provide for multiple-use and a sustained yield of products and services. In addition, Forest Plans must provide for multiple-use and sustained yield of goods and services from the Wayne National Forest in a way that maximizes long-term net public benefits in an environmentally sound manner.

For the analysis of the management situation, NFMA identified specific requirements that must be analyzed. They include the maximum potential supply of significant resources, the projected demand for resources, and the Forest Plan objectives which are to resolve the planning problems.

Table 2-1 compares the resource production and use levels that would be provided by the Wayne National Forest with:

- Current management direction (Alternative 1 in the Environmental Impact Statement).
- Supply potential for important resources.
- Forest Plan objectives (Alternative 3).

The major conclusion of the demand analysis is that within our limits of production capability all outputs from the Wayne would be consumed.

Current management is the level of outputs and uses provided by projecting present management direction into the future. This level indicates what could be attained on a resource-by-resource basis. Recreation outputs are shown in Thousands of Recreation Visitor Days (MRVD's). Timber units are in Millions of Board Feet (MMBF).

SUPPLY CONDITIONS

Maximum supply potential shown is the highest level of production possible, for each output in turn, on the Wayne National Forest. This level of output represents the physical or biological supply potential for the Forest identified in benchmark analysis, as displayed in Tables 2-1, 2-2, 2-3, and 2-6 of the DEIS.

It would not be possible to maximize all the resources or output categories simultaneously because maximum production of some resources precludes maximum production of certain other ones. For example, maximizing timber production for 5 decades would preclude constructing any additional fishing lakes or recreation areas from the present. Conversely, construction of additional fishing or developed recreation areas would remove some acres from timber production and thereby reduce the timber production level from the maximum amount.

The mineral resource is not quantified in terms of supply and demand. Production of minerals is dependent on the operations of private developers. Standards and guidelines permit exploration and development over nearly the entire Forest.

**Recreation
Opportunity
Spectrum (ROS)**

The supply potential for semiprimitive, nonmotorized ROS class was derived using the RVD outputs of the maximum nonmotorized benchmark. Rooded natural with a nonmotorized emphasis supply potential was derived from Alternative 4. Rooded natural ROS class was based on Alternative 1, and rural was derived from maximum present net value benchmark.

**Developed
Recreation**

Facilities in this category include campgrounds, picnic grounds, swimming beaches, boat launches, bath houses, and parking areas.

**Dispersed
Recreation**

Dispersed recreation includes driving for pleasure, hiking, horse riding, nature study, gathering forest products, hunting, canoeing, and fishing in streams and small lakes.

Hunting

Hunting includes big game, small game, upland bird, and waterfowl hunting.

Fishing

Fishing includes small lake and stream fishing.

ORV Trail Use

ORV trail use includes riding vehicles under 40 inches in width on designated trails.

Timber

The potential for timber production was derived using the timber management outputs of the maximum timber benchmark. This provided the highest total volume possible within legal constraints.

RESOURCE DEMANDS

Demand is defined as the levels of outputs, uses, and services expected to be needed or desired in the future. For more detail, see DEIS, Appendix B, Part 4.

**Recreation
Opportunity
Spectrum (ROS)**

Demand for ROS classes are based on RPA projection levels of past recreation activity use.

**Developed
Recreation**

Developed recreation activities include camping, picnicking, swimming, and boating. Estimated demands for developed recreation are based on projections of past use as inventoried in the Recreation Information Management (RIM) data system.

Dispersed

Dispersed recreation includes driving for pleasure, hiking, horse riding, nature study, gathering forest products, hunting, canoeing, and fishing in streams and small lakes. Dispersed use also includes a small, but growing amount of all-terrain bicycle use.

Hunting Hunting includes big game, small game, and waterfowl hunting. Estimated demands are based on RPA Assessment projection levels.

Fishing Fishing includes small lake and stream fishing. Estimated demand is based on the Ohio Statewide Comprehensive Outdoor Recreation Plan (SCORP).

Timber The expected market demand for timber products was based on discussions with timber industry officials to determine the first decade demand. The RPA Assessment projection levels were then applied to determine future demand.

TABLE 2-1

CURRENT OUTPUTS, PROJECTED DEMAND, AND SUPPLY POTENTIAL
(Average Annual Per Decade)

Resource/Category	Unit of Measure	TIME PERIODS				
		1986-1995 Planned	1996-2005	2006-2015	2016-2025	2026-2035
<u>Recreation Opp. Spectrum (ROS)</u>						
Semiprimitive, Nonmotor.	(M)RVD					
Current Management		-	-	-	-	-
Supply Potential		39.4	40.8	44.4	50.1	55.1
Demand Trend		51.4	56.9	65.2	73.5	82.1
Forest Plan Objective		26.7	27.9	30.3	40.0	37.1
Roaded Natural <u>1/</u>	(M)RVD					
Current Management		-	-	-	-	-
Supply Potential		265.9	292.6	317.5	341.4	365.6
Demand Trend		104.0	114.0	126.6	140.2	153.6
Forest Plan Objective		103.2	111.1	117.9	126.2	133.4
Roaded Natural	(M)RVD					
Current Management		181.5	212.6	244.2	295.2	327.0
Supply Potential		317.6	362.2	402.2	471.5	511.6
Demand Trend		181.5	212.6	244.2	295.2	327.0
Forest Plan Objective		152.4	175.7	199.5	244.0	269.1
Rural	(M)RVD					
Current Management		115.1	186.8	186.8	186.8	186.8
Supply Potential		144.6	200.4	234.0	240.0	247.0
Demand Trend		158.2	264.1	303.5	303.5	303.5
Forest Plan Objective		152.4	175.7	199.5	244.0	269.1
Developed Recreation	(M)RVD					
Current Management		134.7	185.7	214.5	219.0	224.2
Supply Potential		147.8	205.8	242.2	250.4	261.1
Demand Trend		158.2	264.1	303.5	303.5	303.5
Forest Plan Objective		136.4	188.4	218.3	224.3	231.3

1/ Nonmotorized emphasis

TABLE 2-1 (Con't.)

CURRENT OUTPUTS, PROJECTED DEMAND, AND SUPPLY POTENTIAL
(Average Annual Per Decade)

Resource/Category	Unit of Measure	TIME PERIODS				
		1986-1995 Planned	1996-2005	2006-2015	2016-2025	2026-2035
Dispersed Recreation ^{1/}	(M)RVD					
Current Management		267.1	287.3	303.3	333.2	333.4
Supply Potential		269.2	290.8	309.3	333.2	350.3
Demand Trend		332.9	377.8	428.9	499.7	553.4
Forest Plan Objective		247.9	261.7	275.8	294.6	311.5
Hunting	(M)RVD					
Current Management		96.9	106.0	107.5	108.8	110.1
Supply Potential		97.9	107.1	108.5	110.1	115.5
Demand Trend		98.7	108.0	115.6	123.4	129.7
Forest Plan Objective		93.4	100.5	101.5	103.4	105.7
Fishing	(M)RVD					
Current Management		11.7	13.5	15.1	17.0	17.7
Supply Potential		11.8	13.5	15.1	17.0	17.7
Demand		30.4	36.5	42.7	50.0	57.5
Forest Plan Objective		11.5	13.1	14.8	16.6	17.4
Off-Road Vehicle Use	(M)RVD					
Current Management		37.5	56.3	75.0	112.5	131.3
Supply Potential		50.0	75.0	100.0	150.0	175.0
Demand		37.5	56.3	75.0	112.5	131.3
Forest Plan Objective		37.5	56.3	75.0	112.5	131.3
Timber	(MM)BF					
Current Management		11.7	14.6	18.2	22.8	22.8
Supply Potential		25.4	26.2	28.6	30.0	31.4
Demand Trends		18.4	23.5	29.0	36.5	42.7
Forest Plan Objectives		7.5	11.2	13.0	16.8	16.8

^{1/} Does not include off-road vehicle use.



CHAPTER 3

Plan Response to Management Problems

CHAPTER 3

PLAN RESPONSES TO ISSUES, CONCERNS, AND OPPORTUNITIES

INTRODUCTION

Issues submitted by the public as well as concerns from within the Forest Service, helped the Forest to reassess the direction for future management of the Wayne National Forest. These public issues and Forest Service concerns did confirm the need to reassess current direction and also guided the Forest Service in preparation of the Forest Plan and accompanying FEIS.

Public issues were identified through various types of public meetings, comment forms, and individual contacts. For a detailed explanation of this process, see the DEIS, Appendix A and FEIS, Appendix C.

This chapter will show how the plan addresses and responds to major public issues, management concerns, and resource opportunities (the management problems) identified during the planning process.

MANAGEMENT PROBLEMS

LAND ADJUSTMENT

Present acreage and ownership pattern of National Forest System land in Ohio limit opportunities for some resource management activities. Intermingled ownerships contribute to costs of management, such as landline location and right of way acquisition, and make access to the land more difficult than if the land were in larger tracts.

By 1985, a total of 177,761 acres had been acquired. This acquisition was from a gross area of 832,953 acres and amounts to 21 percent ownership by the United States.

It is not the intent of the Forest Service to purchase all land within the purchase unit boundary. Some lands are simply not suited or needed to meet National Forest objectives. For instance, productive agricultural lands are best left in private ownership except when small areas are included in larger parcels of primarily forested land. Through the years, funds appropriated for land acquisition by Congress have been insufficient to buy all needed or offered lands within the boundary of the Wayne National Forest. Funds are allocated and used to acquire lands suited for producing timber, wildlife and recreation opportunities and those that badly need watershed and other protection or rehabilitation. Existing National Forest System land is scattered, and management efficiency can be improved by consolidation. These public lands are very important in the State of Ohio, particularly for outdoor recreation, where the amount of public land per capita is one of the lowest in the nation. Further acquisition would add valuable public lands in the State and increase management cost-effectiveness by:

- Reducing costs of identifying and maintaining boundaries
- Reducing need to acquire access to scattered parcels
- Reducing possible occurrence of trespass
- Reducing unit costs for timber, recreation, and other resources.

Many people believe that additional National Forest System land needs to be acquired, particularly in certain areas, and recognize the importance of consolidation. Others do not want additional acquisition but favor consolidation of existing ownership by exchange. Many people also do not want agricultural land to be acquired on the Wayne.

RESOLUTION

An ultimate size of the Wayne National Forest has been established in the Plan. In Appendix A, a land adjustment strategy has been developed that sets priorities for land acquisition for management areas. Also, the ultimate size of the Forest was determined by establishing the maximum acquisition that could occur in each management area on each of the three administrative units. If the Forest Service were to acquire lands from willing sellers at these maximum limits, the future size of the Wayne National Forest would be 322,000 acres.

FOREST RECREATION

The Wayne National Forest provides a portion of the rural, public land available for recreation in Ohio. Many people look to the Forest to provide a place for recreation where human presence and developments are not readily evident. Elsewhere in the State, this type of recreation is in short supply. These people tend to expect the Forest to be public land managed exclusively or primarily for recreation rather than for a variety of goods and services including recreation.

The Wayne National Forest's capability to fulfill the public's recreation expectations is limited by a number of factors. The Forest's scattered land ownership pattern and the difficulty in closing the high density of public roads limit the possibilities for recreation environments which are largely unaffected by human activities. Competing demands for space by a variety of forest users such as horse riders, hikers, off-road vehicle riders, hunters, mushroom and berry pickers, and solitude seekers make it difficult to get away from other forest users. Development needed for the fulfillment of the Forest's capability to provide wood, clean water, wildlife, minerals and forage along with recreation occasionally conflicts with recreation desires.

The demand for development of recreation areas is high. The potential for future developed sites is limited due to the high cost of lake construction for developed sites, the polluted nature of many of the streams, and scattered National Forest ownership.

RESOLUTION

The Wayne Plan attempts to resolve the recreation use conflict problem by providing a wide range of recreation opportunities.

The Plan provides 27,599 acres of semiprimitive, nonmotorized recreation opportunities in Management Areas 6.1 and 6.2. All roads under Forest Service jurisdiction will be closed to public motorized use. In Management Area 6.2 (17,217 acres) vegetative management will occur only to meet the needs of threatened or endangered species. In Management Area 6.1 (10,392 acres) vegetative management will occur to meet management area objectives of wildlife habitat, recreation opportunities, and providing high quality hardwood products.

Management Areas 3.3 and 6.1 will provide an environment with large trees and mostly unsurfaced roads which are generally closed to vehicle traffic. These areas will provide opportunities for hiking, hunting and horseback riding on developed trails and hunting. Parking lots will be provided on or near the boundary of these areas.

Areas having a high density (M.A. 3.2) and a low density (M.A. 2.3) of off-road vehicle use will be provided. Forest recreationists may select areas where off-road vehicle use occurs or where such use is not allowed.

A total of 30,400 acres of the Forest will be managed for an uneven but continuous tree canopy created by selection harvest.

Three streams will be managed under Management Area 2.1 to provide canoeing and stream fishing opportunities. These are the Little Muskingum River, the Hocking River, and Symmes Creek.

Existing developed recreation facilities will continue to be managed for public use. Two existing small developed sites, Leith Run and Lamping Homestead, will provide camping sites rather than just picnicking as now exists.

Management Areas 3.1 and 3.2 will show the strongest evidences of human presence and management activities. However, these areas provide a variety of habitats and hunting opportunities.

The mix of management areas in the Plan provides for semiprimitive areas, small developed areas, hiking and horse riding trails, off-road vehicle trails, and good hunting areas. Forest users will be able to select the type of recreation environment which best fits their needs.

**VEGETATIVE
MANAGEMENT**

It is becoming increasingly difficult to satisfy divergent public demands on Forest vegetation for recreation opportunities, wildlife habitat, timber products, and scientific study. Public opinions differ on how vegetation should be managed and what levels and kinds of goods and services should be derived from it.

Some people believe that Forest lands should be managed to produce quality sawtimber, as well as fuelwood, to stabilize the local timber industry, sustain capital investments in sawmills, and improve the local economic conditions. Others feel that there should be no timber production or that timber should be harvested primarily to improve wildlife habitat or to enhance recreation values. Perpetuation of "big trees" is considered by some to be best for some types of recreation. Some people do not think the Forest should make long-range investments on lands that have potential to be strip-mined.

There are differing opinions concerning silvicultural systems and harvest methods that should be used. Some favor even-aged management with clearcut or shelterwood regeneration harvests. Some want size restrictions placed on clearcuts; these range from 20 to 5 acres. Others feel that trees should be selectively harvested. Some have suggested using a combination of clearcutting and selection harvest on the Forest. Some believe that timber harvesting, particularly clearcutting, produces unacceptable adverse effects on soils, wildlife, water quality, recreation opportunities, visual quality, and protection of special areas.

Some people favor vegetation management, including regeneration harvests, such as clearcutting, and direct habitat improvements such as wildlife openings, to perpetuate habitat diversity that provides for a variety of native wildlife. There is high public hunting demand, particularly for deer, wild turkey, and ruffed grouse, and for providing for nongame animals which enhance some recreation activities. Some believe that there is enough openland and early successional habitat on private lands and that mature or overmature timber should be predominant on National Forest System lands.

Another concern involves the variety of timber types and tree species that should be perpetuated on National Forest System lands. Some feel that native hardwood trees should be favored and that no solid plantings of pine should be made. Others favor native species, including native pines, and feel that the Forest should grow some pine, as well as hardwoods, commercially. Some people believe that the amount of oaks in Forest stands is declining as a result of timber harvests and that no oak should be cut until their regeneration can be assured or should not be cut at all. Others feel that changes in tree species composition, including occurrence of oaks, is determined more by Forest sites (different slope, aspect and soil conditions) and by long-term climatic changes than by harvest methods.

Other concerns include the eradication of grapevines, the use of herbicides in wildlife opening maintenance, the harvest of trees in fragile areas, the conversion of hardwoods to pine, and the introduction of exotic species, such as autumn olive, that may become a nuisance.

RESOLUTION

Timber harvesting is an effective means of manipulating vegetative cover to provide diverse wildlife habitat conditions. Silvicultural systems, rotation ages, and harvest unit sizes will vary to meet the objectives for different management areas. Approximately 21 percent of the suitable timber land will be managed under an uneven-aged silvicultural system using single-tree and group selection harvest. Group selection openings will range from 1/2 acre to 2 acres in size. Under even-aged management on the remaining 79 percent of the suitable acres, rotation ages will vary from 80 years to 120 years. Harvest unit sizes will range from 5 acres to 30 acres.

Research has shown that regeneration harvesting by the clearcutting method is an effective means to establish new stands of desirable central hardwoods. This practice is more successful in regenerating oak than uneven-aged methods such as single-tree selection. Research is currently being done to identify methods of increasing the oak component in regenerated stands and to monitor composition changes of regenerated stands over time. Long-term vegetative composition objectives will be monitored.

Wildlife needs such as den trees, nesting trees for cavity dwellers, and raptor perches will be provided for by retaining dead or dying trees within and adjacent to harvest areas, perpetuating areas of old-growth hardwoods throughout the Forest, and limiting thinning of hardwood stands to perpetuate snags through time. Waterholes will be protected and additional waterholes will be constructed where they would be beneficial to wildlife. Wildlife openings will be maintained throughout the forest, except within certain management areas, and where necessary to meet the composition objectives for herbaceous openland, more openings will be developed. In many cases this will be accomplished by planting the timber harvest landing areas (areas where logs are yarded prior to being loaded onto trucks) to species of grasses and legumes which will benefit wildlife.

Landscape management techniques will be used in the design of vegetative management units. Although the short-term effect of vegetative management usually alters the visual quality, proper configuration of harvest units to conform to landscape characteristics of the area can provide interesting visual diversity. At the same time, openings along travel routes will provide vistas which permit one to enjoy the spring blossoms of redbud and flowering dogwood, the general landscape or, fall foliage.

The effects of timber harvesting on soil and water will be controlled by proper sale area design and sale contract administration. The Forest-wide Standards and Guidelines incorporate measures which have been found to adequately protect these resources. Monitoring and evaluation of the effectiveness of these practices will ensure that soil and water values are protected.

Management direction in the Plan permits grapevine control, but not its eradication. Adequate grapevines will be perpetuated to

meet wildlife needs. Herbicides may be used in wildlife opening maintenance if essential to meet management objectives. However, any herbicide use must comply with federal and State regulations, be done only by or under the direct supervision of qualified personnel, include an assessment of potential environmental hazards, and provide for measures as necessary, to minimize or prevent any potential adverse environmental effects. Fragility of the land, such as susceptibility to landslides and soil limitations, will be taken into consideration when planning management activities such as timber harvest. Standards and guidelines and management area composition objectives effectively limit the amount of pine, and thus the amount of hardwood conversion, in the Forest. Management direction states that exotic species, such as autumn olive, should not be planted until it can be determined that they will not persist or spread and become a pest.

OFF-ROAD VEHICLE USE

Off-road vehicle use on trails can conflict with some of the other recreation uses of the Forest. Adjacent land owners also have a concern about ORV's coming from public lands onto private land. Of particular concern are noise pollution, trail erosion, and possible decrease in aesthetic quality. Although there are presently no official off-road vehicle trail developments, use occurs throughout much of the Forest. Non-ORV recreationists often desire to get away from ORV use, and have professed having limited opportunities to do so.

Some people do not want ORV use allowed on the Wayne National Forest. Others want ORV use restricted to certain areas and strictly controlled. Others want more ORV areas such as abandoned mined land.

RESOLUTION

Off-road vehicle trails will lie within management areas totaling 36,082 acres. This is a reduction of about 29,000 acres from the existing primary use areas which total about 65,000 acres. ORV use will be restricted to designated trails, and roads opened to public motorized use.

Management Area 2.3 provides for low density ORV trail use among 15,876 acres of land. In this area trails will be constructed and reconstructed at a density averaging 2.7 miles of trail per one square mile in the first decade and 3.2 miles by the second decade. Management Area 3.2 provides for high density ORV trail use among 20,206 acres of land. In this area trails will be constructed and reconstructed at a density averaging 5.8 miles of trail per one square mile in the first decade and 6.4 miles by the second decade. Both management areas will provide for loop trail systems. A total of 250 miles of trail will be provided in the first decade to meet demand and 300 miles of trail in the second decade.

ROADS

The existing, extensive State, county, and township roads on the Wayne National Forest limit the opportunities to provide nonmotorized recreation experiences and raises public concern when additional roads are needed for resource management.

There are an estimated 300 miles of State, county and township roads on National Forest System land. There are an additional 250 to 500 miles of mineral access roads, and 500 to 1,000 miles

of unsurfaced roads that have originated over the last 100 years. Many existed prior to establishment of the Wayne National Forest. These roads have been used primarily for logging and have usually been left open to public motorized vehicle use. Since the establishment of the National Forest, 39 miles of permanent National Forest roads have been constructed. Of these roads 13 miles have been closed to public motorized use.

Many people want roads closed to motorized access in some areas. With many roads under State, county and township jurisdiction and the many mineral access roads not under jurisdiction of the Forest Service, creating nonmotorized recreation opportunities in the short-term will be difficult.

Historically, many of the roads on the Wayne National Forest were in place long before the establishment of the Forest. Many of these roads are not in a location to provide access for resource management on the Forest. Additional roads may be needed, primarily to be able to manage timber stands but also for other Forest resources. This additional construction causes public concern.

RESOLUTION

Few roads are closed on the Wayne National Forest at present. With implementation of the Plan, many miles of Forest Service roads throughout the Forest will be closed to motorized vehicles. These closures will be phased in over a period of time.

In Management Areas 2.2, 3.3, 6.1, and 6.2 (94,605 acres), old, unsurfaced roads under Forest Service jurisdiction not needed for resource management will be closed and revegetated. New National Forest roads not needed for public motorized use will be blocked or closed by earth mounds or gates. This will usually occur 2 to 3 years after construction which will allow access for firewood removal.

In Management Area 6.1, the desired future condition is to have all Forest Service roads closed to public motorized use. In Management Area 6.2, all roads under Forest Service jurisdiction will be closed to all motorized use in the future following review of future need with public involvement. However, oil and gas operators will continue to have access to their private and USA wells and future wells.

Only roads needed for resource management will be constructed or reconstructed. Approximately 75 percent of permanent roads and 90 percent of temporary roads will be reconstructed on existing old road beds. Generally, the most Forest Service roads, both permanent and temporary, that will be needed for resource management will be around 1.3 miles per square mile.

The Plan proposes to reconstruct and, when necessary, to construct an average of 8.8 miles per year of a combination of permanent all-weather and dry weather roads in the first decade. It also proposes to build an average of 6.4 miles per year of temporary roads. All temporary roads will be closed and revegetated.

**MINERAL
ACTIVITIES**

Demand for surface and subsurface resources causes considerable competition for National Forest System land use, especially in areas where minerals are non-Federal. A few people would like to forego mineral opportunities. There is also conflict because of differences between current and future potential use of abandoned mined land. There is controversy about how abandoned mined land should be reclaimed. Most people want such areas restored to productive condition but disagree about what should be post-reclamation use, such as recreation, forage, timber, or wildlife habitat.

RESOLUTION

The amount of National Forest System land with full ownership of minerals will increase from 12,400 acres at present to 43,700 by 1995 (see Table B-1, Appendix B, FLIS).

Mineral exploration and extraction will occur throughout the Forest. No surface disturbance stipulations are established for Management Areas 7.1 (developed portion), 8.1, 8.2, and 9.2. Approximately 900 acres of National Forest System land will be effected by no surface disturbance requirements in the first decade.

A total of 545 acres of unreclaimed mined lands has been identified as potential reclamation projects. There is currently a total of 1,160 acres of unreclaimed, abandoned mine lands on the Forest. However, because of the high per acre cost of reclaiming mined land, funds other than Forest Service funds are used to do the work. The Forest has in the past and will continue to work through the State of Ohio to obtain Office of Surface Mining funds for reclaiming the 545 acres.

**SPECIAL
AREAS**

There is a concern that land disturbing activities may destroy or damage potential research natural areas and special areas before they are identified, studied, and designated.

Land disturbing activities associated with mineral development, road construction, wildlife habitat development, vegetative management, and recreation facilities construction can impair areas that have cultural or natural significance. There are laws that require site surveys and evaluations before earth-disturbing activities take place.

Some prehistoric and historic artifacts have been illegally removed from National Forest lands by amateur collectors. Some people have expressed a concern about the protection of these areas.

Inventories of all National Forest System lands to identify cultural and natural sites of significance have not been completed; therefore, individual project inventories are conducted before land disturbance occurs.

The 3 known significant historic sites on the Forest are the Vesuvius Furnace, the Van Horn Building, and the Ring Mill House. The Ring Mill House is on the National Register of Historic Places and the Vesuvius furnace and the Van Horn Building are currently being nominated. Buffalo Beats, a small

remnant prairie, on the Athens Unit, is the only natural landmark on the National Register on the Wayne National Forest. Some people want the Forest to acquire more unique areas, such as bogs, prairies and wetlands.

Reas Run is the Forest's only Research Natural Area designated by the Secretary of Agriculture. This area occupies 78 acres.

Many people want to protect rare and endangered species and to identify and designate other special areas. Others do not want these areas designated. Some people want to manage only those special areas that can be economically justified. There is also a management concern to identify candidate research natural areas.

RESOLUTION

Candidate Special Areas and Research Natural Areas (M.A. 9.2) have been identified for future study for designation as Research Natural Areas (M.A. 8.1) or Special Areas (M.A. 8.2). The Plan designates 5,530 acres of these potential areas.

RESEARCH NEEDS

The planning process identified areas of research needed to support or improve management of the Wayne National Forest. These research needs may be supplemented by additional needs identified during Plan monitoring and evaluation activities.

SUBJECT

Oak-Hickory Regeneration in Central Hardwoods

Problem Statement

Forest managers are not satisfied with their ability to predict or control the amount of oak regeneration which will occur following a regeneration harvest. This is a concern because oak is highly valued for both wood and wildlife mast crops.

Background

Approximately 75 percent of the basal area of the Wayne National Forest is presently in oak and hickory trees. Regeneration under all management strategies, including no harvesting, suggests that this percentage is declining on all growth sites and particularly on better quality sites.

In general, pure oak and hickory stands do not regenerate into pure oak-hickory stands. Some silvicultural systems provide conditions that are more favorable for establishment of oak and hickory seedlings (clearcutting, shelterwood, group selection) than others (single-tree selection). A no harvest strategy produces the least favorable conditions for regeneration of oak and hickory seedlings.

Need/Urgency

Because of the wide distribution of the oak-hickory type, its diverse economic and wildlife values and the concern of much of the public about retaining the forest in oak-hickory types, this research is considered to be of top priority.

Research needs to focus on defining conditions that cause oak to regenerate well, methods of obtaining desired amounts of oak regeneration and the role of natural species selection in determining the final stand composition.

SUBJECT **Establishment and Growth of Eastern White Pine in the Central Hardwood Region**

Problem Statement Little is known about white pine growing in the upland central hardwood region because it was first introduced about 40 years ago. Information is needed concerning the feasibility and economics of natural and artificial establishment of white pine stands, optimum stocking levels, thinning regimes, growth characteristics and yields at various ages. This information is also needed for mixed conifer-hardwood stands.

Background White pine has been planted on abandoned fields to stabilize and rehabilitate the soil, provide habitat diversity for wildlife and provide a timber crop. Once established, white pine grows rapidly and is not subject to blister rust or the white pine weevil as it is in more northern states. Research on white pine management has been done in other regions but may not be completely applicable to the Wayne National Forest.

 The Forest Plan schedules intermediate and final harvest cuts. The percentage of pine to be retained by management area is also stated.

Need/Urgency Because information exists, although not proven to be specifically applicable to the area, this is considered to be a medium priority research need.

SUBJECT **Thinning in Central Hardwood Stands**

Problem A need exists to determine the effects of spacing of crop trees and competitor trees on individual tree and stand growth. A determination is needed on how to relate crop tree numbers and spacing to future stand stocking in order to design effective thinning procedures to attain specified objectives. An analysis of the economics and feasibility of this activity is needed.

Background Hardwood stands on the Wayne National Forest have been repeatedly burned and high-graded. High-grading refers to the practice of concentrating harvest activities on the high value species and products. Thus, lower value species and poorer quality trees are left to become the forest of the future. For many years the Forest Service attempted to continue management of these stands using an uneven-aged system. The even-aged management system using the practice of clearcutting to regenerate hardwood stands was adopted on this Forest during the late 60's after research had demonstrated that this method was superior to uneven-aged management for obtaining desirable regeneration.

 Some regenerated stands may benefit from thinnings before they reach rotation age. Reliable information on age, residual stocking levels, yields from thinned stands, and possible effects of thinning on wildlife is needed to make sound biological and cost-effective decisions about thinning.

Need/Urgency Limited research has been conducted or is under way on hardwood management in other areas. While not specific for the central hardwoods, it is believed that many of the findings will be valid for this area also. This research need is a medium priority.

SUBJECT Financial Analysis of TSI/Reforestation

Problem Many techniques are available to the forest manager to enhance the value of forests. When market and nonmarket costs/benefits are calculated, which techniques yield positive returns?

Background Many reforestation/TSI techniques are suggested to the forest manager.

Some techniques may have high unit costs and return high benefits. Conversely, others may have low unit costs and seem attractive, but yield low returns. Some techniques may be visually offensive. All techniques have positive and negative effects on wildlife.

Need/Urgency A high priority is placed on applied research which would yield guidelines quantifying, where possible, expected benefits (including non-priced benefits) and costs of reforestation/TSI techniques.

SUBJECT Uneven-Aged Management of Central Hardwoods

(Note: White pine can be regenerated by the shelterwood method by retaining a visually acceptable overstory during the regeneration process; therefore, uneven-aged management of white pine is not considered a research need).

Problem A portion of the National Forests will be managed under the uneven-aged management system. Management techniques to obtain acceptable regeneration, harvest schedules and yield predictions are needed. Additional information on effects of uneven-aged management systems on species composition, timber values, and wildlife over time is desired to assist in making sound resource management decisions. An analysis of the economics and feasibility of this system is needed.

Background Most of the literature dealing with harvesting and regenerating upland central hardwoods recommends even-aged management. The Forest Service managed central hardwoods under a selective system for a number of years with less than satisfactory results. New methods of establishing and growing acceptable stands are needed, as well as a method of determining the true "tradeoff" costs incurred and benefits derived from use of this system.

Need/Urgency The Forest will be managing a portion of the central hardwood stands under the uneven-aged system. Because inadequate guidelines exist, this is a high priority research need.

SUBJECT **Site Productivity Measurements**

Problem A simple method of determining site productivity is needed, as is a broader classification system for larger areas. Present techniques such as Carmean's Guide are not applicable to old fields and abused sites and appear to underestimate site quality in deep soils.

Background The present method of determining site productivity is to first bore a representative tree and measure the total height. Site index at age 50 can be readily determined, and the site productivity calculated. The site index, and thus the site productivity, is valid only for a relatively small area, depending on the soils, aspect, topography and slope position.

Management area plans often require site productivity estimations for areas as large as 40 acres. Inexpensive methods of estimating the productivity of these areas are needed. Other methods of estimating site productivity, such as Ecological Land Types (ELT) are used in other parts of the country. The possibility of adapting ELT's or other existing methods to conditions in the Central Hardwoods should be investigated. In addition, a part of this research need is to test the validity of and, where needed, improve soil surveys for predicting site productivity.

Need/Urgency This is considered a medium priority research need; however, efforts should be made to adapt existing methods to central hardwood areas.

SUBJECT **Viable Wildlife Populations**

Problem Statement There is little knowledge about the minimum number of animals needed to make a viable population and the minimum area requirements necessary to support many species of wildlife, both non-game and game.

Background 36 CFR 219 states that fish and wildlife habitats will be managed to maintain viable populations of all existing native vertebrate species in the planning area. More information is needed to determine the minimum number of animals, by species, which comprise viable populations. Information is needed regarding gene pool size, habitat area needs, critical habitat types, effects of "habitat fragmentation", and prioritization of species by risk assessment.

Need/Urgency This is a high-priority research need.

SUBJECT **Native Plant and Animal Communities**

Problem Plant and animal communities of the Forest need to be better defined so that effects of management on plant and animal diversity can be more accurately and efficiently monitored than is possible with current knowledge of Forest flora and fauna.

Background

NFMA requires that management, where appropriate and to the extent practicable, will preserve and enhance the diversity of plant and animal communities and that population trends of vertebrate indicator species will be monitored and relationships to habitat changes determined.

Past and present vegetation inventories are limited to timber type-size density data which describe the species, density, and age class of predominant, overstory trees.

Current distribution of some plants and animals including species of concern and candidate sensitive species, is not fully known.

Need/Urgency

Plant communities need to be better defined in terms of floral and vegetational composition of overstory, understory, and ground cover plants; distribution; abundance; site relationships (soil, slope and aspect); indicator plants; and ecological requirements, so that short-term and long-term effects of management on plant communities can be monitored. This may facilitate monitoring of vertebrate indicator species by permitting stratification of sampling by similar vegetation types, thereby reducing sampling required in monitoring vertebrates. This is a high priority research need.

Distribution of Forest flora and fauna, especially of species of concern and candidate sensitive species needs to be better known. This is also a high priority research need.

SUBJECT

Ecology of Calcalia muhlenbergii, a Forest Candidate Sensitive Species

Problem Statement

Calcalia muhlenbergii (Great Indian-plantain), a Forest candidate sensitive species, usually occurs in low numbers (fewer than ten plants) at each site of occurrence, and percentage of flowering is also usually low. The ecological requirements of this perennial herb, which is ranked "globally rare" by the Nature Conservancy, need to be determined, so that suitable habitat can be perpetuated.

Background

Calcalia muhlenbergii ranges from NJ to MN, south to GA, AL, and MO. It is known from several sites on Wayne N.F. lands and adjacent private land in the Ironton District. It often occurs on shaded to semi-shaded streambanks, floodplains, and terraces and on moist lower ravine slopes. Apparently suitable habitat is quite widespread and abundant in the Ironton District. However, the plant is absent from many of these areas of apparently suitable habitat and where it is found, it often occurs in low numbers and many of the plants do not flower. That only a few plants are found at a place is also mentioned by Deam for Indiana (1940, Flora of Indiana). Calcalia muhlenbergii is ranked G2G4 (globally rare) by the National Office of the Nature Conservancy. The full range of ecological needs of this plant are not known at this time. The existence of several populations and the presence of apparently suitable habitat without the plant on WNF property presents an opportunity to study the various aspects of the ecology of this plant.

Need/Urgency This is a medium-priority research need.

SUBJECT Oil/Gas Development Effects on Wildlife and Recreation

Problem How can forest managers capitalize on positive effects and mitigate the negative effects of oil/gas development on wildlife and recreation?

Background Oil/gas development is spreading throughout the Northeast. All expectations are that new developments will continue into the foreseeable future. Potentially positive and negative effects on wildlife occur: Development roads are built; salt/oil spills occur; openings are created; noise/disturbance is increased.

Need/Urgency A medium priority is placed on applied research to develop management guidelines. The same forest type occurs throughout Pennsylvania, Ohio, and Indiana. The research should help Forests more efficiently allocate limited wildlife budgets.

SUBJECT Atmospheric Pollutants

Problem Statement Air pollution and acid precipitation have become a dominant feature of human-induced change in the chemical climate of the earth. There is increasing evidence of forest decline in many parts of the world from the effects of atmospheric pollutants. A recent report indicated that the Wayne National Forest is located within the precipitation pH zone of 4.2. This is the most polluted area designated.

Background Air pollution in the form of ozone, sulfur dioxide, and nitrogen oxides can cause foliage damage, especially in localized areas such as near power plants. No study commonly accepted by the scientific community has established a cause and effect relationship between acid deposition and reduced tree growth. Many recent studies in the northeastern mountains of the U.S. that receive large amounts of acid rain have documented a dramatic decline of the forest.

Need/Urgency The Wayne National Forest is vitally interested in keeping abreast of the latest research findings, particularly with respect to any factual evidence that acid deposition, in the quantities now received, causes a decline in timber production, tree mortality or is a major factor in general forest decline.

Forest Service Research manages a large atmospheric deposition research program as part of the Forest Service's goal to better understand the relationships between forest resources and the physical environment. Parts of the research program are components of the National Acid Precipitation Assessment Program (NAPAP). NAPAP is a multiagency, multidiscipline effort led by NOAA, USDA, USDI, and DOE. Forest Service-funded research is conducted in support of three NAPAP task groups -- Deposition Monitoring, Aquatic Effects, and Terrestrial Effects. The Forest Service, USEPA, and the forest industry have joint responsibility to manage the Terrestrial Effects Task Group.

We foresee that research efforts on the Wayne National Forest will be conducted through this group. Holcomb Research Institute has just received a grant to conduct an investigation on the effects of atmospheric pollutants on oak-hickory forests and their associated soil resources in Southern Illinois, Southern Indiana, and Southern Ohio. In addition, water quality monitoring programs already in place on the Wayne National Forest routinely measure components that help us assess any long-term effects of atmospheric deposition on water resources within the Forest.

In the event that conclusive evidence surfaces that the forest exhibits reduced growth or increased mortality due to air pollution or acid rain, revisions in the Plan would be made. This is considered a high-priority research need.

SUBJECT **Abandoned Underground Coal Mines**

Problem Many abandoned underground coal mines are scattered over the Forest. These sites are often a source of acid water which degrades the water quality of the entire watershed below the mine.

Background At this time an efficient and reliable method does not exist to reclaim these sites so that they do not contribute to the pollution of the streams and lakes.

Need/Urgency An efficient and reliable method of reclaiming these mines must be discovered if the aesthetic quality and productivity of the land and water near these sites is to be improved. The public's desire for clean and productive waterways is high. Therefore, this research need is high.

SUBJECT **Gypsy Moth**

Problem Impacts of gypsy moth defoliations have been recurrent and spreading throughout the Northeastern United States. It is only a matter of time before the Wayne National Forest is faced with dealing with the gypsy moth. The Wayne contains much of the preferred food of the gypsy moth (oaks) and is, therefore, susceptible to severe defoliations.

Background Gypsy moth defoliations have affected all forms of recreation, wildlife habitat, water yield and quality, and local timber industries. Treatments that limit the impacts of gypsy moth outbreaks include preventive measures which are necessary before 5 years prior to outbreaks. These include thinning, harvesting and conversion to reduce or remove vulnerable trees from stands or, reducing acreage of susceptible stands and direct treatments such as spraying or salvage of deteriorating stands. Aerial application of registered pesticides is the most effective measure of preventing defoliations and reducing populations over large areas.

Need/Urgency

The Wayne National Forest is keenly interested on the progress of gypsy moth control and the procession of this defoliating insect pest across the Northeast. Measures can be taken now to reduce effects of gypsy moth outbreaks in the future. Proven methods of economically feasible and environmentally acceptable methods of control are necessary to maintain an orderly transition of a gypsy moth free forest to one with gypsy moth populations. Several categories of treatment intensities should be available to protect high resource value, medium resource value and general forest resources. This is considered to be a continual high priority research need.



CHAPTER 4

Management Direction

CHAPTER 4

FOREST MANAGEMENT DIRECTION

INTRODUCTION

The management direction in this chapter guides all natural resource management activities and establishes the management standards and guidelines for the Forest. Management direction includes Forest management goals and objectives, Forest-wide standards and guidelines, management prescriptions standards and guidelines, proposed and probable practices and management area delineations.

Forest management goals describe desired conditions to be achieved in the future. They are listed on pages 4-1 to 4-4.

Forest management objectives are the projected outputs of goods and services and are shown on pages 4-4 to 4-12.

Forest-wide Standards and Guidelines apply to the entire Wayne National Forest, except as noted, and are on page 4-13 to 4-62. Numbers preceding the standards and guidelines resource titles correspond to chapter numbers in the Forest Service Manual, which is part of the Forest Service Directive System.

Management prescription standards and guidelines apply to specific management areas. These are listed on pages 4-63 to 4-161.

Proposed management practices for the first decade (1986-1995) for each management area are shown in the tables on pages 4-162 to 4-179. The total forest-wide practices for all management areas are shown in Table 4-27 on page 4-180.

Management area delineations are the management area maps of the Plan. These are located in the map packet.

FOREST MANAGEMENT GOALS

The following goals are concise statements describing a desired condition to be achieved sometime in the future. They are expressed in broad general terms and are timeless in that they have no specific date by which they are to be completed. These goal statements are the principal basis for the objectives listed later in this chapter.

The goals of the Forest Plan are:

Vegetation Diversity

Schedule vegetation treatments for the greatest number of recreation, wildlife, range, water, and timber goals as specified by each management area.

Recreation and Cultural and Visual Resources

Provide a broad range of dispersed and developed recreation opportunities by providing areas for high density (large number of people) and separate areas for low density (limited contact) use.

Close most newly constructed Forest Service roads to public motorized use unless they occur where motorized use is emphasized.

Provide areas for nonmotorized recreation opportunities by closing Forest Service roads.

Provide areas for motorized recreation.

Construct new hiking and horse trails and trailheads in areas that can sustain and maintain the desired experience. Ensure roads closed to motorized traffic will be available as trails.

Provide the opportunity for developed recreation sites to be operated by private concessionaires.

Provide cost-effective service in developed recreation sites.

Provide added developed recreation capacity only where demand already exists and private sector cannot or will not meet the demand.

Locate, determine the significance of, and where appropriate, preserve historical and archaeological sites.

Manage exceptional historical and archaeological sites for increased public use and visitation, while still protecting the values of the site.

Make historical and archaeological sites available for study by agencies involved in research.

Maintain, enhance, and/or restore visual resources in visually sensitive areas.

Design interpretive service programs to resolve management problems, reduce management costs, obtain visitor feedback, increase public understanding of Forest Service management, and provide safe use of the Forest.

Wildlife and Fish

Improve fish habitats and manage wildlife habitats to maintain viable populations of native and desired nonnative species and to maintain and improve habitat of management indicator species. Population trend objectives of management indicator species are displayed in Table B-5, Appendix B.

Protect and enhance riparian habitat for wildlife.

Promote the diversity of plant and animal communities by providing a variety of vegetative communities.

Manage endangered and threatened plant and animal species to population sizes and distribution where they are no longer threatened, in cooperation with other State and Federal Agencies.

Improve habitat effectiveness and minimize disturbance to wildlife consistent with management area goals.

Make the Forest available for fish and wildlife research by universities and agencies involved in such research.

Timber

Provide commercial timber sales of sufficient quantity and quality to accomplish desired vegetation treatment goals.

Meet as much of the demand for wood products as economically feasible within the multiple-use objectives.

Provide fuelwood opportunities consistent with encouraging private sector supplies through use fees and provision of a stable supply of small diameter material.

Provide high quality hardwoods.

Maintain a healthy forest by applying appropriate silvicultural treatments consistent with management prescription objectives.

Implement appropriate silvicultural practices supported by site-specific inventory data and management area goals.

Soils and Water

Protect soil and water productivity so that neither will be significantly or permanently impaired for all activities on National Forest land.

Streams, lakes, wetlands, floodplains and other bodies of water will be protected from significant impairment resulting from water and/or air pollution.

Maintain riparian areas adjacent to lakes, perennial and non-perennial streams and wetland and floodplains to protect or enhance riparian dependent resources, such as water and fish.

Conduct soil and water resource improvement activities on lands with declining watershed conditions.

Minerals

Provide for exploration access to assure that most important federal and private mineral deposits can be discovered and evaluated.

Administer private mineral rights so that all their activities/operations are prudently consistent with best private management practices.

Lands

Purchase, exchange and consolidate lands when in the public interest.

Acquire necessary rights-of-way to facilitate public access to National Forest System lands and to meet resource management objectives.

Locate, identify, and mark National Forest property lines to standard.

Protection

Promote an integrated pest management program to prevent and control insect and disease infestations.

Minimize the risk of damage from flood, wind, wildfire, and erosion.

Suppress all wildfire by taking action commensurate with values at risk, and management area goals and agreed upon standards found in cooperative fire agreement with State of Ohio for interspersed private land.

Ensure forest management activities are compatible with Federal and State laws protecting air quality.

Direct a fire prevention effort that promotes a land ethic approach with area residents to reduce the number of arson fires.

Facilities

Manage the transportation system to safely and economically transport people, products and services to accomplish planned management area goals.

Manage the transportation system for increased cost-effectiveness and efficiency.

Provide for energy efficiency in structure and equipment management.

Human and Community Development

Provide the opportunity for economic growth of industries and communities needed to maintain recreation and vegetation treatment goals.

Provide employment opportunities for the disadvantaged through human resource programs.

Charge use fees for products and services to provide the highest return to the U.S. Treasury consistent with maintaining and encouraging existing local private operations and obtaining goals of the management areas.

FOREST MANAGEMENT OBJECTIVES

Forest objectives are the projected annual outputs of goods and services which correspond to the achievement of the Forest Goals. These objectives are concise, time specified, and measurable. They form the basis to estimate the management area practices and activities to be carried out. Table 4-1, displays the significant Forest Objectives projected for each of the first 5 decades.

TABLE 4-1
PROJECTED OUTPUTS
Average Annual Per Decade

Item	Unit of Measure	1986	1996	2006	2016	2026
		1995	2005	2015	2025	2035
		Planned	Projected			
<u>Recreation</u>						
Semiprimitive, Nonmotorized ROS	MRVD's	26.7	27.9	30.3	34.0	37.1
Roaded Natural Nonmotorized ROS	MRVD's	103.2	111.1	117.9	126.2	133.4
Roaded Natural ROS	MRVD's	152.4	175.7	199.5	244.0	269.1
Rural ROS	MRVD's	139.5	191.6	221.3	227.3	234.4
Developed ^{1/}	MRVD's	136.4	188.4	218.3	224.3	231.3
Dispersed ^{2/}	MRVD's	285.4	318.0	350.8	407.1	442.8
Hiking and Horse Trail Const./Reconst.	Miles	6.0	3.5	-	1.3	-
ORV Trail Const./ Reconst.	Miles	25.0	5.0	-	-	-
<u>Wildlife and Fish</u>						
<u>Habitat Improvements (New Developments)</u>						
Openings Const. ^{3/}	Acres	70.5	70.5	70.0	70.5	70.5
Small Lakes/Ponds	Acres	1.0	1.0	1.0	1.0	1.0
Marshes 1/year	Acres	1.0	1.0	1.0	1.0	1.0
<u>Range</u>						
Grazing Use	M AUM's	1	1	1	1	1
<u>Timber</u>						
Total Volume Offered	MMBF	7.5	11.2	13.0	16.8	16.8
Hardwood Volume	MMBF	6.5	9.7	11.3	9.0	13.4
Pine Volume	MMBF	1.0	1.5	1.7	7.8	3.4
Reforestation	M Acres	1.02	1.11	1.24	1.02	1.48
<u>Lands</u>						
Purchasing, Aquisition, and Exchange	M Acres	2.9	2.9	2.9	2.9	2.9
<u>Facilities</u>						
Permanent Rd. Const.	Miles	2.2	1.8	1.3	0.5	0.3
Permanent Rd. Reconst.	Miles	6.6	5.2	3.9	1.7	1.0
Total Permanent Roads	Miles	8.8	7.0	5.2	2.2	1.3

^{1/} Includes large lake fishing

^{2/} Includes small lake fishing

^{3/} New openings can be created through a variety of management activities such as oil and gas developments and timber management and direct wild-life habitat improvements.

TABLE 4-1 (Con't.)
PROJECTED OUTPUTS
Average Annual Per Decade

Item	Unit of Measure	1986	1996	2006	2016	2026
		1995	2005	2015	2025	2035
		Planned		Projected		
Facilities (con't.)						
Temporary Const. ^{1/}	Miles	1.6	2.0	2.3	2.1	2.6
Temporary Reconst. ^{1/}	Miles	4.8	6.0	6.9	6.3	7.7
Total Temp. Roads ^{1/}	Miles	6.4	8.0	9.2	8.4	10.3
Roads Closed ^{2/}	Miles	78.8	13.9	14.4	12.1	13.5
Cost						
Total Funds 1978 ^{3/}	MM \$	2.2	2.2	2.3	2.3	2.4

Timber Resource Summaries Land Suitability

Table 4-2 identifies the lands suitable and unsuitable for timber production according to the National Forest Management Act and the Regulations implementing it. Unsuitable lands for timber production by management area are shown in Table 4-3.

Allowable Sale Quantity and Long-Term Sustained Yield

Table 4-4 displays the relationship between the planned timber sale levels over the planning horizon and the long-term sustained yield of the Forest. Long-term sustained yield is 3.06 MMCF/YR. (18.4 MMBF/year) and is reached in the 12th decade.

Allowable Sale Quantity, and Vegetation Management Practices

Table 4-5 shows the allowable sale quantity in the first decade of the Plan by the harvest method. It also shows the acres by management practice that will produce these volumes.

Planned Timber Sales

A 10-year schedule of timber sales is included in Appendix A.

Other Timber Information

Table 4-6 shows a classification of the Forest on the basis of timber productivity for both suitable and unsuitable lands.

Present and future Forest conditions are presented in Tables 4-7 and 4-8.

^{1/} Represents miles of temporary roads estimated to be in use at any one time during the decade.

^{2/} Includes county, township and old "woods" roads from Table 4-20, page 4-41 of DEIS and other permanent and temporary roads to be closed to public use.

^{3/} One dollar in 1978 dollars is approximately equal to \$1.60 in 1985 dollars.

TABLE 4-2
LAND SUITABILITY SUMMARY

<u>Classification</u>	<u>Acres</u>
(1) Nonforest (includes water)	6,334
(2) Forest Land	170,453
(3) Forest Land Withdrawn from Timber Production <u>1/</u>	78
(4) Forest Land Not Producing Crops of Industrial Wood	-
(5) Forest Land Physically Not Suited: Irreversible damage likely to occur	-
Not restockable within 5 years	1,160
(6) Forest Land--Inadequate Information <u>2/</u>	-
(7) Tentatively Suitable Forest Land (2 minus 3, 4, 5, and 6)	169,215
(8) Forest Land Not Appropriate for Timber Production <u>3/</u>	43,108
(9) Not Suited Forest Land (3, 4, 5, 6 and 8)	44,346
(10) Total Suitable Forest Land (2 minus 9)	126,107
(11) Total Net National Forest Area (1 and 2)	176,787 ^{4/}

1/ Lands withdrawn from timber production designated by the Secretary of Agriculture; consists of the Reas Run Research Natural Area.

2/ Lands for which current information is inadequate to project responses to timber management.

3/ Lands identified as not appropriate for timber production for the following reasons:

- assigned to other resource uses to meet Forest Plan objectives including all existing and proposed developed recreation sites, lands outside the Forest Purchase Unit Boundary, planned permanent wildlife openings, proposed lakes and marshes, and lakeside scenic zones.
- meet specified other management requirements including potential research natural areas and special areas.
- not cost efficient in meeting Forest Plan objectives over the planning horizon.

4/ Acreage as of 1982 used in analysis.

TABLE 4-3

LANDS UNSUITABLE FOR TIMBER PRODUCTION
BY MANAGEMENT AREA

<u>Management Area</u>	<u>Acres</u>
2.1	263
2.2	526
2.3	2,074
3.1	2,622
3.2	6,131
3.3	7,145
6.1	375
6.2	16,610
7.1	1,080
8.1	78
9.1	2,107
9.2	<u>5,335</u>
TOTAL	44,346

Allowable Sale Quantity

The quantity of timber that may be sold from an area of land covered by the Forest Plan for a time period specified by the Plan. This quantity is expressed on an annual basis as the average annual allowable sale quantity.

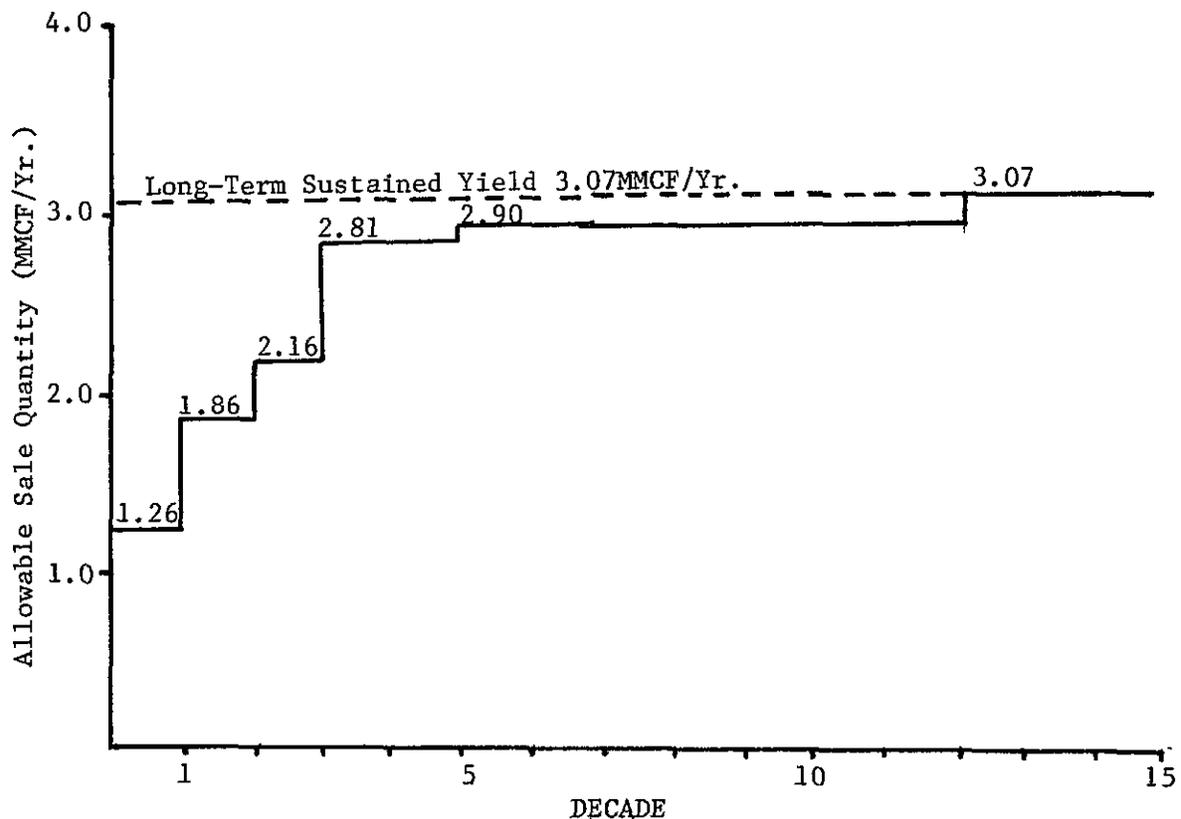
Base Sale Schedule. A timber sale schedule formulated on the basis that the quantity of timber planned for sale and harvest for any future decade is equal to or greater than the planned sale harvest for the preceding decade. This planned sale and harvest is not greater than the long-term sustained yield capacity of 18.4 million board feet per year.

Long-term Sustained Yield Capacity (LTSY). The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified intensity of management consistent with the multiple-use objective. Long-term sustained yield is achieved in the 12th decade. See Table 4-4.

Vegetative Treatment Plan. See Appendix A, Implementation Schedules, for the 10-year vegetative treatment schedule. (1986-1995).

TABLE 4-4

ALLOWABLE SALE QUANTITY AND BASE SALE SCHEDULE ^{1/}



^{1/} To determine volume in MMBF, multiply the MMCF volumes by the factor of 6.

TABLE 4-5

ALLOWABLE SALE QUANTITY (MMBF - Average Annual -
First Decade) AND VEGETATION MANAGEMENT PRACTICES
(Acres - Average Annual - First Decade)

<u>Harvest Method</u>	<u>Acres</u>	<u>Allowable Sale Quantity</u>		<u>Total Products (MMBF)</u>
		<u>Sawtimber (MMBF)</u>	<u>Other Products (MMBF)</u>	
REGENERATION HARVEST				
Even-aged Management				
Clearcut	410	3.512	1.140	4.652
Shelterwood				
- Preparatory Cut	-	-	-	-
- Seed Cut	50	.356	.152	.508
- Removal Cut	50	.457	.050	.507
Uneven-aged Management				
Selection	280	1.133	.302	1.435
INTERMEDIATE HARVEST				
Commerical Thinning	60	.240	.210	.450
Salvage/Sanitation	-	-	-	-
TIMBER STAND IMPROVEMENT	68	-	-	-
REFORESTATION <u>1/</u>	990	-	-	-
TOTAL		5.698	1.854	7.552

1/ Includes natural and artificial reforestation. Regeneration harvest acres (790) does not equal reforestation acres (990). The additional 200 acres are caused by mine reclamation and other reforestation not related to timber harvest.

TABLE 4-6
FOREST TIMBER PRODUCTIVITY CLASSIFICATION
(M-Acres)

Potential Growth (Cubic feet/acre/year)	Suitable Lands (Acres)	Not Suitable Lands (Acres)
Less than 20	-	-
20-49	.2	.1
50-84	34.4	12.1
85-119	66.4	23.3
120-164	23.0	8.0
165-224	2.1	.8
225 +	-	-
TOTAL	126.1	44.3

TABLE 4-7
AGE-CLASS DISTRIBUTION OF SUITABLE LANDS
(M-Acres)

<u>Age Class</u>	<u>Present Forest</u>	<u>Future Forest</u> ^{1/}
0-9	10.6	10.4
10-39	36.2	31.2
40-79	52.9	40.8
80-99	27.6	9.5
100 +	12.7	9.6
Uneven-aged	-	24.6
TOTAL	140.0	126.1

^{1/} When management area composition objectives are achieved.

TABLE 4-8

PRESENT AND FUTURE FOREST CONDITIONS

<u>Present forest:</u> ^{1/}	Unit of Measure	<u>Suitable Land</u>	<u>Unsuitable Land</u>
Growing stock	MMBF ^{2/}	<u>534</u>	<u>184</u>
Live cull	MMBF	<u>11</u>	<u>5</u>
Salvable dead	MMBF	<u>-</u>	<u>-</u>
Annual net growth	MMBF	<u>20</u>	<u>9</u>
Annual mortality	MMBF	<u>9</u>	<u>3</u>
<u>Future forest:</u>			
Growing stock	MMBF	<u>1,200</u>	
Annual net growth	MMBF	<u>22</u>	
Rotation age	Years	<u>80</u>	<u>3/ to 120 Years</u>

^{1/} Wayne National Forest Timber Management Plan, Amendment #2, 1/81.

^{2/} MMBF can be calculated from the above MMBF figures by dividing by 6.

^{3/} Average rotation age for regenerated stands on lands with timber emphasis by major forest types.

WAYNE NATIONAL FOREST

FOREST-WIDE STANDARDS AND GUIDELINES

1600 INFORMATION SERVICES

- * Work to achieve informed public consent during development of land and resource management plans and programs prior to their implementation.
- * Implement a public information and education program in coordination with other public and private organizations to reduce the number, intensity, and cost of conflict-producing and resource-damaging situations.

1800 HUMAN AND COMMUNITY DEVELOPMENT

- * Identify forest opportunities that will help individuals and local communities enhance their self-sufficiency and their feeling of social well-being.
- * Identify opportunities in which individuals and volunteer organizations can assist in management of the National Forest.
- * Resource management activities should not preclude the right of American Indians to express and exercise their traditional religion.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The size, shape, spacing, and scheduling of individual cutting units, and reforestation and timber stand improvement areas are subject to interdisciplinary review and approval by the line officer responsible for the project.

- * Favor native species when restoring disturbed areas or providing vegetative screening.
- * Ensure diversity of vegetative types on the Forest by providing a mix of suitable practices. Openings, regeneration, old-growth, mast producers, wetlands, forage, and other vegetative types will be interspersed as shown in the management area composition and habitat objectives to provide viable populations of wildlife and fish species.
- * Limit whole tree removal to soils with sufficient nutrient content and/or storage capacity to support the new stand of vegetation and maintain soil productivity. (Management Areas 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 6.1 and 6.3).

Analyze planned harvest levels by 500 to 5,000-acre project planning units through enough 10-year harvest cycles to determine what harvesting levels will best meet short-term and long-term composition objectives.

- * Standards and Guidelines from the Eastern Regional Guide.

In all vegetation management activities, assure that sensitive species and Forest species of concern "Mitigating Measures", pages 4-45 to 4-47, are complied with.

NEPA PROCESS

- * A decision to implement any proposed action affecting resources, land uses and environmental quality shall be preceded by an environmental analysis. The responsible official will use the results of the analysis to determine if any documentation is required by the National Environmental Policy Act.

If an environmental analysis for a project complies with NEPA regulations and little or no environmental effects are expected beyond those identified and documented in the Forest Plan and FEIS, the analysis can result in a categorical exclusion. A decision notice may be used to document the decision (FSM 1951).

If the environmental analysis shows noncompliance or unexpected effects, an environmental assessment or project FEIS will be the required documentation. This assessment or FEIS will document the problem, the analysis and the rationale for selection of a specific action which addresses deviation from the Forest Plan or effects not contained in the FEIS.

An analysis file for each project will be available for public review at the Ranger District offices.

2100 ENVIRONMENTAL MANAGEMENT

AIR QUALITY

- * Coordinate with air quality regulatory authorities on impact of air pollution on National Forest resources and preventative practices to control any significant air pollution emissions resulting from National Forest management activities.
- * Forest Supervisor will identify present and potential impairment of National Forest resources attributable to air pollution and advise Regional Forester.
- * Forest Supervisor will advise Regional Forester on potential effects of State redesignation proposals.

PESTICIDE USE

- * Use pesticides only after analysis of alternatives clearly demonstrates that pesticide use is essential to meet management objectives. The analysis will consider the environmental acceptability, economic efficiency, and biological effectiveness of available alternatives. Alternatives include silvicultural, mechanical, manual, prescribed fire, biological, chemical, and regulatory treatments. (All management areas except 7.1, 8.1, 8.2, and 9.2).
- * Use only pesticides registered by the Environmental Protection Agency (EPA) in full accordance with the Federal Insecticide, Fungicide, Rodenticide Act as amended, except as otherwise provided in regulations, orders, or permits issued by the EPA. In addition, certain pesticide uses require Regional Forester approval.

Use of pesticides will comply with appropriate State laws.

Primary emphasis of insect and disease programs is on prevention and control through biological means, including silvicultural treatments, maintaining species diversity, and introduction of insect predators or parasites.

Cooperate with State and Private Forestry pest control specialists and with the Ohio Department of Natural Resources to meet pest control objectives.

Restricted-use pesticides will only be used under the direct supervision of a certified applicator. Other pesticides may be applied by a qualified applicator or by a certified applicator. Field-going personnel should be trained to identify and report all unusual forest pest activities.

Require permittees to meet the same environmental standards as those applied to Forest Service activities.

Selective vegetation management with wildlife and visual considerations is the preferred vegetative management on all utility rights-of-way under use permit. Selective vegetation management should be encouraged on other rights-of-way on National Forest System land that are under easement. Broadcast application of herbicides may be permitted on rights-of-way under use permit on a case-by-case basis.

Coordinate with U.S. Fish and Wildlife Service and Ohio Department of Natural Resources to determine if proposed pesticide uses will adversely affect endangered or threatened animal or plant species, or their critical habitats.

Ensure quality control by monitoring the adequacy of pesticide application procedures and the accomplishment of objectives.

ENERGY

Use wood for energy consistent with other resource objectives. (All management areas except 6.2, 7.1, 8.1, 8.2, 9.1 and 9.2).

2200 RANGE

All grazing areas are fenced. Grazing will be limited to suitable open land; neither woodland nor brushland will be converted to rangeland. Native warm season grasses will be considered on suitable areas to extend the grazing period and enhance wildlife habitat and visual quality.

- * The amount of forage to be utilized annually for livestock will not exceed the total available forage less the annual forage needs of wildlife. Favor use of forage species that are suitable for both grazing and quality hay production, and which require minimum fertilization. (All management areas except 6.2, 7.1, 8.1, 8.2, 9.1, and 9.2).

2300 RECREATION MANAGEMENT

- * Forest Service road development and management will conform to the appropriate Recreation Opportunity Spectrum (ROS) Class. As described below, efforts will also be made to have township and county road construction conform to ROS classes.

As part of the annual meeting and continuing consultation needed for road agreements, discussions with county and township officials should include the need to conform to ROS classes in all new construction, reconstruction, and maintenance.

- * Location of recreational developments will be determined with priority given to correcting health and safety problems, protecting the environment, complementing prescribed recreation opportunities, and meeting public demand. (All management areas except 6.2, 8.1, 8.2, 9.1, and 9.2).
- * Selected roads may be closed where appropriate to motorized vehicles. This will provide for nonmotorized hunting and other recreation experiences. (Management Areas 2.1, 2.3, 3.1, 3.2, and 3.4).

All applications for easements will include a review of the project for conformance with the featured ROS class in the management area.

- * Provide a mix of recreation opportunities to meet identified needs and demands that are responsive to the issues, concerns, opportunities and resulting problem statements developed for the Forest Plan.

Any proposed recreation development adjacent to State facilities will consider existing State uses and be coordinated with the long-term objectives of both agencies.

As finances allow, developed areas will be operated and maintained at Full Service Level. This is detailed in the yearly Operation and Maintenance Plans located at District Rangers' offices. Reduced Service Level is described in yearly Operation and Maintenance Plans.

TRAILS

- * Management of National Scenic Trails and adjacent lands will be compatible with standards incorporated in the act establishing the trail and in the trail management plan.

Trail construction maintenance, and signing will meet the minimum standards described in the Forest Service Trails Handbook.

Trail management will be compatible with the ROS class emphasized in the area.

- * National Recreation Trails will be managed in accordance with the commitments associated with their designation.

Horse trails and hiking trails may cross ORV areas and trails may be developed to points of interest or facilities.

Horses and other pack stock will be restricted to designated horse trails and roads open to public vehicle travel.

OFF-ROAD VEHICLES (ORV)

The following ORV standards and guidelines apply to Management Areas 2.3, 3.2, and 3.4.

ORV policies will be coordinated between the Wayne National Forest and adjacent lands. Unlicensed ORV's are permitted only on designated ORV trails. State licensed ORV's may also ride on township, county, State and Federal roads open to public motorized use. The density of designated ORV trails will have an average density of 6.4 miles of trail per square mile in Management Area 3.2 and an average density of 3.2 miles per square mile in Management Areas 2.3 and 3.4 when all trails are in place.

- * Manage ORV use to provide for resource protection and public health and safety and to minimize user conflict. Roads and trails may be limited to specific kinds of use or may be closed to ORV use.

All continuous use of the trail shall occur within the established limit of the trail. Noncontinuous use shall occur within 50 feet of the centerline of the trail for parking. ORV parking will be provided throughout the trails length.

**Organized Trail
Use**

Racing activities will not be permitted on ORV trails. Competitive racing will not be permitted except for enduro trail rides. Enduro trail rides may occur only after a permit is applied for and granted. Applications for permits for enduro rides originating outside of, but near, Management Areas 2.3, 3.2, and 3.4 will be examined on a case-by-case basis.

**ORV Trail
Construction**

Junction points of ORV trails with roads open to public travel will be located to obtain the minimum safe unobstructed 2-way site distances required for the design speeds of the roads intersected. This requirement will also be applied in locating trail-to-trail junction points. Appropriate STOP and YIELD signs will be used.

Grades will vary, depending on soil characteristics and drainage conditions.

Clearing height will be 7 feet (above tread).

Clearing width will generally be 6 to 8 feet, allowing room for vehicles to pass each other, in order to accommodate vehicles up to 40" in width.

Vertical alignment will generally follow the natural gradient of the surface of the terrain traversed, minimizing disturbance of soil and ground cover.

Trees will be flush cut. All limbs and branches from trees outside the clearing width, which extend into the travelway, will be pruned flush with the trunk. When pruning conifers along travelways, all sides of trees will be pruned to the same height to provide a natural appearance.

Normal drainage control will be provided by waterbar installation and lead-off ditching. Side ditching will be used only when necessary, with drainage carried to downslope outlet points in as short a distance as possible.

Native construction materials, found on or near the site, will be used wherever possible.

Under most circumstances, the running surface will be of existing soil.

Surfacing material (available on-site or imported) shall be used only where unstable soil, erosion, or subsurface drainage conditions dictate the need.

Approved signing needed at trail heads, junctions, and for on-trail guidance shall be installed before a trail is considered complete and ready for traffic.

**ORV Trail
Maintenance**

Maintenance will primarily consist of restoring running surface drainage control as needed following review.

Trails will be inspected at least twice per year. Needed tread work, brushing, erosion control and debris and hazard removal will be accomplished within 60 days of inspection.

**ORV Trail Closure
Criteria**

Trails will be closed to motorized travel when:

- Drainage control devices fail to function as designed and cannot be satisfactorily maintained.
- Other resource considerations dictate management change.

**RECREATION
VEHICLE USE**

All roads open to public travel^{1/} will provide opportunities for forest driving including street legal motorcycles, ATV's, and 4-wheel drive vehicles. ORV use (for vehicles less than 40" wide) will occur only in Management Areas 2.3, 3.2, and 3.4. Recreation vehicle use in all other management areas will occur only on roads open to the public. Off road use of these vehicles is prohibited.

**CULTURAL
RESOURCES**

Conduct cultural resource inventories in areas to be affected by land transfer and ground-disturbing activities. When possible, re-design projects to avoid adverse effects to cultural sites. When a project cannot be relocated, mitigate adverse impacts to significant sites in consultation with the Ohio State Historic Protection Officer (SHPO) and the Advisory Council. Nonproject-oriented survey will be conducted on a prioritized basis.

Evaluate the significance of cultural sites. Priority for evaluation will go to those sites that may be impacted by other activities and sites that require no subsurface testing in order to determine their cultural significance.

^{1/} Those road sections that are available, except during scheduled periods, extreme weather, or emergency conditions, passable by four-wheel standard passenger cars, and open to the general public for use without restrictive gates, prohibitive signs, or regulation other than restrictions based on size, weight, or class or registration.

Protect significant sites from natural and human degradation. Monitor the condition of significant sites on a scheduled basis, and take corrective measures when necessary to stop erosion and decrease site visibility. Work with law enforcement specialists to educate and, when appropriate, issue citations to violators of Federal antiquity laws.

Nominate to the National Register of Historic Places those sites which are determined to be culturally significant. Design plans for the maintenance and possible enhancement of these sites.

Where appropriate, provide for both onsite and offsite public interpretation of significant sites and lifeways. This includes interpretive signing and pamphlets designed for the general public, and presentation of professional level articles and papers on topics of scientific interest.

Update the Wayne National Forest Cultural Resource Overview at regular intervals to allow for the inclusion of new and more complete site information.

- * Assess the nature and degree of damage to cultural resources caused by vandalism, visitor use, and natural deterioration and identify protective measures to be implemented.

VISUAL QUALITY

Visual quality objectives will be met for all sensitivity levels, variety classes, and distance zones to prevent unacceptable alteration of natural landscapes and to create and maintain visual diversity in the landscape. Maps of the objectives established for the Wayne are located at Forest Supervisor and District Rangers' offices.

Visual quality objectives for any given activity will range from Modification (the least restrictive in terms of degree of acceptable alteration of the landscape) to Retention (the most restrictive). Areas in an Unacceptable Modification state will be upgraded to at least the visual quality objective of modification when possible. A short-term goal of rehabilitation will be assigned to these areas.

INTERPRETIVE SERVICES

- * Information and interpretive programs will explain the correlation of resource management direction and activities with public interests and concerns. Programs will be based on audience analysis as well as land managers' needs.

The Forest Service will work with interested individuals to establish local interpretive associations to provide for public education and interpretation of Forest Service facilities.

Staffed permanent Interpretive Services facilities will be located only in major developed recreation sites.

SPECIAL AREAS AND RESEARCH NATURAL AREAS

Areas that appear to have significant natural characteristics will be nominated by recognized authorities (professors, informed amateurs, resource specialists) and will be set aside as a Candidate RNA/Special Area (Management Area 9.2). This is a

temporary protective designation which will become an 8.1, 8.2 or another management area designation after review by a RNA Evaluation Committee.

Special Areas (Management Area 8.2) are approved by the Regional Forester. Areas given this designation must meet specific criteria (see Management Area 8.2 on page 4-150).

Research Natural Areas, a national system of the most significant natural areas, are approved by the Chief of the Forest Service. Areas given this designation must meet specific criteria (see Management Area 8.1 on page 4-146).

2400 TIMBER MANAGEMENT (For Management Areas 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 6.1, 6.3)

GENERAL

Before trees are harvested to achieve timber production objectives, the cutting method selected shall be based on the assurance that the technology and knowledge exists to adequately restock the lands within 5 years after harvest.

Minimum Wayne National Forest stocking standards 5 years after timber harvest for even-aged hardwood management and uneven-aged hardwood management using group selection are:

At least 280 potential crop trees per acre. Potential crop tree species must be generally recognized as having commercial value and be of good form and vigor. The average diameter of potential crop trees must be 0.5 inches dbh or larger. Potential crop trees must be well distributed over the regenerated area.

The minimum stocking standards for even-aged pine management and uneven-aged pine management using group selection are the same as the hardwood standards except that the minimum potential crop trees per acre of pine stands is at least 220 trees.

Utilization standards for commercial timber harvest are shown in Table 4-9, on page 4-21. New standards and volume tables may be needed if whole tree utilization is widely used on the Forest.

Cubic feet per acre per year will be the unit of measure used for expressing mean annual increment.

TEMPORARY OPENINGS

Temporary openings created by the application of even-aged silviculture will be separated by a stand of at least the minimum stand size specified by management areas. The exception is where visual consideration can best be met by positioning openings adjacent to each other within the approximate 10-year recovery period. The total acreage of these openings shall not exceed the maximum opening size limit of each management area.

As a minimum, a timber harvest opening will no longer be considered an opening when the certified re-established stand has reached a height that is greater than 20 percent of the height of the surrounding vegetation.

HARVEST

The silvicultural priority for timber harvest is (1) high risk, (2) sparse stands, (3) low quality, and (4) mature stands. However, in order to meet the composition and age class distribution objectives of the management areas, a deviation from this priority may be necessary.

Openings will be of irregular, natural appearing shape. Vary opening sizes and shapes to avoid uniformity of appearance, and distribute openings to meet wildlife habitat and visual objectives.

Woodlands in private ownership will have no bearing on age class and species composition goals on National Forest lands, but will be considered in planning where to locate various cover types on National Forest land.

Harvest of immature stands, as well as deferral of harvest of mature and/or overmature stands, will be employed when necessary and economically feasible to assist in balancing age classes and maintain the desired areas of mast producing and overmature timber as described in individual management area prescriptions.

TABLE 4-9

UTILIZATION STANDARDS AND GUIDELINES

Harvest Level Projections (36 CFR 219.9)

TYPE PRODUCT	MINIMUM TREE SPECIFICATIONS	MINIMUM PIECE SPECIFICATIONS		
	INCLUDE ONE MINIMUM PIECE	DIAMETER BREAST HIGH (d.b.h.) INCHES	LENGTH <u>1/</u> FEET	DIAMETER INSIDE BARK AT SMALL END INCHES
Hardwood Sawlogs <u>2/</u>	11.0	8	9.6	40%
Softwood Sawlogs	9.0	8	7.6	40%
Hardwood Pulpwood	6.0	8	4.0	70% sound <u>3/</u>
Softwood Pulpwood	5.0	8	4.0	and reasonably straight <u>4/</u>

1/ Plus trim allowance.

2/ Logs that meet grade 3 or better factory logs are considered sawlogs. Logs less than grade 3 (construction grade or local use) and appraised positive can be considered sawlogs. Caution: On integrated sales where only grade 3 and better logs are considered as sawlogs, a grade 4 or construction grade log may not meet pulpwood specification because of percent soundness.

3/ 70 percent applies to rot, voids, and char. Mechanical type defects such as sweep, crook, spider heart, and ring shake shall not be considered.

4/ Reasonably straight: When the true center line of a minimum length piece does not deviate more than 1/2 inch the inside diameter of the small end, plus one inch from a straight line drawn between the centers of the ends of the piece.

Because different animals thrive in different types of woodlands, vegetation management will strive to develop and maintain mast-producing stands on a variety of sites, including lowlands, mid-slopes, and ridgetops. Particular attention will be focused on maintenance of mast producing stands around at least a portion of pond, lake, wetland and stream shorelines.

Snags for wildlife purposes will be left standing in forest stands, including clearcuts and thinnings in accordance with direction under 1900 Vegetative Practices in management area prescriptions. Snags will not be left where they can fall on Forest system roads, trails, or recreation sites.

If present, living den trees will be maintained in timber stands, including clearcuts. In clearcuts where an inadequate number of existing den trees are available, recruitment den trees (trees with broken tops, limbs, or that are diseased or injured) will be left in the clearcut, when suitable trees are present. They will be left alive, and den trees and recruitment den trees will be left primarily in hollows, along stand borders, and in clumps as they occur in the stand.

In clearcut and shelterwood harvest, dogwood, redbud, and other low growing flowering and fruiting trees and shrubs under 6 inches in diameter will not be cut unless the amount to be left would inhibit natural regeneration of a variety of tree species.

The Forest Supervisor may set more stringent utilization standards if local conditions and markets permit; more liberal standards may not be established without prior approval of the Regional Forester.

Because of species variety, products sold, and variation in local requirements, the Forest Supervisor may establish local standards for special products, upon Regional Forester approval.

If present, an average of ten 2 to 6-inch hickory trees per acre will be left standing, preferably in clumps, in new clearcuts. However, some larger trees of these species may be left in place of these small trees. An effort will be made to leave hickories on better sites and near the periphery of the clearcut which has been shown to enhance their survival.

When logging residue disposal and/or product removal is done, some scattered logs and limbs will be retained for wildlife ground cover unless there is an overriding management need to dispose of them.

Perpetuate a natural variety of hardwood, pine, and pine-hardwood types, including minor types such as bigtooth aspen to the extent that site conditions permit.

Skid roads will not normally exceed a gradient of 35 percent. Length of skid road segments will be based on site specific analysis during plan implementation.

VISUAL QUALITY

VQO-Retention (R)

Activity may only repeat form, line, color, and texture which are frequently found in the characteristic landscape. Vegetation will be removed or added to enhance or maintain existing landscape character.

Sawmills, or similar facilities, will not normally be permitted in areas of this VQO.

At the completion of a project,^{1/} management activities shall not be evident to the casual forest visitor when viewed from trails, roads, waterbodies and developed recreation areas.

VQO-Partial Retention (PR)

Openings will repeat form, line, color and texture of natural openings to create the desired characteristic landscape. Special techniques such as feathering edges, slash disposal, and leaving islands of trees will be used to accomplish this objective.

Size of openings will vary, but will generally be 5 to 20 acres. Most openings along use areas or travel corridors will favor the smaller size with the average being approximately 10 acres.

Saw mills will not normally be allowed in partial retention areas.

One year from the completion of a project,^{1/} management activities may be evident, but will not attract the attention of the casual forest visitor when viewed from trails, roads, waterbodies and developed recreation sites.

VQO-Modification (M)

Openings may visually dominate the characteristic landscape. However, activities must borrow from the naturally established form, line, color or texture so completely and at such a scale that visual characteristics are those of natural-appearing occurrences within the surrounding forested landscape.

Size of openings will vary, but will generally be 10-30 acres. Most openings along use areas or travel corridors will favor the smaller openings or through design give the appearance of a smaller opening.

Although the casual forest visitor will notice the immediate results of the activity, 2 to 5 years from the completion of a project,^{1/} activities should be natural appearing when viewed from the immediate foreground. Immediate foreground is 300-600 feet from public roads and developed trails.

^{1/} A project is completed when all cultural work is completed.

REFORESTATION

The primary method of regeneration to meet management area objectives following the harvest of both hardwood and conifers will be through natural means. If adequate stocking (C Level or higher) and desired species composition is not achieved, artificial methods may be used.

Genetically improved stock will be preferred for planting. All planting stock will be from known seed sources and genetically improved seed and planting stock to the extent possible. Stock that has been inoculated with fungi proven to be beneficial to tree survival and growth will be favored on poor sites such as strip-mined lands.

Natural

Open fields or current poorly stocked stands less than 15 acres in size will be reviewed by an interdisciplinary team to determine if they should be allowed to regenerate naturally for endangered, threatened and sensitive species and species of concern, other wildlife, or visual values. Some indications that the area should not be planted are:

- Poor access
- Patches of tree species within the open area
- The absence of soil erosion problems
- Fewer than 100 trees per acre could be planted
- Good variety and stocking of native shrubs, small trees, and herbaceous vegetation, valuable for wildlife habitat present.

Artificial

Stocking level will be C Level (40 percent of total stocking) or higher. Follow the guidelines in Table 4-10 the "Species Selection Guide for Reforestation on the Wayne National Forest" page 4-26 included in this section. Consider site productivity, species composition objectives, management area standards and guidelines, and economics to determine the appropriate species to plant.

All soil types proposed for hardwood planting are to be field checked prior to planting, since soil depth, presence or absence of a fragipan, and seasonal water levels are critical to the success of hardwood plantations.

When hardwood stands are established by planting, as site requirements permit, some major mast-producing species, such as oak, may be planted in addition to other tree species. Planting of major mast species may be on a test basis until knowlege is adequate to confidently plant such species on a commercial scale.

Conifer composition objectives in management areas do not preclude conifer planting where necessary to protect the soil, to improve a site to permit future hardwood establishment, or permit better dispersion of the conifer type.

- * Consider planting hardwoods with pine in areas where suitable and cost effective to reduce insect disease and damage, increase visual variety, and add habitat diversity.

Establish new permanent wildlife openings and leave wildlife openings unplanted as site opportunities permit and as necessary to meet the management area objectives for wildlife openings.

Wildlife openings should be positioned near boundaries of planting areas to avoid perpetuating geometric shapes of old fields.

Consideration will be given to planting native nitrogen fixing species such as black locust. Exotic species that may become pests, such as autumn olive, should not be planted until it can be determined that they will not persist or spread and become a problem following harvest of interplanted crop trees.

Meet the assigned visual quality objectives in the foreground of roads and trails when planting. Methods to do this include:

- Avoid abrupt changes between hardwoods and conifers such as straight property boundaries.
- Reduce the planted row effect as seen from roads and trails.
- Avoid continuous conifer plantings over 1/4 mile long adjacent to roads and 1/8 mile long adjacent to trails. Leave openings, undulate edges, plant mixed species, and random plant trees to create a more natural-appearing scene.

Preharvest Treatments

Stand understories may be treated prior to harvest to foster advanced reproduction of desired tree species. Such treatments may include the use of prescribed fire, soil scarification and mechanical or chemical control of understory species.

TIMBER STAND IMPROVEMENT

Vines may be controlled as necessary to ensure satisfactory regeneration. Adequate vines will be perpetuated to meet wildlife needs.

TABLE 4-10

SPECIES SELECTION GUIDE FOR REFORESTATION ON THE WAYNE NATIONAL FOREST

Site Factors	Yellow Poplar	*N. Red Oak		Aspen	White Oak	
	*Black Walnut	White Ash	Pin Oak	Green Ash	White Pine	
Topographic position and cover type: (Consider effects of past management of the area)	Bottomlands, low terraces, or lower 1/3 of north and northeast slopes, and coves. Vigorous vegetation. Very productive crop land.	Yellow-Poplar Bottomlands, terraces, north and northeast slopes, some ridgetops. Vigorous vegetation.		Uplands and some terraces northwest or southeast slopes or gentle south slopes. Interplant in understocked hardwood stands or use on old fields and pastures.		
Drainage class and depth to mottling:	Moderately well to well drained; greater than 30 inches to mottling.	Moderately well to well drained; greater than 20 inches to mottling.		Moderately well to well drained; 15 inches or more to mottling.		
Thickness of topsoil (A horizon).	8 inches or more	Commonly 6 to 8 inches		About 3 to 6 inches		
Minimum depth to bedrock or fragipan:	40 inches	30 inches		24 inches		
Texture of subsoil: (The topsoil is generally silt loam)	Fine sandy loam to heavy silt loam	Sandy loam to silty clay loam		Sandy loam to heavy clay loam		
Maximum coarse fragment content; greater than 2mm:	40 percent by volume	40 percent		50 percent		
Soil Reaction (pH):	Prefers slightly acid to neutral soils with a high calcium level. pH 5.5-7.2	Medium acid pH 5.0-6.0		Medium to strongly acid pH 4.8-6.0 4.0		
Some soil series suitable for the species listed: (The degree of erosion must be considered)	Huntington Pope Cuba Elkinsville Nolin	Alford Chagrin Moshannon Glenford Mentor	Wellston	Chagrin Guernsey Keene Wheeling Wharton Westmore Shelocta	Zanesville Gilpin Wellston, eroded Clymer Brownsville Culleoka Steinsberg	Muskingum Lindside Berks Guernsey Rarden Shelocta, eroded

*Plus any species recommended for a lesser site - Black walnut is considered the best site.

TABLE 4-10

SPECIES SELECTION GUIDE FOR REFORESTATION ON THE WAYNE NATIONAL FOREST
(Continued)

Site Factors	*Black Locust Virginia Pine White Pine Red Pine Wildlife Species	*Wildlife Species Virginia Pine Black Locust	Sycamore Speckled Alder European Black Alder	Silver Maple Sweetgum
	Topographic position and cover type: (Consider effects of past management of the area)	Uplands, generally eroded old fields and pastures; south-facing slopes. Vegetation of poor vigor, Broomsedge is common.	Uplands; severely eroded, gullied. Sparse to no vegetation Past land use indicates little or no regard for good land management.	Broad ridgetops and bottomlands. Wetland grasses indicate poor drainage.
Drainage class and depth to mottling:	Moderately well to well drained; greater than 10 inches to mottling.	Moderately well to well drained, however, the mottling may be at the surface due to erosion.	Somewhat poorly and poorly drained soils; less than 12 inches to mottling.	
Thickness of topsoil (A horizon).	Less than 3 inches	Generally lacking or thin	3 inches or more	
Minimum depth to bedrock or fragipan:	15 inches	12 inches	20 inches	
Texture of subsoil: (The topsoil is generally silt loam)	Sandy loam to clay	Silt loam to clay	Sandy loam to clay loam	
Maximum coarse fragment content; greater than 2mm:	60 percent by volume	65 percent	50 percent	
Soil Reaction (pH):	Medium to strongly acid pH 4.5-5.8	Medium to very strongly acid; pH 4.5-5.5	Medium to very strongly acid; pH 4.5-6.0	
Some soil series suitable for the species listed: (The degree of erosion must be considered)	Tilsit, eroded Zanesville, eroded Gilpin Woodsfield Berks Upshur Westmoreland Brownsville Dekalb	Any severely eroded upland soil esp. Zanesville, Tilsit and Wellston. Note: Seeding with a grass-legume mixture and mulching should be considered for some sites.	Weinbach Stendal Fitchville	Latham Melvin Newark

*Plus any species recommended for a lesser site - Black Walnut is considered the best site.

In timber stand improvement, such as thinning operations, a variety of hardwood species, including the major mast-producers, will be retained as crop trees throughout the life of individual stands. Because occurrence of tree species depends upon soils and aspect, as well as past land use, all species will not occur on every acre. As possible on various sites, strive to retain the following minimum basal area of the following species per acre:

<u>SPECIES</u>	<u>SQ. FT. MINIMUM/BA/ACRE</u>
Oaks	20 to 30
Hickories	10 to 15
Beech	3 to 6
Cherry	3 to 6
Blackgum	1 to 2
Persimmon	1 to 2
Sassafras	1 to 2
Other tree species that may be poorly represented such as buckeye, hackberry, basswood, and aspen	3 to 5 (in aggregate)

In timber stand improvement, such as thinning operations, some scattered logs and limbs will be retained for wildlife ground cover unless there is an overriding management need to dispose of them.

2500 WATER AND SOIL RESOURCE MANAGEMENT

Manage activities occurring on National Forest System lands to maintain or enhance water quality.

Apply resource management practices which will maintain or improve the soil resources for productivity potential and watershed condition. Modify resource management practices according to soil characteristics, slope, and related factors, as necessary to achieve this.

Stream channel modification will only be considered when protection of high value improvements, such as recreational facilities, roads and bridges deem it necessary.

Manage riparian areas using practices that are consistent with resource conditions, management objectives, and designated water use.

Stabilize disturbed areas. Give priority to stabilization of areas discharging soil into water courses, especially to municipal watersheds and recreation impoundment watersheds.

Soil protection and management for vegetative management activities will be guided by information in Appendix F. Soil protection and management for all resource management activities will also be guided by soil map unit descriptions and appropriate interpretive tables in the USDA County Soil Surveys of the counties where the Forest is located. This information indicates the suitability, capability and limitation on the Forest for the various resource management activities, uses, and resource emphasis.

- * Heavily disturbed areas, such as borrow pits and mineral developments, when restored, will meet the management area objectives. Water bodies may be created when surface runoff and soil conditions permit. (All management areas except 8.1, 8.2, 9.1 and 9.2).
- * Construction and rehabilitation of structures and facilities will preserve the beneficial values of floodplains and wetlands, will protect public safety, and will be cost efficient. (All management areas except 8.1, 8.2, 9.1 and 9.2).

RIPARIAN AREA MANAGEMENT

RIPARIAN AREA

Riparian areas are lands delineated by the transition between the aquatic and terrestrial ecosystems, and typically include the riparian and aquatic ecosystems, wetlands, and floodplains. Certain aquatic, wildlife and vegetation communities are totally dependent on the riparian area for existence. Riparian areas serve many beneficial functions, including the moderation of flood peaks, groundwater recharge, wildlife and fish habitat, timber production, and recreation opportunities. The delineation of the riparian area geographical boundary is dependent on characteristics of water regime, soil and vegetation.

Delineation

Riparian area boundaries must include all of the following, if they are present:

- Aquatic ecosystems
- Floodplains
- Riparian ecosystems/wetlands

In addition, consideration must be given to the "special attention" zone of land and vegetation extending approximately 100 feet (measured horizontally) from the edges of all perennial streams, lakes and other bodies of water. (Established by NFMA Regulation, Section 219.27e.) In lieu of site specific information concerning classification and inventory, the riparian area will include at least the 100 foot special attention zone established in the Regulations.

Site specific data and delineations which establish the exact boundaries of the riparian area, complete with classification, will supersede the special attention zone width requirement.

FILTERSTRIP

A filterstrip is primarily a sediment and nutrient trapping technique. The width of the filterstrip necessary to protect the riparian area (including the aquatic and riparian ecosystems) and water quality will vary, depending on many factors. Some of these factors include topography, aspect, landform, climate, soil and parent geology, slope, condition of the vegetative community, aquatic community, hydrologic regime, management activity and resource objectives.

Filterstrip boundaries do not necessarily or very often coincide with the boundaries of the riparian area. Often, particularly in Southeastern Ohio the true riparian area will not extend far from the stream channel. Filterstrip requirements vary from 50 to 200 feet (see Table 4-11) and usually extend well beyond the limits of the riparian area.

Conversely, in the example of an upland floodplain which is technically riparian by definition, the filterstrip width may be somewhat less than the width of the riparian area, provided that riparian resources and values (including water quality) can be protected.

The objective is to employ all the Best Management Practices (BMP's) and management techniques necessary to protect and enhance riparian resources and values, without being overly restrictive on management and utilization of these and other resources.

When site specific information on the riparian area is lacking, or insufficient to permit riparian area inventory and classification, then the approximate minimum 100 foot "special attention" zone must be considered. This is an arbitrary assignment of a riparian area, and generally does not affect the selection of a filterstrip standard.

PROTECTION AND IMPROVEMENT

This section details the specific standards and guidelines to be used in the management, protection and improvement of riparian areas. Concepts of filterstrip, riparian area, and special attention zone have been discussed. The functions and delineations may be distinctly different, and applications may vary significantly depending on the geographic location, riparian type, and management activity.

Permanent Waters

Where earth-disturbing activities such as road and trail construction, log yarding areas, and oil and gas drilling expose mineral soil, filterstrips will be required on all intermittent and perennial streams.^{1/} Filterstrips will normally be required for all lakes, ponds, and perennial flowing natural springs. Activities may occur closer to these waters only if effective sediment control practices are installed to minimize any detrimental effects.

^{1/} Permanent streams are identified by a solid blue line on the USGS 7 1/2' quadrangles; intermittent streams by a dashed blue line.

TABLE 4-11

FILTERSTRIPS IN WHICH EARTH-DISTURBING ACTIVITIES
WILL NOT OCCUR (UNLESS SPECIAL TECHNIQUES ^{1/} ARE USED
TO MINIMIZE POTENTIAL DETRIMENTAL EFFECTS)

<u>Slope Range</u>	<u>Sensitivity Rating</u> ^{2/}	<u>Minimum Strip Width (ft.) Each Site</u>
0-30%	3-4	50
0-30%	5-7	75
0-30%	8-10	100
31%+	3-4	125
31%+	5-7	150
31%+	8-10	200

Minimum riparian zone, with special restrictions as necessary to protect water quality is 100 feet adjoining all permanent waters.

Sewage lagoons, disposal plants, and landfills will not be constructed in flood plains; distances listed must be increased if necessary, to eliminate them from flood plains.

No logging debris will be left in any permanent water unless planned to benefit fisheries habitat or protect riparian values.

Intermittent Streams

Filterstrip widths for intermittent streams are modified as follows:

- Multiply the filterstrip width listed in Table 4-11 by 50 percent (0.5) for all slopes.

Logging debris in general will not be permitted in the intermittent stream channels. Tree tops inadvertently felled into stream channels less than 8 feet wide as measured at the bottom of the stream may be permitted to remain.

Roads, trails, and log skidding will not be allowed within streambeds and will only be allowed across streams at designated crossings.

Activities that would not expose potentially damaging amounts of mineral soil are permitted within the filterstrip.

- ^{1/} Special techniques include but are not limited to such items as: placement of straw bales in ditch lines and small drainages, leaving berms in road embankments during construction, diversion ditches, hand placement of slash and unmerchantable logs across slopes and trails, installation of check dams in ditch lines, and excavation of sediment detention basins.
- ^{2/} Site sensitivity is calculated as described in Table 4-12, page 4-32.

TABLE 4-12

Calculation of Riparian Zone Site Sensitivity

Sensitivity of specific riparian sites is based on soil erodibility, soil drainage, and aquatic life sensitivity; and when mineral and oil extraction is being considered, soil acidity. All criteria have equal weighting. Categories of sensitivity for each factor are low, medium, and high. Point values for these levels are low = 1 point, medium = 2 points, and high = 3 points. Points for each criteria are summarized to determine site sensitivity levels, based on total sensitivity points, as listed in the site sensitivity column in the riparian zone table.

Descriptions of the four sensitivity factors and definitions of low, medium, and high levels of each follow:

<u>Factor</u>	<u>Description</u>	<u>Level Definitions</u>
1. Soil Erodibility (K)	A measure of the susceptibility of soil to particle detachment and transport by rainfall when there is no vegetative cover, roots, or residual root material.	<u>High</u> Soil with K values = $\frac{1}{.37}$, or greater <u>Medium</u> Soils with K values $\frac{1}{.20 - .36}$ <u>Low</u> Soils with K values $\frac{1}{.19}$, or less
2. Soil drainage	Relates to the natural internal drainage of the soil which can affect runoff and the degree to which the soil can be disturbed. Generally when soil drainage is good (low) fewer water quality problems result from soil erosion.	<u>Low</u> Excessively drained soils, which are commonly very porous and rapidly permeable with a low water-holding capacity, sometimes called droughty, consisting mainly of coarse sandy or gravelly soils. Also well drained soils which retain water well and yet drain freely. The seasonal high water table is generally more than 3 feet below the ground surface during the wet season. Soil series include Cuba, Alford, Wellston,

1/ See Table 4-13, page 4-35 for K values for major soils.

TABLE 4-12 (Cont.)

Calculation of Riparian Zone Site Sensitivity

<u>Factor</u>	<u>Description</u>	<u>Level Definitions</u>
2. Soil drainage (Continued)		<p>Zanesville, Berks, Gilpin, Dekalb, Vandalia, Lily, Upshur, Shelocta and Calleoka.</p> <p><u>Medium</u></p> <p>Moderately well-drained and somewhat poorly drained soils from which water is somewhat slowly removed, so that the soil is wet for a sig- nificant time. These soils have a water table within 1 to 3 feet of the ground surface on a seasonal basis that keeps the soil wet from late fall to early spring. These soils remain wet for several days after heavy rains in mid-summer. Soil series include Ebal, Zanesville, Newark, Guernsey, Stendal, and Lindside.</p> <p><u>High</u></p> <p>Very poorly and poorly drained soils which are very moist or wet for significant periods to most of the year, sometimes all the year. Some of these soils have fragipans or other very dense and impermeable soil layers within 2 to 3 feet of the ground surface. The water table is very near the</p>

TABLE 4-12 (Cont.)

Calculation of Riparian Zone Site Sensitivity

<u>Factor</u>	<u>Description</u>	<u>Level Definitions</u>
2. Soil drainage (Continued)		<p><u>High (Cont.)</u></p> <p>surface (within 1/2 to 1 foot) for much of the year. Soil series include Melvin.</p>
3. Aquatic life sensitivity	<p>This factor relates to the sensitivity of fish and other aquatic life in receiving waters to potentially adverse effects of management practices. No known streams have a high sensitivity rating.</p>	<p><u>Low</u></p> <p>Waters with naturally occurring pollutants such as prolonged concentrations of acids, bases, or nutrients; severe oxygen or temperature fluctuations; fish communities primarily coarse species, such as carp, bullheads, and green sunfish; or, a large part of the invertebrate fauna pollution-tolerant forms, such as <u>Psychoda</u>, <u>Eristalis</u>, and <u>Tubifex</u>. Sport fishing absent or minimal.</p> <p><u>Medium</u></p> <p>Waters generally with medium to low turbidity, except during flooding; above 5.5 pH and with medium nutrient content; no severe oxygen or temperature fluctuations; fish communities typified by black basses and other sunfishes, perch, and redhorses; invertebrate fauna includes forms of intermediate pollution tolerance, such as <u>Chironomus</u> and <u>Simulium</u>. Waters provide sport fishing for warm water species.</p>

TABLE 4-12 (Cont.)

Calculation of Riparian Zone Site Sensitivity

<u>Factor</u>	<u>Description</u>	<u>Level Definitions</u>
4. Soil acidity (This factor is applied <u>only</u> to mineral and oil extraction practices)	Refers to the lowest pH measurement in the overburden. pH will be measured from soil borings and the lowest hydrogen ion concentration value for a stratum of 24 inches or more will be used to assess the acidity impact on the riparian zone. For deep well drilling or deep shaft mining operations, use the value for medium level (2 points) as the acidity factor.	<u>Low</u> Greater than 5.5 pH.
		<u>Medium</u> 4.5 to 5.5 pH.
		<u>High</u> Less than 4.5 pH.

TABLE 4-13

^{1/}
K Values (Soil Erodibility) of Soil ^{2/}Series

High		Medium		
.37	.43	.24	.28	.32
Alford	Stendal	Berks	Weikert	Gilpin
Cuba	Upshur	Barkcamp	Huntington	Belpre
Ebal	Guernsey	Chili	Allegheny	Bethesda
Wellston	Elba	Gilpin	Steinsburg	Negley
Zanesville	Omulga	Dekalb	Enoch	Culleoka
Brookside	Nolin		Lily	Genesee
Chagrin	Melvin			Shelocta
Vandalia	Woodsfield			
Westmoreland	Latham			
Moshannon	Coolville			
Orrville	Rarden			
Fairpoint	Newark			
Mentor				
Glenford				
Westmore				
Wheeling				

^{1/} See definition of K Values (soil erodibility) in Factor 1 in Table 4-12, page 4-32.

^{2/} Soil series maps are available at District office.

**OLD WELLS
AND CISTERNS**

Old wells and cisterns will be filled or plugged for public safety purposes.

STREAM CROSSINGS

Perennial and designated intermittent stream crossings by roads, trails, pipelines, and powerlines represent special water quality hazards, even though they may cross a stream at only one point. Improperly designed, constructed, or maintained crossings can damage a stream's aesthetic quality or biological and physical conditions by damming of waters, by blocking movements of fish and other aquatic organisms, and by sedimentation.

The need for crossing perennial and designated intermittent streams, special design or construction considerations, and specific mitigating measure for the crossing will be identified on a case-by-case basis in an appropriately documented environmental analysis.

Standard mitigating measures for soil and water resource protection during road and skid trail construction and use are contained in several publications listed under "Roads" in Chapter 8, References, in the DEIS, and in the 7700 TRANSPORTATION SYSTEM section of these Forest-wide Standards and Guidelines.

The following standards and guidelines will be followed when a pipeline will cross a stream on National Forest System land. 1/

- Cooperative efforts between the State and Forest Service should be encouraged for environmental protection when a stream will be crossed by a pipeline transmitting a hazardous or potentially polluting substance.
- All pipeline crossings should be bored beneath forest streams where topography, soil, and stream bottom conditions permit.
- Fluming of streams where boring is impossible should be encouraged to avoid the use of heavy equipment in a flowing stream.
- The use of concentric pipes (double-piping) should be encouraged.

1/ Adapted from "Management guidelines for the Water Influence Zone; National Forests of Michigan," by Michael J. Solomon.

- Control valves should be located so that upon detection of a leak, the supply flow can be shut down immediately.
- Stabilize disturbed soil and protect streamside banks as work progresses.
- When opportunities for stream crossings occur at existing bridges, use bridges except for areas where visual disturbance would be great.

**REMOVAL OF
MATERIAL FROM
STREAMS**

Approval to remove sand, gravel, or other common variety minerals from streams will be considered on a case-by-case basis. The need for removing materials from streams, the volumes allowed, methods to be used, and specific mitigating measures will be identified in an appropriately documented environmental analysis. Instances where permission to remove sand, gravel, or other common variety minerals from streams include, but are not restricted to:

All proposals to remove streambed materials will be reviewed for compliance with dredge and fill activities which are regulated by Section 404 of the Clean Water Act, as administered by the Corps of Engineers. The State of Ohio has recognized the Federal regulation of these activities and does not require State review and approval.

- Excavation of deep holes in stream channels to improve fisheries or other wildlife habitat.
- Incidental excavation operations for culverts, bridges, fords, dams, or other new or existing facilities.
- Restoration to a more natural or stable stream channel that has been filled by sediment from strip mines or other land disturbing activities.
- Removal of materials from sediment basins that have been installed to trap sediment coming from some upstream activity.
- Removal of material from sand and gravel bars or from floodplains for bridge or culvert backfill or road surfacing as a replacement for expensive, processed crushed stone.

In no cases will permission be granted to remove materials from streams unless adverse impacts to soil, water, wildlife, and other resources can either be eliminated, or minimized and mitigated.

DISTURBED AREAS

Non-Mined Areas

Exposed soil should be protected from soil loss or erosion using one or more of the following techniques or practices:

- Surface Water Control
 - o Diversions
 - o Ditches, culverts, broad base dips
 - o Adequate outlets

- Sediment Controls
 - o Hay or straw bales
 - o Earth, or stone berms or dikes
 - o Sediment basins
 - o Silt fences
 - o Vegetative filter strips

- Revegetation
 - o Temporary
 - o Permanent

Reclamation of Mined Areas

Reclamation on National Forest System lands in the Wayne National Forest which are mined will be in coordination with the Division of Reclamation, ODNR.

The following fish and wildlife habitat improvements and coordination measures will be incorporated in reclamation of surface mined lands as site conditions permit and subject to Ohio and Federal rules and regulations and management area objectives.

1. Permanent wildlife openings will be designated and seeded to a desirable mixture of grasses and legumes for wildlife as well as erosion control purposes.

2. Waterholes and other impoundments of fish and/or wildlife value that are destroyed in the mining process will be replaced by the mining permittee with equal or larger sized, non-acid impoundments, or the permittee may reimburse the Forest Service for costs of replacing destroyed structures.

3. Impoundments created in reclamation must be coordinated with the Ohio Division of Reclamation. Dams will not be constructed unless they are approved by the Forest Supervisor or are less than 6 feet in height and impound less than 10 acre-feet. Ideally, impoundments will have contouring, irregular shorelines and peninsulas and/or islands. The placement of some large boulders in lakes and ponds and on their shorelines to provide fish and wildlife covers and enhance aesthetic qualities will be encouraged.

4. A variety of tree species, including major mast-producing species, will be planted when trees are planted during reclamation.

5. Consideration will be given to leaving small areas of special wildlife covers, such as highwall "cliffs" or banks used by nesting birds, during reclamation where such covers will not constitute a public safety hazard.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE

- * National Forest System lands will be managed in accordance with specific habitat objectives and habitat capability for management indicator species. Management indicator species are identified in Appendix B.

Land use and habitat management activities on adjacent lands will be considered when locating National Forest activities.

- * Manage habitat adjacent to selected warm water (nontrout) streams and lakes to maintain viable populations of beaver, other furbearers, and associated aquatic species. (All management areas except 6.2, 6.3, 7.1, 8.1, 8.2, 9.1 and 9.2).
- * Favor selective treatment of transmission line rights-of-way vegetation to improve wildlife forage.

Use timber harvest as the method of vegetation management to accomplish wildlife management objectives when economically feasible. (All management areas except 6.2, 8.1, 8.2, 9.1 and 9.2).

Working relationships between the Forest Service and Ohio Department of Natural Resources will be pursued and fostered in various aspects of fish and wildlife management, including habitat management, restocking of native or formerly native wildlife species, harvest management, and law enforcement.

Fish and wildlife research by other agencies or universities on the Forest is subject to the approval of the Forest Supervisor; and in accordance with agreements describing respective responsibilities and working relationships.

Permanent Openings

- * Manage permanent openings in upland forest areas to meet the needs of management indicator species. Distribution of openings will recognize the home range needs of the selected species. Opening objectives will recognize the contribution of adjacent private lands. (All management areas except 6.2, 6.3, 7.1, 8.1, 8.2, 9.1 and 9.2).

Permanent openings will be established or designated on a variety of sites, including ridge tops, midslope benches, and valley bottoms, preferably where access by machinery is possible. A special effort will be made to select or develop openings where they will adjoin more than one cover type.

High priority will be given to developing permanent openings on old field and homesite remnants. Higher priority will be given to opening management on larger, contiguous blocks of National Forest than on smaller, isolated tracts.

Generally, openings will be long, narrow, and irregular and located away from heavily traveled roadways. Approximately half of each opening will be managed as a shrubby edge or thicket where possible. A variety of native shrubs and small growing trees will be retained. Shrub thickets will be managed in scattered irregular clumps or on the periphery of each opening.

Approximately half of each opening will be developed and maintained in openland cover of native forbs and grasses. Monotypic stands of fescue or other dense, domesticated grasses are undesirable for this cover type.

Late summer (August to mid-September) and early spring (March) are preferred times for openland maintenance from the standpoint of minimizing disturbance to flowering plants and nesting birds, while maintaining some herbaceous food and cover over winter.

Some permanent wildlife openings established in recent clearcuts, old burns, or other brushland with dense growth of tree species may be maintained in an early successional stage without conversion to shrubland and/or openland.

Some scattered ground debris will be provided and brushpiles may be created in shrub zones of openings in conjunction with opening development and maintenance.

An average of 2 to 3 standing dead trees per acre will be retained in openings, as possible, in conjunction with opening development and maintenance.

When oil and gas well developments meet, or can be made to meet the objectives of permanent openings, they will be so designated and included in calculations of the area meeting this objective.

**Wildlife
Ground Covers**

Brushpiles may be made in forest stands in conjunction with timber harvest and other activities involving tree felling.

Edges of woodlands, brushland and openland covers, especially near water and wetlands, are preferred sites for brushpiles.

To reduce fire hazard and minimize unsightliness of ground cover, flammable materials, such as logging slash, will not be purposely left for wildlife cover immediately adjacent to roads and trails open to motorized travel or railroad rights-of-way. Heavy ground cover must also be avoided near buildings because of fire and snake hazards.

Grouse drumming logs may be placed in new clearcuts where suitable sites are available.

- * Provide for the retention of dead and down logs and other ground material necessary to maintain viable populations of indigenous species, such as reptiles and amphibians. (All management areas except 6.2, 7.1, 8.1, 8.2, 9.1, and 9.2).

Marshes

Permanent wetlands will be constructed where needed.

- * Provide wetland habitats to meet the requirements of management indicator species. The desired percentages of wetlands will recognize the contribution of other ownerships in the planning area. (All management areas except 6.2, 6.3, 7.1, 8.1, 8.2, 9.1 and 9.2).

Average water depth of 12 to 18 inches is preferred.

Designs will accommodate the need for water level manipulation.

Some vegetation on shorelines and within wetland pool areas will be retained during construction. Large living and dead trees and brushland near shorelines, on islands, and within pool area and emergent brushpiles, logs, or limbs provide valuable covers which will be retained or provided as possible.

Every effort should be made to develop islands and peninsulas.

Marshes will not be constructed on existing wetlands unless added values of construction outweigh values of existing marsh and construction costs.

Water levels in marshes may be manipulated periodically to manage for a variety of native aquatic plants. Marshes will not be drained seasonally to permit annual seedings of food plots at the expense of overall wildlife diversity. Marshes may be drained periodically, however, to maintain vegetative diversity.

Wetland dikes and outlet works will be maintained as necessary to minimize erosion and insure continued functioning of wetland facilities.

Waterholes

To supplement limited water and wetland areas, as many as two 1,000 square feet to .4 acre waterholes may be provided per square mile of National Forest lacking other permanent waters in management areas 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 6.1, and 7.1.

On ridges, small "potholes" created by blasting may be substituted for excavated waterholes, if they retain water year-round.

Watershed ratio of waterholes should not exceed 5 to 1. Slope of the fill should be 3:1 on both the water and the back sides. After settling, freeboard should be at least 2 feet above a seeded or sodded spillway. All bare ground of fill and excavation will be seeded and mulched.

Minimum depth of water should be at least 4 feet to maintain permanent water.

Waterholes are too small to be managed for fishing and will generally not be stocked with fish.

Maintenance will be done only as necessary to maintain the dam and spillway, maintain adequate water depth, and minimize soil erosion.

Vegetation in and around waterholes will be controlled only as necessary to keep the dam and spillway free of woody stems.

Den and Nest Boxes

As funding for placement and maintenance permit, aesthetically acceptable wood duck and squirrel boxes may be used to supplement natural cavities. Other habitat needs, particularly brood cover for wood ducks and mast-producing timber for squirrels, must be available if artificial structures are used.

Only a few duck nesting boxes will be placed in an area initially. Additional boxes may be added as use dictates.

Squirrel den boxes may be erected at an average rate of one per acre in management areas 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 6.1, and 7.1 if short of natural dens. They are to be located primarily in young, mast-producing hardwoods.

Nest boxes may be erected for smaller, cavity-nesting birds only in recreation areas.

FISH

(All management areas except 8.1, 8.2, 9.1 and 9.2).

Stream management will favor a variety of native fishes, including game and nongame.

Fisheries management will be coordinated with the Ohio Department of Natural Resources, Division of Wildlife.

- * Vegetation canopy in and along streams should be managed to provide water temperatures within the prescribed ranges for the fisheries objective.
- * Fish passage in streams should not be blocked or prevented unless done in conjunction with prescribed fish management.

Small Lakes

Sizes of small lakes generally range from 2 to 25 surface acres; 5 acres or larger is preferred.

Impoundments will be located in a remote forest environment.

As a general rule, the entire watershed of a prospective fishing impoundment and lands needed for walk-in access and to protect aesthetic quality of lake surroundings, including mineral rights, will be in National Forest ownership before the impoundment is constructed. Exceptions may be made where activities on other lands are not expected to have unacceptable adverse effects on water and recreation qualities.

Access to most small lakes will be by foot only.

Small lakes should be developed and managed to provide a high quality fishing experience and a highly productive aquatic habitat.

Consideration will be given to creating fishing impoundments in conjunction with borrow pits and fills made in road construction, strip mining sites, and other activities.

Ability to draw a lake down to a small pool will be incorporated in the design.

Islands and peninsulas will be created whenever possible.

Retention and placement of emergent and submerged covers, such as standing trees and brushpiles, should be jointly planned by Forest Service personnel and Division of Wildlife biologists, prior to lake construction.

Management of fish habitat, including management of waters, shorelines, and watersheds (i.e. habitat management) is a Forest Service responsibility. All manipulations of fish populations, including determination of means by which fish and wildlife shall

be harvested (i.e. management of fish populations) and fish stocking, are the responsibility of the Ohio Division of Wildlife. Division of Wildlife and Forest Service personnel will cooperate in fisheries management as funds and time limitations permit.

When streams capable of supporting fish are impounded, a pre-impoundment fisheries survey will be made. If necessary, undesirable fish will be eradicated prior to filling and stocking of an impoundment.

Fisheries surveys of lakes and ponds is a Division responsibility. Forest Service personnel will assist as funds and manpower permit. If possible, surveys will be made at least the second and sixth year after fish are stocked and every 2 years thereafter until renovation is necessary.

As described in "Fish and Wildlife Habitat Management on the Wayne National Forest, Ohio" (Sikes Act guidelines), fishery surveys will normally include sampling of fish populations and water quality and descriptions of aquatic plant growth, watershed conditions and/or problems, access, and public use. Fish age and growth sampling may not be necessary on ponds. Water quality will be sampled by standard procedures. Survey reports will include recommendations of management actions needed to improve fishing and water quality.

Fish populations will be controlled in lakes as dictated by fisheries surveys. The Forest Service will be responsible for water level manipulations and other treatments for fish control.

Outboard motors will not be permitted on ponds (fewer than 5 surface acres). Boat motor restrictions on lakes will be determined on an individual basis.

As recommended in fisheries surveys, other management measures, such as aquatic vegetation control, may be implemented.

All pesticide uses, including fish and vegetation control chemicals, will receive necessary prior approval by the Forest Service and Division of Wildlife.

The Forest Service may fund, to the extent funds are appropriated, all fisheries management, including some that are a Division responsibility, of Forest ponds and lakes of 20 acres or less, so that these fishing waters can be more intensively managed than would otherwise be possible.

**ENDANGERED,
THREATENED, AND
SENSITIVE (ET&S)
SPECIES**

Carry out National Forest responsibilities in recovery plans applicable to the Wayne National Forest for federally threatened and endangered species. Assess habitat, populations and effects of forest management practices for federal and state endangered and threatened species in cooperation with the Ohio Department of Natural Resources and U.S. Fish and Wildlife Service. Develop species management plans for selected federal and state threatened and endangered species.

**Federally
Endangered and
Threatened
Species**

Consultation with the U.S. Fish and Wildlife Service and Ohio Department of Natural Resources indicates that there are presently no federally-listed endangered, threatened, or proposed species within the vicinity of the Wayne National Forest which would be affected by management of the Forest. Recent studies conclude that it is doubtful that the Indiana bat, whose range extends into Ohio, inhabits the Wayne National Forest. The Bald Eagle and American Peregrine Falcon occur in the Forest only as migrants or transients and are essentially unaffected by Forest management.

Should new information indicate the presence of a federally-listed or proposed species within the Forest, consultation will be initiated with the U.S. Fish and Wildlife Service to develop species management plans and standards, as necessary to protect and, as possible, enhance habitat of such species.

The Forest will assess the feasibility of establishing two breeding pairs of bald eagles as the Wayne National Forest's contribution to the Northern States Bald Eagle Recovery Plan in cooperation with the Ohio Department of Natural Resources and U.S. Fish and Wildlife Service.

**Sensitive
Species 1/
and Forest
Species of
Concern**

Seven Wayne National Forest candidates for the Eastern Region's list of sensitive species (candidate sensitive species are listed on page 4-48. Three of the plant species, Small-flowered Alumroot, Synandra, and Great Indian-plantain, are known to occur on the Forest in suitable habitats. The other plant species are Bradley's Spleenwort and Tennessee Pondweed. All five plant species are ranked as globally rare by the Nature Conservancy, and their distribution throughout the Eastern Region is believed to be limited. Candidate animal species are the Eastern Spadefooted Toad and the Loggerhead Shrike.

Other species for which population viability in the Forest is a concern and which are termed, "Forest species of concern", are listed on pages 4-48 to 4-50.

Any candidate sensitive species which after Regional evaluation are not included in the Eastern Region's list of sensitive species will be added to the Forest list of species of concern.

1/ **Sensitive Species.** Those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by:

- a. Significant current or predicted downward trends in population numbers or density.
- b. Significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

After Eastern Region sensitive species have been determined, those occurring in the Forest will be managed to avoid or minimize adverse impacts on them. Programs and activities will be reviewed through biological evaluations, to determine their potential effect on sensitive species. Management objectives will be established in cooperation with Ohio Department of Natural Resources when projects may significantly affect sensitive species.

Selection Process Appendix E of the Final Environmental Impact Statement (FEIS) describes the process used to select Wayne National Forest candidate sensitive species and species of concern, provides habitat summaries, summarizes potential effects of management practices on populations of such species, references direction in the Forest Plan which avoids or mitigates potential adverse effects, and lists plant species which were reviewed but not included as Forest candidate sensitive species/species of concern.

Mitigating Measures Depending on the needs of each species, management of candidate sensitive species and Forest species of concern may range from habitat protection to management treatments required to retain or enhance habitat. The following standards and guidelines provide for biological assessments and surveys, protection, and management as necessary to insure that Forest management activities do not result in the loss of viability or create significant trends toward federal listing of any candidate sensitive species or Forest species of concern.

In areas to be affected by land exchange, surface disturbing activities (except areas with subsoil disturbance, such as strip-mined lands) or timber harvesting, assess the need for and as needed, conduct surveys or inventories of plants and animals listed as Forest species of concern or candidate sensitive species. Such assessments and inventories will often require specialized biological expertise. Assessments and inventories will include consultation with appropriate Ohio Department of Natural Resources, Division of Wildlife and Division of Natural Areas and Preserves staff, or other specialists when a proposed activity would impact any of the following sites:

- Known locations of species of concern or sensitive species
- Riparian zones
- Existing wetlands or other open water
- Rock shelters or faces (15 feet or more in height and 30 feet or more in length).
- Open sandy sites
- Intermittent and perennial stream terraces
- Hardwood stands over 100 years old
- Other uncommon or unique sites

Forest Service personnel will also routinely consult with appropriate ODNR staff or other specialists, as necessary and to the extent that out-service staff and specialists are available, when evaluating the need for inventories of such species in more common forest areas.

Activities must not result in loss of a species viability of create significant trends toward Federal listing. When possible, re-design projects to avoid or minimize adverse effects to Forest species of concern and candidate sensitive species. If a project cannot be relocated and/or environmental analysis indicates that its overall benefits outweigh costs, including potential adverse effects on existing biota, attempt to mitigate adverse impacts to significant sites in consultation with appropriate Ohio Department of Natural Resources staff and/or other specialists. In weighing the significance of potential adverse effects on Forest species of concern and candidate sensitive species and in consultation with ODNR, Division of Wildlife and Division of Natural Areas and Preserves, consider the number of other known sites, population trends, recent changes in numbers of known sites, likelihood of finding additional sites (considering recent findings), and other considerations specialists may suggest.

As appropriate and in consultation with ODNR, Division of Wildlife and Division of Natural Areas and Preserves, known sites may be managed to maintain or enhance habitat of Forest species of concern and candidate sensitive species.

As necessary and funding or availability of cooperating specialists permits, inventory newly acquired land for Forest species of concern, and candidate sensitive species in cooperation with ODNR, Division of Wildlife and Division of Natural Areas and Preserves.

Decisions concerning relocations of portions of populations, or attempts to establish new populations of Forest species of concern and candidate sensitive species will be coordinated with appropriate ODNR staff and the results monitored and recorded.

A listed plant species requiring full sun or partial shade or a listed animal species requiring early successional vegetation will not be managed for in 6.2 management area, unless it is associated with a significant plant community (e.g. prairie) or it is the last known population of that species in Ohio.

Late summer (August to mid-September) and early spring (March) are preferred times for opening maintenance from the standpoint of minimizing disturbance to flowering plants and nesting birds, while maintaining some herbaceous food and cover over winter.

Vegetation management is prohibited within a 50 feet radius of rock shelters and within 50 feet of the base and 50 feet of the top (measured horizontally) of naturally occurring, large, rock faces or outcrops ^{1/} unless designed to enhance the site characteristics for an endangered or threatened species or a known population of Forest species of concern or candidate sensitive species. If possible or as necessary, based on biological inventories and environmental assessments, avoid vegetation management within 50 feet of the base and 50 feet of the top of smaller rock faces (15 feet or more in height and 30 to 99 feet in length).

Because tree canopy adjoining streams is important in maintaining the riparian climate needed by some aquatic species, only single-tree selection harvest (partial overstory removal) is permitted within 50 feet of perennial and intermittent streams. No trees will be cut on a commercial basis on or within 5 to 10 feet of the banks of perennial and intermittent streams.

Vegetation management is not permitted and other activities will be minimized within 150 feet of known Sharp-shinned Hawk nest sites during the nesting period of April through July.

^{1/} For purposes of vegetation management prohibition these "large, rock faces or outcrops" are defined as large, rock outcrop areas which are 15 feet or more in height and 100 feet or more in length. These rock outcrop habitats are not limited to solid "cliffs", and may include discontinuous rock faces, so long as the outcrop area is predominantly rock faces.

CANDIDATE SENSITIVE SPECIES
AND FOREST SPECIES OF CONCERN

CANDIDATE SENSITIVE SPECIES

PLANTS

Asplenium bradleyi (Bradley's Spleenwort)
Cacalia muhlenbergii (Great Indian-plantain)
Heuchera parviflora (Small-flowered Alumroot)
Potamogeton tennesseensis (Tennessee Pondweed)
Synandra hispidula (Synandra)

AMPHIBIANS

Scaphiopus h. holbrooki (Eastern Spadefooted Toad)

BIRDS

Lanius ludovicianus (Loggerhead Shrike)

FOREST SPECIES OF CONCERN

PLANTS

Adlumia fungosa (Mountain-fringe)
Agave virginica (American Aloe)
Amelanchier sanguinea (Rock Serviceberry)
Asclepias amplexicaulis (Bluntleaf Milkweed)
Asclepias variegata (White Milkweed)
Aster infirmus (Weak Aster)
Aster linariifolius (Stiff-leaf Aster)
Aster oblongifolius (Shale-barren Aster)
Baptisia australis (Blue False Indigo)
Bignonia capreolata (Cross-vine)
Botrychium biternatum (Sparse-lobe Grape-fern)
Callitriche terrestris (Austin's Water-starwort)
Carex glaucoidea (Blue-green Sedge)
Carex gravida (Heavy Sedge)
Carex nigromarginata (Black-margined Sedge)
Carex retroflexa (Reflexed Sedge)
Carex rugosperma (Low Sand Sedge)
Carex straminea (Straw Sedge)
Carex striatula (Lined Sedge)
Castanea dentata (American Chestnut)
Chimaphila umbellata (Pipsissewa)
Chionanthus virginicus (Fringe-tree)
Chrysogonum virginianum (Golden-knees)
Clitoria mariana (Butterfly-pea)
Corallorhiza wisteriana (Spring Coral-root)
Croton glandulosus (Northern Croton)
Cuscuta compacta (Sessile Dodder)
Cuscuta coryli (Hazel Dodder)
Cuscuta pentagona (Five-angled Dodder)
Cyperus dipsaciformis (Teasel-sedge)

FOREST SPECIES OF CONCERN (Con't.)

Cyperus lancastricensis (Many-flowered Umbrella-sedge)
Cyperus refractus (Reflexed Umbrella-sedge)
Cypripedium calceolus var. pubescens (Large Yellow Lady's-slipper)
Dentaria multifida (Narrow-leaved Toothwort)
Desmodium pauciflorum (Few-flowered Tick-trefoil)
Digitaria filiformis (Slender Finger-grass)
Eleocharis quadrangulata (Four-angled Spikerush)
Eryngium yuccifolium (Rattlesnake-master)
Euonymus americana (American Strawberry-bush)
Eupatorium album (White Thoroughwort)
Eupatorium aromaticum (Small White Snakeroot)
Eupatorium incarnatum (Pink Thoroughwort) WNF
Galactia volubilis (Milk Pea)
Gentiana alba (Yellowish Gentian)
Gentiana villosa (Sampson's Snakeroot)
Gratiola virginiana (Round-fruited Hedge-hyssop)
Gratiola viscidula (Short's Hedge-hyssop)
Helianthus mollis (Ashy Sunflower)
Heuchera villosa (Hairy Alumroot)
Hypericum canadense (Canadian St. John's-wort)
Hypericum tubulosum (Large Marsh St. John's-wort)
Iris verna (Dwarf Iris)
Juglans cinerea (Butternut)
Juncus interior (Inland Rush)
Juncus platyphyllus (Flat-leaved Rush)
Juncus secundus (One-sided Rush)
Lechea minor (Thyme-leaf Pinweed)
Liatris cylindracea (Slender Blazing-star)
Ligusticum canadense (American Lovage)
Linaria canadensis (Oldfield Toadflax)
Lorinseria areolata (Netted Chain-fern)
Luzula bulbosa (Southern Woodrush)
Lycopodium porophilum (Rock Clubmoss)
Lyonia ligustrina (Maleberry)
Magnolia tripetala (Umbrella Magnolia)
Malaxis unifolia (Green Adder's-mouth)
Matalea obliqua (Angle-pod)
Myosotis macrosperma (Bristly Scorpion-grass)
Opuntia humifusa (Prickly Pear)
Panicum bicknellii (Bicknell's Panic-grass)
Panicum philadelphicum (Philadelphia Panic-grass)
Penstemon canescens (Gray Beard-tongue)
Penstemon laevigatus (Smooth Beard-tongue)
Penstemon pallidus (Downy White Beard-tongue)
Phaseolus polystachios (Wild Kidney Bean)
Phlox stolonifera (Creeping Phlox)
Phoradendron serotinum (American Mistletoe)
Platanthera ciliaris (Yellow-fringed Orchid)
Polygala incarnata (Pink Milkwort)
Potamogeton pulcher (Spotted Pondweed)
Prunus nigra (Canada Plum)
Psoralea psoraliodes var. eglandulosa (False Scurf-pea)
Pycnanthemum verticillatum var. pilosum (Hoary Mountain Mint)

FOREST SPECIES OF CONCERN (Con't.)

Quercus falcata (Spanish Oak)
Rhododendron calendulaceum (Flame Azalea)
Rhododendron nudiflorum var. nudiflorum (Pinxter-flower)
Rhododendron nudiflorum var. roseum (Northern Rose Azalea)
Ribes rotundifolium (Appalachian Gooseberry)
Scirpus purshianus (Pursh's Bulrush)
Scleria pauciflora (Few-flowered Nut-rush)
Scutellaria integrifolia (Hyssop Skullcap)
Scutellaria saxatilis (Rock Scullcap)
Silphium laciniatum (Compass Plant)
Solidago squarrosa (Leafy Goldenrod)
Stenanthium gramineum (Feather-bells)
Stipa avenacea (Blackseed Needle-grass)
Trichostema dichotomum var. lineare (Narrow-leaved Bluecurls)
Verbesina occidentalis (Yellow Crownbeard)
Viola lanceolata (Lance-leaved Violet)
Viola primulifolia (Primrose-leaved Violet)
Viola tripartita var. glaberrima (Wedge-leaf Violet)
Viola tripartita var. tripartita (Three-parted Violet)
Vitis cinerea (Pigeon Grape)
Vittaria lineata (Appalachian Gametophyte)
Wolffia papulifera (Pointed Water-meal)
Wolffiella floridana (Wolffiella)

FISH

Ammocrypta pellucida (Eastern Sand Darter)
Clinostomus funduloides (Rosyside Dace)
Esox masquinongy ohioensis (Ohio Muskellunge)
Ichthyomyzon bdellium (Ohio Lamprey)
Ichthyomyzon unicuspis (Silver Lamprey)
Moxostoma carinatum (River Redhorse)
Percina phoxocephala (Slenderhead Darter)

AMPHIBIANS

Aneides aeneus (Green Salamander)
Cryptobranchus a. alleganiensis (Eastern Hellbender)

REPTILES

Crotalus horridus (Timber Rattlesnake)
Lampropeltis getulus niger (Black Kingsnake)

BIRDS

Accipiter striatus (Sharp-shinned Hawk)
Buteo lineatus (Red-shouldered Hawk)
Coragyps atratus (Black Vulture)
Thryomanes bewickii (Bewick's Wren)

MAMMALS

Felis rufus (Bobcat)
Sorex hoyi (Pygmy Shrew)

2700 SPECIAL USES MANAGEMENT

Utility Transmission Corridors

NOTE: See also 7700 Transportation System. Appendix D contains maps and allocations of transmission and utility categories.

Where possible, utility rights-of-way and other special uses where applicable on National Forest System land will enhance wildlife habitat objectives. Visual resource considerations will be incorporated into their design. This standard does not apply to lands available for exchange.

Require permittee to meet the same environmental standards as those applied to the Forest Service.

Special use permittees are required to bury all new telephone lines and powerlines up to and including 34.5 KV, except those to be placed on existing poles or towers. This standard does not apply to lands available for exchange. Exceptions to this standard are as follows:

Forest Supervisor may approve exceptions to this policy when:

- The applicant provides evidence that burying the utility line is not feasible; and/or,
- There are only one or two poles on National Forest land with private land on each side.
- There is a minor relocation of an existing pole line.
- There are outstanding mineral rights.

Other Special Uses

- * Approval of applications for other special uses involving National Forest System lands, including wind, solar and hydropower generation sites, will be determined on an individual basis using Standards and Guidelines contained in this Forest Plan.

If special-use agricultural permits are permitted, mowing should be timed to minimize adverse effects on wildlife, preferably by not mowing during the major bird-nesting period from early spring through June.

Hazardous waste disposal will not be permitted on or under National Forest System land.

2800 MINERALS AND GEOLOGY

Mineral Exploration

- * All lands of USA-owned minerals will be available for mineral exploration that does not disturb the land surface. Surface-disturbing exploration (including core drilling) will be permitted in most areas, especially where there is a potential to discover minerals of compelling domestic significance as defined by the U.S Department of the Interior. (All management areas except 7.1 (developed portion), 8.1, 8.2, and 9.2).

- * The reasons for closing an area to land disturbing exploration must be supportable and documented.

**Mineral
Development**

Provide for mineral development on a case-by-case basis consistent with restrictions determined by an appropriately documented environmental analysis.

When mineral rights revert to the U.S., the USDA - Forest Service will recommend lands for leasing if there are no overriding reasons not to.

It is Forest policy to recommend to BLM that existing mineral rights operators should be given priority status in continuing on a noncompetitive basis as the existing operator when mineral rights revert to the U.S. and where leases are to be renewed unless there is reason not to for cause.

- * USDA consent to mineral extraction plans will be determined individually, based on the relative value of the surface/subsurface resources and on consistency with the standards and guidelines of management areas.

No surface disturbance is required for the extraction of USA-owned minerals in the developed recreation portion of Management Area 7.1; or in Management Areas 8.1, 8.2, and 9.2.

Gas storage operations include activities almost identical to oil and gas exploration and development insofar as surface impacts are concerned. Therefore, any gas storage activities will be subject to the same standards and guidelines as oil and gas exploration and development.

Oil or gas development of USA-owned minerals may occur under the following constraints: (All management areas except 7.1, 8.1, 8.2 and 9.1).

- No oil or gas extraction or drilling will be allowed within maintained wildlife openings or the watersheds of waterholes unless any resulting habitat loss can be mitigated.
- No surface disturbance is allowed without special mitigating measures including seasonal restrictions, road and construction maintenance requirements, setbacks from streams, marshes, and ponds, noise abatement, wildlife coordination, and visual resource coordination.
- Prior to extraction of water from impoundments, streams, lakes or wetlands for use in oil and gas development operations, written concurrence by the District Ranger will be necessary.
- The opportunity to locate access roads, drilling sites, pipelines, storage tanks, and other improvements may be limited by the amount of steep land and/or unstable soils on a leased area.

- Visual Resource Specialist coordination will be required for all proposed oil and gas drilling and exploration activities in zones designated for retention and partial retention under the Forest Service Visual Resource Management System.
- Wildlife Biologist coordination will be required for all proposed oil and gas drilling and exploration activities. No activities will be allowed if such activities are shown to be detrimental to any threatened, endangered, or sensitive plant or animal species.

Provide restrictions to prevent unacceptable environmental damage resulting from the development of common variety mineral deposits. (All management areas except 7.1, 8.1, 8.2, 9.1, and 9.2).

Private Minerals* Land management decisions must not preclude the ability of private mineral owners to make reasonable use of the surface as defined by deed and public law. (Also see 5400 - Subsurface Ownership)

3400 FOREST PEST MANAGEMENT

Integrated Pest * Management Use integrated pest management methods to minimize or prevent the development of pest problems. Where pest problems are unavoidable, select the solution that provides the most beneficial method based on objectives, effectiveness, safety, environmental protection, and cost.

Insect and disease monitoring will be conducted and necessary pest management actions will be carried out using a systematic, integrated approach.

5100 FIRE MANAGEMENT

Approved prescribed burning plans will be required. Fires from unplanned ignitions in an area with an approved prescribed burning plan may be managed as a prescribed fire if the fire fits the burning prescription. (All management areas except 8.1, 8.2, 9.1 and 9.2).

- * Agreements for wildfire detection and suppression on National Forest System lands by cooperating firefighting agencies must define suppression action that will be commensurate with established resource management prescriptions and fire suppression action plans.

Wildfire will be suppressed on National Forest System land consistent with land and resource management objectives and in a cost-efficient manner.

Activity fuels (slash) will be treated to a level commensurate with the allowable fire intensity and rate of spread that meets resource objectives. Treatment along highways and adjacent properties will meet applicable State laws.

Wildfire prevention, detection, and suppression, as well as fuels management, including hazard reduction, will be planned, based on an analysis of probable fire location, expected fire intensities, potential net resource value change, and risk to health and safety. Because of the extensive, existing road system on the Wayne National Forest, fuelbreak construction and maintenance is not needed.

Prescribed fire may be used to establish or maintain vegetation under established resource management prescriptions.

5300 LAW ENFORCEMENT

- * Adjust Cooperative Law Enforcement agreements in accordance with tri-year evaluations of Forest law enforcement needs, quality of service available, and availability of funds.
- * Law enforcement will be commensurate with frequency, severity and types of violations committed.

Provide law enforcement patrols with emphasis on areas of high use during peak use periods. (All management areas except 8.1, 8.2, 9.1 and 9.2).

- * At all facilities, apply recommended security measures that are cost efficient in relation to risk and value of potential loss.

The Forest Service will: (1) enforce Federal laws and regulations relating to the Wayne National Forest; (2) cooperate with State and local law enforcement agencies in the enforcement of all State and local laws on lands within the boundaries of the Wayne National Forest; (3) aid States in all practical ways in the enforcement of the laws of the State concerning livestock, the prevention and extinguishing of forest fires and the protection of fish and wildlife; and, (4) aid other Federal agencies in the performance of their duties as they relate to the Wayne National Forest.

Law enforcement will be an integral part of the overall management of the Wayne National Forest. It will consist of: (1) preventing, detecting, investigating, and reporting violations of laws and regulations, including those actions leading to initiating and assisting criminal and civil proceedings; (2) cooperating with and aiding other enforcement agencies in fulfilling their respective responsibilities; and (3) helping deter arson fires on both National Forest System and private land within fire protection boundary.

It will be the standard to develop and maintain a law enforcement program that will help ensure: (1) protection of Forest Service employees, (2) protection of the public and their property, (3) protection of Forest resources and property, (4) compliance with laws and regulation.

The objective is to ensure that the visitor, whenever possible, has an enjoyable experience. All law enforcement contacts will be made in a courteous and professional manner. Enforcement actions will be accomplished in a manner that promotes a better understanding of laws, regulations, and the need for compliance with them.

Prevention of criminal violations will be given first priority. Strong efforts will be made to adequately inform Forest visitors and users of applicable laws and regulations. In addition, day-to-day administration of Forest Service activities, planning, and design of facilities will prevent violations. Publicity will be appropriately used as a deterrent.

Aggressive action will be taken to discover and investigate violation of laws. Investigation will be continued until responsibility is established or until every reasonable lead has been exhausted. The responsible parties will be brought to account through appropriate criminal and/or civil action. Government interests will be adequately protected by thorough investigation of all actual or potential claims against it.

Forest officers will cooperate with and aid State, local and Federal agencies in executing their agency responsibilities. Maximum use will be made of cooperative law enforcement agreements (16 U.S.C. 551a).

Forest officers, insofar as it is consistent with normally assigned duties, will cooperate with and assist (as requested) Ohio Department of Natural Resources personnel in the enforcement of Ohio fish and game laws (36 CFR 261.8) and in the prevention of water pollution and littering on National Forest System lands and waters in the following ways:

1. Familiarization with resource laws and regulations will be a major coordination measure.
2. Forest officers will report violations of state fish, wildlife, pollution and littering regulations to state enforcement personnel.
3. Forest officers may issue citations for violations of the Secretary's Rules and Regulations (36 CFR 261.8) concerning fish and game laws when a State Conservation Officer is not available to cite an offender of state laws.
4. Forest officers may issue citations for violations of the Secretary's rules and regulations concerning pollution and littering regulations on National Forest lands and waters.
5. Forest Service and Ohio Division of Wildlife will exchange up-to-date lists of respective personnel who reside in the Forest vicinity.
6. Forest and Ohio Division of Wildlife personnel will meet, as necessary, to discuss and resolve enforcement problems.

5400 LAND OWNERSHIP

Surface Ownership

- * Land adjustment (purchase or exchange) must satisfy one or more of the following: (1) accomplishes objectives of Federal law or regulation, (2) meets demand for National Forest System resources, including recognized Special Interest Areas, (3) results in more efficient land ownership patterns, or (4) results in lower resource management costs.

Lands available for exchange are identified by criteria found on page A-15.

Acquire only the kind of ownership in the land needed to achieve land management objectives.

- * Avoid encumbering land available for exchange with land uses that compromise land exchange opportunities.

High priority will be given to acquisition of lands needed to consolidate National Forest System lands; to provide access to existing National Forest System lands and waters; to protect or enhance threatened and endangered species habitat or other special areas; to permit development and management of wetlands, lakes and ponds or recreation facilities; and to eliminate sources of water pollution. More detail is found on pages A-13 and A-14.

Condemnation of land will not be used on the Wayne National Forest, except in extreme cases to acquire right-of-ways (and only after all other efforts have failed) or clear title.

Land with potential for community development or where the majority of the ownership is prime farmland will not be acquired.

National Forest System lands adjacent to other ownerships will be managed up to the actual boundary, with no more restrictive practices than any private owner can reasonably extend as a good neighbor.

Subsurface Ownership

- * Consider subordination or acquisition of subsurface rights when all of the following are met: (1) conflicts between surface values and mineral activities cannot be mutually resolved, (2) the public benefits from the surface values exceeds the cost of acquiring subsurface rights, and (3) the cost is consistent with budget priorities.

7100 ENGINEERING OPERATIONS

Landline Location

Landlines will be located and marked to standard using marking classes compatible with area objectives.

Signs and Posters

Signs and posters will reflect basic Good Host Program concepts in providing the public with the information they need and want to make their Forest visits safe, convenient, and meaningful. Details on sign design, materials, and colors are found in the "Wayne-Hoosier Sign and Poster Guide."

7300 BUILDINGS AND STRUCTURES

- * Buildings and structures may be provided to support resource management objectives. (All management areas except 6.2, 8.1, 8.2, 9.1, and 9.2).

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

Solid Waste

- * Refuse generated or deposited on National Forest System land should be disposed of through community or area-wide systems which meet Federal regulations. The Forest Supervisor will work with State or local government officials to locate these solid waste sites on non-Federal land.
- * Emphasize and promote use of carry-in/carry-out method of disposal.

7700 TRANSPORTATION SYSTEM

ROAD SYSTEM

The Wayne National Forest Road System includes (1) all State and Federal highways, (2) all county and township roads, and (3) all permanent Forest Service jurisdiction roads both on National Forest System land and on rights-of-way across private land that are needed for transporting forest products, accommodating planned motorized access for recreation purposes, and protecting and managing the Forest. Where deemed necessary for resource management activities, the Forest Service will enter into cooperative road agreements with appropriate State and local governments for reconstruction and maintenance funding.

Temporary roads constructed for one-time use only will not be part of the Forest Road System. Minerals or other local access roads constructed on National Forest System land by others that will have no long-term planned use for Forest management will also not be part of the Forest Road System.

ROAD PLANNING

Area-specific, integrated resource management planning will be completed during the next 10 years to determine resource management needs and their related road access requirements to manage the Wayne National Forest in accordance with its Land Management Plan. A Transportation Plan, one of the products of this area-specific planning, will document the road locations and standards selected to satisfy the resource management needs. Approval of a Transportation Plan by the Forest Supervisor is required before the Forest constructs or reconstructs a road under its jurisdiction or shares in the cost of reconstruction of a State, county, or township road or bridge.

The Forest Service publication, "National Forest Roads for All Uses", may be referenced for questions about integrated resource management planning, Traffic Service Levels, and the criteria considered when selecting road standards. Further reference to this publication will be made in this section.

**CLOSURE AND/OR
MAINTENANCE OF
EXISTING ROADS**

As part of area-specific integrated resource management, all existing roads and rights-of-way on or affecting National Forest System land will be identified. Existing roads that are under Forest Service jurisdiction and are needed for long-term resource management, will be added to the Forest Road System, assigned a Maintenance Level commensurate with their intended use, and managed in accordance with the Forest Land Management Plan. Existing roads that are under Forest Service jurisdiction and are not needed for long-term resource management, will be removed from the Forest Road System, closed to all traffic with a permanent road closure device, and revegetated if necessary.

All Forest Service roads are open unless designated closed.

For State, county, and township jurisdiction roads that are still needed and still being maintained to an all-weather standard by the agency holding jurisdiction, the Forest Service may enter into a cooperative road agreement with the agency holding jurisdiction. The Forest Service will then assist in management and maintenance of the road if Forest Service resource management needs require more than the normal maintenance provided for local use. For State, county, and township jurisdiction roads or rights-of-way on National Forest System land that are no longer needed or maintained by the agency holding jurisdiction, the Forest Service will petition the agency holding jurisdiction to vacate their interest in the road. The Forest Service will ensure adequate public notice as to the petition and our management goals for the road if it is vacated by the agency. Road closures will be determined following consideration of:

- Authorized commercial activity
- Fire access
- Current road use (non-recreational)
- Recreation potential of route (if closed)
- Recreational access (if remaining open)
- Resource management
- Any closure action must provide appropriate public notification.

For State, county, and township jurisdiction roads or rights-of-way on private land that are no longer needed or maintained by the agency holding jurisdiction, but are needed by the Forest Service for road access to National Forest System land, the Forest Service may enter into a cooperative road agreement with the agency holding jurisdiction to assist in management and maintenance of the road.

Roads on National Forest System land that are not under the jurisdiction of the Forest Service, but are also not claimed by the State, counties, or townships, will be handled on a case-by-case basis. Examples of such roads are (1) roads to cemeteries, (2) roads to private in-holdings, and (3) some minerals access roads. Every reasonable effort will be made to manage these roads that have some outstanding rights to their use in a manner consistent with the Forest Land Management Plan.

**SYSTEM (PERMANENT)
ROAD CONSTRUCTION
AND RECONSTRUCTION**

As a result of area-specific integrated resource management planning, many existing roads and a few planned roads will be designated to be left open to public motorized traffic at all times. These roads will be designed and constructed or reconstructed to meet the objectives of Traffic Service Level A or B (see Glossary in the DEIS), whichever is appropriate for the planned use. Traffic Service Level A and B roads will be surfaced with a crushed or natural aggregate material. For convenience, these Traffic Service Level A and B roads will often be referred to as "all-weather" roads in this and accompanying documents.

Planned Forest System (Permanent) Roads that will be closed to public motorized traffic all or most of the time will be designed and constructed to meet the objectives of Traffic Service Level C or D (see Glossary in the DEIS), whichever is appropriate for the planned use. Traffic Service Level C and D roads will either be unsurfaced or surfaced only at drainage crossings, entrances onto State, county, or township roads, and where wet or weak soils occur. For convenience, these Traffic Service Level C and D roads will often be referred to as "dry-weather" roads in this and accompanying documents.

All system (permanent) roads will be "engineered". The roads will be surveyed and designed, and will be inspected while being constructed to ensure that they are being constructed in accordance with the road construction drawings and specifications.

**NON-SYSTEM
ROAD CONSTRUCTION**

Upon requests for road access into or across National Forest System lands for any legitimate reason, an effort will be made to coordinate access needs for these "non-forest" activities with the access needs for forest resource management. If the Forest Service has no anticipated need for a permanent road on or near the requested location, permission will be granted for the requesting party to construct a non-system road. The Forest Service will require or urge, depending upon the level of control the Forest has, that "non-forest" users construct these non-system roads to minimum standards consistent with resource protection and intended use.

Non-system (temporary) roads resulting from area-specific integrated resource management planning will most often meet the objectives of Traffic Service Level D. All temporary roads will be planned and constructed with the intention of being revegetated when the planned one-time use is over. Revegetation will be accomplished in a reasonable period of time, not to exceed one growing season after termination of the contract, lease, or permit.

PUBLIC PARKING

Off road, public parking will be provided for up to 12 cars per 1,000 acres of National Forest System land. Small, dispersed lots will be located along all-weather State, county, township, and Forest Service roads that are open to public motorized traffic at all times. Often, the lots will be at entrances to closed Forest Service roads.

PROTECTION AND/OR
MITIGATION
MEASURES FOR ROAD
CONSTRUCTION

References
??

Standard protection and mitigation measures for soil, water, visual, and other resources during and after road construction are contained in several publications listed under "Roads" in the Glossary in the DEIS. Additional information relative to resource protection during road construction can be found in the Riparian Area Standards and Guidelines in the 2500 Water and Soil Resource Management Section.

Minimum Seeding and Mulching Requirements

Road Types	Disturbed Areas	Seeding Requirements	Mulching Requirements
All Roads in Riparian Areas	All Disturbed Areas	Seed with a Grass Erosion Control Mix as soon as possible after earth moving operations have been completed in an area.	Mulch immediately after earth moving operations have been completed in an area, whether seeding can be done or not.
Other All-Weather Roads	All Disturbed Areas	Seed as soon as possible after earth moving operations have been completed in an area.	Mulch immediately following seeding.
Other Dry-Weather Roads	Road Surface	Seed just prior to road closure after resource management activities have been completed.	Mulch immediately following seeding.
Other Dry-Weather Roads	Other Disturbed Areas	Seed as soon as possible after earth moving operations have been completed in an area.	Mulch slopes exceeding 4 percent immediately following seeding.
Other Temporary Roads	All Disturbed Areas	Seed just prior to road closure after resource management activities have been completed.	Mulch slopes exceeding 4 percent immediately following seeding.

Notes concerning seeding:

- Prior to seeding, all disturbed areas shall be loosened to a depth of 3 inches in areas that can be reached by machinery and to a depth of 1 inch in areas that can only be worked with hand tools.
- Lime and fertilizer shall be applied before areas are seeded if soil nutrient levels are so low that an acceptable stand of vegetation cannot be established otherwise.
- A grass erosion control mixture shall be seeded on slopes exceeding 8 percent.

- Except in Riparian Areas, a grass erosion control mixture or a grass-legume wildlife mixture shall be seeded on slopes less than 8 percent.

Seeding and mulching is the most effective and cost efficient resource protection measure that can be applied to disturbed soil. Unless otherwise addressed in a site-specific environmental analysis, all areas (1) on which the vegetation or other protective ground cover has been removed by road construction activities, and (2) on which enough of the soil surface containing roots, seeds, and nutrients has been removed that natural revegetation or natural protection cannot be expected to occur in one growing season, shall be seeded and mulched in accordance with the following table:

- The small (less than 3 feet high) vertical or nearly vertical slopes that occasionally occur do not have to be seeded and mulched.
- All areas disturbed by road construction activities, except for riding surfaces, shall be mulched prior to any extended (exceeding 6 weeks) winter shutdown period.

Any additional mitigating measures for road construction, if needed, will be identified on a case-by-case basis in a appropriately documented environmental analysis.

ROAD CLOSURE DEVICES

The types of road closure devices used to close permanent, system roads to public motorized traffic will depend on (1) the frequency of planned road use, (2) the cost of maintenance or replacement of the closure device, (3) the seriousness of road or environmental damages if the closure device fails, and (4) public safety considerations, and (5) the ROS Class setting desired. Metal gates, timber or metal posts, vegetated earth mounds, and tree tops or stumps are just some road closure devices commonly used. When resource objectives require closing system roads to public motorized traffic, signs explaining the reason for the road closure and welcoming nonmotorized public use will often be posted.

Only permanent, natural appearing closure devices such as vegetated earth mounds and tree tops or stumps will be used to close non-system roads to motorized traffic until they have been revegetated.

USE OF CLOSED ROADS AS TRAILS

Although they may not be signed or maintained as such, the use of closed Forest Service roads for hiking or hunting trails will be encouraged. In most cases, these will be dead-end trails.

ROAD MAINTENANCE

All-weather, system roads that are planned to be left open to public motorized traffic at all times will be placed in Maintenance Category III, IV, or V (See Glossary), whichever is appropriate, and maintained accordingly. Where appropriate to meet resource objectives, the Forest Service may share in the cost of maintenance or even reconstruction of State, county, and township roads and bridges.

System roads that are planned to be closed to public motorized traffic all or most of the time will be placed in Maintenance Category II (See Glossary) when being used by logging or construction traffic, public motorized traffic, or administrative traffic, and maintained accordingly. These same roads will be placed in Maintenance Category I (See Glossary) at all other times, and maintained accordingly.

The Forest Service will require or urge, depending upon the level of control the Forest has, that "non-forest" users manage and maintain non-system access roads on or across National Forest System land in a manner consistent with their planned use and the Forest Land Management Plan.

Non-system, temporary roads will be maintained strictly by and for the users of those roads. Although the maintenance level can vary considerably, the Forest Service will use erosion control and drainage maintenance stipulations in contracts, permits, and leases to ensure that soil erosion levels from temporary roads and the resulting sediment loads in water runoff are maintained within allowable limits.

REFERENCES

See the section "Roads" in Chapter 8, References in the DEIS for specific references on policy, direction, and guidelines on integrated resource management planning, road planning, road design, road construction, road maintenance, and mitigation measures for road construction activities.

MANAGEMENT AREA 2.1

PURPOSE

This area will emphasize a vegetative condition along canoeable and fishable streams that:

Protects and enhances visual quality

Protects high quality recreation opportunities

Goods and services produced in this Management Area emphasize moderate amounts of high quality hardwoods for furniture, flooring, and veneer with low amounts of fuelwood and/or hardwood pulp. A variety of wildlife is present. Habitat conditions are especially favorable to those animals that use large hardwood trees. Moderate amounts of nonmotorized and motorized recreation opportunities are provided. Utility corridors occur here only when it is not in the public interest to locate them elsewhere. Mineral exploration and extraction may occur with this management area.

Roads within and on the perimeter of this management area are used for a variety of recreation activities and to haul forest products. In some areas, trails or canoeable streams provide access for nonmotorized activities. Viewing scenery, hunting, trapping, fishing, canoeing, and hiking are key recreation activities.

DESIRED FUTURE CONDITION

This area adjoins fishing-canoeing streams. Portions of it appear as an unbroken mixture of shade tolerant trees such as sugar maple, silver maple, beech, paw-paw, river birch, buckeye, sycamore, and box elder. Other areas contain stands of intolerant and moderately tolerant species such as oak, hickory, ash, tulip poplar, black walnut, and pine.

The vegetation is characterized by a continuous tree canopy and a variety of tree sizes.

There is evidence of human activities, and these activities are in harmony with the natural-appearing environment. Interaction between users is moderate. The user must be able to exercise a low to moderate degree of self-reliance in an environment that offers a low to moderate degree of challenge and risk.

The forest is accessible by canoeable streams, hiking trails, and a low density of roads open to public travel.

Facilities, structures, utility corridors, mineral exploration and development are usually evident only when viewed on-site or at a distance in broken terrain.

The forest areas are generally long corridors up to 1 mile or more in width. These areas occur in stream corridors with fishing and canoeing potential.

**SUITABILITY
REQUIREMENTS**

These areas are generally large enough to coordinate management of the surface with that of the subsurface without precluding long-term investments in surface uses.

Sizes and configurations of the area will vary, but they are usually long, narrow corridors of land following stream courses.

PRESCRIPTION FOR MANAGEMENT AREA 2.1

1600 INFORMATION SERVICES

Provide dispersed recreation information about canoe streams, canoe-in camp sites, and fishing streams in brochures and interpretive facilities at developed recreation sites.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The following objectives will apply to 500 to 5,000-acre units in this management area to intersperse cover types:

Composition Objectives

Uneven-aged (80% of Management Area)

2-3% Herbaceous openland

2-3% Brushland, nontimber

94-96% Timberland

1-5% Native Pines or Native Pine - Hardwoods

Even-aged (20% of Management Area)

2-3% Herbaceous openland

2-3% Brushland, nontimber

94-96% Timberland

30-50% Oak-Hickory

49-68% Other Hardwoods

1-5% Native Pines or Native Pine - Hardwoods

Age Class Distribution

Uneven-aged (80% of Management Area)

A variety of ages and size classes from seedlings to 30" diameter sawtimber will be provided. Areas under uneven-aged management will be considered old-growth when the largest trees are 100 years of age or older and dead and dying trees are occurring naturally.

Even-aged (20% of Management Area)

8-9% 0-9 years

24-27% 10-39 years

48-54% 40-99 years

16-18% 100+ years

VEGETATIVE PRACTICES

During harvest and timber stand improvement perpetuate, as possible, an average of 5 dead or dying trees per acre with minimum snag size 6 inches dbh. Of these trees, at least two per acre should be 14 inches dbh or larger, and at least one per 5 acres 18 inches dbh or larger. Densities may exceed those targets listed above if opportunities exist and they do not negatively impact other management concerns for the area.

2200 RANGE MANAGEMENT

Grazing may be used as a management tool.

- * Limit forage management to existing permanent openings, where it is compatible with the desired character of the landscape.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Roaded Natural (RN) is the objective in this management area. Canoeing, fishing, waterfowl hunting, trapping, and hiking will be emphasized.

Provide the following trail densities:

- Hiking--up to 2 miles per square mile on the average throughout the entire management area.
- Horse--no horse trails will be provided except for trails crossing through the management area.

DEVELOPED RECREATION

Recreation sites will be maintained to a standard which is compatible with the Roaded Natural Recreation Opportunity Spectrum class.

Operation and Maintenance

From April 15 through October 31, sites will be operated at full service level. Full service level will give the overall appearance of being clean and sanitary, free of litter, neat in appearance, and well kept by minor maintenance.

From November 1 to April 14, use is light, and sites will be operated at Reduced Service Level. Reduced service level will concentrate on keeping toilets clean and sanitary. Maintenance related only to health and safety will be accomplished.

Sites will be operated at reduced service level from April 15 through October 31 only when financing is inadequate to operate at full service level.

If public health and safety cannot be reasonably ensured, developed sites will be closed.

Details of operation and maintenance work are found in annual Operation and Maintenance Plans.

DISPERSED RECREATION

Canoe accesses may be constructed at a rate of one per 10 miles of stream with parking areas and sanitary facilities for about 25 persons at one time (PAOT) capacity. One canoe camping site will be provided per each mile of stream, but they will be consolidated at canoe access points. The design capacity of one site is 5 PAOT.

A maximum of 1 camping unit (walk-in) per 2 miles of hiking trail will be developed when needed if the length of trail the units serve is 10 miles or greater. If the trail is less than 10 miles in length, camp units will not be constructed.

When more than 3 walk-in camp units are provided in a cluster, toilet facilities may be provided.

Operation and Maintenance

Maintenance practices along canoeable streams will ensure passage during the canoeing season. Log jams and individual trees will be removed as necessary for safe and unrestricted travel. Maintenance will be planned in conjunction with integrated resource management planning and will incorporate guidelines found in ODNR publication "Ohio Stream Management Guide, 1986".

TRAILS

Hiking trail management will be compatible with the ROS objective of the area. Tread will generally be earth maintained to a width of 18 to 24 inches.

Operation and Maintenance

Hiking trails will be inspected at least once per year.

Trails will be maintained to their original construction standard when funding allows. The objective is to maintain trails for public safety and convenience.

If insufficient funding is available to maintain trails to the Forest objective, public convenience standards will be neglected. Public safety standards will be maintained, or the trail will be closed to public use.

VEHICLE USE

Vehicle use is allowed only on roads open for public travel.

VISUAL QUALITY *

All management activities will meet, as a minimum, the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

*

Variety Class	Sensitivity Level & Distance Zone	
	fg 1	fg 2
A	R	PR
B	R	PR
C	PR	M

Sensitivity Levels: 1-most sensitive
Distance Zones: fg-foreground
Variety Classes: A-distinctive, B-common, C-minimal
Objectives: R-retention, PR-partial retention
(See glossary for definitions)

INTERPRETIVE SERVICES

Interpretive facilities located in this mangement area will not be staffed.

2400 TIMBER MANAGEMENT

High quality hardwoods for lumber, flooring, and veneer will be produced.

Uneven-aged management will be the featured silvicultural system used on 80 percent or more of the area, to maintain an almost continuous tree canopy near streams and on steeper portions of the area.

Even-aged management will be used on the remainder of the area to perpetuate visual as well as vegetative diversity.

Harvest

Method

Uneven-aged

Harvest methods will be group or single-tree selection.

Even-aged

Harvest methods will be clearcutting or shelterwood.

Timing

Uneven-aged

In single-tree selection, a "Q-factor" (see Glossary) will generally be 1.3 to 1.5 and maximum tree size 24 to 30 inches dbh. As described in Agriculture Handbook 559, National Forest Landscape Management, Timber, page 142, this will result in retention of larger trees and a greater proportion of large to small trees than with a larger "Q-factor". Tree stocking in uneven-aged stands will generally be kept at a level comparable to the "C" level or higher (see Glossary) in even-aged stands.

Frequency of entry is 20 to 30 years in both single-tree and group selection.

Operating seasons are determined on a stand or area basis.

Even-aged

Rotation age--120 years with harvest of the 120-year age class when the Forest is regulated. In the interim, prior to regulation, stands may be harvested at age 60 to 150 years, but usually only understocked, high-risk, or low quality stands may be harvested prior to rotation age. Understocked stands are below "C" level as described in Agriculture Handbook 355, "Even-Aged Silviculture for Upland Central Hardwoods."

Operating seasons are determined on a stand-by-stand basis.

Intensity

Uneven-aged

The "Q"-factor" of 1.3 to 1.5 (see glossary) and existing stand condition determines numbers of different sized trees to be periodically removed.

Even-aged

Proportion of hardwood and conifer area to be harvested in a 10-year period in portions of analysis units under even-aged management:

When regulated:

Hardwood 8-9%

Conifer 8-9%

In transition:

If: Both the 0-9 year and 40-100+ year hardwood objectives can be met:

Then: Harvest

Hardwood 6-10%
Conifer 1-10%

In transition, when both the 0-9 year and 40-100+ year hardwood objectives can not be met, provision of 40-99 and 100+ year hardwoods will have priority over provision of the 0-9 year age class. The following rules govern regeneration harvest intensity when 40-100+ year hardwood objectives would not be fully met following timber harvest:

If: The 40 to 100+ year hardwoods are equal to or greater than 45% of the even-aged portion of an analysis unit after harvest.

and: The 100+ year hardwoods are equal to or greater than 10% of the even-aged portion of an analysis unit after harvest.

Then: Harvest

Hardwood: 1-6%
Conifer: 1-10%

If: The 40 to 100+ year hardwoods are less than 45% of the even-aged portion of an analysis unit after harvest.

or: The 100+ year hardwoods are less than 10% of the even-aged portion of an analysis unit after harvest.

Then: Harvest

Hardwood: None, unless it is done in age classes less than 100 years, and such harvesting (1% to 6%) does not adversely affect attainment of the 40-99 and 100+ year hardwood objectives

Conifer: 1-10%

Size of openings--Even-aged management of 2 to 5 acres. Larger openings may be made if there is a visual need. Openings may be up to 2 acres in uneven-aged management using group selection.

Activity Fuel Disposal--Special treatment, such as lopping and scattering, removal, or burning to meet visual objectives.

Fuelwood Availability

Fuelwood may be available.

Reforestation

Site Preparation--Mechanized equipment is permitted.

Timing

Season--No special restrictions

**Timber Stand
Improvement**

Release

Method--Heavy equipment may be permitted

Timing & Intensity

Season--Year-round as needed. Consult the latest research findings for release of naturally regenerated trees.

Thinning

The frequency and intensity of thinning operations shall be coordinated with snag management needs as described under 1900 Vegetative Management for this management area. Normally, the following is the most intensive level of thinning which may occur if cost-benefit analysis and other resource considerations support this activity.

Precommercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above, once.
-Pine on all sites, once.

Age--Hardwood generally between 20 and 30 years. Pine generally between 10 and 20 years.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Spacing--Hardwoods, generally 15 ft. by 15 ft. to 20 ft. by 20 ft. Pine, generally 10 ft. by 10 ft. to 12 ft. by 12 ft.

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

Commercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above normally not less than 20 years between entries. Pine on all sites, normally not less than 20 years between entries.

Age--Hardwoods from age 40 to 75 percent of rotation age. Pine from age 20 to 75 percent of the rotation age.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Stocking Levels--Refer to silvicultural guides for species in question to determine residual stocking levels (usually close to the "B" level).

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

2500 WATER AND SOIL RESOURCE MANAGEMENT

Impoundment of fishing/canoeing streams or of more than 25 percent of their watersheds will be discouraged.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE * Manage habitat adjacent to selected warm water (nontrout) streams and lakes to maintain viable populations of beaver, other furbearers, and associated aquatic species.

Wildlife/Fish Improvement

Structures

- Openings—Provide 12 to 14 openings per 1,000 acres. Openings will be a variety of sizes, dispersed, and designed to at least meet the visual quality objective of partial retention.
- Marshes—Marshes may be constructed as sites permit.
- Waterholes and Small Lakes—No additional ones needed.

2700 SPECIAL USES MANAGEMENT

Special uses not meeting environmental or visual standards or which are for other reasons incompatible with National Forest resource management objectives will be phased out or brought into compliance.

UTILITY TRANSMISSION CORRIDORS

Permits for single utility facilities would be permitted only when in the public interest considering physical, biological, social, and economic effects. Other permits will be considered only on a case-by-case basis after an environmental analysis.

UTILITY DISTRIBUTION SYSTEMS

- * Approval of application for distribution systems crossing National Forest System lands (such as utility rights-of-way serving individual residences) will be determined individually, consistent with the standards and guidelines for this management area.

5400 LAND OWNERSHIP

If assessment indicates mineral development other than oil and gas is not acceptable, subordinate or acquire subsurface rights.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY * Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

7700 TRANSPORTATION SYSTEM

GENERAL

Roaded Natural is the ROS Class objective of Management Area 2.1. Moderate amounts of both motorized and nonmotorized recreation opportunities will be provided. A low to moderate density of roads open to public motorized traffic is a goal for this management area.

SYSTEM (PERMANENT) ROAD CONSTRUCTION

To meet planned resource objectives for Management Area 2.1, all-weather road access will be needed on 50 to 75 percent of the National Forest System land in the management area. Most of the all-weather roads are already in place, some under Forest Service jurisdiction, but by far the majority are under county and township jurisdiction. Additional all-weather roads will be constructed by the Forest Service if (1) they will be used for resource management activities for which system (permanent) road access is required, and (2) the cost of providing this additional all-weather access can be economically justified.

In addition, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 2.1:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System land will be constructed on permanent rights-of-way across private land within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 20 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.8 miles of dry-weather Forest Service jurisdiction road per section (650 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. The primary purposes of these roads will be for resource management and for administrative use, but some limited public motorized use of the roads may also occur, such as during deer hunting seasons or for gathering firewood following timber sales. This seasonal public motorized use may be permitted if deemed necessary and authorized by the Forest Supervisor.

**TEMPORARY ROAD
CONSTRUCTION**

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 2.1, an average of 0.7 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. Only very limited use of temporary roads by public motorized traffic is expected. In some cases, access for firewood gathering after timber harvest is complete but before the temporary roads have been revegetated will be allowed.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 12 cars per 1,000 acres of National Forest System land in Management Area 2.1.

MANAGEMENT AREA 2.2

PURPOSE

This area is established to:

Provide wildlife habitat for a variety of wildlife, but primarily for species associated with large, uneven-aged stands of predominantly shade-tolerant hardwood trees.

Provide hardwood trees for lumber, veneer, pulpwood and fuelwood on a sustained yield basis.

Provide various, high quality dispersed recreation opportunities in a natural appearing, relatively continuous forested landscape.

These forest areas produce moderate amounts of hardwoods for furniture, veneer and flooring; low amounts of hardwood pulp; and low amounts of fuelwood. Habitats are provided for a variety of wildlife, but favors species associated with a relatively continuous forest canopy dominated by shade tolerant trees and different canopy levels. Moderate amounts of motorized and nonmotorized forms of recreation opportunities are provided. Utility corridors are permitted. Mineral exploration and extraction may occur within this management area.

Roads within and on the perimeter of this management area are used to haul forest products to market, provide access for resource management purposes and provide access for recreation activities such as hunting and gathering forest products. Some roads within this area which are not under township, county or State jurisdiction may be closed to public vehicle traffic. Trails for hiking and horse riding will be provided. Hunting, hiking, horse riding, fishing, viewing scenery and wildlife, and gathering forest products are examples of recreation activities which will occur in these areas.

DESIRED FUTURE CONDITION

The forest will generally appear as a continuous tree canopy broken only by small openings resulting from the periodic removal of individual trees or small groups of trees and from a small percent of wildlife habitat improvements, roads, and utility corridors. The large, uneven-aged stands contain a great variety of tree sizes and ages. A variety of tree species are present, but shade tolerant species are dominant. Canopy openings resulting from selective harvests create diverse tree canopy levels, favoring wildlife species associated with vertically diverse, shade tolerant vegetation.

The forest is accessible on foot and by horse on trails and roads needed for management. There is motorized public access to the periphery of these forest areas and on a few roads within them.

There is evidence of human activities. Land management practices, such as resource management, are evident but in harmony with the natural-appearing environment.

Interaction between users is moderate. Controls and restrictions on the user are evident. There is a low probability of experiencing considerable isolation from the sights and sounds of people.

Roads are located to provide access to almost all of the interspersed stands but most will be closed to public vehicle traffic. These roads are soil and grass or surfaced with aggregate. This road network connects with a system of aggregate surfaced roads on the perimeter which in turn connects with paved highways. There are 3 to 5 miles of roads per square mile of area on the average.

Structures, utility corridors, mineral exploration and mineral development, if present, are usually evident only when viewed from directly on-site or at a distance in broken terrain.

This condition is found throughout the Forest where climate and soils support upland central hardwoods.

SUITABILITY REQUIREMENTS

Areas placed under this form of management will generally be 1,000 contiguous acres or larger. However, there may be areas of intermingled ownership, where it will be desirable to have this management area on smaller portions of National Forest System lands.

PREScription FOR MANAGEMENT AREA 2.2

1600 INFORMATION SERVICES

Services will be limited to brochures, maps, and simple signs.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The following objectives will apply in this management area.

Composition objectives

Uneven-aged

2-3% Herbaceous Openland

2-3% Brushland, nontimber

94-96% Timberland

1-5% Native Pines or Native Pines-Hardwoods

Age Class Distribution

Uneven-aged

A variety of ages and size classes from seedlings to 30" diameter sawtimber will be provided.

VEGETATIVE PRACTICES

During harvest and timber stand improvement, perpetuate as possible, an average of 5 dead or dying trees per acre with minimum size 6 inches dbh. Of these trees, two per acre should be 14 inches dbh or larger, and at least one per 5 acres 18 inches dbh or larger. Densities may exceed targets listed above if opportunities exist and they do not negatively impact other management concerns for the area.

2200 RANGE MANAGEMENT

Grazing may be used as a management tool.

- * Limit forage management to existing permanent openings, where it is compatible with the desired character of the landscape.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Roaded Natural Nonmotorized (RNNM) is the objective in this management area. Public motorized use of many roads in the area will be prohibited.

- * Location of recreation developments will be determined with priority given to correcting health and safety problems, protecting the environment, complementing prescribed recreation opportunities, and meeting public demand.

Provide the following trails and densities:

Hiking--up to a density of 4.5 miles per square mile with an average of about 2.5 miles per square mile throughout the entire management area.

Horse--up to a density of 4.5 miles per square mile with an average of about 2.5 miles per square mile throughout the entire management area. In areas where hiking trails are planned or exist at a density of 4.5 miles per square mile, horse trail densities will not exceed 1.5 miles/square mile.

SMALL DEVELOPED SITES

The natural site characteristics will dominate the development. Informal design and rustic facilities will be used.

Materials native to the Wayne will be used as much as possible in all construction.

Developed sites will provide toilets, and some form of garbage disposal.

Developed site operation and maintenance standards and guidelines are the same as those found in Management Area 2.1.

If public health and safety cannot be reasonably ensured, developed sites may be closed.

DISPERSED RECREATION

A maximum of 1 camping unit (walk-in) per 2 miles of trail will be developed when needed if the length of trail the units serve is 10 or more miles. If the trail is less than 10 miles in length, camp units will not be developed.

When more than 3 hike-in camp units are provided in a cluster, toilet facilities may be provided.

Trailhead parking for hiking trails will be provided at approximately 1 car for each mile of trail.

Trailhead facilities for horse trails for up to 50 persons at one time (PAOT) will be provided for each 10 miles of horse trail.

TRAILS

Horses will not be allowed on hiking trails.

For both hiking and horse trails, loop trails will be preferred.

Hiking trails will generally exceed 5 miles in length and horse trails will generally exceed 10 miles in length. They should have sufficient directional marking for user convenience.

Operation and Maintenance

Trails will be maintained to their original construction standard when funding allows. The objective is to maintain trails for public safety and convenience.

Hiking trails will be inspected at least once per year.

Horse trails will be inspected at least twice per year.

If insufficient funding is available to maintain trails to the Forest objective, public convenience standards will be neglected, but public safety standards will be maintained, or the trail will be closed to public use.

VEHICLE USE

Vehicle use is allowed only on roads open to public travel. Intermittent use roads may be closed to public vehicle use in some areas and open in other areas..

VISUAL QUALITY *

Management activities will meet, as a minimum, the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

* Variety :Sensitivity Level & Distance Zone

Class	:	fg-1:mg-1:	fg-2:mg-2:	3		
A	:	R	R	PR	PR	PR
B	:	R	PR	PR	M	M
C	:	PR	PR	M	M	M

Sensitivity Levels: 1-most sensitive, 3-least sensitive
 Distance Zones: fg-foreground, mg-middle ground
 Variety Classes: A-distinctive, B-common, C-minimal
 Objectives: R-retention, PR-partial retention,
 M-modification
 (See glossary for definitions)

INTERPRETIVE SERVICES

Interpretive facilities located in this management area will not be staffed.

2400 TIMBER MANAGEMENT

Manage vegetation primarily to produce lumber, veneer, pulpwood, and fuelwood consistent with site compatibility and other multiple-use objectives.

* Uneven-aged management is the silvicultural system.

HARVEST

Method

Single-tree selection and group selection are the primary harvest cutting methods.

Timing

Stands will be entered at 20 to 30 year intervals for harvests.

Intensity

Selected individual trees and small groups of trees of different ages and stem diameters will be harvested periodically. Percents and numbers of different sized trees to be removed will be determined by comparing desired distribution of different size classes with existing age class composition.

In single tree selection, a "q" factor of 1.3 to 2.0 will be used to guide harvests in different age classes. A "q" of 1.3 means there are 1.3 times as many 10-inch trees as there are 12-inche trees; 1.3 times as many 12-inch trees as there are 14-inch trees, etc. A smaller "q" factor will result in retention of larger trees and a greater proportion of large to small trees that will a larger "q" factor. Maximum tree size will generally be 24 to 30 inches.

In group selection, opening size will range from 1/2 to 2 acres.

Tree stocking in uneven-aged stands will generally be kept at a level comparable to the "C" level or higher (see Glossary) in even-aged stands. Small areas of young trees with low basal area stocking may reduce the overall stocking level of some uneven-aged stands to less than full site utilization.

Fuelwood Availability

Fuelwood may be available.

Site Preparation

1. Use of mechanical equipment - Heavy equipment generally will not be used.
2. Use of herbicides and prescribed burn is permitted.

Timing

Season--No special restrictions

Timber Stand Improvement

Release

Method--Heavy mechanized equipment will generally not be used.

Timing & Intensity

Season--Year-round as needed. Consult the latest research findings for release of naturally regenerated trees.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE

Habitats will be provided for a variety of native fish and wildlife species, particularly those associated with unbroken hardwood forest with relatively different aged trees and diverse canopy levels.

Provide small fishing lakes, marshes, ponds, waterholes, and permanent wildlife openings.

Wildlife/Fish-Improvement

Structures

- Openings
Provide 13 to 17 wildlife openings per 1,000 acres with an average size of 3 acres.
- Waterholes--Provide and maintain as many as 2 waterholes per square mile of National Forest System land lacking water impoundments.
- Marshes--Marshes may be developed as suitable sites permit.
- Lakes--Lakes may be developed as suitable sites permit.

2700 SPECIAL USES MANAGEMENT

Permits for single utilities facilities would be permitted only when in the public interest considering environmental and economic effects. Agricultural permits may be granted as a management tool. Other permits will be considered only on a case-by-case basis after an environmental analysis.

5400 LAND OWNERSHIP

Generally, provide land in 1,000-acre blocks or larger.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY * Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

7700 TRANSPORTATION SYSTEM

GENERAL

Roaded Natural, Nonmotorized is the ROS Class objective of Management Area 2.2. Moderate amounts of both motorized and nonmotorized recreation opportunities, with a low probability of experiencing considerable isolation from the sights and sounds of people, will be provided. A low to moderate density of roads open to public motorized traffic is a goal for this management area.

SYSTEM (PERMANENT) ROAD CONSTRUCTION

To meet planned resource objectives for Management Area 2.2, all-weather road access will be needed on 50 to 75 percent of the National Forest System land in the management area. Most of the all-weather roads are already in place, some under Forest Service jurisdiction, with the majority under county and township jurisdiction. Additional all-weather roads will be constructed by the Forest Service if (1) they will be used for resource management activities for which system (permanent) road access is required, and (2) the cost of providing this additional all-weather access can be economically justified.

In addition, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service inherently has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 2.2:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 20 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.8 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. The primary purposes of these roads will be for resource management and for administrative use, but some public motorized use of the roads may also occur, such as during deer hunting seasons or for gathering firewood following timber sales. This seasonal public motorized use may be permitted if deemed necessary and authorized by the Forest Supervisor.

TEMPORARY ROAD CONSTRUCTION

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 2.2, an average of 0.7 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. Only very limited use of temporary roads by public motorized traffic is expected. In some cases, access for firewood gathering after timber harvest is complete but before the temporary roads have been revegetated will be allowed.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 12 cars per 1,000 acres of National Forest System land in Management Area 2.2.

MANAGEMENT AREA 2.3

Purpose

This area is the same as Forest Goal 2.2, except off-road vehicle (ORV) use will be allowed on designated trails and more Forest roads may be open to public motorized use.

Desired Future Condition

Same as Forest Goal 2.2, except motorized recreation will be emphasized.

Suitability Requirements

The forest areas will generally be 1,000 acres or larger in size, and are in National Forest System ownership. They are large enough to coordinate management of the surface with that of the subsurface without precluding long-term investments in surface uses.

PREScription FOR MANAGEMENT AREA 2.3

Direction for this goal is the same as Management Goal 2.2, except for the following:

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Roaded Natural (RN) is the objective in this management area.

The density of designated ORV trails will average 3.2 miles per square mile when all trails are in place.

Vehicles over 40 inches in width are allowed only on roads under Forest jurisdiction open for public travel. Some intermittent use roads under Forest Service jurisdiction will be open to public vehicle use. (See 7700 section for more details.)

7700 TRANSPORTATION SYSTEM

GENERAL

Roaded Natural is the ROS Class objective of Management Area 2.3. Moderate amounts of recreation opportunities, with a low probability of experiencing isolation from the sights and sounds of people, will be provided. A moderate density of roads open to public motorized traffic all or at least part of the year is a goal for this management area.

SYSTEM (PERMANENT) ROAD CONSTRUCTION

To meet planned resource objectives for Management Area 2.3, all-weather road access will be needed on 70 to 90 percent of the National Forest System land in the management area. Most of the all-weather roads are already in place, some under Forest Service jurisdiction, with the majority under county and township jurisdiction. Additional all-weather roads will be constructed by the Forest Service if (1) they will be used for resource management activities for which system (permanent) road access is required, and (2) the cost of providing this additional all-weather access can be economically justified.

In addition, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 2.3:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 20 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.25 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 20 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.65 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. The primary purposes of these roads will be for resource management and for administrative use, but some public motorized use of the roads may also be allowed. Public motorized traffic may be allowed on a limited number of these dry-weather roads when resource conditions are such that excessive rutting and erosion will not occur. To prevent conflicts between different road users, these roads will be opened to public motorized traffic only when no resource management activities are occurring. Generally, the roads will be open to public motorized traffic during dry seasons of the year and closed by gates when it is expected that excessive damage would occur.

TEMPORARY ROAD CONSTRUCTION

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 2.3, an average of 0.7 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. Only very

limited use of temporary roads by public motorized traffic is expected. In some cases, access for firewood gathering after timber harvest is complete but before the temporary roads have been revegetated will be allowed.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 12 cars per 1,000 acres of National Forest System land in Management Area 2.3.

ROAD CLOSURE

The Forest Service will not promote a policy of keeping old, unsurfaced roads open in this management area. Many of these old roads may become designated ORV trails. They will be closed to public motorized use other than ORV's.

MANAGEMENT AREA 3.1

PURPOSE

This area is primarily established to create a vegetative condition necessary to:

Maintain wildlife habitat diversity and increase and enhance habitat for early successional wildlife species.

Provide high quality hardwoods on a sustained yield basis.

Provide various dispersed recreation opportunities, particularly hunting, in moderate amounts.

These forest areas produce large amounts of hardwoods for furniture, veneer, and flooring; moderate to large amounts of hardwood pulp and fuelwood; and moderate amounts of softwood for lumber and pulp. The wildlife habitat supports a variety of game (deer, ruffed grouse) and nongame species, particularly species adapted to forest and intermixed early successional stages of vegetation. Utility corridors are permitted. Mineral exploration and extraction may occur within this management area.

Roads within and on the perimeter of this management area are used to haul forest products to market, provide access for resource management practices, and provide access for recreational activities such as hunting and gathering forest products. Whenever resource conditions allow, roads will be open to use by the public. Trails for hiking, and horse riding may be provided. Hunting, hiking, horse riding, fishing, viewing scenery and wildlife, and gathering forest products are examples of the recreation activities which will occur in these areas.

DESIRED FUTURE CONDITION

The areas are a mosaic of hardwood and conifer forests with small water bodies and openlands, but are predominantly of the oak-hickory type forest. Up to 15 to 20 percent of the area is in openings of brush, herbaceous cover, or recent regeneration cuts. Coniferous stands comprise 5 to 10 percent of the area.

Stands range from 5 to 30 acres in size. At least 50 percent of the area will be sawtimber size or larger, with a small amount of 100+ year timber in riparian areas and inaccessible areas.

The forest is accessible by roads and trails.

There is evidence of human activities, including vegetative management, and possible mineral extraction.

Interaction between users is moderate. Restrictions and controls may be evident. There is a low probability of experiencing isolation from the sights and sounds of people, independence, closeness to nature, and tranquility.

Roads are located so as to provide access to many of the interspersed stands. These roads are soil and grass or surfaced with aggregate. This road network connects with a system of aggregate surfaced roads on the perimeter which in turn connects with paved highways. There are 4 to 6 miles of roads per square mile of area on the average.

Structures, utility corridors, mineral exploration and mineral development may be present and evident.

This condition is found throughout the Forest where climate and soils support upland central hardwoods.

**SUITABILITY
REQUIREMENTS**

The Forest areas will generally be 1,000 acres or larger in size, and are in National Forest System ownership. They are large enough to coordinate management of the surface with that of the subsurface without precluding long-term investments in surface uses.

PREScription FOR MANAGEMENT AREA 3.1

1600 INFORMATION SERVICES

Provide visitor information about recreation opportunities, recreation sites, management practices, rules and regulations via brochures, posters, and signs.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The following objectives will apply to 500 to 5,000-acre units in this management area to intersperse cover types:

Composition Objectives

1-2% Herbaceous Openland

1-2% Brushland, nontimber

96-98% Timberland

50-70% Oak-Hickory at 40 years ^{1/}

25-40% Other Hardwoods.

5-10% Conifer

Age class distribution

% Oak-Hickory & Other Hardwoods

1. 12-13% 0-9 years

2. 36-39% 10-39 years

3. 48-52% 40-80 years

4. small amounts in riparian 100+ years

% Conifers

1. 16-18% 0-9 years

2. 48-54% 10-39 years

3. 32-36% 40-60 years

4. small amounts in riparian 100+ years

VEGETATIVE PRACTICES

Conifer stands will be dispersed so that in steady state there will generally be no more than 100 acres of conifer per 1,000 acres of National Forest System land.

During harvest, timber stand improvement and precommercial and commercial thinning operations in hardwood stands, perpetuate, as possible, an average of 3 to 4 dead or dying trees per acre with minimum size 6 inches dbh. Of these trees, at least two to three per acre should be 14 inches dbh or larger, and at least one per 10 acres 18 inches dbh or larger. Densities may exceed those targets listed above if opportunities exist and they do not negatively impact other management concerns for the area.

^{1/} See Appendix E for minimum stocking levels needed to meet oak-hickory composition objectives for stands with and without precommercial and commercial thinning.

2200 RANGE MANAGEMENT

Grazing of livestock may be permitted on openland to meet the forage resource demand.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Roaded Natural (RN) is the objective in this management area.

Recreation facilities which complement the Roaded Natural ROS class may be provided.

Provide the following trails and densities:

- Hiking--up to 2 miles per square mile with an average of about 1 mile per square mile throughout the entire management area.

- Horse--up to 2 miles per square mile with an average of about 1 mile per square mile throughout the entire management area.

SMALL DEVELOPED SITES

The natural site characteristics will dominate the development. Informal design and rustic facilities will be utilized.

Materials native to the Wayne will be used as much as possible in all construction.

Developed sites will provide vault toilets, and some form of garbage disposal.

Developed site operation and maintenance standards and guidelines are the same as those found in Management Area 2.1.

If public health and safety cannot be reasonably ensured, developed sites may be closed.

DISPERSED RECREATION

A maximum of 1 camping unit (walk-in) per 2 miles of trail will be developed when needed if the length of trail the units serve is 10 miles or greater. If the trail is less than 10 miles in length, camp units will not be constructed.

When more than 3 walk-in camp units are provided in a cluster, toilet facilities may be provided.

Trailhead parking for hiking trails will be provided at approximately 1 car for each mile of trail.

Trailhead facilities for horse trails for up to 50 persons at one time (PAOT) will be provided for each 10 miles of horse trail.

TRAILS

Horses will not be allowed on hiking trails.

For both hiking and horse trails, loop trails will be preferred.

Hiking trails will generally exceed 5 miles in length and horse trails will generally exceed 10 miles in length. They will have sufficient directional marking for user convenience.

Operation and Maintenance-

Trails will be maintained to their original construction standard when funding allows. The objective is to maintain trails for public safety and convenience.

Hiking trails will be inspected at least once per use season.

Horse trails will be inspected at least twice per year.

If insufficient funding is available to maintain trails to the Forest objective, public convenience standards will be neglected, but public safety standards will be maintained, or the trail will be closed to public use. Hazards will be removed. Tread maintenance, brushing, and sign (marker) maintenance will not be done. Only major breakdowns of drainage will be corrected.

VEHICLE USE

Vehicle use is allowed only on roads open for public travel. Some intermittent use roads under Forest Service jurisdiction will be open to public vehicle use.

VISUAL QUALITY *

Management activities will, as a minimum, meet the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

* Variety :Sensitivity Level & Distance Zone

Class	: fg-1	:mg-1	:fg-2	:mg-2	: 3
A	: R	R	PR	PR	PR
B	: R	PR	PR	M	M
C	: PR	PR	M	M	M

Sensitivity Levels: 1-most sensitive, 3-least sensitive
Distance Zones: fg-foreground, mg-middle ground
Variety Classes: A-distinctive, B-common, C-minimal
Objectives: R-retention, PR-partial retention,
M-modification

INTERPRETIVE SERVICES

Interpretive facilities located in this management area will not be staffed.

2400 TIMBER MANAGEMENT

Manage vegetation primarily to produce high quality hardwood and softwood sawtimber.

Even-aged management is the silvicultural system, except where uneven-aged management is used to meet visual quality objectives along scenic roads and trails.

Stocking standards for uneven-aged management will rely on a "Q"-Factor of 1.3 to 2.0. Maximum tree size will generally be 24 to 30 inches. Tree stocking will generally be kept at a level comparable to the "C level or higher (see Glossary for definitions) as defined for even-aged management.

Provide moderate to large amounts of fuelwood.

Harvest

Method

Clearcut and shelterwood are the primary harvest methods.

Timing

Rotation age--The primary rotation ages are 60 years for conifers and 80 years for hardwoods with harvest of the 60-year conifer age class and the 80-year hardwood age class when the Forest is regulated. In the interim, prior to regulation, Pine stands may be harvested at age 30 to 150 years while hardwood stands may be harvested at age 60 to 150 years. Usually only understocked below "C" level, high-risk, or low quality stands will be harvested prior to rotation age. Understocked stands are described in Agriculture Handbook 355, "Even-Aged Silviculture for Upland Central Hardwoods."

Stands of short-lived species, such as red pine, shortleaf pine, Virginia pine, scarlet oak, and aspen may be managed on shorter rotations in order to perpetuate these species.

Season of year--Operating seasons are determined on a stand-by-stand basis depending upon soil types.

The final harvest in shelterwood will be accomplished after satisfactory regeneration has become established. This will usually be a minimum of 5 years after the initial harvest.

Intensity

Proportion of hardwood and conifer area to be harvested in an analysis unit in a 10-year period:

When regulated:

Hardwood 12-13%
Conifer 17%

In transition:

If: Both the 0-9 year and 40-100+ year hardwood objectives can be met:

Then: Harvest

Hardwood 9-14%
Conifer 1-20%

In transition, when both the 0-9 year and 40-80 year hardwood composition objectives can not be met, provision of the 0-9 year age class will have priority over 40-80 year hardwoods. The following rules govern regeneration harvest intensity when 40-80 year hardwood objectives would not be fully met following timber harvest.

If: The 40+ year hardwoods are equal to or greater than 25% of an analysis unit after harvest.

Then: Harvest
Hardwood 9-14%
Conifer 1-20%

If: The 40+ year hardwoods are less than 25% of an analysis unit after harvest.

Then: Harvest
Hardwood: none
Conifer: 1-20%

Opening Size--5 to 30 acres, depending on the Visual Quality Objective.

Activity fuel disposal--None except when needed to meet particular visual quality or watershed objectives.

Fuelwood Availability
Fuelwood will be available.

Reforestation

Site Preparation

Use of mechanical equipment, herbicides, and prescribed fire are permitted.

Timing

Season--No special restrictions

Timber Stand Improvement

Release

Method--Mechanical or chemical.

Timing & Intensity

Season--Year-round as needed. Consult the latest research findings for release of naturally regenerated trees.

Thinning

The frequency and intensity of thinning operations shall be coordinated with snag management needs as described under 1900 Vegetative Management for this management area. Normally, the following is the most intensive level of thinning which may occur if cost-benefit analysis and other resource considerations support this activity.

Precommercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above, once.
-Pine on all sites, once.

Age--Hardwood generally between 20 and 30 years. Pine generally between 10 and 20 years.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Spacing--Hardwoods, generally 15 ft. by 15 ft. to 20 ft. by 20 ft. Pine, generally 10 ft. by 10 ft. to 12 ft. by 12 ft.

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

Commercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above normally not less than 20 years between entries. Pine on all sites, normally not less than 20 years between entries.

Age--Hardwoods from age 40 to 75 percent of rotation age. Pine from age 20 to 75 percent of the rotation age.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Stocking Levels--Refer to silvicultural guides for species in question to determine residual stocking levels (usually close to the "B" level).

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE

Provide for a high degree of habitat diversity including moderate amounts of large tree habitat, as well as early successional habitat.

Provide small fishing lakes, marshes, ponds, waterholes, and permanent wildlife openings.

Wildlife/Fish Improvement

Structures

- Openings--Provide 7 to 14 wildlife openings per 1,000 acres with an average opening size of 3 acres.
- Waterholes--Provide and maintain as many as two waterholes per square mile of National Forest System land lacking water impoundments.
- Maintain a minimum of 1 waterhole per square mile.

Waterhole Maintenance

Wildlife/Fish Improvements

- Marshes--Marshes may be developed as suitable sites permit.
- Lakes--Lakes may be developed as suitable sites permit.

2700 SPECIAL USES MANAGEMENT

UTILITY TRANSMISSION CORRIDORS

Agriculture permits may be granted as a management tool.

- * Provide for utility transmission corridors. Emphasize use of corridors when granting appropriate rights-of-way.

UTILITY DISTRIBUTION SYSTEMS

- * Approval of application for distribution systems crossing National Forest System lands (such as utility right-of-way serving individual residences) will be determined individually, consistent with the standards and guidelines for this management area.

5400 LAND OWNERSHIP

Generally, provide land in 1,000-acre blocks or larger.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY

- * Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

7700 TRANSPORTATION SYSTEM

GENERAL

Roaded Natural is the ROS Class objective of Management Area 3.1. Moderate amounts of recreation opportunities, particularly with a low probability of experiencing isolation from the sights and sounds of people, will be provided. A moderate density of roads open to public motorized traffic all or at least part of the year is a goal for this management area.

SYSTEM (PERMANENT) ROAD CONSTRUCTION

To meet planned resource objectives for Management Area 3.1, all-weather road access will be needed on 70 to 90 percent of the National Forest System land in the management area. Most of the all-weather roads are already in place, some under Forest Service jurisdiction, with the majority under county and township jurisdiction. Additional all-weather roads will be constructed by the Forest Service if (1) they will be used for resource management activities for which system (permanent) road access is required, and (2) the cost of providing this additional all-weather access can be economically justified.

In addition, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 3.1:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 20 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.25 miles of all-weather Forest Service jurisdiction road per section of (640 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.65 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. The primary purposes of these roads will be for resource management and for administrative use, but some public motorized use of the roads may also be allowed. Public motorized traffic may be allowed on a limited number of these dry-weather roads when resource conditions are such that excessive rutting and erosion will not occur. To prevent conflicts between different road users, these roads will be opened to public motorized traffic only when no resource management activities are occurring. Generally, the roads will be open to public motorized traffic during dry seasons of the year and closed by gates when it is expected that excessive damage would occur.

**TEMPORARY ROAD
CONSTRUCTION**

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 3.1, an average of 0.3 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. Only very limited use of temporary roads by public motorized traffic is expected. In some cases, access for firewood gathering after timber harvest is complete but before the temporary roads have been revegetated will be allowed.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 12 cars per 1,000 acres of National Forest System land in Management Area 3.1.

MANAGEMENT AREA 3.2

Purpose

This area is the same as Forest Goal 3.1, except off-road vehicle (ORV) use will be allowed on designated trails.

Desired Future Condition

Same as Forest Goal 3.1, except motorized recreation will be emphasized.

Suitability Requirements

The forest areas will generally be 1,000 acres or larger in size, and are in National Forest System ownership. They are large enough to coordinate management of the surface with that of the subsurface without precluding long-term investments in surface uses.



PRESCRIPTION FOR MANAGEMENT AREA 3.2

Direction for this goal is the same as Management Goal 3.1, except for the following:

2300 RECREATION MANAGEMENT

**RECREATION
OPPORTUNITIES**

The density of designated ORV trails will average 6.4 miles per square mile when all trails are in place.

7700 TRANSPORTATION SYSTEM

ROAD CLOSURE

The Forest Service will not promote a policy of keeping old, unsurfaced roads open in this management area. Many of these old roads may become designated ORV trails. They will be closed to public motorized use other than ORV's.

MANAGEMENT AREA 3.3

PURPOSE

This area is primarily established to create a vegetative condition necessary to:

Provide wildlife habitat diversity, but favor wildlife species that require mature and overmature hardwoods.

Provide high quality hardwoods on a sustained-yield basis.

Provide various high quality dispersed recreation and hunting opportunities in moderate amounts in a natural-appearing forest landscape.

These forest areas produce large amounts of hardwoods for furniture, veneer, and flooring; low amounts of hardwood pulp and moderate amounts of fuelwood. The wildlife habitat supports a variety of wildlife. Moderate amounts of motorized and nonmotorized forms of recreation opportunities are provided. Utility corridors are permitted. Mineral exploration and extraction may occur within this management area.

Roads within and on the perimeter of this management area are used to haul forest products to market, provide access for land management and for recreational activities such as hunting and gathering forest products. Roads within this area which are not under township, county, or State jurisdiction will usually be closed to public vehicle traffic. Trails for hiking and horse riding will be provided. Hunting, hiking, horse riding, fishing, viewing scenery and wildlife, and gathering forest products are examples of recreation activities which will occur in these areas.

DESIRED FUTURE CONDITION

The areas are a natural-appearing mosaic of small water bodies, openlands, and forest predominantly of the oak-hickory type with intermixed coniferous stands, such as white pine and Virginia Pine. These intermixed stands are of irregular size and shape and are distributed so that the overall forest appearance is natural. There are many openings of brushy or herbaceous cover interspersed with the stands of trees.

Stands range generally from 5 to 20 acres in size. At least 60 percent of the stands will be sawtimber size or larger, and of this, 10 to 17 percent or more will be 100+ years. Large diameter trees with a variety of bark and foliage characteristics are featured along trails to fishing lakes and other destination points.

The forest is accessible on foot and by horse on trails and roads needed for management. There is motorized public access to the periphery of these forest areas and on a few roads within them.

There is evidence of human activities. Resource management practices, such as vegetative management, are evident but in harmony with the natural-appearing environment.

Interaction between users is moderate. Controls and restrictions on the user are evident. There is a low-moderate probability of experiencing considerable isolation from the sights and sounds of people.

Roads are located to provide access to almost all of the interspersed stands but they will usually be closed to public vehicle traffic. These roads are soil and grass or surfaced with aggregate. This road network connects with a system of aggregate surfaced roads on the perimeter which in turn connects with paved highways. There are 3 to 5 miles of roads per square mile of area on the average.

Structures, utility corridors, mineral exploration and mineral development, if present, are usually evident only when viewed from directly on-site or at a distance in broken terrain.

This condition is found throughout the Forest where climate and soils support upland central hardwoods.

SUITABILITY REQUIREMENTS

The forest areas are generally 1,000 acres or larger in size. These areas are largely in National Forest System ownership. The other land owners have compatible management areas. The surface and subsurface can be managed without precluding long-term investments in the surface uses.

PRESCRIPTION FOR MANAGEMENT AREA 3.3

1600 INFORMATION SERVICES

Services will be limited to brochures, maps, and simple signs.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The following objectives will apply to 500 to 5,000-acre units in this management area to intersperse cover types:

Composition Objectives

2-3% Herbaceous Openland

2-3% Brushland, nontimber

94-96% Timberland

50-70% Oak-Hickory at 40 years ^{1/}

25-40% Other Hardwoods

5-10% Conifers

Age Class Distribution

% Oak-Hickory & other Hardwoods

1. 8-9% 0-9 years

2. 24-27% 10-39 years

3. 48-54% 40-99 years

4. 16-18% 100+ years

% Conifers

1. 8-9% 0-9 years

2. 24-27% 10-39 years

3. 48-54% 40-99 years

4. 16-18% 100+ years

VEGETATIVE PRACTICES

Conifer stands will be dispersed so that in steady state there will generally be no more than 100 acres of conifers per 1,000 acres of National Forest System land.

During harvest, timber stand improvement, and precommercial and commercial thinning operations in hardwood stands, perpetuate, as possible, up to 5 dead or dying trees per acre with minimum size 6 inches dbh. Of these trees, at least two per acre should be 14 inches dbh or larger, and at least 1 per 5 acres 18 inches dbh or larger. Densities may exceed targets listed above if opportunities exist and they do not negatively impact other management concerns for the area.

^{1/} See Appendix E for minimum stocking levels needed to meet oak-hickory composition objectives for stands with and without precommercial and commercial thinning.

2200 RANGE MANAGEMENT

Grazing may be used as a management tool.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Roaded Natural Nonmotorized (RNNM) is the objective in this management areas. Public motorized use of some roads in the area will be prohibited.

Most roads will be closed to public motorized vehicles. This will provide for nonmotorized hunting and other recreation experiences.

Provide the following trails and densities:

Hiking--up to a density of 4.5 miles per square mile with an average of about 2.5 miles per square mile throughout the entire management area.

Horse--up to a density of 4.5 miles per square mile with an average of about 2.5 miles per square mile throughout the entire management area. In areas where hiking trails are planned or exist at the density of 4.5 miles per square mile, horse trail densities will not exceed 1.5 miles/square mile.

SMALL DEVELOPED SITES

The natural site characteristics will dominate the development. Informal design and rustic facilities will be used.

Materials native to Southern Ohio will be used as much as possible in all construction.

Developed sites will provide vault toilets, usually no water, and some form of garbage disposal.

Developed site operation and maintenance standards and guidelines are the same as those found in Management Area 2.1.

If public health and safety cannot be reasonably ensured, developed sites will be closed.

DISPERSED RECREATION

A maximum of 1 camping unit (walk-in) per 2 miles of trail will be developed when needed if the length of trail the units serve is 10 miles or greater. If the trail is less than 10 miles in length, camp units will not be developed.

When more than 3 hike-in camp units are provided in a cluster, toilet facilities may be provided.

Trailhead parking for hiking trails will be provided at approximately 1 car for each mile of trail.

Trailhead facilities for horse trails for up to 50 persons at one time (PAOT) will be provided for each 10 miles of horse trail.

TRAILS

Horses will not be allowed on hiking trails.

For both hiking and horse trails, loop trails will be preferred.

Hiking trails will generally exceed 5 miles in length and horse trails will generally exceed 10 miles in length. They will have sufficient directional marking for user convenience.

Operation and Maintenance

Trails will be maintained to their original construction standard when funding allows. The objective is to maintain trails for public safety and convenience.

Hiking trails will be inspected at least once per year.

Horse trails will be inspected at least twice per year.

If insufficient funding is available to maintain trails to the Forest objective, public convenience standards will be neglected, but public safety standards will be maintained, or the trail will be closed to public use.

VEHICLE USE

Vehicle use is allowed only on roads open to public travel. Intermittent use roads will generally be closed to public vehicle use.

VISUAL QUALITY

Management activities will meet, as a minimum, the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

*

Variety Class	Sensitivity Level & Distance Zone				
	fg-1	mg-1	fg-2	mg-2	3
A	R	R	PR	PR	PR
B	R	PR	PR	M	M
C	PR	PR	M	M	M

Sensitivity Levels: 1-most sensitive, 3-least sensitive

Distance Zones: fg-foreground, mg-middle ground

Variety Classes: A-distinctive, B-common, C-minimal

Objectives: R-retention, PR-partial retention,

M-modification

(See glossary for definitions)

INTERPRETIVE SERVICES

Interpretive facilities located in this management area will not be staffed.

2400 TIMBER MANAGEMENT

Manage vegetation primarily to produce high quality hardwood sawtimber and veneer consistent with site compatibility and other multiple-use objectives.

Even-aged management is the silvicultural system, except where uneven-aged management is used to meet visual quality objectives along scenic roads and trails.

Stocking standards for uneven-aged management will rely on a "Q"-Factor of 1.3 to 2.0. Maximum tree size will generally be 24 to 30 inches. Tree stocking will generally be kept at a level comparable to the "C" level or higher (see Glossary) as defined for even-aged management.

HARVEST

Method

Clearcut and shelterwood are the primary harvest cutting methods.

Timing

The primary rotation age of all timber types (including pine) and all sites is 120 years with harvest of the 120-year age class when the Forest is regulated. In the interim, prior to regulation, pine stands may be harvested at age 30 to 150 years while hardwood stands may be harvested at age 60 to 150 years. Usually only understocked, high risk, sparse, or low quality stands will be harvested prior to age 80. Understocked stands are below "C" level as described in Agriculture Handbook 355, "Even-aged Silviculture for Upland Central Hardwoods."

Stands of short-lived species, such as red pine, shortleaf pine, Virginia pine, scarlet oak, black oak, and aspen may be managed on shorter rotations in order to perpetuate these species.

The final harvest in shelterwood will be accomplished after satisfactory regeneration has become established. This will usually be a minimum of 5 years after the initial harvest.

Operating seasons will be determined on a stand-by-stand basis.

Intensity

Proportion of hardwood and conifer area that may be harvested in an analysis unit in a 10-year period:

When regulated:

Hardwood 8-9%

Conifer 8-9%

In transition:

If: Both the 0-9 year and 40-100+ year hardwood objectives can be met:

Then: Harvest

Hardwood 6-10%

Conifer 1-10%

In transition, when both the 0-9 year and 40-100+ year hardwood objectives can not be met, provision of 40-99 and 100+ year hardwoods will have priority over provision of the 0-9 year age class. The following rules govern regeneration harvest intensity when 40-100+ year hardwood objectives would not be fully met following timber harvest.

If: the 40-100+ year hardwoods are equal to or greater than 45% of an analysis unit after harvest and the 100+ year hardwoods are equal to or greater than 10% of an analysis unit after harvest.

Then: Harvest
Hardwood: 1-6%
Conifer: 1-10%

If: the 40 to 100+ year hardwoods are less than 45% of an analysis unit after harvest or the 100+ year hardwoods are less than 10% of an analysis unit after harvest.

Then: Harvest
Hardwood: none, unless it is done in age classes less than 100 years, and such harvest (1% to 6%) does not adversely affect attainment of the 40-99 and 100+ year hardwood objectives
Conifers: 1-10%

Opening Size--5 to 20 acres, depending on the Visual Quality Objectives, except where Visual Quality Objectives require openings less than 5 acres to protect scenic values near roads, trails, and water bodies.

Fuelwood Availability
Fuelwood will be available.

Reforestation

Site Preparation

1. Use of mechanical equipment - Heavy equipment may be permitted.
2. Use of herbicides and prescribed burn is permitted.

Timing

Season--No special restrictions

Timber Stand Improvement

Release

Timing & Intensity

Season--Year-round as needed. Consult the latest research findings for release of naturally regenerated trees.

Commercial Thinning

Method

To be determined at the project level. Row thinning may occur only away from the immediate foreground of designated roads and trails.

Thinning

The frequency and intensity of thinning operations shall be coordinated with snag management needs as described under 1900 Vegetative Management for this management area. Normally, the following is the most intensive level of thinning which may occur if cost-benefit analysis and other resource considerations support this activity.

Precommercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above, once.
-Pine on all sites, once.

Age--Hardwood generally between 20 and 30 years. Pine generally between 10 and 20 years.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Spacing--Hardwoods, generally 15 ft. by 15 ft. to 20 ft. by 20 ft. Pine, generally 10 ft. by 10 ft. to 12 ft. by 12 ft.

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

Commercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above normally not less than 20 years between entries. Pine on all sites, normally not less than 20 years between entries.

Age--Hardwoods from age 40 to 75 percent of rotation age. Pine from age 20 to 75 percent of the rotation age.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Stocking Levels--Refer to silvicultural guides for species in question to determine residual stocking levels (usually close to the "B" level).

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE

Habitats will be provided for a variety of native fish and wildlife species, particularly those requiring mature and overmature hardwoods.

Provide small fishing lakes, marshes, ponds, waterholes, and permanent wildlife openings.

Wildlife/Fish-Improvement

Structures

- Openings
Provide 13 to 17 wildlife openings per 1,000 acres with an average size of 3 acres.
- Waterholes—Provide and maintain as many as two waterholes per square mile of National Forest System land lacking water impoundments.
- Marshes—Marshes may be developed as suitable sites permit.
- Lakes—Lakes may be developed as suitable sites permit.

2700 SPECIAL USES MANAGEMENT

Permits for single utilities facilities would be permitted only when in the public interest considering environmental and economic effects. Agricultural permits may be granted as a management tool. Other permits will be considered only on a case-by-case basis after an environmental analysis.

5400 LAND OWNERSHIP

Generally, provide land in 1,000-acre blocks or larger.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY * Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

7700 TRANSPORTATION SYSTEM

GENERAL

Roaded Natural, Nonmotorized is the ROS Class objective of Management Area 3.3. Moderate amounts of both motorized and nonmotorized recreation opportunities, with a low to moderate probability of experiencing isolation from the sights and sounds of people, will be provided. A low to moderate density of roads open to public motorized traffic is a goal for this management area.

**SYSTEM
(PERMANENT)
ROAD CONSTRUCTION**

To meet planned resource objectives for Management Area 3.3, all-weather road access will be needed on 50 to 75 percent of the National Forest System land in the management area. Most of the all-weather are already in place, some under Forest Service jurisdiction, with the majority under county and township jurisdiction. Additional all-weather roads will be constructed by the Forest Service if (1) they will be used for resource management activities for which system (permanent) road access is required, and (2) the cost of providing this additional all-weather access can be economically justified by increased National Forest System land values or by increased use of National Forest System land by the public.

In addition, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 3.3:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.8 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 50 years. The primary purposes of these roads will be for resource management and for administrative use, but some public motorized use of the roads may also occur, such as during deer hunting seasons or for gathering firewood following timber sales. This seasonal public motorized use may be permitted if deemed necessary and authorized by the Forest Supervisor.

**TEMPORARY ROAD
CONSTRUCTION**

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 3.3, an average of 0.3 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. Only very limited use of temporary roads by public motorized traffic is expected. In some cases, access for firewood gathering after timber harvest is complete but before the temporary roads have been revegetated will be allowed.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 12 cars per 1,000 acres of National Forest System land in Management Area 3.3.

MANAGEMENT AREA 3.4

Purpose

This area is the same as Forest Goal 3.3, except off-road vehicle (ORV) use will be allowed on designated trails and more Forest roads may be open to public motorized use.

Desired Future Condition

Same as Forest Goal 3.3, except motorized recreation will be emphasized.

Suitability Requirements

The forest areas will generally be 1,000 acres or larger in size, and are in National Forest System ownership. They are large enough to coordinate management of the surface with that of the subsurface without precluding long-term investments in surface uses.

PRESCRIPTION FOR MANAGEMENT AREA 3.4

Direction for this goal is the same as Management Goal 3.3, except for the following:

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Roaded Natural (RN) is the objective in this management area.

The density of designated ORV trails will average 3.2 miles per square mile when all trails are in place.

7700 TRANSPORTATION SYSTEM

GENERAL

Roaded Natural is the ROS Class objective of Management Area 3.4. Moderate amounts of recreation opportunities, with a low probability of experiencing isolation from the sights and sounds of people, will be provided. A high density of roads open to public motorized traffic all or at least part of the year is a goal for this management area.

SYSTEM (PERMANENT) ROAD CONSTRUCTION

To meet planned resource objectives for Management Area 3.4, all-weather road access will be needed on 90 to 100 percent of the National Forest System land in the management area. Most of the all-weather roads are already in place, some are under Forest Service jurisdiction, with the majority under county and township jurisdiction. Additional all-weather roads will be constructed by the Forest Service if (1) they will be used for resource management activities for which system (permanent) road access is required, and (2) the cost of providing this additional all-weather access can be economically justified.

In addition, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 3.4:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.5 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 0.4 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 50 years. The primary purposes of these roads will be for resource management and for administrative use, but some public motorized use of the roads may also be allowed. Public motorized traffic may be allowed on a limited number of these dry-weather roads when resource conditions are such that excessive rutting and erosion will not occur. To prevent conflicts between different road users, these roads will be opened to public motorized traffic only when no resource management activities are occurring. Generally, the roads will be open to public motorized traffic during dry seasons of the year and closed by gates when it is expected that excessive damage would occur.

TEMPORARY ROAD CONSTRUCTION

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 3.4, an average of 0.3 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade for the next 50 years. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. Only very limited use of temporary roads by public motorized traffic is expected. In some cases, access for firewood gathering after timber harvest is complete but before the temporary roads have been revegetated will be allowed.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 12 cars per 1,000 acres of National Forest System land in Management Area 3.4.

ROAD CLOSURE

The Forest Service will not promote a policy of keeping old, unsurfaced roads open in this management area. Many of these old roads may become designated ORV trails. They will be closed to public motorized use other than ORV's.

MANAGEMENT AREA 6.1

PURPOSE

This area is established to identify lands where the vegetative condition provides:

Habitat for a variety of native wildlife, particularly for species that require mature or over-mature hardwoods and are sensitive to human activities.

High quality hardwoods on a sustained basis.

Various dispersed recreation opportunities in moderate amounts in a natural-appearing landscape.

The area supports a variety of wildlife including species sensitive to human activities. Moderate amounts of nonmotorized forms of recreation opportunities are provided. These areas will consist of a variety of vegetative conditions. Utility corridors are permitted. Mineral exploration and extraction may occur within this management area.

Roads within and on the perimeter of this management area are used to provide access for dispersed recreational activities and resource management purposes. Roads within this area which are not under township, county or State jurisdiction will usually be closed to public vehicle traffic. A low density of hiking and horse trails will be provided. Dispersed recreational activities such as hunting, fishing, viewing scenery and wildlife, hiking, and gathering forest products are examples of recreation activities which will occur in these areas.

DESIRED FUTURE CONDITION

The areas are a natural-appearing mosaic of hardwood and conifer forest, small water bodies, and openlands, but are predominantly oak-hickory forest. Intermixed stands are of irregular size and shape and are distributed so that the overall forest appearance is natural. There are many openings of brushy or herbaceous cover interspersed with the stands of trees.

Stands range generally from 5 to 15 acres in size. At least 60 percent of the stands will be sawtimber size or larger, and of this, 10 to 17 percent or more will be 100+ years. Large diameter trees with a variety of bark and foliage characteristics are featured along trails to fishing lakes and other destination points.

The forest is accessible by trails to lakes and ponds and by roads needed for management. Motorized public access will be only to the periphery of these forest areas, except seasonal motorized public access may be permitted if deemed necessary and authorized by the Forest Supervisor.

There is evidence of human activities. Resource management practices, such as vegetative management, are evident but in harmony with the natural-appearing environment.

Interaction between users is low to moderate. The areas are essentially free from evidence of restrictions and controls. There is a moderate probability of experiencing considerable isolation from the sights and sounds of people, closeness to nature and tranquility.

Roads in these areas are used for administrative and resource management purposes, including hauling of forest products, but generally roads are closed to motorized vehicles used by the public.

A road system is located to provide access to almost all of the interspersed stands. These roads are soil and grass or surfaced with aggregate. This road network connects with a system of aggregate surface roads on the perimeter which in turn connect with paved highways. There are 3 to 5 miles of roads per square mile of area on the average.

Structures, utility corridors, mineral exploration and mineral development, if present, are usually evident only when viewed from directly on-site or at a distance in broken terrain.

**SUITABILITY
REQUIREMENTS**

The forest areas are generally 2,500 acres or larger and primarily in National Forest System ownership. Other ownerships are mostly in similar type management.

6.

PRESCRIPTION FOR MANAGEMENT AREA 6.1

1600 INFORMATION SERVICES

Maps will be available to the public.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

**VEGETATIVE
MANAGEMENT**

The following objectives will apply to 500 to 5,000-acre units in this management area to intersperse cover types:

Composition Objectives

2-3% Herbaceous openland

2-3% Brushland, nontimber

94-96% Timberland

50-70% Oak-Hickory at 40 years 1/

25-40% Other Hardwoods

5-10% Conifers

Age Class Distribution

% Oak-Hickory & other Hardwoods

1. 8-9% 0-9 years

2. 24-27% 10-39 years

3. 48-54% 40-99 years

4. 16-18% 100+ years

% Conifers

1. 8-9% 0-9 years

2. 24-27% 10-39 years

3. 48-54% 40-99 years

4. 16-18% 100+ years

**VEGETATIVE
PRACTICES**

Conifer stands will be dispersed so that in steady state there will generally be no more than 100 acres of conifers per 1,000 acres of National Forest System land.

During harvest, timber stand improvement, and precommercial and commercial thinning operations in hardwood stands, perpetuate, as possible, up to 5 dead or dying trees per acre with minimum size 6 inches dbh. Of these trees, at least two per acre should be 14 inches dbh or larger, and at least one per 5 acres 18 inches dbh or larger. Densities may exceed those targets listed above if opportunities exist and they do not negatively impact other management concerns for the area.

1/ See Appendix E for minimum stocking levels needed to meet oak-hickory composition objectives for stands with and without precommercial and commercial thinning.

2200 RANGE MANAGEMENT

Grazing may be used as a management tool.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Semiprimitive Non-motorized (SPNM) is the objective in this management area. However, this objective won't be met until all roads in the management area can be closed to public motorized use. From a recreation standpoint, it is a dispersed recreation area. Walk-in hunting, fishing, wildlife viewing, and nature photography will be emphasized in a natural-appearing forest landscape.

Generally, use of roads under Forest Service jurisdiction will be limited to resource management, administrative use, and foot travel by the public. Public vehicular use will be permitted if deemed necessary, such as to provide hunter access, and authorized by the Forest Supervisor.

Planned public vehicular use will be publicized so that the public is aware of dates or seasons of such motorized use.

Provide the following trails and densities:

Hiking--up to 2 miles per square mile in portions of the management area with an average of about 1 mile per square mile throughout the entire management area.

Horse--up to 2 miles per square mile in portions of the management area with an average of about 1 mile per square mile throughout the entire management area.

SMALL DEVELOPED SITES

The natural site characteristics will dominate the development. Informal design and rustic styling will be used.

Materials native to the Wayne will be used as much as possible in all construction.

Developed site operation and maintenance standards and guidelines are the same as those found in Management Area 2.1.

If public health and safety cannot be reasonably ensured, developed sites may be closed.

DISPERSED RECREATION

A maximum of 1 camping unit (walk-in) per 2 miles of trail will be developed when needed if the length of trail the units serve is 10 miles or greater. If the trail is less than 10 miles in length, camp units will not be developed.

When more than 3 hike-in camp units are provided in a cluster, toilet facilities may be provided.

Trailhead parking will be provided at approximately 1 car for each mile of trail on the periphery of the management area.

Trailhead facilities for horse trails for up to 50 persons at one time (PAOT) will be provided for each 10 miles of horse trail.

TRAILS

Horses will not be allowed on hiking trails.

For both hiking and horse trails, loop trails will be preferred.

Hiking trails will generally exceed 5 miles in length and horse trails will generally exceed 10 miles in length. They should have sufficient directional marking for user convenience.

Operation and Maintenance

Trails will be maintained to their original construction standard when funding allows. The objective is to maintain trails for public safety and convenience.

Hiking trails will be inspected at least once per year.

Horse trails will be inspected at least twice per year.

If insufficient funding is available to maintain trails to the Forest objective, public convenience standards will be neglected, but public safety standards will be maintained, or the trail will be closed to public use.

VEHICLE USE

Vehicle use is allowed only on roads open to public travel.

VISUAL QUALITY *

Management activities will meet, as a minimum, the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

* Variety :Sensitivity Level & Distance Zone

Class	:	fg-1	mg-1	fg-2	mg-2	3
A	:	R	R	PR	PR	PR
B	:	R	PR	PR	M	M
C	:	PR	PR	M	M	M

Sensitivity Levels: 1-most sensitive, 3-least sensitive
 Distance Zones: fg-foreground, mg-middle ground
 Variety Classes: A-distinctive, B-common, C-minimal
 Objectives: R-retention, PR-partial retention,
 M-modification
 (see glossary for definitions.)

INTERPRETIVE SERVICES

Interpretive facilities located in this management area will not be staffed.

2400 TIMBER MANAGEMENT

Manage vegetation primarily to produce high quality hardwood sawtimber and veneer consistent with site compatibility and other multiple use objectives.

Even-aged management is the primary silvicultural management system, except where uneven-aged management is used to meet visual quality objectives along scenic roads and trails.

Stocking standards for uneven-aged management will rely on a "Q"-Factor" of 1.3 to 2.0. Maximum tree size will generally be 24 to 30 inches. Tree stocking will be comparable to the "C" level or higher (see Glossary) as defined for even-aged stands.

HARVEST

Method

Clearcut and shelterwood are the primary harvest cutting methods.

Timing

The primary rotation age is 120 years with harvest of the 120-year age class when the forest is regulated. In the interim, prior to regulation, pine stands may be harvested at age 30 to 150 years while hardwood stands may be harvested at age 60 to 150 years. Usually only understocked, high risk, sparse, or low quality, stands will be harvested prior to age 80. Understocked stands are below "C" level as described in Agriculture Handbook 355, "Even-Aged Silviculture for Upland Central Hardwoods."

Stands of short-lived species, such as red pine, shortleaf pine, Virginia pine, scarlet oak, black oak and aspen may be managed on shorter rotations in order to perpetuate this species.

The final harvest in shelterwood will be accomplished after satisfactory regeneration has become established. This will usually be a minimum of 5 years after the initial harvest.

Operating seasons will be determined on a stand-by-stand basis.

Intensity

Proportion of area that may be harvested in a 10-year period:

When regulated:

Hardwood 8-9%
Conifer 8-9%

In transition:

If: Both the 0-9 year and 40-100+ year hardwood objectives can be met:

Then: Harvest
Hardwood 6-10%
Conifer 1-10%

In transition, when both the 0-9 year and 40-100+ year hardwood objectives can not be met, provision of 40-99 and 100+ year hardwoods will have priority over provision of the 0-9 year age class. The following rules govern regeneration harvest intensity when 40-100+ year hardwood objectives would not be fully met following timber harvest:

If: Both the 40 to 100+ year hardwoods are equal to or greater than 45% of an analysis unit after harvest and the 100+ year hardwoods are equal to or greater than 10% of an analysis unit after harvest.

Then: Harvest
Hardwood: 1-6%
Conifer: 1-10%

If: the 40 to 100+ year hardwoods are less than 45% of an analysis unit after harvest or the 100+ year hardwoods are less than 10% of an analysis unit after harvest.

Then: Harvest
Hardwood: none, unless it is done in age classes less than 100 years, and such harvesting (1% to 6%) does not adversely affect attainment of the 40-99 and 100+ year hardwood objectives.
Conifer: 1-10%

Opening Size--5 to 15 acres except where Visual Quality Objectives require openings less than 5 acres to protect scenic values near roads, trails, and water bodies.

Fuelwood Availability--Fuelwood will be available.

Reforestation

Site Preparation

- Use of mechanical equipment--Heavy equipment may be permitted.
- Use of herbicides and prescribed fire is permitted.

Timing

Season--No special restrictions.

Timber Stand Improvement

Release

Method--Heavy mechanized equipment may be permitted.

Timing and Intensity

Season--Year-round as needed. Consult the latest research findings for release of naturally regenerated trees.

Thinning

The frequency and intensity of thinning operations shall be coordinated with snag management needs as described under 1900 Vegetative Management for this management area. Normally, the following is the most intensive level of thinning which may occur if cost-benefit analysis and other resource considerations support this activity.

Precommercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above, once.
-Pine on all sites, once.

Age--Hardwood generally between 20 and 30 years. Pine generally between 10 and 20 years.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Spacing--Hardwoods, generally 15 ft. by 15 ft. to 20 ft. by 20 ft. Pine, generally 10 ft. by 10 ft. to 12 ft. by 12 ft.

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

Commercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above normally not less than 20 years between entries. Pine on all sites, normally not less than 20 years between entries.

Age--Hardwoods from age 40 to 75 percent of rotation age. Pine from age 20 to 75 percent of the rotation age.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Stocking Levels--Refer to silvicultural guides for species in question to determine residual stocking levels (usually close to the "B" level).

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE

Habitats will be provided for a variety of native fish and wildlife species, particularly those requiring mature and overmature hardwoods.

Provide small fishing lakes, marshes, ponds, waterholes, and permanent wildlife openings.

Wildlife/Fish Improvement

Structures

- Openings
Provide 13 to 17 wildlife openings per 1,000 acres with an average size of 3 acres.
- Waterholes--Provide and maintain as many as two waterholes per square mile of National Forest System land lacking water impoundments.
- Marshes--Marshes may be developed as suitable sites permit.
- Lakes--Lakes may be developed as suitable sites permit.

2700 SPECIAL USES MANAGEMENT

Permits for single utilities facilities would be permitted only when in the public interest considering environmental and economic effects. Agricultural permits may be granted as a management tool. Other permits will be considered only on a case-by-case basis after an environmental analysis.

5400 LAND OWNERSHIP

Generally, provide land in 2,500 acre blocks or larger.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY

Drinking water may be provided. If provided it must meet Federal and State regulations and be protected to ensure its continued quality.

7700 TRANSPORTATION SYSTEM

GENERAL

Semiprimitive, Nonmotorized is the ROS Class objective of Management Area 6.1. Moderate amounts of primarily walk-in recreation opportunities, with a moderate probability of experiencing considerable isolation from the sights and sounds of people, will be provided. All-weather road access to the perimeter of large tracts of National Forest System land, with all roads on National Forest System land being closed to public motorized traffic, is the ultimate goal for this management area.

CLOSURE OF EXISTING ROADS

One objective for Management Area 6.1 is to close to public motorized traffic on all roads on National Forest System land. Because of (1) the continued need for some of the State, county, and township jurisdiction roads on National Forest System land, and (2) the established use on other State, county, and township jurisdiction roads that aren't needed, this objective cannot immediately be met. The Forest Service will provide for existing rights, such as to oil wells and private property.

Some State, county, and township roads on National Forest System land will continue to be needed for access to intermingled private land well into the future. However, maintenance activities on those State, county, and township roads that aren't needed will probably cease. As these unneeded roads become impassable through neglect, Forest Service petitions to vacate the roads may have a good chance for approval. If vacated, the roads could be closed to public motorized traffic by the Forest Service.

SYSTEM (PERMANENT) ROAD CONSTRUCTION

To meet planned resource objectives for Management Area 6.1, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 6.1:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 1.0 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 40 years. The primary purposes of these roads will be for resource management and for administrative use, but some very limited public motorized use may also occur, such as during deer hunting seasons. This seasonal public motorized use may be permitted if deemed necessary and authorized by the Forest Supervisor.

TEMPORARY ROAD CONSTRUCTION

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 6.1, an average of 0.4 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated, during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. No use of temporary roads by public motorized traffic is planned.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 8 cars per 1,000 acres of National Forest System land in Management Area 6.1.

MINERAL OPERATOR ACCESS

Mineral operators will not be denied road access to their mineral operations across National Forest System lands.

MANAGEMENT AREA 6.2

PURPOSE

This area is established to identify lands where the vegetative condition provides:

Habitat for a variety of native wildlife, primarily for those adapted to old-growth hardwoods.

Recreation opportunities requiring considerable solitude and/or a feeling of closeness to nature.

Forest areas provide habitats for a variety of wildlife, especially for species adapted to old-growth hardwoods and those sensitive to human activities. Utility corridors occur here only when it is not in the public interest to locate them elsewhere. Mineral exploration and extraction may occur within this management area.

On some of the area, access to the forest for hiking, viewing wildlife and scenery, fishing and other nonmotorized forms of recreation is provided by appropriate trails. There are few roads and all Forest Service roads are closed to public motor vehicles, except for access to cemeteries or similar restrictive uses.

DESIRED FUTURE CONDITION

Extensive stands of old growth upland central hardwoods dominate the landscape. Shade tolerant tree species such as sugar maple and American beech dominate these stands. These stands consist of a mix of tree sizes visually dominated by large mature trees.

Facilities, structures, utility corridors, mineral exploration and development are substantially unnoticeable.

Interaction between users is low. There is subtle evidence of other users. The areas are essentially free from evidence of restrictions and controls. There is a high probability of experiencing considerable isolation from the sights and sounds of people, independence, closeness to nature, tranquility, and self-reliance.

This condition is found anywhere in the Forest where a natural-appearing environment exists in spite of past human activities and where the area is of sufficient size to allow for a degree of isolation (solitude) from the sights, smells, and sounds of people and their activities.

SUITABILITY REQUIREMENTS

The forest areas are generally 2,500 acres or larger and primarily in National Forest System ownership. Acquire subsurface rights as needed to protect particular scenic or ecological areas.

PRESCRIPTION FOR MANAGEMENT AREA 6.2

1600 INFORMATION SERVICES

Services will be limited to brochures, maps, and simple signs.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The following objectives will apply in this management area:

Composition Objectives

The area will consist of climax hardwood forest. A small amount of native pine may persist.

2200 RANGE MANAGEMENT

Forage management practices will not be used in this management area.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Semiprimitive Non-motorized (SPNM) is the objective in this management area. However, this objective won't be met until all roads in the management area can be closed to public motorized vehicles. Public motorized use, other than access to cemeteries, will be prohibited on Forest Service roads.

Provide the following trails and densities:

Hiking--up to 2 miles per square mile in portions of the management area with an average of about 1 mile per square mile throughout the entire management area.

Horse--up to 2 miles per square mile in portions of the management area with an average of about 1 mile per square mile throughout the entire management area.

DISPERSED RECREATION

Provide minimal facilities necessary to prevent site deterioration and protect the user from hazards to health and safety consistent with providing a semiprimitive recreational opportunity. Facilities for site protection may offer incidental user convenience, such as designated camp sites and primitive toilets.

Parking for access may be provided in appropriate adjacent management areas at a rate of 1 car per mile of trail.

TRAILS

Horses will not be allowed on hiking trails.

For both hiking and horse trails, loop trails will be preferred.

Hiking trails will generally exceed 5 miles in length.

Horse trails will generally exceed 10 miles in length.

**Operation and
Maintenance**

Trails will be inspected and maintained to provide safe access and to keep resource damage to a low level.

Inspections will be made at least once per year. Needed tread work, brushing, erosion control, and debris and hazard removal will be accomplished within 90 days of the inspections.

VISUAL QUALITY

Most management activities will be prohibited. The visual quality objectives will be preservation or retention.

All facilities, including trails, will meet the visual quality objective of retention.

**INTERPRETIVE
SERVICES**

Interpretive facilities will not be provided.

2400 TIMBER MANAGEMENT

This management area is not included in the timber base.

2500 WATER AND SOIL RESOURCE MANAGEMENT

The likelihood of water quality problems is dependent upon density of use. Water quality will be monitored and use restricted to maintain high water quality.

2600 WILDLIFE HABITAT MANAGEMENT

Fish or wildlife management may occur only to protect endangered, threatened, and sensitive species.

2700 SPECIAL USES MANAGEMENT

Permit only those utility facilities that are required to serve recreational or administrative facilities. Exceptions will be considered on an individual basis.

5400 LAND OWNERSHIP

Generally, provide land in 2,500 acre blocks or larger.

7300 BUILDINGS AND STRUCTURES

No Forest Service buildings or structures excluding dams and parking lots will be constructed.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY

Drinking water will not be provided.

7700 TRANSPORTATION SYSTEM

GENERAL

Semiprimitive, Nonmotorized is the ROS Class objective of Management Area 6.2. Recreation opportunities with a high probability of experiencing considerable isolation from the sights and sounds of people, solitude, and closeness to nature will be provided. All-weather road access to the perimeter of large tracts of National Forest System land, with all roads on National Forest System land being closed to motorized traffic, is the ultimate goal for this management area.

CLOSURE OF EXISTING ROADS

The objective for Management Area 6.2 is to close to motorized traffic all roads on National Forest System land. Because of (1) the continued need for some of the State, county, and township jurisdiction roads on National Forest System land, and (2) the established use on other State, county, and township jurisdiction roads that aren't really needed, this objective cannot immediately be met. The Forest Service will provide for existing rights, such as to oil wells and private property.

Some State, county, and township roads on National Forest System land will continue to be needed for access to intermingled private land well into the future. However, maintenance activities on those State, county, and township roads that aren't needed will probably cease. As these unneeded roads become impassable through neglect, Forest Service petitions to vacate the roads may have a good chance for approval. If vacated, the roads could be closed to motorized traffic by the Forest Service.

ROAD CONSTRUCTION

Some additional all-weather system roads may be constructed on rights-of-way across private land to improve public motorized access to the perimeter of large tracts of National Forest System Land. However, no other roads, either system (permanent) or non-system (temporary), are expected to be constructed on National Forest System land. It is anticipated that existing roads will provide the road access needed for management and protection of these forest areas. Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional road needs to manage National Forest System land, but the following estimates have been developed for Management Area 6.2:

- An estimated 0.031 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 20 years. All of these roads will be open to public motorized traffic at all times.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 8 cars per 1,000 acres of National Forest System land in Management Area 6.2.

**MINERAL OPERATOR
ACCESS**

Mineral operators will not be denied road access to their mineral operations across National Forest System lands.

MANAGEMENT AREA 6.3

PURPOSE

This area is established to identify lands where the vegetative condition provides:

Habitat for a variety of native wildlife, particularly for species that require mature or over-mature hardwoods and are sensitive to human activities.

Large, high quality hardwoods on a sustained basis.

Various dispersed recreation opportunities in moderate amounts in a natural-appearing landscape with relatively large amounts of older tree stands.

These areas will consist of a variety of vegetative conditions. The area supports a variety of wildlife including species sensitive to human activities. Moderate amounts of nonmotorized forms of recreation opportunities are provided.

Utility corridors occur here only when it is not in the public interest to locate them elsewhere. Mineral exploration and extraction on a restricted basis may occur within this management area.

Roads within and on the perimeter of this management area are used to provide access for dispersed recreation and resource management purposes. Roads within this area will be closed to public vehicle traffic. Trails for hiking and horse riding will be provided. Hunting, fishing, viewing scenery and wildlife, hiking, and gathering forest products are examples of recreation activities which will occur in these areas.

DESIRED FUTURE CONDITION

The areas are a natural appearing mosaic of hardwood and conifer forest, but are predominantly oak-hickory forest. Stands of large hardwood trees are predominant. Intermixed stands are of irregular size and shape and are distributed so that the overall forest appearance is natural.

Stands range generally from 5 to 10 acres in size. At least 70 percent of the stands will be sawtimber size or larger, and of this, 35 to 40 percent will be 100+ years.

The forest is accessible by trails to lakes and ponds and roads needed for management. Motorized public access will be only to the periphery of these forest areas, except seasonal motorized public access may be permitted if deemed necessary and authorized by the Forest Supervisor.

There is evidence of human activities. Land management practices, such as vegetative management, are evident but in harmony with the natural-appearing environment.

6.3

Interaction between users is low to moderate. Controls and restrictions on the user are evident. There is a high probability of experiencing considerable isolation from the sights and sounds of people.

Roads in these areas are used for administrative and management purposes, including hauling of forest products, but generally roads are closed to motorized vehicle use.

A road system is located to provide access to almost all of the interspersed stands. These roads are soil and grass or surfaced with aggregate. This road network connects with a system of aggregate surface roads on the perimeter which in turn connect with paved highways. There are 3 to 5 miles of roads per square mile of area on the average.

Structures, utility corridors, mineral exploration and mineral development, if present, are usually evident only when viewed from directly on-site or at a distance in broken terrain.

SUITABILITY REQUIREMENTS

The forest areas are generally 2,500 acres or larger and primarily in National Forest System ownership. Other ownerships are mostly in similar type management.

PRESCRIPTION FOR MANAGEMENT AREA 6.3

1600 INFORMATION SERVICES

Maps will be available to the public.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

VEGETATIVE MANAGEMENT

The following objectives will apply to 500 to 5,000-acre units in this management area to intersperse cover types:

Composition Objectives

100% Timberland

50-70% Oak-Hickory at 40 years ^{1/}

20-40% Other Hardwoods

5-10% Conifers or Mixed Conifers-Hardwoods, with Pine Types comprising at least 4-5%

Age Class Distribution

% Oak-Hickory

1. 6-7% 0-9 years

2. 18-21% 10-39 years

3. 36-42% 40-99 years

4. 36-42% 100+ years

% Other Hardwoods

1. 6-7% 0-10 years

2. 18-21% 11-39 years

3. 36-42% 40-99 years

4. 36-42% 100+ years

% Conifers

1. 6-7% 0-10 years

2. 18-21% 11-39 years

3. 36-42% 40-99 years

4. 36-42% 100+ years

VEGETATIVE PRACTICES

Conifer and mixed conifer-hardwood stands will be dispersed so that in steady state there will generally be no more than 100 acres of conifers per 1,000 acres of National Forest System land. Contiguous pine or pine-hardwood areas, 40 years of age or older and encompassing at least 25 acres each, comprise at least 2% of the management area.

^{1/} See Appendix E for minimum stocking levels needed to meet oak-hickory composition objectives for stands with and without precommercial and commercial thinning.

During harvest, timber stand improvement, and precommercial and commercial thinning operations in hardwood stands perpetuate, as possible, up to 5 dead or dying trees per acre with minimum size 6 inches dbh. Of these trees, at least two per acre should be 14 inches dbh or larger, and at least 1 per 4 acres 18 inches dbh or larger. Densities may exceed those targets listed above if opportunities exist and they do not negatively impact other management concerns for the area.

2200 RANGE MANAGEMENT

Grazing may be used as a management tool.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Semiprimitive Non-motorized (SPNM) is the objective in this management area. However, this objective won't be met until all roads in the management area can be closed to public motorized vehicles. From a recreation standpoint, it is a dispersed recreation area. Walk-in hunting, fishing, wildlife viewing, and nature photography will be emphasized in a natural-appearing forest landscape.

Generally, road use will be limited to resource management, administrative use, and foot travel by the public. Public vehicular use will be permitted if deemed necessary, such as to provide hunter access, and authorized by the Forest Supervisor.

Provide the following trails and densities:

Hiking--up to a density of 4.5 miles per square mile in portions of the management area with an average of about 2.5 miles per square mile throughout the entire management area.

Horse--up to a density of 4.5 miles per square mile in portions of the management area with an average of about 2.5 miles per square mile throughout the entire management area. In areas where hiking trails are planned or exist at a density of 4.5 miles per square mile, horse trail densities will not exceed 1.5 miles/square mile.

SMALL DEVELOPED SITES

The natural site characteristics will dominate the development. Informal design and rustic facilities will be used.

Materials native to the Wayne will be used as much as possible in all construction.

Developed sites will provide vault toilets, and some form of garbage disposal.

Developed site operation and maintenance standards and guidelines are the same as those found in Management Area 2.1.

If public health and safety cannot be reasonably ensured, developed sites will be closed.

**DISPERSED
RECREATION**

A maximum of 1 camping unit (walk-in) per 2 miles of trail will be developed when needed if the length of trail the units serve is 10 miles or greater. If the trail is less than 10 miles in length, camp units will not be developed.

When more than 3 hike-in camp units are provided in a cluster, toilet facilities may be provided.

Trailhead parking will be provided at approximately 1 car for each mile of trail on the periphery of the management area.

Trailhead facilities for horse trails for up to 50 persons at one time (PAOT) will be provided for each 10 miles of horse trail.

TRAILS

Trail management will be compatible with the ROS objective of the area.

Horses will not be allowed on hiking trails.

For both hiking and horse trails, loop trails will be preferred.

Hiking trails will generally exceed 5 miles in length.

Horse trails will generally exceed 10 miles in length.

**Operation and
Maintenance**

Trails will be maintained to their original construction standard when funding allows. The objective is to maintain trails for public safety and convenience.

Hiking trails will be inspected at least once per year.

Horse trails will be inspected at least twice per year.

If insufficient funding is available to maintain trails to the Forest objective, public convenience standards will be neglected, but public safety standards will be maintained, or the trail will be closed to public use.

VEHICLE USE

Vehicle use is allowed only on roads open to public travel.

VISUAL QUALITY

* Management activities will, as a minimum, meet the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

Variety Class	Sensitivity Level & Distance Zone				
	fg-1	mg-1	fg-2	mg-2	3
A	R	R	PR	PR	PR
B	R	PR	PR	M	M
C	PR	PR	M	M	M

Sensitivity Levels: 1-most sensitive, 3-least sensitive
Distance Zones: fg-foreground, mg-middle ground
Variety Classes: A-distinctive, B-common, C-minimal
Objectives: R-retention, PR-partial retention, M-modification

(See glossary for definitions)

INTERPRETIVE SERVICES

Interpretive facilities will not be provided.

2400 TIMBER MANAGEMENT

Manage vegetation primarily to produce high quality hardwood sawtimber and veneer consistent with site compatibility and other multiple use objectives.

Even-aged management is the silvicultural management system except where uneven-aged management is used to meet visual objectives along scenic roads and trails.

Stocking standards for uneven-aged management will rely on a "Q"-Factor" of 1.3 to 2.0. Maximum tree size will generally be 24 to 30 inches. Tree stocking will generally be kept at a level comparable to the "C" level or higher as defined for even-aged management.

HARVEST

Method

Clearcut and shelterwood are the primary harvest cutting methods.

Timing

The primary rotation age is 160 years with harvest of the 160-year age class when the Forest is regulated. In the interim, prior to regulation, pine stands may be harvested at age 30 to 150 years while hardwood stands may be harvested at age 100 to 160 years. Usually only understocked, high risk, sparse, or low quality, stands will be harvested prior to age 100. Understocked stands are below "C" level as described in Agriculture Handbook 355, "Even-Aged Silviculture for Upland Central Hardwoods."

Stands of short-lived species, such as red pine, shortleaf pine, Virginia pine, scarlet oak, black oak and aspen may be managed on shorter rotations in order to perpetuate the species.

The final harvest in shelterwood will be accomplished after satisfactory regeneration has become established. This will usually be a minimum of 5 years after the initial harvest.

Operating seasons will be determined on a stand-by-stand basis.

Intensity

Proportion of hardwood and conifer area that may be harvested in an analysis unit in a 10-year period:

When regulated:

Hardwood 6-7%

Conifer 6-7%

In transition:

If: both the 0-9 year and 40-100+ year hardwood objectives can be met:

Then: Harvest
Hardwood: 5-9%
Conifer: 1-9%

In transition, when both the 0-9 year and 40-100+ year hardwood objectives can not be met, provision of 40-99 and 100+ year hardwoods will have priority over provision of the 0-9 year age class. The following rules govern regeneration intensity when 40-100+ year hardwood objectives would not be met following timber harvest:

If: The 40 to 100+ year hardwoods are equal to or greater than 50% of an analysis unit after harvest and the 100+ hardwoods are equal to or greater than 25% of an analysis unit after harvest.

Then: Harvest
Hardwood: 1-5%
Conifer: 1-9%

If: The 40 to 100+ year hardwoods are less than 50% of an analysis unit after harvest or the 100+ year hardwoods are less than 25% of an analysis unit after harvest.

Then: Harvest
Hardwood: none, unless it is done in age classes less than 100 years, and such harvesting (1% to 5%) does not adversely affect attainment of the 40-99 and 100+ year hardwood objectives.
Conifer: 1-9%

Opening Size--5 to 10 acres except where visual quality objectives require openings less than 5 acres to protect scenic values near roads, trails, and water bodies.

Fuelwood Availability--The only fuelwood available is that removed from the area by loggers, except for sale areas located along periphery of area.

Reforestation

Site Preparation

- Use of mechanical equipment--Heavy equipment generally will not be used.
- Use of herbicides and prescribed fire is permitted.

Timing

Season--No special restrictions.

Thinning

The frequency and intensity of thinning operations shall be coordinated with snag management needs as described under 1900 Vegetative Management for this management area. Normally, the following is the most intensive level of thinning which may occur if cost-benefit analysis and other resource considerations support this activity.

Precommercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above, once.
-Pine on all sites, once.

Age--Hardwood generally between 20 and 30 years. Pine generally between 10 and 20 years.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Spacing--Hardwoods, generally 15 ft. by 15 ft. to 20 ft. by 20 ft. Pine, generally 10 ft. by 10 ft. to 12 ft. by 12 ft.

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

Commercial Thinning

Method

To be determined at the project level.

Timing

Frequency--Hardwoods on sites (black oak) 60 and above normally not less than 20 years between entries. Pine on all sites, normally not less than 20 years between entries.

Age--Hardwoods from age 40 to 75 percent of rotation age. Pine from age 20 to 75 percent of the rotation age.

Season--Operating seasons are determined on a stand-by-stand basis.

Intensity

Stocking Levels--Refer to silvicultural guides for species in question to determine residual stocking levels (usually close to the "B" level).

Activity Fuel Disposal--None except when needed to meet visual quality, watershed, or other resource objectives.

2600 WILDLIFE HABITAT MANAGEMENT

Fish or wildlife management may occur only to protect endangered, threatened, and sensitive species.

2700 SPECIAL USES MANAGEMENT

Permits for single utilities facilities would be permitted only when in the public interest considering environmental and economic effects. Agricultural permits may be granted as a management tool. Other permits will be considered only on a case-by-case basis after an environmental analysis.

5400 LAND OWNERSHIP

Generally, provide land in 2,500 acre blocks or larger.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY

Drinking water will not be provided.

7700 TRANSPORTATION SYSTEM

GENERAL

Semiprimitive, Nonmotorized is the ROS Class objective of Management Area 6.3. Moderate amounts of primarily walk-in recreation opportunities, with a moderate probability of experiencing considerable isolation from the sights and sounds of people, will be provided. All-weather road access to the perimeter of large tracts of National Forest System land, with all roads on National Forest System land being closed to public motorized traffic, is the ultimate goal for this management area.

CLOSURE OF EXISTING ROADS

One objective for Management Area 6.3 is to close to public motorized traffic all roads on National Forest System land. Because of (1) the continued need for some of the State, county, and township jurisdiction roads on National Forest System land, and (2) the established use on other State, county, and township jurisdiction roads that aren't needed, this objective cannot immediately be met. The Forest Service will provide for existing rights, such as to oil wells and private property.

Some State, county, and township roads on National Forest System land will continue to be needed for access to intermingled private land well into the future. However, maintenance activities on those State, county, and township roads that aren't needed will probably cease. As these unneeded roads become impassable through neglect, Forest Service petitions to vacate the roads may have a good chance for approval. If vacated, the roads could be closed to public motorized traffic by the Forest Service.

**SYSTEM
(PERMANENT)
ROAD CONSTRUCTION**

To meet planned resource objectives for Management Area 6.3, system (permanent) road access, either all-weather or dry-weather, will be needed within 1/2 mile driving distance of all National Forest System land where road access is needed for planned resource management activities. This 1/2 mile driving distance is only a rule-of-thumb. It may be increased or decreased depending upon local conditions. Some local factors affecting this 1/2 mile distance include:

- Potential for needing road access to the National Forest System land beyond this 1/2 mile point more often than once every 20 to 30 years.
- Critical property boundaries that could lead to trespass on private land if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.
- More sensitive environmental conditions that could potentially be damaged if a non-system (temporary) road, over which the Forest Service has lower control of location, standard, and construction quality, is constructed beyond this 1/2 mile point.

Only area-specific, integrated resource management planning can determine the exact number, lengths, and standards of additional system (permanent) roads needed to manage National Forest System land, but the following estimates have been developed for Management Area 6.3:

- An estimated 0.125 miles of all-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on permanent rights-of-way across private land within the next 30 years. All of these roads will be open to public motorized traffic at all times.
- An estimated 1.0 miles of dry-weather Forest Service jurisdiction road per section (640 acres) of National Forest System lands will be constructed on the Forest within the next 50 years. The primary purposes of these roads will be for resource management and for administrative use, but some very limited public motorized use may also occur, such as during deer hunting seasons. This seasonal public motorized use may be permitted if deemed necessary and authorized by the Forest Supervisor.

**TEMPORARY ROAD
CONSTRUCTION**

Only area-specific, integrated resource management planning can determine the number and lengths of non-system (temporary) roads needed to manage National Forest System land. It has been estimated, though, that for every section (640 acres) of National Forest System land in Management Area 6.3, an average of 0.5 miles of temporary road will be constructed, used for an average of maybe 6 months to a year, and then revegetated,

during each decade. Timber harvest access will be the primary purpose for temporary roads constructed by the Forest Service, but some will be constructed for other resource management activities, such as wildlife waterhole construction. No use of temporary roads by public motorized traffic is planned.

PUBLIC PARKING

Off road, public parking will be provided for up to approximately 8 cars per 1,000 acres of National Forest System land in Management Area 6.3.

MANAGEMENT AREA 7.1

PURPOSE

This area is established to:

Recognize existing recreation facilities and the future need to provide sites for highly developed sites intended to serve large numbers of people.

Broaden the range of various recreation opportunities provided and protect high quality opportunities.

Provide for dispersed recreation along lakesides.

Protect and enhance visual quality.

This area provides opportunities for dispersed recreation in lakesides and for camping, swimming, picnicking, group activities, and other intensive recreation opportunities in highly developed sites.

DESIRED FUTURE CONDITION

Developed areas will contain high density, self-contained destination type recreation developments within a forest environment. Handicapped access to most facilities and structures will be provided. Vegetation will be managed to ensure that the long-term viability, safety, and attractiveness of the area continues throughout the anticipated life of the development.

Roads and trails will provide access within the more developed areas. Hiking trails provide access to lakesides. Roads and trails will be designed to accommodate the high density recreation use and related activities associated with the area.

Recreation facilities and structures will be present and may dominate the landscape in developed areas. Design, building materials, and placement of facilities and structures will be such that they are in harmony with the environment. Utility corridors and other special uses may be present, provided they will be compatible with the character of the area.

The areas will vary in size and ownership pattern. Because of major investments in the developed facilities and structures, the surface and subsurface ownership management objectives should be compatible.

Intensive recreation opportunities are provided in more developed portions of the area. More undeveloped areas provide opportunities for boating, fishing, hunting and hiking. The areas may produce low amounts of fuelwood and high quality hardwoods. Although a variety of native wildlife is present, habitat conditions are especially favorable to those animals that require large hardwoods. Mineral exploration opportunities are provided with major restrictions, and mineral extraction may occur on a case-by-case basis.

Developed areas may occur where terrain, climate, water, soils, and vegetation combine to form sites suitable for the location of highly developed facilities intended for use by large numbers of people and for special recreation activities. This management area also includes associated lakes and lakeside zones which extend up to 1/2 mile from the water's edge.

**SUITABILITY
REQUIREMENTS**

These forest areas vary from 150 to 2,500 acres or larger in size. Existing National Forest System land constitutes most of the area uses, depending on the ownership pattern that existed at the time the use was established. Most of these areas are in fee ownership.



PRESCRIPTION FOR MANAGEMENT AREA 7.1

1600 INFORMATION SERVICES

Visitor Information Stations (VIS), VIS displays, signing, informative brochures, and campground hosts may be provided in the developed areas.

1800 HUMAN RESOURCE PROGRAMS

Programs may be used in the development and maintenance of recreation trails and facilities and vegetation manipulation.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

Composition Objectives--Vegetation will primarily be hardwood forest with a wide variety of hardwood tree and shrub species. A small amount of shrub/herbaceous openings may be provided for visual variety, play fields, and wildlife diversity.

2200 RANGE MANAGEMENT

Forage management practices will not be used in this management area.

2300 RECREATION MANAGEMENT

RECREATION OPPORTUNITIES

Recreation Opportunity Spectrum (ROS) class Rural is the objective in the developed recreation sites.

DEVELOPED SITES *

Major developments will be associated with water (i.e., lakes, rivers).

Developments should be designed for a single entry-exit road which affords control.

Handicapped access to most facilities and structures will be provided.

As much as possible, developments should be pedestrian oriented. Trail access from one facility to another should be made as convenient as possible. The intent is to make walking more reasonable and desirable than driving.

If public health and safety cannot be reasonably ensured, recreation facilities and sites will be closed.

Recreational developments may be temporarily closed to allow for site rehabilitation.

Details of operation and maintenance work are found in Operation and Maintenance Plans.

DISPERSED FACILITIES

Trails will be maintained to their original construction standard.

VEHICLE USE

Vehicle use is allowed only on roads open to public travel.

CULTURAL RESOURCES

The developed nature of these areas make them ideal candidates for the interpretation of cultural sites. Those areas that contain sites not suitable for interpretation will require a high level of monitoring to protect them from illegal collecting.

VISUAL QUALITY *

Management activities will, as a minimum, meet the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

* Variety :Sensitivity Level & Distance Zone

Class	: fg-1:mg-1:fg-2:mg-2:	3
A	: R R PR PR PR	
B	: R PR PK M M	
C	: PR PR M M M	

Sensitivity Levels: 1-most sensitive, 3-least sensitive
 Distance Zones: fg-foreground, mg-middle ground
 Variety Classes: A-distinctive, B-common, C-minimal
 Objectives: R-retention, PR-partial retention, M-modification
 (See glossary for defnitions)

INTERPRETIVE SERVICES

Interpretive services will emphasize personal services, such as evening talks and programs, guided walks and demonstrations.

2400 TIMBER MANAGEMENT

Vegetative management techniques of even-aged or uneven-aged silvicultural systems may be used to meet area management objectives. This management area is not included in the timber base.

Creation of temporary openings will be governed by the area management objectives.

Some fuelwood may be available from management of vegetation within developed sites, and where vegetative management occurs along lakesides.

2500 WATER AND SOIL RESOURCE MANAGEMENT

Improve or maintain water quality/quantity in a condition suitable for water contact activities, fishing, and drinking with treatment. Sewage treatment facilities when appropriate will be adequately designed and maintained to protect water quality.

Soil erosion and compaction are potential problems. Provide erosion control and minimize soil compaction by regulating use and by site rehabilitation.

Minimize soil compaction and erosion problems in new construction by integrating soils information into site selection and design.

2600 WILDLIFE HABITAT MANAGEMENT

WILDLIFE

- * Manage wildlife habitat to enhance visitor enjoyment.

Habitats will be provided for a variety of wildlife species, particularly those requiring old-growth hardwood forest.

Permanent wildlife openings, waterholes, marshes and small fishing lakes, may be provided.

FISH

Maintain or restore fish population balance, to the extent practical, through habitat manipulation. Population manipulation, as coordinated with the State fisheries agency, will be used when necessary.

2700 SPECIAL USES MANAGEMENT

UTILITY TRANSMISSION

In the developed areas, permit only those utilities which serve recreation or administrative facilities. Exceptions will be considered on an individual basis.

CORRIDORS

In the lakeside areas, permit rights-of-way only when there are no other feasible locations.

OTHER SPECIAL USES

Permit other special uses only on a case-by-case basis. Some services may be provided by concessionaires.

UTILITY DISTRIBUTION SYSTEMS

- * Approval of application for distribution systems crossing National Forest System lands (such as utility rights-of-way serving individual residences) will be determined individually, consistent with the standards and guidelines for this management area.

2800 MINERALS AND GEOLOGY

MINERAL EXPLORATION AND DEVELOPMENT

No surface disturbance is allowed to explore for or develop on land with USA-owned minerals within the developed portion of the 7.1 area.

Permit only minor use of common variety minerals necessary to management of the area and only in isolated, well-screened areas.

5100 FIRE MANAGEMENT

Fire Suppression

In developed recreation areas, size and strength of initial attack fire forces for suppressing wildfires will be preplanned by analysis of probable fire locations, fire risk, and possible resource gains or losses.

5400 LAND OWNERSHIP

Generally, provide land in 150 to 2,500-acre blocks or larger. Subordinate or acquire subsurface rights as necessary to protect the areas.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

- WATER SUPPLY** * Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.
- WASTE WATER** Waste water disposal systems may be provided. When provided, they must be designed, maintained and operated to meet all Federal and State regulations.
- SOLID WASTE** * Landfill disposal sites will not be provided.

7500 DAMS

Ensure that water impoundments and transmission facilities are safe, sanitary, and adequate.

7700 TRANSPORTATION SYSTEM

- ROADS** A transportation system will be planned as an integral part of the recreation development, and be designed and constructed to safely and comfortably accommodate both specialized recreation vehicles and associated service vehicles.
- ROAD CLOSURE** Roads in certain areas of developed sites may be closed to allow for recreation site rehabilitation.
- ROAD MAINTENANCE** All roads in developed recreation areas will be maintained to at least Maintenance Level 3.

MANAGEMENT AREA 8.1

PURPOSE

These areas will emphasize:

Preservation of unique ecosystems for scientific purposes.

Research to better understand natural processes.

These nationally significant areas will be designated after having been recommended by a review committee and approved by the Chief of the Forest Service. An area must meet one or more of the following criteria:

- Contributes to the protection of diversity of vegetation communities and wildlife habitat.
- Typifies important forest, shrubland, grassland, alpine, aquatic, and geologic types.
- Represents special or unique characteristics of scientific interest and importance.
- Helps carry out provisions of laws, such as providing habitat for endangered species.
- Protects or maintains special aquatic, geologic, or potential natural vegetation and faunal communities or protects cultural resources.

DESIRED FUTURE CONDITION

These areas may be found anywhere in the Forest where terrain, climate, soil, water, and vegetation possess unique characteristics for scientific study.

These designated, significant areas include a wide range of forest conditions. Vegetation and associated fish and wildlife will vary.

Trails may provide access for administrative purposes and recreation activities. Management of these systems will depend upon the purpose of the area; nonmotorized access often being regulated. Evidence of human activities will be controlled to reduce their effect on the area.

The size of the areas will vary, depending upon intended purpose. They are in National Forest System ownership and protected by law or administrative order.

SUITABILITY REQUIREMENTS

These areas can range in size from a few acres to several hundred acres. The unique characteristics of these areas require that they be protected by law or administrative order. Most are in Federal ownership, but there may be other potential sites in private ownership.

DESIGNATED AREAS

Reas Run Research Natural Area is a 78-acre native Virginia pine stand. 1/

1/ Candidate RNA's are listed under Management Area 9.2. The Plan will be amended to put RNA's in Management Area 8.1 when they are established.

PRESCRIPTION FOR MANAGEMENT AREA 8.1

1900 LAND AND RESOURCE MANAGEMENT PLANNING

Vegetation will undergo changes by natural succession only unless the law or order establishing the area provides for vegetative manipulation. Special management plans for designated Research Natural Areas will be prepared.

2100 ENVIRONMENTAL MANAGEMENT

- AIR QUALITY** * Forest will advise Regional Forester of areas where redesignation to Class I is necessary to protect unique National Forest System lands. See Glossary, DEIS, "Air Quality."
- PESTICIDE USE** Registered pesticides may be used in insect and disease control when their use is compatible with the law or order designating the area.
- ENERGY MANAGEMENT** Wood residues will not be available for energy.

2200 RANGE MANAGEMENT

Grazing may be permitted as a management tool if needed to meet the intent of the law or order designation an area and in accordance with area management plans.

2300 RECREATION MANAGEMENT

- RECREATION OPPORTUNITIES** Recreation Opportunity Spectrum (ROS) class will usually be Roaded Natural (RN). There may be other classes depending on the nature of the adjacent lands and their proximity to roads. Generally, recreational uses will be discouraged. Trails will be limited to low standard hiking trails.
- Any public use which would impair research or educational value will be prohibited.
- VEHICLE USE** Vehicle use is allowed only on roads open to public travel.
- CULTURAL RESOURCES** No on-site interpretation of cultural sites will occur. Site survey will be accomplished using nonground-disturbing techniques.
- VISUAL QUALITY** Research natural areas will have a visual quality objective of preservation.
- INTERPRETIVE SERVICES** Interpretive signs may be provided on the periphery of the area.
- Brochures may be used to accomplish other interpretation concerning elements in the interior.
- Interpretation may be done to explain research, not to improve recreational experience.

2400 TIMBER MANAGEMENT

No silvicultural system will be used, unless necessary to maintain the vegetation for which the area was established.

Fuelwood will not be available.

2500 WATER AND SOIL RESOURCE MANAGEMENT

- * Control measures to mitigate erosion will be commensurate with the soil characteristics, expected use, and management objectives of the area.

2600 WILDLIFE HABITAT MANAGEMENT

Wildlife habitat management will not occur unless necessary to protect endangered, threatened, or sensitive species.

2700 SPECIAL USES MANAGEMENT

Permit only those uses which meet the intent of the law or order designating the area.

2800 MINERALS AND GEOLOGY

MINERAL EXPLORATION AND DEVELOPMENT

On land with USA-owned minerals, no surface disturbance will be permitted by the Forest Service.

3400 FOREST PEST MANAGEMENT

Provide pest management as necessary to provide for public health and safety and protect adjacent property, and to protect area values to the degree intended by the law or order establishing the area.

5100 FIRE MANAGEMENT

Provide a level of protection and management of fire to the degree intended by the law or order establishing the area.

5300 LAW ENFORCEMENT

Provide law enforcement as necessary to protect the public and special values for which the areas were established.

5400 LAND OWNERSHIP

Provide a land base which meets the resource management purposes of the law or order designating the area.

Acquire a protective easement or subsurface rights to meet the intent of the law or order designating the area.

7300 BUILDING AND STRUCTURES

- * Limit buildings and structures to those needed to support the special area management objectives.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY

Drinking water may be provided. If provided, it must meet Federal and State regulations and be protected to ensure its continued quality.

SOLID WASTE

Landfill disposal sites will not be allowed.

7700 TRANSPORTATION SYSTEM

GENERAL

The Forest Service will construct no roads, either system (permanent) or non-system (temporary) within Research Natural Areas. Closure or other management of existing roads will be addressed in the management plan for the Research Natural Area. The Forest Service will provide for existing rights, such as to oil wells and private property.

If new roads need to be constructed by others in a Research Natural Area to access outstanding minerals or other interests, the Forest Service will require or urge, depending upon the level of control the Forest has, that "non-forest" users construct, maintain, and manage the roads in a manner that will not adversely affect the special or unique features for which the Research Natural Area was established.

MANAGEMENT AREA 8.2

PURPOSE

These areas will emphasize:

Preservation and study of unique natural areas.

These regionally or locally significant areas will be designated after having been recommended by a review committee and approved by the Regional Forester. An area must meet one or more of the following criteria:

- Be representative of unique geological, ecological, cultural or other scientific values.
- Be an appropriate area for scientific research.
- Have potential to be a regional or national landmark based on its natural or cultural values.

DESIRED FUTURE CONDITION

These areas are found throughout the Forest where significant cultural remains exist or terrain, climate, soil, water, flora or fauna possess unique characteristics. Such significance is recognized by State or Federal authority and will be officially designated.

These recognized, significant areas include a wide range of forest conditions. Vegetation and associated fish and wildlife will vary depending upon the characteristics of each area.

A system of hiking trails may provide access for administrative purposes and recreational activities. Facilities and structures may be present and designed to be compatible with the natural surroundings. Evidence of human activities will vary but generally will be controlled to reduce their effect on the area.

The size of the areas will vary but boundaries will be located to protect only the significant resource area. They are under National Forest administration and protected by law or administrative order.

SUITABILITY REQUIREMENTS

These areas can range in size from a few acres to several hundred acres. The unique characteristics of these areas require that they be protected by law or administrative order. Most are in National Forest ownership but there are other potential sites in private ownership.

Surface rights take precedence over subsurface rights as necessary to meet the intended use of the area.

DESIGNATED AREAS

None at this time. ^{1/}

^{1/} Potential Special Areas are listed under Management Area 9.2. The Plan will be amended to put these areas in 8.1 after they are established.

PRESCRIPTION FOR MANAGEMENT AREA 8.2

1900 LAND AND RESOURCE MANAGEMENT PLANNING

Special management plans for designated Special Areas will be prepared.

- * Vegetation management will be governed by the Special Area management objectives.

2100 ENVIRONMENTAL MANAGEMENT

AIR QUALITY

- * Forest will advise Regional Forester of areas where redesignation to Class I is necessary to protect unique National Forest System lands. See Glossary, DEIS, "Air Quality".

2200 RANGE MANAGEMENT

Grazing may be permitted as a management tool if needed to meet the intent of the law or order designating an area and in accordance with area management plans.

2300 RECREATION MANAGEMENT

Recreation Opportunities

Camping, picnicking, or other such recreational facilities will not be provided.

Recreation Opportunity Spectrum (ROS) will usually be Rooded Natural (RN). There may be other classes depending on the nature of the adjacent lands and their proximity to roads.

Recreation opportunities may be provided if the values of the area can be adequately protected.

The establishing law or order may set the limits of use and development.

Recreation Facilities

Dispersed Facilities

Horse trails will not be provided.

Hiking trails may be provided if they do not destroy or jeopardize the unique resource. Standards and guidelines for trail construction and maintenance are the same as Management Area 6.1.

VEHICLE USE

Vehicle use is allowed only on roads open to public travel.

VISUAL QUALITY

- * Visual Quality Objectives will be consistent with special area management objectives.

INTERPRETIVE SERVICES

Provide interpretive services, such as signing, as necessary and in accordance with the intent of the law or order establishing the area.

Interpretive exhibits may be provided if they do not damage the unique resource and they are visually subordinate to the unique resource.

2400 TIMBER MANAGEMENT

No silvicultural system will be used, unless necessary to maintain the vegetation for which the area was established.

Fuelwood will not be available.

2500 WATER AND SOIL RESOURCE MANAGEMENT

- * Control measures to mitigate erosion will be commensurate with the soil characteristics, expected use, and management objectives of the area.

2600 WILDLIFE HABITAT MANAGEMENT

- * Wildlife and fish habitat management will comply with Special Area management objectives.

2700 SPECIAL USES MANAGEMENT

Permit only those uses which meet the intent of the law or order designating the area.

2800 MINERALS AND GEOLOGY

MINERAL EXPLORATION AND DEVELOPMENT

On land with USA-owned minerals, no surface disturbance will be permitted by the Forest Service.

3400 FOREST PEST MANAGEMENT

Provide pest management as necessary to provide for public health and safety and protect adjacent property, and to protect area values to the degree intended by the law or order establishing the area.

5100 FIRE MANAGEMENT

Provide a level of protection and management of fire to the degree intended by the law or order establishing the area.

5300 LAW ENFORCEMENT

Provide law enforcement as necessary to protect the public and special values for which the areas were established.

5400 LAND OWNERSHIP

Provide a land base which meets the resource management purposes of the law or order designating the area.

Acquire a conservation easement or subsurface rights to meet the intent of the law or order designating the area.

7300 BUILDINGS AND STRUCTURES

- * Limit buildings and structures to those needed to support the special area management objectives.

7400 PUBLIC HEALTH AND POLLUTION CONTROL ACTIVITIES

WATER SUPPLY

Drinking water may be provided. If provided it must meet Federal and State regulations and be protected to ensure its continued quality.

SOLID WASTE

Landfill disposal sites will not be provided.

7700 TRANSPORTATION SYSTEM

GENERAL

Because of their relatively small size, protection of special or unique features in Special Areas must be coordinated with resource management needs for adjacent National Forest System lands. In some cases, it may be necessary to maintain existing roads or construct new roads through a Special Area to provide access. In such cases, a special provision will be noted in the management plan for the Special Area. The Forest Service will provide for existing rights, such as to oil wells and private property.

Road access will not be provided unless it can be shown that:

- Road construction activities will not adversely affect the special or unique features for which the Special Area was established.
- Motorized traffic that would use the roads will not adversely affect the special or unique features for which the Special Area was established.
- Increased dispersed recreation use, such as hiking, hunting, or camping, that accompanies improved road access will not adversely affect the special or unique features for which the Special Area was established.

If new roads need to be constructed by others in a Special Area to access outstanding minerals or other interests, the Forest Service will require or urge, depending upon the level of control the Forest has, that "non-forest" users construct, maintain, and manage the roads in a manner that will not adversely affect the special or unique features for which the Special Area was established.

MANAGEMENT AREA 9.1

PURPOSE

This area includes National Forest System lands inside or outside the Forest purchase unit boundary which are available for exchange. Due to resource characteristics, land ownership patterns, or other factors, these lands offer only a limited contribution to National Forest management areas and objectives. Only a minimum level of management is appropriate on them in the immediate future. Lands available for exchange may be used to acquire lands that will help meet resource needs, provide more efficient land ownership patterns, and reduce resource management costs.

Goods and services provided are limited to incidental use for hunting, fishing, gathering forest products, and other incidental uses. Mineral exploration and extraction may be permitted.

DESIRED FUTURE CONDITION

A variety of vegetation exists which will undergo natural succession.

Land ownership patterns vary, but the typical pattern consists of scattered, isolated tracts of land which often are not readily accessible.

SUITABILITY REQUIREMENT

Management activities are limited, but may be very evident. Activities include only those needed to protect life, health, and safety of the incidental users; to prevent environmental damage caused by water, soil, pests, or fire on land of other ownership or downstream areas; to administer unavoidable non-Forest Service special uses; and to meet other legal requirements. Special uses related to non-Forest Service activities include mineral activities and right-of-way grants for roads, trails, and utility corridors.

PRESCRIPTION FOR MANAGEMENT AREA 9.1

1800 HUMAN RESOURCE PROGRAMS

Although management is very limited, use human resource programs in appropriate activities, such as erosion control.

1900 LAND AND RESOURCE MANAGEMENT PLANNING

**VEGETATIVE
MANAGEMENT**

There are no composition objectives for these areas. Vegetation present will largely be a result of natural plant succession and forces of nature. Special uses and limited management may affect vegetation.

- * Permit timber salvage only for fire hazard reduction, pest management, and prevention of significant resource loss.
- * Make no investments in vegetation management unless needed to protect adjoining lands from pests or fire or to protect the resources and existing investments.

2100 ENVIRONMENTAL MANAGEMENT

PESTICIDE USE

Use registered pesticides only if essential for plant pest management.

ENERGY

Wood will generally not be available for energy.

2200 RANGE MANAGEMENT

- * No capital investment will be made to develop or enhance forage production. Hay cutting may be permitted on existing forage areas.

2300 RECREATION MANAGEMENT

**RECREATION
OPPORTUNITIES**

Recreation Opportunity Spectrum (ROS) class Rural (R) is the objective in this management area.

No recreation facilities will be developed or maintained.

Investments in existing trails needed to connect segments of a continuous or extensive trail system, other than National Scenic trails, will be made only for user safety and resource protection.

VEHICLE USE

Vehicle use is only allowed on roads open to public travel.

**CULTURAL
RESOURCES**

Inventory and evaluate all significant cultural resources giving priority to those properties for possible exchange.

When significant cultural resources are discovered on lands designated for exchange, adverse effects will be mitigated by: (1) abandoning or relocating the project; (2) modifying or redesigning the undertaking; (3) recovering cultural resource data before the project is implemented.

The method to be used will be approved in advance by the State Historic Preservation officer.

INTERPRETIVE SERVICES

Interpretive services will not be provided.

VISUAL QUALITY

* Management activities will meet, as a minimum, the Visual Quality Objectives (VQO) displayed in the matrix below by sensitivity levels, distance zones, and variety classes.

* Variety : Sensitivity Level & Distance Zone

Class	:	fg-1	:	mg-1	:	fg-2	:	mg-2	:	3
A	:	R	:	PR	:	PR	:	M	:	M
B	:	PR	:	M	:	PR	:	M	:	M
C	:	PR	:	M	:	M	:	M	:	M

Sensitivity Levels: 1-most sensitive, 3-least sensitive
Distance Zones: fg-foreground, mg-middle ground
Variety Classes: A-distinctive, B-common, C-minimal
Objectives: R-retention, PR-partial retention, M-modification
(See glossary for definitions)

2400 TIMBER MANAGEMENT

Timber harvest may occur for salvage for fire hazard reduction and pest management.

No fuelwood will be harvested from these areas, except removal of dead material will be permitted along roads or as an incidental part of timber salvage.

2500 WATER AND SOIL RESOURCE MANAGEMENT

* Limit watershed improvement projects to those necessary to protect public health and safety and to prevent damage to adjoining private lands.

2600 WILDLIFE HABITAT MANAGEMENT

Provide for maintenance of facilities, habitat management only to protect public safety, and protection of threatened and endangered species.

2700 SPECIAL USES MANAGEMENT

Individual utility and road rights-of-way are permitted when no alternative locations are available on other ownerships.