

**FISHLAKE
NATIONAL FOREST**

**LAND and RESOURCE
MANAGEMENT**

PLAN

INTERMOUNTAIN REGION



FOREST SERVICE

UNITED STATES

DEPARTMENT OF AGRICULTURE



PREFACE

This Land and Resource Management Plan has been developed for the Fishlake National Forest. For detailed information pertaining to the development of this plan, contact:

Forest Supervisor
Fishlake National Forest
115 East 900 North
Richfield, Utah 84701

A. Applicable Laws and Regulations

The principle acts providing direction in developing this Land and Resource Management Plan are:

1. Organic Act of June 4, 1897.
2. Multiple Use and Sustained Yield Act of 1960.
3. National Environmental Policy Act (NEPA) of 1969.
4. Federal Land Policy and Management Act of 1976.
5. Forest Rangeland Resources Planning Act (RPA) of 1974, as amended by National Forest Management Act (NFMA) of 1976.

RPA requires the Forest Service to conduct an assessment or inventory of the Nation's renewable resources and develop a program for use of the resources. The assessment includes the determination of the capability of all National Forest lands to provide various goods and services. It also includes an estimation of future demands for those goods and services.

The central element of the Act is the institution of land and resource management planning as a basic means to achieve effective use and production of renewable resources and a proper balance of the use of NFS lands.

Section 6 of the Act requires the Secretary of Agriculture to prescribe NFS land and resource management planning regulations. The standards and guidelines in these regulations must be incorporated into NFS land and resource management plans.

The Forest Plan will supersede previous land management plans prepared by the Forest under some of the foregoing legislation. For example, the Multiple Use Plan prepared by each Ranger District in the early 1960's and the Salina Unit Plan will no longer be applicable when the Record of Decision for the Final Environmental Impact Statement for this plan is issued.

Changes in planning policies and procedures have accelerated during the past few years and will continue into the future. These policies and procedures are evolving so rapidly that significant changes have occurred between the start and finish of individual Forest Plans. It is unrealistic to expect the rapid evolution in planning policies and technologies to stop. Furthermore, it is inappropriate to consider stopping or slowing the Forest Planning process

pending a solidification of these policies and procedures. In addition, considerations such as the National Forest Management Act, Forest Service policies, and public demand require Forest Plans to be completed as rapidly as possible.

Areas of the Forest reviewed in the Roadless Area Review and Evaluation (RARE II) Final Environmental Impact Statement and not designated by Congress in the Utah Wilderness Act as wilderness will be managed for other resources than wilderness. The need to evaluate additional land areas for wilderness in the development and approval of this Forest Plan has been eliminated by the Utah Wilderness Act.

B. Public Review and Appeal

If any particular provision of this proposed action, or the application thereof to any person or circumstances, is held invalid, the remainder of the proposed action and the application of such provision to other persons or circumstances shall not be affected thereby.

The right to request an administrative appeal of the Regional Forester's decision to approve a Forest Plan is contained in 36 CFR 211.18, which describes the appeal process.

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CHAPTER I

FOREST PLAN INTRODUCTION

A. Purpose of the Forest Plan

The Forest Plan guides all natural resource management activities and establishes management standards and guidelines for the Fishlake National Forest. It describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management.

The Forest Plan embodies the provisions of the National Forest Management Act, the Regulations, and other guiding documents. The prescriptions and standards and guidelines are a statement of the Plan's management direction; however, the project outputs, services, and rates of implementation are dependent on the annual budgeting process.

B. Relationship of the Forest Plan to Other Documents

Development of the Forest Plan takes place within the framework of Forest Service Regional and National planning. The relationship among the different planning levels is shown as follows:

Congressional Acts

National level

Forest Service planning through the
Renewable Resource Assessment and Program (RPA)

Regional planning level through the
Regional Guide for the Intermountain Region

Forest planning level through the
Fishlake National Forest
Land & Resource Management Plan

The RPA Program sets the National direction and output levels for the National Forest system lands. It is based on suitability and comparability information from each Forest Service Region.

Each Forest Service Region distributes its share of national production targets to each of its Forests. The share each National Forest receives is based on detailed information gathered at the Forest level.

The Forest Service Region also prepares a Regional Guide which contains standards and guidelines to direct Forest Management. The Standards and Guidelines contained in the Regional Guide for the Intermountain Region guide the development of Forest standards and guidelines unless there is a determination of a situation requiring a variation. The standards and guidelines in this plan amplify those in the Regional Guide.

The Land and Resource Management Plan validates or provides a basis for changing production levels assigned by the Region. Activities and projects are planned and implemented by the Forest to carry out the direction developed in the Forest Plan. Information from all the National Forests in the Region was used in developing the Intermountain Regional Guide.

The Forest Plan is the selected alternative of the EIS and is based on the various considerations which have been addressed in the EIS. The planning process and the analysis procedure which were used in developing this Plan, as well as the other alternatives that were considered, are described or referenced in the EIS. Assessment of the environmental consequences of implementing land management actions will be through the National Environmental Policy Act of 1969 (NEPA) procedures as spelled out in the implementing regulations (40 CFR 1500 - 1508). Environmental analysis for activities and projects will be tiered to the accompanying EIS as provided for in 40 CFR 1502.20. The local project environmental analysis will use the data and evaluations in the Plan and EIS as its basis.

C. Plan Structure

This plan provides the long term direction for managing the Fishlake National Forest. It contains the overall directions and activities which will be required to achieve the desired state of the Forest. Management area maps indicate where the activities will occur.

The Forest Plan contains management direction for the Fishlake National Forest. The EIS described the alternatives considered in arriving at that direction and assessed the environmental effects of implementing the Plan and other alternatives.

The Forest Plan is organized into five chapters:

- Chapter I. Forest Plan Introduction
- Chapter II. Analysis of the Management Situation Summary
- Chapter III. Plan Responses to Issues, Concerns, and Opportunities
- Chapter IV. Forest Management Direction
- Chapter V. Implementation of the Forest Plan

The Chapter titled "Forest Management Direction" deals with the multiple use goals and objectives. It also lists the management practices and standards and guidelines for management of specific areas. The "Implementation of the Forest Plan" chapter deals with the means to implement the plan and evaluate and monitor the effects of management practices.

Maps displaying the various resources and associated management activities can be found in the accompanying map packet. By studying the maps concurrently with the Forest Plan, the reader can better understand the proposed action.

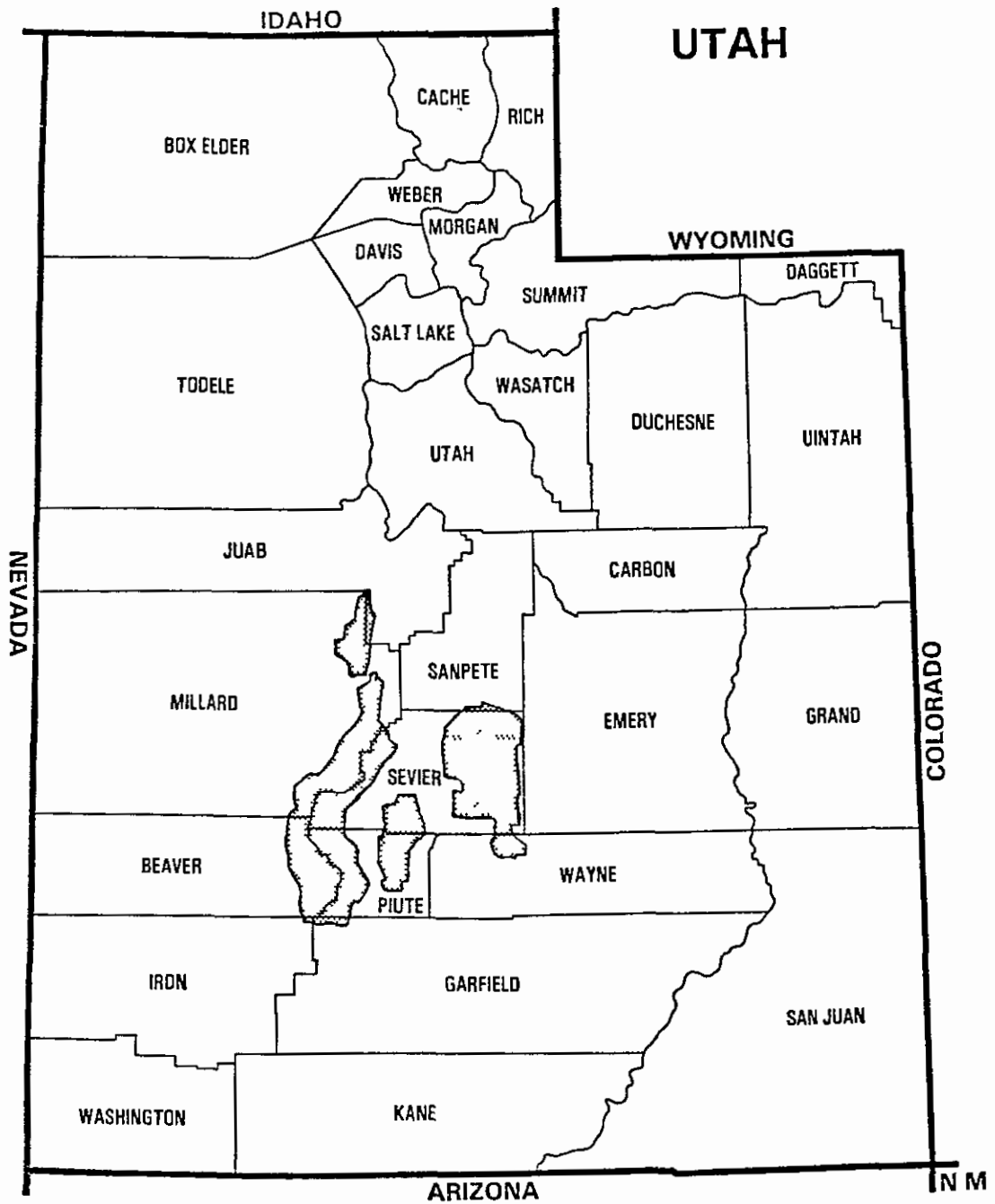
D. Forest Description

The Fishlake National Forest is located in central Utah surrounding the town of Richfield, which is about 140 airline miles south of Salt Lake City (See Figure I-1). The Forest contains 1.5 million acres, crossing parts of the Wasatch, Awapa, Sevier, and Fishlake Plateaus as well as all of the Tushar Mountains and the Canyon and Pahvant Ranges. Portions of the Utah counties covered by the Forest are: Beaver, Garfield, Iron, Juab, Millard, Piute, Sanpete, Sevier, and Wayne.

Major access to the vicinity of the Forest is provided by two interstate highways and one U.S. highway. I-70 crosses the Forest in an east-west direction in Clear Creek and Salina Canyons. I-15, linking Salt Lake City with Las Vegas, passes east of the Canyon Range, through Scipio Pass, then west of the Pahvant Range and Tushar Mountains. U.S. Highway 89, also coming south from Salt Lake City, runs through the Sevier River Valley, which separates the eastern and western halves of the Forest.

The Forest Supervisor is headquartered in Richfield, Utah, while Ranger District offices are located in Fillmore, Loa, Beaver, and Richfield, Utah.

FIGURE I - 1



VICINITY MAP
FISHLAKE NATIONAL FOREST

CHAPTER II

ANALYSIS OF THE MANAGEMENT SITUATION SUMMARY

INTRODUCTION

This chapter describes the present condition of each Forest resource. Future demand for Forest resources, the Forest's ability to supply that demand, and the expected future condition of the resources are summarized.

Information in this chapter was drawn primarily from the Analysis of the Management Situation, approved in March of 1982. Copies of the analysis are available in the Fishlake Forest Supervisor's Office, Richfield, Utah.

A. Social and Economic Characteristics

1. Introduction

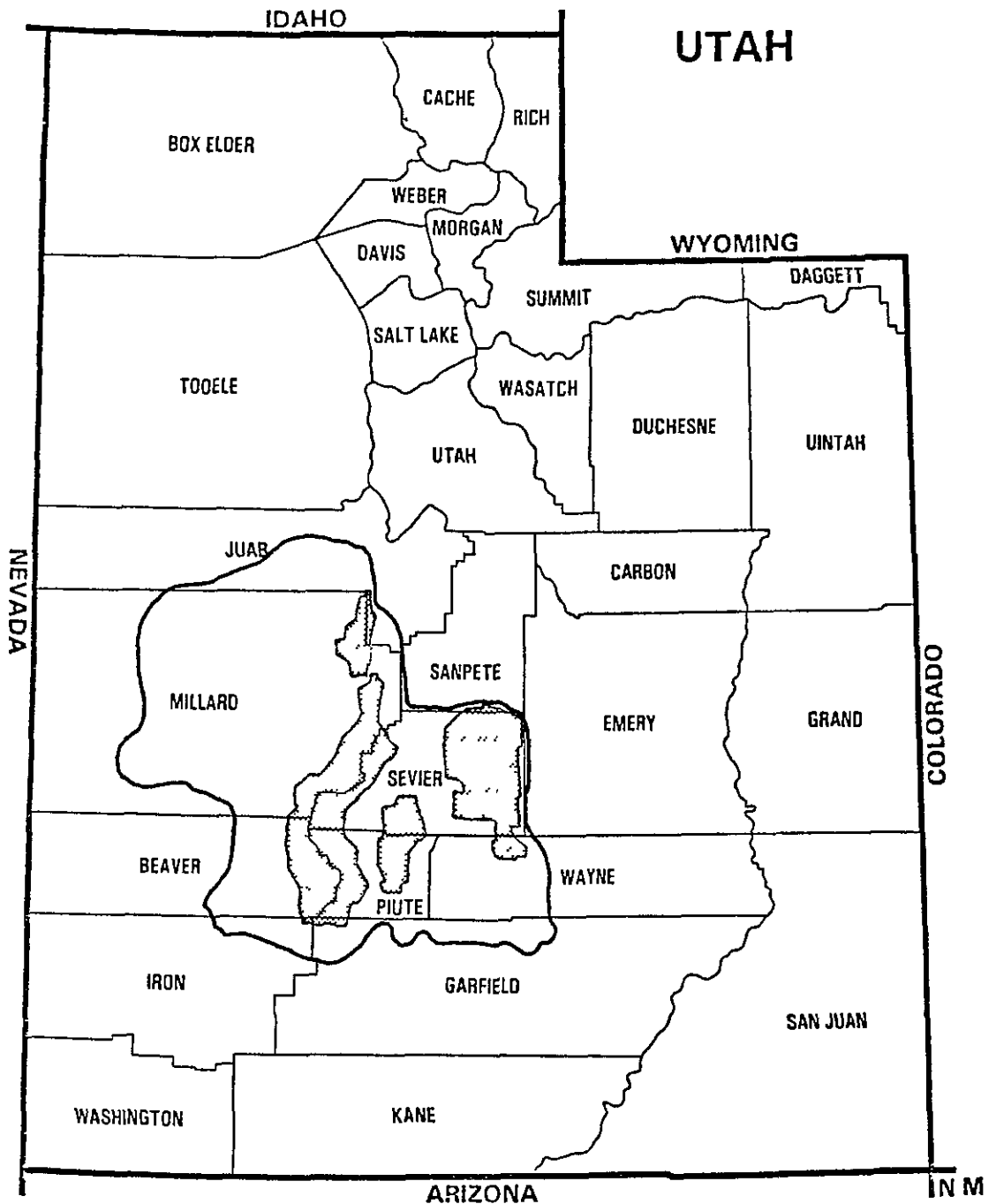
In describing the current social and economic conditions in the Fishlake Forest's Zone of Influence (see Figure II-2) and assessing potential impacts, a system called Socially Responsive Management (SRM), proposed by the Foundation for Urban and Neighborhood Development of Denver, Colorado, was used. Key to this approach is the Social Analysis Unit, which is defined as a geographical area used to describe current and possible future social, economic, and institutional conditions at the local, regional, and national level. The two units used in this Forest Plan are the Human Resource Unit (HRU) and the Social Resource Unit (SRU).

Human Resource Units are used to design, implement and monitor management actions that respond to changing social conditions at the local level. Social Resource Units perform the same function at the regional level and thus contain one or more Human Resource Units, which are the basic building blocks. The Human Resource Units are the units of social analysis called for in Estimating Social Effects: Region 4 Social Analysis guidelines for project LMP. The procedures for characterizing and delineating Human Resource Units are described in FUND, (1979).

In using the Socially Responsive Management approach to social impact analysis, seven cultural descriptors and four economic indicators are used. These are: public and their organizations, settlement patterns, work routines, communication networks, supporting services, recreational activities, and geographical boundaries. The geographical boundaries are shown on Figure II-3. The other descriptors are discussed below. The four economic indicators are: population change, employment mix, wage structure, and local labor supply. These also are discussed below.

The descriptions of the cultural descriptors and economic indicators were made by first collecting the data for the six HRU's in the Forest's zone of influence and then generalizing them to the Sevier Social Resource Unit, which contains the Beaver, Delta, Fillmore, Fremont, Piute, and Richfield Human Resource Units.

FIGURE II - 2

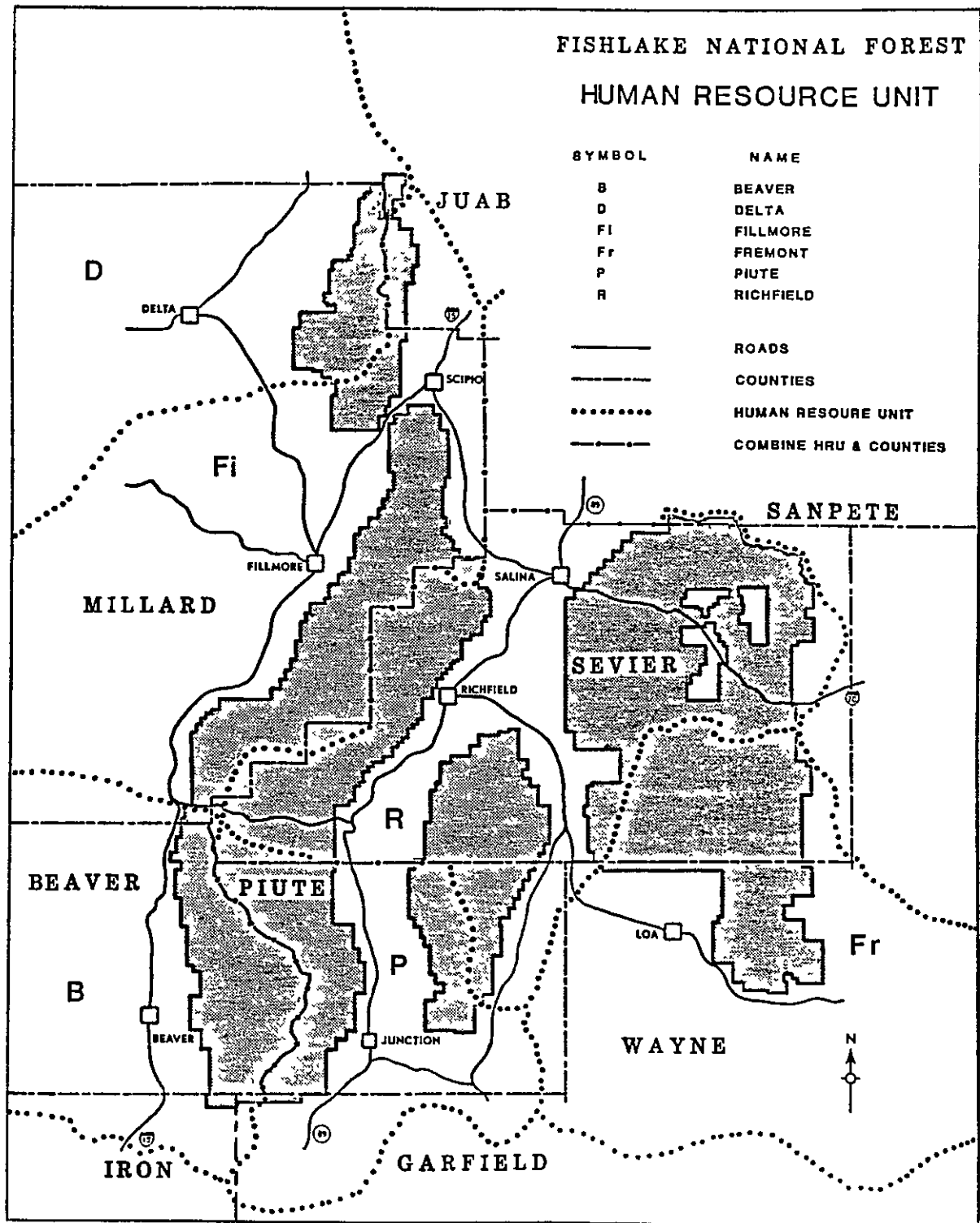


VICINITY MAP

FISHLAKE NATIONAL FOREST

—— Sevier Social Resource Unit which is the zone of influence of the Fishlake National Forest.

FIGURE II - 3



2. Cultural Descriptors

a. Publics and Their Organizations

The Church of Jesus Christ of Latter-Day Saints (Mormons) with its system of religious and social institutions is the major organization within the Sevier Social Resource Unit. Most of the Human Resource Units are about 85 percent Mormon; however, the Piute HRU is 68 percent Mormon. While a diversity of economic interests are represented within the church, its emphasis on family unity, conservatism, and agricultural and small business employment is a powerful influence in the area.

Livestock permittees, water users, senior citizens and local businessmen are the major publics in the area that have associations to promote their interests. Hunters, fishers, campers and picnickers are also significant publics. In the past they often lacked formal organizations to promote their interests, but they are becoming increasingly organized.

Other publics and their attendant formal and informal organizations are present in only one or two of the Human Resource Units of the Social Resource Unit. These range from the small but tightly knit groups of Asian Americans and Paiute Indians in the Fillmore HRU, to the California emigrants in the Richfield and Piute HRU's. This latter group comprises both retired people looking for a safe, amenable place to live, and former residents returning home to utilize new employment opportunities. These two groups form publics with distinct perceptions about Forest management.

b. Settlement Patterns

The Sevier Social Resource Unit was mainly settled by Mormon pioneers between 1850 and 1880. Most of these pioneers were recent European immigrants who were sent to colonize by the Mormon Church. Following church policy, the societies they created were agricultural with a tight, cohesive social structure that centered around their religion. Farmers and shopkeepers alike lived in the towns, the farmers commuting to their farms. This pattern has led to the lack of outlying farm houses typical of most of agricultural America. The towns thus had to be located near the centers of agricultural areas, which meant in valleys near water sources, usually mountain streams.

Between 1900 and the Second World War the population of most of the SRU showed a gradual increase of about 40 percent. The one exception to this trend was in the Piute Human Resource Unit, which experienced a hardrock mining boom around 1920.

Between the end of the Second World War and 1970, the SRU showed a population decline of about 20 percent as a result of the widespread migration from rural to urban areas and the lack of jobs in the area. This out migration occurred at different rates in different Human Resource Units. These population trends reversed themselves once

again starting about 1970. Thus the 1980 census showed a 33 percent growth over the 1970 one. Again, the rate of change was different for the different Human Resource Units. The Richfield Human Resource Unit had the highest growth rate, due mainly to creation of jobs in the non-agricultural sectors of government, service, and small business. In the near future, industrial jobs related to coal mining near Salina and electricity generation near Delta should bring a new wave of settlers into the Sevier SRU. These immigrations tend to diversify the culture of the Sevier SRU.

c. Work Routines

Most jobs in the Sevier area are in the government, trade, agricultural and services sectors. Because of the high percentage of government, trade, and service workers, there is only a minor seasonal change in the number of jobs. Since most of the agriculture is live-stock raising, it also produces few seasonal fluctuations. With the expected increase in the mining and manufacturing sectors, the percentage of seasonal change should become even lower. However, the more industrialized economy could have multiyear fluctuations reflecting national trends.

The few changes in this lack of seasonality would be in the tourist industry, where motels, campgrounds, etc. receive more business from people traveling to such areas as Fish Lake or the nearby National Parks. In areas like the Fremont HRU, ranchers tend to harvest alfalfa in the summer and then supplement their income from other sources such as timbering in other seasons.

d. Communication Networks

Formal communication networks (newspapers, radio and television) are readily accessible to all residents of the Sevier SRU. Seven weekly newspapers are published within the SRU. There are three local radio stations. Daily newspapers, television, and several radio stations located in the Salt Lake area also cover the SRU. Because Salt Lake is the media hub for the Intermountain West, the media there are more attuned to events in outlying areas than is normally the case.

e. Supporting Services

Law enforcement is handled by police departments in the larger towns such as Beaver, Fillmore, and Richfield, and also by County Sheriff's Departments and the State Highway Patrol. The Forest has had cooperative agreements for law enforcement with the sheriffs in Beaver, Millard, Sevier, and Wayne Counties. Volunteer Fire Departments in the towns provide fire protection for private property. There is a fire protection offset agreement between the Forest and Utah Division of State Lands and Forestry for the portion of the Forest north of Interstate 70 and east of Salina. This offset agreement in turn brings in the County Fire Wardens.

Sevier County has three ambulances, while others are stationed at Beaver, Fillmore and Loa. These are manned by volunteer Emergency

Medical Technicians. Hospitals serving the area are located at Beaver, Fillmore, and Richfield, but the more difficult cases are transferred to the Salt Lake or Utah Valleys.

Government services are obtained in the county seats of Beaver, Fillmore, Junction, Loa, and Richfield.

Elementary education is provided at small community schools scattered throughout the area. High school students must commute to schools at Bicknell, Salina, Richfield, Monroe, Junction, Beaver, Fillmore, or Delta.

Informal support services are important in the area. The various programs and organizations of the Mormon Church continue to be a leading support service.

f. Recreation Activities

Agriculture-related activities such as rodeos, brandings, 4-H Clubs and county fairs provide recreation for HRU residents. Church activities and high school and community sporting events are popular and receive active support.

Local residents participate in the same recreation activities that attract non-residents to the area. The opening of the hunting seasons for deer and elk almost have the status of a State holiday rivaling July 24th. Throughout the summer, waters from the high elevation Fish Lake to the lower elevation Lake Powell are heavily used by residents and non-residents alike. Other recreational activities such as picnicking, camping, and four-wheel driving are also practiced. Many of the 116 summer homes at Fish Lake are owned by residents of the Richfield area, but increasingly they are being purchased by people from outside the Sevier SRU.

One recreation phenomenon unique to the Utah area is group camping. Church, other group outings, and family reunions that may attract over 50 people are very popular during the summer months.

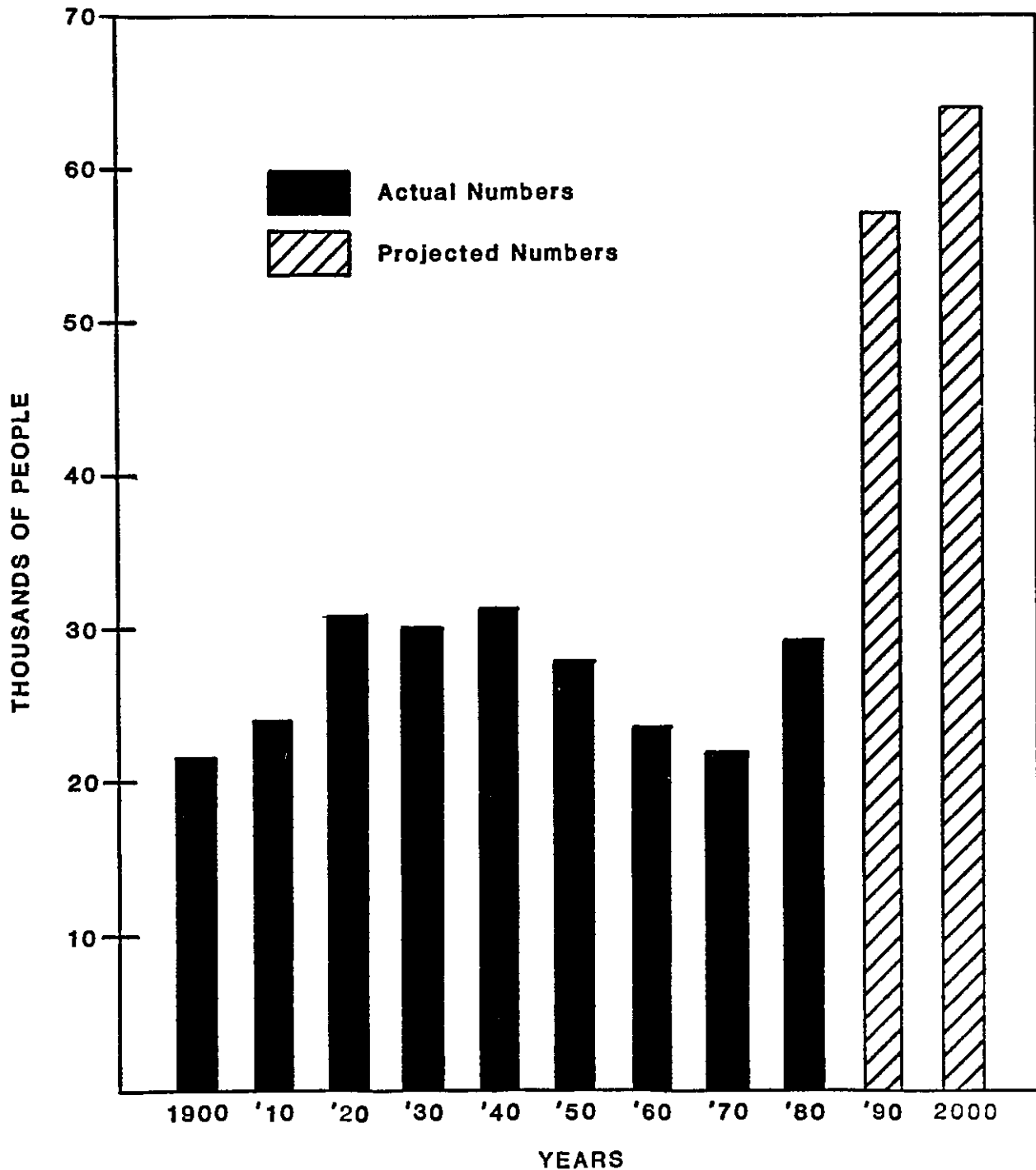
3. Economic Indicators

a. Population

The population of the Sevier Social Resource Unit (primarily the citizens of Beaver, Millard, Piute, Sevier and Wayne Counties in Utah) grew from approximately 22,000 in 1900 to 31,000 in 1940. During the next two decades the population declined from 31,000 to 23,000 due to the shift in population from rural to urban settings. Since 1970 the population has grown back to 31,000 (see Figure II-4).

FIGURE II - 4

POPULATION OF THE
SEVIER SOCIAL RESOURCE UNIT



A comparison with population growth in the State of Utah shows a sharp contrast with the Sevier Social Resource Unit.

<u>Years of Comparison</u>	<u>Utah</u>	<u>Sevier SRU</u>
1900 to 1980	+428%	+45%
1900 to 1940	+ 99%	+45%
1940 to 1970	+ 92%	-25%
1940 to 1980	+165%	0%
1970 to 1980	+ 38%	+33%

The State of Utah has grown steadily while the population of the Sevier SRU has fluctuated in a narrow band for the past 40 years.

The next two decades should see a large population increase in the Sevier SRU. The population should reach 64,000 by the year 2000 if a minimum of planned development takes place. This 106 percent increase compares with the state of Utah's "high development scenario" population growth of 71 percent. (Utah State Planning Coordinator, 1980).

The population in the Sevier Social Resource Unit is approximately 98 percent white. Individual county percentages vary from 95.4 percent to 99.4 percent.

b. Labor and Employment

The structure of the Sevier Social Resource Unit varies by Human Resource Unit. Percentages of the total workforce by sector and HRU are shown in Table 1. The Richfield HRU has a more diverse economy and is more industrialized than the other HRU's. Piute and Fremont are both heavily dependent upon agriculture and have less diverse economies than the Richfield HRU. Delta is currently heavily agricultural but with the addition of the Intermountain Power Project that economy's structure will shift toward being more industrial.

TABLE II-1
PERCENTAGE OF EMPLOYMENT BY SECTOR
IN EACH HRU OF THE SEVIER SOCIAL RESOURCE UNIT

	HRU 1/ Beaver Delta Fillmore Fremont Piute Richfield					
1. Employees on non-agricultural payroll...	68.4	58.1	71.1	47.7	56.3	74.0
Manufacturing..	6.2	9.3	7.0	4.1	7.5	7.9
Mining.....	4.7	3.0	3.4	4.7	2.7	1.3
Contract Construction.....	2.2	2.4	2.5	3.9	3.4	5.9
Transportation, Comm. & Public Utilities.....	3.4	8.2	3.1	.5	1.9	4.5
Trade.....	19.6	17.1	17.4	6.6	3.6	20.8
Finance, Insurance, & Real Estate.....	1.6	1.6	1.6	.6	.2	2.7
Services.....	8.4	4.1	4.6	3.1	.5	10.4
Government.....	22.1	12.4	31.5	24.3	36.4	20.6
2. "All other" 2/ non-agricultural employment.....	12.6	11.6	14.2	23.4	19.7	13.1
3. Agricultural Employment 3/..	19.00	30.3	14.7	28.9	34.0	12.9

1/ County data were disaggregated to the various HRU's. County data were supplied by Utah State Employment Security.

2/ "All Other" refers to self-employed, domestic workers, and unpaid workers in family businesses.

3/ Estimate of agricultural proprietors and agricultural laborers.

Figure 5 showing mix of employment displays the agricultural/non-agricultural ratios of the HRU's. An HRU with a rate of less than one agricultural worker to three non-agricultural workers is considered an agricultural economy. A ratio of one agricultural worker to seven non-agricultural workers is considered a non-agricultural economy. The ratios in between denote transitional economies. For the Sevier SRU as a whole the ratio is 4.5 non-agricultural to one agricultural worker which places it in the transitional area.

FIGURE II - 5

MIX OF EMPLOYMENT

1980 data

Argricultural
1:1 - 1:3

Transitional
1:4 - 1:6

Non-Argicultural
1:7 +

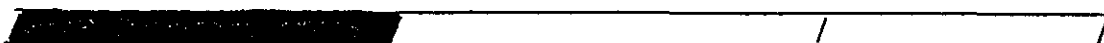
Richfield 1:6.8



Piute 1:1.9



Delta 1:2.3



Fillmore 1:5.8



Fremont 1:2.5



Beaver 1:5.2



1:1

1:3.5

1:6.5

The structure of the local HRU's can and does change over time. The general tendency for the entire Sevier SRU is a shift from agricultural toward non-agricultural. For example the agricultural/non-agricultural ratios for the Richfield HRU have shifted as follows:

Richfield HRU		
Year	Ratio	Characterization
1950	1:1.2	Agricultural
1960	1:3.2	Agricultural
1970	1:4.5	Transitional
1980	1:6.8	Non-Agricultural

The Richfield HRU has had sharply expanded government, trade and service sectors in the past 30 years. This tendency toward a non-agricultural economy has not been the result of large increases in manufacturing or mining, but rather the development of Richfield as a regional service center. The shift will continue as the mining sector increases in importance in the next 20 years.

The important point to remember is that change in the structural characterization toward non-agricultural can occur without significant mining or industrial development and that very significant mining and industrial development is expected in most of the Sevier SRU.

The result of the shift is an economy that is more diverse and less dependent upon Forest Service production of forest and range commodity products. The transition can be spurred by mining and oil and gas development on National Forest lands.

There are three HRU's in the Sevier Social Resource Unit that are heavily based on agriculture. For example, looking at the Fremont HRU:

Fremont HRU		
Year	Ratio	Characterization
1950	1:0.5	Agricultural
1960	1:0.9	Agricultural
1970	1:1.8	Agricultural
1980	1:2.5	Agricultural

The characterization of the Fremont HRU as an agricultural economy means that the economy is heavily dependent upon National Forest production of forest and range commodity outputs. The economy is not diverse and actions taken by the Forest Service have a significant impact on this HRU.

c. Future Development

There are many projects that could potentially have a significant impact on the structure of the HRU's. The projects include:

<u>Project</u>	<u>HRU</u>	<u>Note</u>
Intermountain Power Project	Delta	Used for population forecast
Coal mining development	Richfield	Used for population forecast
Oil and gas development	Potentially All	Not used for population forecast
Mineral and Uranium Development	Piute	" "
	Beaver	" "
	Milford	" "
Geothermal development	Beaver	" "

d. Wages and Income

Two measures of income highlight the fact that wages and incomes in the Sevier Social Resource Unit are below average (see Tables II-2 and II-3). Measured by per capita income, the six HRU's of the Sevier SRU vary from 63 to 79 percent of the national average because of larger families. Total family income of the six HRU's ranges from 61 to 80 percent of the national average.

TABLE II-2
PER CAPITA INCOME (1977)

<u>Area</u>	<u>Amount</u> <u>(1979 dollars)</u>	<u>Percent of</u> <u>National Average</u>
United States	\$5,751	100%
Utah	\$5,135	89%
Beaver HRU	\$4,431	77%
Delta HRU	\$3,761	65%
Fillmore HRU	\$3,761	65%
Fremont HRU	\$3,640	63%
Piute HRU	\$3,722	60%
Richfield HRU	\$4,523	79%

TABLE II-3
MEDIAN INCOME FOR FAMILIES (1970)

<u>Area</u>	<u>Amount</u> <u>(1970 dollars)</u>	<u>Percent of</u> <u>National Average</u>
United States	\$9,590	100%
Utah	\$9,320	97%
Beaver HRU	\$7,289	76%
Delta HRU	\$6,819	71%
Fillmore HRU	\$6,819	71%
Fremont HRU	\$5,836	61%
Piute HRU	\$7,486	78%
Richfield HRU	\$7,668	80%

The wage scale of miners, powerplant workers, carpenters and other workers that will be the primary beneficiaries of increased development indicates that incomes will increase dramatically in the next 20 years. The Bureau of Economic Analysis predicts that Utah's per capita income will grow at the second fastest rate in the nation.

e. Local Labor Supply

Employment participation rates per 100 people over 15 years of age are as follows:

<u>HRU</u>	<u>1980</u>	<u>1981</u>
Beaver	60.14	59.73
Delta	62.28	60.00
Fillmore	62.28	60.00
Fremont	53.73	53.33
Piute	54.35	54.26
Richfield	63.30	62.79
State of Utah	59.49	57.95

The figures above show that only the Fremont and Piute HRU's have the capacity to increase employment and participation rates to the state averages. The rest of the HRU's participation rates are greater than the state average. The base populations of Fremont and Piute HRU's combined with the high (compared to the State) employment participation rates indicates that creation of large numbers of new jobs will require immigration of labor from outside the area.

f. Implications of Economic Analysis

The factors that influence the Sevier SRU are (1) rapid population increase in an area that has not grown rapidly during the last 40 years, (2) a transition in several HRU's from agricultural toward non-agricultural, (3) a series of prospective mining and industrial

developments that will have a major impact on the area if they are initiated, and (4) a change in the per capita incomes due to the influx of workers from development of the area.

The demands for resources from the Fishlake National Forest will vary according to the severity of the impact. In HRU's that are most influenced by this change, the Forest will see a large increase in the demand for recreation. In HRU's that remain agriculturally based, the community will continue to look to the Forest as a major source of incomes.

g. Minorities

The Census Bureau classifies the population of the Sevier SRU as follows:

TABLE II-4
POPULATION COUNTS FOR 1980 CENSUS
UTAH P.L. 94-171

RACE	COUNTY				
	<u>Beaver</u>	<u>Millard</u>	<u>Piute</u>	<u>Sevier</u>	<u>Wayne</u>
Total Pop.	4,378	8,970	1,329	14,727	1,1911
Percentage	100%	100%	100%	100%	100%
White	4,316	8,557	1,300	14,452	1,186
Percentage	98.6%	95.4%	99.4%	98.1%	98.7%
Black	0	1	0	0	2
Percentage	0.0%	0.01%	0.0%	0.0%	0.1%
Indian	27	137	5	178	18
Percentage	0.62%	1.5%	0.38%	1.2%	0.94%
Asian	24	135	1	20	2
Percentage	0.55%	1.5%	0.08%	0.14%	0.10%
Hispanic	85	157	17	175	24
Percentage	1.9%	1.8%	1.3%	1.2%	1.32%
Other	11	140	2	77	3
Percentage	0.25%	1.6%	0.15%	0.52%	0.16%

On April 3, 1980, Congress adopted the Paiute Indian Tribe of Utah Restoration Act (PL96-227) which allowed up to 15,000 acres of reservation land to be established in Beaver, Iron, Washington, Millard and Sevier Counties. On February 7, 1984, Public Law 98-219 designated the lands to be held in trust. This latter Act provided the Paiutes exclusive use of a tract of land on the shore of Fish Lake for two, two week periods, one is at the beginning of June and the other at the end of September.

4. Expected Future

The baseline population of the counties in the Sevier Social Resource Unit is anticipated to increase by 64 percent by the year 2000 (Utah State Planning Coordinator, 1980). This population growth is slightly more than the baseline population growth projected for the rest of the state.

The Bureau of Economic and Business Research (1981) estimated the population impact of the Intermountain Power Project (IPP) in West Millard County, the location of the Delta Human Resource Unit, will peak in 1986 at 4,027 and then decrease to 2,630 in the year 2000.

A third factor in the growth of the population of the Sevier Social Resource Unit is coal development. Allen Fawcett in Population Impacts Resulting From Coal Mining in the Six-County Area (1979) estimated a range of coal production in the Sevier Social Resource Unit of between 9.2 and 10.0 million tons a year. If the total production were 5.0 million in the year 2000, the total population of the area can be expected to increase by 7,500.

Oil and gas production is possible from the area. One million two hundred thousand acres of the Fishlake National Forest are currently under oil and gas leases and additional government and private lands are being explored. A major find could increase the population of the Sevier SRU by increased work for development of that resource. The timing and the extent of development depends on both the demand for oil and gas and the luck of the wildcatters in finding it.

Minerals such as uranium, molybdenum, alunite, gold, and silver are found in the Sevier SRU. Development of a major mine to obtain any of these resources will have a significant local impact. The timing and size of a mineral development will depend on the size of the deposits and world and national economic conditions.

Fishlake National Forest lands will be influenced a number of ways from the expected development. The need to manage mineral resources will require more time and money. The demand for recreation will increase dramatically as population and per capita incomes increase. Conflicts between recreation and other resources will increase. There will be a need for more protection of resources from trespass and vandalism.

The growth in the local economy will create many problems; it will also create an opportunity for the Fishlake National Forest to respond to that growth. If expected changing demand is responded to in a timely manner, the land can be managed with a minimum of resource damage. Several HRU's in the Sevier SRU will experience boom type growth if expected and possible development takes place. The Forest Service has the opportunity to anticipate and respond to these changes.

5. Revenue Dispersements

In lieu taxes paid to the state for distribution to local counties, resulting from Public Law 95-565, are listed in Table II-5. The payment is based upon a standard valuation of \$.10 an acre, or \$.75 an acre less certain adjustments. In either case the maximum amount paid is also based upon the population of the counties. Finally the funds must be appropriated. For example in fiscal year 1979, the total funds appropriated equaled 87.676 percent of the maximum funds payable.

TABLE II-5
IN LIEU TAXES DISTRIBUTED TO COUNTIES UNDER PL94-565

<u>ENTITLEMENT LAND ACREAGE (NOTE 1)</u>			
<u>COUNTY</u>	<u>FISHLAKE (ACRES)</u>	<u>TOTAL GOVERNMENT (ACRES)</u>	<u>FISHLAKE ACRES PERCENT OF TOTAL (FEDERAL ACRES)</u>
BEAVER	137,906	1,287,605	10.7
GARFIELD	3,344	2,607,999	.1
IRON	2,297	1,220,803	.2
JUAB	20,788	1,538,094	1.4
MILLARD	306,956	3,342,691	9.2
PIUTE	188,787	350,860	53.8
SANPETE	1,941	530,743	.4
SEVIER	685,551	951,467	72.1
WAYNE	<u>76,909</u>	<u>1,274,138</u>	<u>6.0</u>
TOTAL	1,424,479	13,104,400	10.9

<u>PL94-565 PAYMENTS SECTIONS 1&3 FY 1979 - (NOTE 2)</u>			<u>(NOTE 3)</u>
<u>TOTAL GROSS PAYMENT (DOLLARS)</u>	<u>FISHLAKE PROPORTION (DOLLARS)</u>		<u>ACTUAL FY 79 PAYMENT 87.676% PRORATED (DOLLARS)</u>
BEAVER	199,496	21,346	18,715
GARFIELD	171,445	171	150
IRON	141,091	882	773
JUAB	245,471	3,437	3,013
MILLARD	328,000	30,176	26,457
PIUTE	57,755	31,014	27,192
SANPETE	387,968	1,552	1,361
SEVIER	393,265	283,544	248,600
WAYNE	<u>92,562</u>	<u>5,554</u>	<u>4,870</u>
TOTAL	2,317,053	377,676	331,131

NOTES

1. Total Government acres are from an enclosure to a letter, 1920 Land and Resource Planning, Subject: Payment in Lieu of Taxes, date October 3, 1980. The Fishlake acreage is from internal documents.
2. Total gross payments are from the same letter referenced in Note 1 above. The actual amount paid is subject to appropriation by Congress and previous years' payments, etc. The payment, subject to a maximum based upon population, is computed by taking the higher of 75 cents an acre less certain adjustments, or 10 cents an acre.
3. The actual payment was 87.676% of the total gross payment. This column is the amount that is from Fishlake National Forest. The amount was estimated by taking the total payment and adjusting for the percentage of Fishlake National Forest lands in the County.

A second source of funds to the local counties is the 25 percent payment to counties under the Act of May 23, 1908. The following table is a breakdown of 25 percent fund payments by county.

TABLE II-6
25 PERCENT FUND PAYMENTS BY COUNTY

<u>COUNTY</u>	<u>ACRES</u>	<u>FY 80 PAYMENT (DOLLARS)</u>	<u>FY 81 PAYMENT (DOLLARS)</u>
Beaver	137,859	9,210.15	8,728.89
Garfield	3,344	223.41	211.73
Iron	2,297	153.46	145.44
Juab	20,788	1,388.82	1,316.25
Millard	306,956	20,507.26	19,435.70
Piute	188,514	12,594.33	11,936.25
Sanpete	1,941	129.68	122.90
Sevier	685,551	45,801.48	43,407.41
Wayne	76,909	5,138.17	4,867.69

The source of the receipts and the corresponding payments by functions are as follows:

TABLE II-7
GROSS RECEIPTS AND 25% FUND PAYMENTS BY FUNCTION

<u>FUNCTION</u>	<u>FY 81 RECEIPTS (DOLLARS)</u>	<u>FY 81 PAYMENTS (DOLLARS)</u>
KNUTSON-VANDENBURG SALE AREA IMPROVEMENT DEPOSITS	20,373	5,093
TIMBER	22,621	5,655
LAND USES	2,287	572
RECREATION (SPECIAL USES)	26,134	6,533
POWER	4,018	1,005
MINERALS	30,415	7,604
RECREATION (LAND & WATER CONS. FUND)	23,744	5,936
GRAZING	<u>231,106</u>	<u>57,776</u>
TOTALS	360,697	90,174

A far more significant source of funds to the state and the local counties comes from the Minerals Leasing Act of 1920. The state and local counties can share up to 50 percent of total receipts from lease sales, bonuses, royalties and rentals. Forty percent goes to the Bureau of Reclamation, and the remaining 10 percent of receipts goes to the U.S. Treasury.

Royalties and rentals are broken down as follows:

	<u>FY 81 (DOLLARS)</u>
Coal	1,351,520/year
Oil and Gas	850,000
Geothermal	<u>23,435</u>
Total	2,224,955/year

Oil and gas rental will increase to approximately \$1,200,000 as all lands leased pay \$1.00/acre/year. If any production occurs, the royalty payments from oil and gas production could contribute large sums of money to the fund.

Coal rental and royalty payments should approach \$4,000,000 as the minimum royalty payment per ton increases to \$1.80 or 8 percent of the value of the coal.

B. PHYSICAL AND BIOLOGIC SETTING

1. GEOLOGY

The eastern half of the Fishlake Forest is located in the High Plateaus Section of the Colorado Plateaus Physiographic Province, while the western half is located in the Basin and Range Province. Though the eastern and western halves of the Forest are different physiographically, geological differences are between the northern and southern halves. The southern half of the Forest is underlain by extrusive igneous rocks. The Tushar and Monroe Mountains are composed of Tertiary volcanics while Tertiary and Quaternary lava flows cover the area of the Forest north of Loa. The northern half of the Forest is underlain by sedimentary rocks. Most of these are nearly flat-lying Tertiary shales, limestones, and sandstones. However, the western edge of the Pahvant Range and most of the Canyon Range is underlain by moderately to steeply dipping Paleozoic sedimentary rocks.

Basin and Range type block faulting, present along the edges of several of the mountains, is responsible for much of the topography. Portions of the Forest are in the overthrust belt as Laramide thrusting is present in the Pahvant Range. Alpine glaciation in the Tushars, plateau glaciation around Fish Lake, and landsliding have also formed the present landscape.

2. CLIMATE

The Fishlake Forest is affected by two major storm paths approaching the basin from nearly opposite directions. During the winter and spring months, frontal storm systems from the Pacific Northwest predominate. During the late summer and early fall, thunderstorms move in from the south and southwest. The frontal storms move in from the north or northwest and affect mostly the north half of the Forest. The summer storms moving in from the south to southwest occur in isolated areas and are of greater intensity than the Pacific storms. The summer storms have produced as much as 2.8 inches of moisture in two hours and have the potential to produce devastating floods.

Precipitation varies from 8 to 10 inches at the Forest boundary to 40 inches at the highest elevations. Most of the precipitation received between October and April is in the form of snow. This period of precipitation amounts to about two-thirds of the yearly total at any given location.

The growing season varies from 120 days at the Forest boundary to 20 days at the higher elevations.

Sunny skies prevail most of the year. During December the Sevier Basin receives 50 percent of the possible sunshine. More sunshine prevails during the summer and fall, when the average is about 78 percent.

Wind speeds are usually light to moderate, although strong winds do occur. Tornadoes are rare.

3. FLORA AND FAUNA

A variety of ecosystems from high desert through transitional alpine are present on the Fishlake Forest. Riparian areas also span this range from alpine lakes and streams to desert springs and washes.

Major tree species on the Forest include aspen, juniper, pinyon pine, Engelmann spruce, alpine fir, white fir, ponderosa pine, Douglas fir, and cottonwood. Growing sites range from those relatively high in productivity, to dry grass, to barren.

Reflecting the wide range of climatic and floral types on the Forest, there is also a diversity of wildlife. Approximately 83 species of mammals, 177 of birds, 30 of reptiles and amphibians, and 16 of fish inhabit the area. The aquatic resources are numerous, with approximately 700 miles of streams and 4,500 acres of lakes and reservoirs.

Big game hunting is an extremely popular pursuit on the Fishlake. Elk and mule deer are the principal game species. Other game mammals and birds, such as sage grouse, forest grouse, cottontails, bear and mountain lion, as well as waterfowl, are also hunted. The Forest provides year-round range for deer and elk. Although the winter range extends to other ownerships in the valleys around the Forest, a high percentage of the use in a "normal year" is on the Forest.

The bald eagle, an endangered species, winters on the Forest around rivers, lakes, and major migration routes. The Forest also provides habitat for the threatened Utah prairie dog. The Forest has cooperated for several years in a recovery program and expects this to lead to an eventual removal of the Utah prairie dog from Federal listing. The Bonneville cutthroat trout is regionally listed as a sensitive species and is a candidate for Federally listed threatened status. It is found on the Forest on the west side of the Tushar Mountains and the south end of the Pahvant Range. The peregrine falcon (endangered species) also utilizes the Forest in very limited numbers. Only one active nesting area has been identified (See Forest Threatened and Endangered Plan). Another raptor of high interest is the osprey, which inhabits the Fish Lake-Johnson Valley Reservoir area. The Forest also provides habitat for the endangered Rydberg milkvetch.

C. RESOURCE ELEMENTS

The supply and demand conditions of primary resource elements are detailed under each resource section.

1. RECREATION

a. Physical Setting

The mountains and elevated plateaus between intervening valleys occupied by farms and small communities attract local and regional visitors. Evergreen and aspen trees interspersed with meadows; 76 perennial streams; and approximately 60 bodies of water, principally small reservoirs, provide a desirable summer setting.

Fish Lake-Johnson Valley, a 13,700 acre area including 2,500 acres of lake and 670 acres of reservoir, receives 25 percent of the total forest recreation use. Other popular areas are the Tushar Mountains, reservoirs with fisheries, and the other developed campgrounds and picnic sites.

The Recreation Opportunity Spectrum (ROS) is limited as there are no Primitive class nor Urban class settings. The principal opportunity class is Semi-primitive Motorized comprising 61 percent or 868,900 acres. Second is Roaded Natural which is 26 percent or 367,500 acres. Semi-primitive Non-motorized is 12 percent or 175,600 acres. Rural is not quite one percent or 12,200 acres. Motorized opportunities are the dominant feature as the combined acreage of Semi-Primitive Motorized and Roaded Natural classes (1,236,400 acres) is 87 percent of the Forest.

b. Social Setting

Average recreation use during the five year period 1979-1983 has been 1.3 million visitor days annually. Fiscal year 1983 was the first time use was estimated and reported by Recreation Opportunity Spectrum (ROS) classes.

1983 Estimated Use By ROS Classes

<u>Semi-Primitive Non-Motorized</u>	<u>Semi-Primitive Motorized</u>	<u>Roaded Natural</u>	<u>Rural</u>	<u>Total</u>
M-RVD 16.2	201.8	781.0	299.2	1,298.2
Percent 1.3	15.5	60.2	23.0	100

The social setting when addressing recreation opportunities refers to the amount of contact between individuals or groups. User density is a term describing visitor interaction and is the number of recreational visitor days per acre each season. Current user density is as follows:

1983 Estimated Use Density

<u>Semi-Primitive Non-Motorized</u>	<u>Semi-Primitive Motorized</u>	<u>Roaded Natural</u>	<u>Rural</u>
M-RVD 16.2	201.8	781.0	299.2
M-Acres 175.6	868.9	367.5	12.2
RVD/Ac. .092	.232	2.125	24.5

Except for holiday weekends, a few weekends in July and August and the deer and elk hunts, use density is generally considered low. There are favorite areas which are crowded. Also, campgrounds at Fish Lake will not accommodate all the visitors and "overflow" areas are made available during these peak use periods. Camping away from favorite areas and outside of developed sites can provide opportunities for "solitude" or being "away from the crowd" at Fish Lake. It is this "solitude" that many visitors from adjacent communities seek. This helps explain why they do not want more developed sites and facilities; they want to avoid rubbing shoulders with more visitors.

c. Sites and Facilities

General public sites were first constructed during the 1930's by the Civilian Conservation Corps. Congress funded public works projects during the 1960's resulting in construction and reconstruction of recreation facilities. Emphasis on pollution abatement programs included construction of a sewage system with lagoons to serve sites at Fish Lake. This system was completed and put into operation by the mid-1970's. Several new rest rooms were included in this construction project. The only additional site constructed since this period has been Piute Parking, a temporary facility constructed during the paving of the highway between Fish Lake and Johnson Valley reservoir.

Maintenance has been inadequate because it has not been properly funded. Water systems serving the sites were installed when "running water" facilities were simple and springs were used as the source. Safe drinking water standards have been established since these systems were built. Water systems need to be brought up to standards by reconstruction or replaced using a different source.

Developed Sites - Public Sector

<u>Kind</u>	<u>No. of Sites</u>	<u>PAOT</u>	<u>PAOT Days</u>
Campgrounds	19	2,765	396,500
Picnic Ground	9	782	122,000
Boating Site	1	135	17,100
Visitor Information	1	20	2,000
Total	30	3,702	537,600

Developed Sites - Private Sector

<u>Kind</u>	<u>No. of Sites</u>	<u>PAOT</u>	<u>PAOT Days</u>
Lodge-Resort	3	776	115,400
Rec. Residence	8	763	278,500
Total	11	1,539	393,900

d. Supply and Demand

Recreation opportunities are interdependent on the physical setting (land), social setting (number of people using the same land) and on the managerial setting (providing facilities and managing use). There is more than adequate land on which to construct more sites and facilities. Comparison of capacity (people per acre) data and current use indicates more use can be accommodated. However, the amount of increased use depends on the specific kinds of opportunities being sought and their location. There is less opportunity to increase use for activities requiring solitude.

Generally, the land base is considered adequate for the planning period. The challenge will be to have enough funding to manage the projected use and provide facilities. The recreation portion of proposed budgets to implement this plan will provide the following outputs and is compared to projected demand (computed in July, 1984).

Average Annual Plan Outputs and Projected Demand (M-RVD)*

<u>Decade</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
Plan	1,327.1	1,692.7	1,788.0	1,874.4	1,953.1
Demand	1,535.1	1,860.6	2,150.8	2,441.1	2,731.6

* Includes wildlife and fish Recreation Visitor Days.

e. Trails

With the exception of some trails which are strategically located, Forest trails are generally multiple resource oriented. Livestock distribution and movement, fire management, and administrative access are important trail functions, in addition to recreational use.

Benefiting activities need to include in their programs and budget financing for single purpose and important multiple purpose trails. Two-tracked roads and trails coincide in some areas. There are situations where relocation of trails should be done to separate traffic and enhance the recreation opportunities.

A trail management review was conducted in September, 1980. Since then the system inventory has been reduced from 1,008 miles to 89 miles. Maintenance plans prepared since the review establish four levels of maintenance to provide different kinds of opportunities and accommodate various amounts of use. Total forest operation and maintenance required funding in 1985 dollars is \$74,000 annually.

f. Wild and Scenic Rivers

No river on Fishlake National Forest has been nominated for classification as a Wild and Scenic River. A review of streams on the Forest indicates none is eligible. Thus none is considered in alternative formulation.

g. National Natural Landmarks

There are no existing ones on the Forest. A survey of Natural Landmark Areas of the Northern portion of the Colorado Plateau (Welsh and Others 1980) indicated seven potential National Landmarks on the Fishlake National Forest.

These seven sites are:

Bicknell - Shingle Mill Creek Alluvial Fan
Monroe Hot Springs
Niotche Creek Glacial Features
Salina Canyon Angular Unconformity
Sevenmile Cirques
Skinner Canyon Ignimbrite
Sunglow Campground

The first three sites were rated as needing further information while the latter four sites were rated as appearing to be nationally significant.

No action of the proposed Plan will impair their integrity prior to evaluation. In fact the proposed plan and other factors will work to maintain their integrity. For example, the Bicknell - Shingle Mill Creek alluvial fan and the Sunglow Campground areas were deemed to be in danger from off road vehicles. However, the plan proposes non-motorized recreation for these areas. An example of another factor is the Skinner Canyon Ignimbrite. This potential site was thought to be in danger since it could be used for material to build I-70 in Clear Creek Canyon. However, I-70 construction is now nearly complete and the area has not been used. The only other area thought to be in danger is the cones and spring site at Monroe Hot Springs. However, these features of the site are located off the Forest. None

of the other sites were thought to be in danger (Welsh and others, 1980).

h. Visual Resource

Only about 40 percent of the forest acreage has been intensively examined for visual condition or has visual quality objectives as part of unit plans. An extrapolation based on this information was made to determine visual quality objectives acreage for the Plan. Cost and manpower to do an intensive level reinventory will require programming the reinventory over a period of time. A reasonable work load considering annual budget would be to do one Ranger District each fiscal year. This would require four years to complete.

i. Cultural Resources

The inventory of proposed project areas for cultural resources has covered an estimated 75,000 to 90,000 acres (5% to 6%) of Fishlake National Forest System land. In a typical year (i.e., 1983), 40 to 50 surveys are conducted which might survey 5,000 acres and record 50 new sites.

At this rate of inventory, and FY 1983 was an average year, Target #2 (FSM 2361.02-2)--which calls for the inventory of all cultural resources on National Forest System land by 1990 --will not be met. As of November, 1983, the cultural resources program has inventoried the occurrence of 1,230 sites on surveyed sections of the Fishlake National Forest. One district and two sites, specifically the Gooseberry Historic District with 175 sites and the Aspen - Cloud Rockshelters, have been nominated to the National Register of Historic Places. Cultural resource properties, which include both the National Register nominations and the Forest inventory, represent the full spectrum of prehistoric and historic life in Utah.

Archaic campsites, belonging to groups of hunters and gatherers, are quite frequent on the Forest and begin the prehistoric chronicle of the Fishlake National Forest around 6500 B.C. The manifestations of later groups, including the horticultural Fremont (A.D. 750 - 1250), the nomadic Numic groups (A.D. 1150 - Historic Period) and the Mormon Pioneers (post-1850 A.D.), are also present on the Forest. Some properties, such as the Fremont village called Nawthis near Gooseberry Creek, promise to revolutionize both our thinking and textbooks of Utah prehistory.

Nawthis Village is typical of Fremont habitations because of 1) size, 2) diversity and 3) architectural anomalies. Nawthis may contain over 100 structures. Unlike the Five Fingers Ridge Village in Clear Creek Canyon, there is much diversity of architectural styles. This diversity is marked and includes an array of structures that are round, square, above-ground, lined, semi-subterranean, deep and shallow. In addition, the Heartbreak Hotel complex at Nawthis has revolutionized our definitions of Fremont Culture because we find people living in above-ground, adobe-walled surface structures joined like Pueblo I (A.D. 700-900) and II (A.D. 900-1100) structures of the

Western Anasazi Tradition found further south in the Four Corners area. Prior to the excavation of the Heartbreak complex, archeologists believed that the primary domestic or household unit among the Fremont was the pithouse.

Nawthis is also unusual in that 35 radiocarbon dates suggest that the village was occupied by a large group of people during the same time period (A.D. 900-1100). The superimposition of structures at the village is also rare which supports the assumption that the village is large and populated vs. an accretion of many structures built by a number of people over time.

Associated with the floods and wetter climate of the 1983 winter and spring, a large 15 acre livestock pasture just east of the village slumped when soils liquefied and flowed downstream. The crater, which measured as much as 15 feet in depth, exposed what have been interpreted as irrigation canals radiocarbon dated to the occupation of the village. This is the first example of Fremont irrigation discovered by scientists.

In terms of management, we should not attempt to trade this isolated parcel unless it goes to an agency like Utah State Parks which will protect the site. We should make a point of periodically monitoring on-going pothunting at the site.

2. Wilderness

No areas within the Forest have been designated as wilderness by Congress in the Utah Wilderness Act of 1984 (PL98-428). Two roadless and undeveloped studies have been undertaken during the 20 years since the 1964 Wilderness Act. These studies and acreage are listed as follows:

ROADLESS AREA REVIEW & EVALUATION (RARE) STUDIES

<u>STUDY</u>	<u>No. of AREAS</u>	<u>ACRES</u>	<u>REMARKS</u>
RARE I	24	447,860	Three "new study" areas selected totaling 86,840 gross acres.
RARE II	25	603,764	Fishlake High Top, 18,810 acres recommended for designation.

Prior to the Utah Wilderness Act of 1984, the Forest planning process had developed an inventory of lands meeting the minimum definition of wilderness, and qualified for wilderness evaluation per NFMA Regulation 219.17. The inventory contained 36 roadless areas, totalling 735,320 acres Forest-wide. This inventory and description of each area is filed with the Forest's planning records.

The Utah Wilderness Act of 1984 designated 749,500 acres state-wide as wilderness. It is estimated that these areas, in addition to the

areas that existed prior to the Act, will meet the anticipated demand for wilderness during the first planning period. At the end of this period, and during the Forest plan revision, the need for additional wilderness will be evaluated.

Management direction in this plan is in conformance with the Utah Wilderness Act.

3. Wildlife and Fish

The Fishlake is one of the most important wildlife and fisheries Forests in the state of Utah. Hunter use of all key game species is very high, while the percentage of statewide habitat is among the highest for all species except mountain goat and moose. In addition, some of the highest proportions of the statewide populations of mule deer, mountain lion, and bear inhabit this Forest. The Fishlake mule deer population is one of the largest in the national Forest system.

Four threatened or endangered species, the peregrine falcon (endangered), the bald eagle (endangered), the Utah prairie dog (threatened), and the Rydberg milkvetch (threatened), live in or utilize this Forest. In addition, two mammal, five birds, one fish, two reptile, and nine plant species are classified as "sensitive" by the Regional Forester.

An estimated 306 species of wildlife and fish inhabit the Fishlake National Forest. These are predominantly birds (177 species) and mammals (83 species). In addition there are 30 species of reptiles and amphibians, 16 species of fish, 8 of upland gamebirds, 5 big game, and 2 small game species. Approximately 120 species make primary use of riparian habitat. Forty species use old-growth forest types as primary habitat.

a. Management Indicator Species (MIS)

National Forest Management Act Regulations direct the National Forests to identify Management Indicator Species (MIS). FSM 2621.1 states:

"...Wildlife, Fish, and Plant Species (or groups of species) shall be selected to assure the maintenance of viable populations of existing native and desired non-native plants and animals; to facilitate the attainment of RPA habitat capability goals; and to represent area specific issues, concerns, and opportunities."

Two categories of MIS have been established for this Forest Plan, one for ecological indicators and another to represent species of high interest. Ecological indicator species, or guilds of species, were selected using the following criteria:

1. A strong (but not exclusive) affinity for a vegetative type.
2. A life cycle which is keyed to a vegetative type.
3. Sensitivity to habitat change.
4. Relative ease of monitoring, i.e., easily recognized and adequate numbers.

5. Somewhat representative of other species which use the same vegetation type.

Ecological indicator species and their obligate vegetative types or special habitat needs are listed in Table II-8A.

TABLE II-8A
ECOLOGICAL INDICATOR MIS
(FISHLAKE NATIONAL FOREST)

SPECIES	VEGETATION TYPE OR HABITAT NEED	ESTIMATED POPULATION
1. Goshawk	Mature (old growth) conifer	Unknown
2. Cavity Nesters*	Snags (standing dead trees)	Unknown
3. Riparian Dependent Guild**	Riparian communities	Unknown
4. Sage Nesters	Mature sagebrush (varies as different sage species vary)	Unknown
5. Macroinvertebrates	Streams (water quality)	N/A
6. Resident trout***	Streams, lakes and reservoirs	Unknown

* Includes primary & secondary species (to be monitored on a case by case basis).

** This guild includes the species dependent upon the various niches of vegetation communities found in riparian zones, ie., tall deciduous trees, willows, riparian shrubs, riparian grasses.

*** Includes brown, brook, cutthroat, rainbow and lake trout (to be monitored on a case by case basis).

Species which are categorized as high interest MIS are listed in Table II-8B. They were selected because of their threatened, endangered or sensitive status, social or economic importance, or high public interest.

TABLE II-8B
HIGH INTEREST MIS
(FISHLAKE NATIONAL FOREST)

SPECIES	VEGETATION TYPE OR HABITAT NEED	ESTIMATED POPULATION
1. Elk	General and winter range	2,000*
2. Mule deer	General and winter range	25,000*
3. Bonneville cutthroat trout	Cool, clear water with high oxygen content	5,500
4. Rydberg's milkvetch	Harsh sites at upper elevations	4,000

* Population based on the animals currently occupying the winter range found on the Forest.

Other species which were considered as MIS, but which were not selected because planned management activities would not significantly impact them are listed in Table II-9.

TABLE II-9
SPECIES CONSIDERED FOR MIS
BUT NOT USED

SPECIES	REASON FOR CONSIDERATION	VIABLE POPULATION	ESTIMATED POPULATION	TREND
1. Am. bald eagle	Endangered species	Yes	Migratory (unknown)	Up
2. Peregrine falcon	Endangered species	Yes	Migratory (unknown)	Static
3. Utah prairie dog	Endangered species	Yes	Transplanting stage	Up
4. Sage grouse	Economically important, hunted	Yes	Unknown	Static
5. Northern flying squirrel	Sensitive	Yes	Unknown	Unknown
6. Mtn. bluebird	Sensitive	Yes	Unknown	Unknown
7. Turkey	Economically important, hunted	Unknown	Transplanting Stage	Unknown
8. Cottontail rabbit	Economically important, hunted	Yes	Unknown	Up
9. Snowshoe hare	Economically important, hunted	Yes	Unknown	Up
10. White-tailed jack-rabbit	Ecological indicator, declining	Unknown	Unknown	Down
11. Forest grouse (ruffed and blue)	Hunted	Yes	Unknown	Static
12. Merlin	Sensitive	Yes	Unknown	Unknown
13. Osprey	Locally rare, high interest	Unknown	1-2 pairs	Static

It is believed that the species in Table II-9 and the rest of the species on the Forest will be well represented by the species listed in these two categories of MIS. In category two, elk, a species which has a high public interest, is wide-ranging throughout the Forest, and has wide ranging habitat needs, will represent many species of wildlife. As the Forest manages for elk habitat needs, it will adequately provide for both horizontal and vertical diversity of vegetation. In so doing other species will also be taken care of, because their requirements are usually found within the various niches of good elk habitat. When good quality elk calving grounds are provided, species which utilize the pole or sapling sized aspen or conifer and the ecotone between mountain brush and trees are also taken care of.

The same concepts apply with other wide-ranging species, such as deer, resident trout, and the riparian guild. The latter two can be used to represent aquatic and semi-aquatic species. When riparian habitats are improved the waterside vegetation diversity will provide niches for species found there. When water quality is managed to maintain a high biotic condition index for macroinvertebrates, other aquatic species will benefit.

Special habitat needs which can't be met by the above concept have been provided for by the use of MIS for special habitats, such as cavity nesters, riparian guild, sage nesters, and old growth conifer dependent species.

Several species -- bighorn sheep, otter, grizzly bear, wolves, marten, mink, and lynx -- once existed on the Forest but do not at the present time. Existing population levels of management indicator species are below their habitat capabilities. Maximum potential levels of terrestrial indicator species populations can be obtained with management techniques which will change vegetative ecological succession. Exceptions would be species dependent upon old growth sagebrush and timber. Reduction of conifer and pinyon-juniper invasion, modification of existing timber and pinyon-juniper stands, improvement of riparian zone vegetation, and rejuvenation of aspen and mountain brush will improve conditions for MIS. Trends of significant vegetative types as they relate to specific habitats associated with MIS are shown in Table II-10. Estimated population trends are also depicted. Aquatic MIS will not reach maximum potential populations with proposed management; however, population levels are expected to increase.

TABLE II-10

COMMUNITY TYPES AND THEIR CURRENT TRENDS*
POPULATION TREND OF MANAGEMENT INDICATOR SPECIES**

MANAGEMENT INDICATOR SPECIES	ASPEN	CONIFER	MEADOW	SAGE- BRUSH	MOUNTAIN BRUSH	PINYON- JUNIPER	RIPARIAN	AQUATIC	POPULA- TION TREND	SELECTION*** CRITERIA
Mule Deer	-	+	-	X	X	+	-		+	2 & 4
Elk	-	+	-	X	X	+			+	2 & 4
Rydberg's Milkvetch	-	+					-		X	1 & 3
Bonneville Cutthroat Trout								X	+	1,2 & 3
Resident Trout								-	X	2,3,& 4
Macroinverte- brates								X	X	3 & 4
Sage Nesters				-					-	3 & 4 sage nester
Cavity Nesters -	-	-			-	-	-		-	3 & 4 snags
Riparian Guild							-		-	3 & 4
Goshawk		-							X	3 & 4-old growth conifer

* Habitat trends for species: - = Decreasing; x = Static; + = Increasing; "Blank" = Non-applicable.

** Population trends for species: - = Decreasing; X = Static; + = Increasing; "Blank" = Non-applicable.

*** 1 - Species on State and Federal Lists classified as Threatened, Endangered.

2 - Species commonly hunted, fished or trapped.

3 - Species with special habitat needs.

4 - Species whose population changes are believed to indicate effects of management of other species.

b. Threatened, Endangered, and Sensitive Animal Species

Certain wildlife and fish species that inhabit or utilize the Forest have been classified as sensitive (s), threatened (t), or endangered (e), by Federal agencies as follows:

U.S. Fish & Wildlife Service (U.S.F.W.S.): bald eagle (e), peregrine falcon (e), Utah prairie dog (t).

U.S.D.A. Forest Service (R-4): northern flying squirrel (s), merlin (s) mountain bluebird (s), western bluebird (s), Bonneville cutthroat trout (s), and Utah mountain kingsnake (s).

The bald eagle is a winter migrant utilizing the Forest as hunting and feeding grounds, usually near water sources. No roost areas have yet been identified on the Forest.

The peregrine falcon has historically nested on the Forest, primarily in the vicinity of cliffs adjacent to Bicknell bottoms in Wayne County. If the efforts of the Division of Wildlife Resources and the Peregrine Fund identify this Forest as a potential reestablishment site of this species, the Forest will cooperate in providing the habitat. At the present time no falcons are believed to be nesting on the Forest and are only occasionally seen during migration.

The Utah prairie dog has been reestablished on two sites on the Forest. These relocations are part of an effort to establish viable populations in accordance with the recovery plan for this species. Recent efforts have resulted in a downlisting of the species from endangered to threatened. The Forest will continue to cooperate in providing, and enhancing, habitat for this species.

The status of the merlin on the Forest is poorly understood. However, it is currently believed to be only a rare visitor to appropriate Forest habitats.

The mountain and western bluebirds are present throughout the Forest in various habitats. The Forest has recently cooperated with the U.S.F.W.S. in a bird house placement study to determine use by bluebirds in a coal study area. Population data are unavailable, but these two species appear to be well established as breeding species on the Forest.

The Bonneville cutthroat trout is listed as a sensitive species. This species inhabits four small streams on the Forest where it appears to be doing well. There are future plans to reintroduce the cutthroat into other streams on the Forest.

The Utah mountain king snake has been observed on the Forest. Population data are unavailable, but it is believed to be a well established breeding population.

c. Threatened, Endangered, and Sensitive Plant Species

There are 11 species of sensitive plants and two threatened species (Astragalus perianus and Townsendia aprica) on the Forest. The sensitive species are: Astragalus consobrinus, Castilleja parvula, Draba sobolifera, Epilobium nevadense, Eriogonum ostlundii, Najas caespitosus, Penstemon parvus, and Penstemon wardii. In addition, several other sensitive species occur on lands adjacent to the Forest.

Habitat for threatened and sensitive species may occur within grazing allotments. When this happens, allotment management plans will recognize and provide for the protection of these species. Sites for the threatened species have been located and mapped. They occur on small areas on the Tushar and Monroe Mountains.

d. Other Species of Special Interest

Species which are not classed in any of the above categories, but which are of special interest because of special management needs or their potential for controversy, include: mountain lion, bear, beaver, coyote, bobcat, fox, and muskrat.

These species can be classed as furbearer, predator, habitat manipulator, or sport trophy dependent upon individual viewpoints of the people involved with them. However, they are considered to be an important part of the Forest ecosystem and are to be managed as such.

e. Aquatic Habitat

Sixty-six streams, representing over 380 miles of aquatic habitat, and 49 lakes and reservoirs, providing more than 4200 acres of aquatic habitat, are known to support resident trout populations on the Fishlake National Forest. Although this habitat includes a Class I lake fishery (the highest valued waters in the state) and a Class II reservoir fishery, the majority of aquatic habitats on the Forest are producing trout at less than their potential.

The average stream rated on the Forest has a habitat condition rating of less than 50 percent of optimum based on poor pool quality, lack of streamside vegetation, and high levels of silt.

Nearly half of the lakes on the Forest, representing 80 percent of the total lake surface area, are thought to be producing trout below their potential as the result of frequent winter kills, fluctuating water levels, or competition from nongame fish.

Fishing use on the Forest has increased an estimated 23 percent in the past ten years. Overall dispersed recreation use on the Forest, which includes fishing, is expected to increase at least 30 percent from 1980 to 1990 and 130 percent from 1980 to 2030. During this same time period, under current management, fishing opportunities on the Forest will remain constant or may decrease due to new and continuing impacts from road construction, energy development, timber harvest, and live-stock grazing.

Trout production and fishing opportunities in Forest lakes and streams could be increased significantly by improving aquatic habitat conditions. Many opportunities exist to improve stream and lake fisheries through better resource coordination and management as well as direct habitat improvement.

f. State Agency Objectives

Joint objectives of the Forest Service and Utah Division of Wildlife Resources for big game on the Fishlake Forest are 82,600 deer and 3,400 elk. These objectives are for the summer range which is entirely within the proclaimed Forest boundary. Since only 90 percent of the elk winter range and 29 percent of the deer winter range is on the Forest, the Forest's winter range habitat objectives are 3,060 elk and 23,954 deer. Implementation of this plan should provide habitat for these numbers of deer and elk. Other short term objectives include the reestablishment or establishment in available habitat of selected species such as bighorn sheep, turkey, upland game species, and the expansion of Bonneville cutthroat trout populations. Long term objectives include reestablishment of pine marten and possibly moose.

Other objectives include providing a harvestable surplus of furbearers and providing relief from depredating wildlife commensurate with management of the species for viable populations and as components of the ecosystem.

TABLE II-11
UTAH DIVISION OF WILDLIFE RESOURCES OBJECTIVES
FOR MULE DEER BUCK HARVEST BY HERD UNITS
(BASED ON STATED OBJECTIVES FOR HARVEST + OR - 15%)

<u>HERD UNIT</u>	<u>OBJECTIVE*</u>	<u>5 YEAR AVERAGE (1980-1984)</u>
Salina (43)	2,250	2,128
Fishlake (44)	600	560
Last Chance (45)	300	228
1000 Lake (46)	300	237
Monroe Mountain (48)	1,500	1,634
Marysvale (49)	600	363
Oak Creek (53)	750	522
Fillmore (54)	1,100	900
Kanosh (55)	1,900	1,443
Beaver (56)	<u>1,600</u>	<u>1,554</u>
Fishlake National Forest	10,900	9,569

* Objective applies to total area of herd unit including ELM and private lands.

TABLE II-12
UTAH DIVISION OF WILDLIFE RESOURCES
OBJECTIVES FOR ELK (WAPITI)

<u>HERD UNIT</u>	<u>OBJECTIVE*</u>	<u>ESTIMATED POPULATION</u>	<u>AVG. HARVEST**</u>
Fishlake (14)	-	1,500	298
Monroe Mountain (26)	-	200	8
Beaver Mountain (24)	-	150	20
Pahvant (28)	-	150	8
Total for Fishlake NF 3,400		2,000	334

* Based on 1979 R-4 objective for entire Fishlake National Forest.

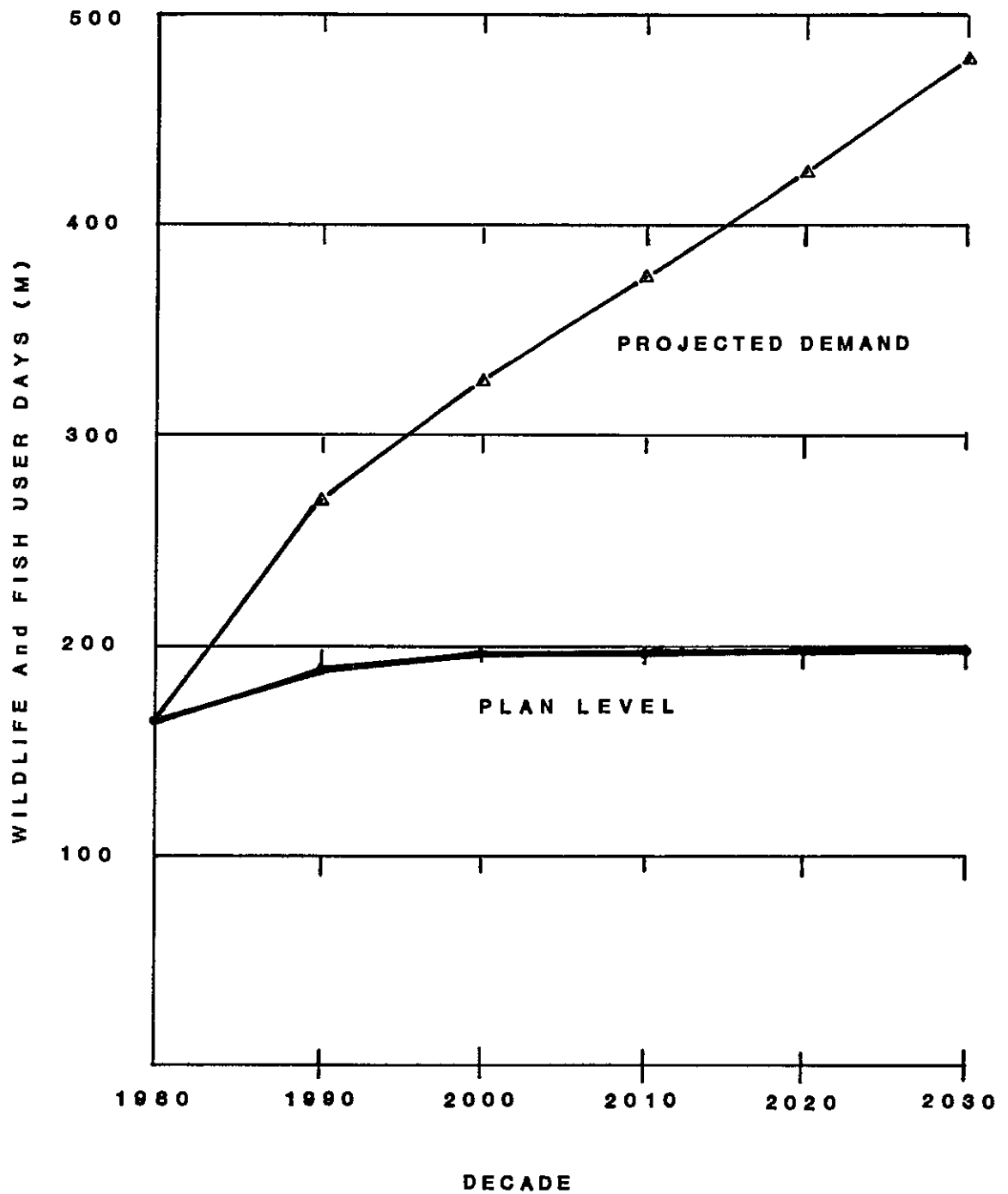
** Includes bulls and cows for last 5 years or less, dependent upon how many years the unit has been hunted.

g. Wildlife Demand

This proposed Forest plan will meet the demand for big game animals as expressed in the DWR objectives for deer and elk. These objectives are for 3,400 elk and 82,600 deer summering on the Forest. It will also meet the habitat requirements of the Utah prairie dog recovery plan. There are no similar objectives for fish or other terrestrial wildlife.

While this plan will produce DWR's big game objectives, it may not produce desired harvest levels if population grows at a high level senario. Figure II-6 shows the projected 290 percent growth in demand for a high growth senario compared to the 6 to 17 percent growth provided by the Forest plan. These projections are based on the current success ratio. If demand increases as shown in figure II-6 the success ratio could fall below a minimally acceptable level for the public.

FIGURE II-6



PLAN And DEMAND COMPARISON

h. Habitat Improvement

The Forest's program of habitat improvement for the last two years has been directed toward big game winter range improvement.

Habitat improvement for the last two years is as follows:

<u>Improvement</u>	<u>Acres</u>	<u>Numbers</u>
Vegetation Manipulation (chaining, burning & cutting)	4,243	
Lake Habitat Structures		4
Stream Protection Fencing		1.5 miles
Stream Habitat Structures		88
Water Developments		2
Water Source Modifications (egress/exit ramps for water access)		16
Nest Boxes		70

Other efforts have been directed toward planting willows. Plan implementation will shift the emphasis of habitat improvement from projects that benefit big game winter range improvement to increased emphasis on fisheries, other game and non-game species habitat improvement, while maintaining the progress made in big game habitat management.

4. RANGE

Fishlake National Forest lands provide important forage for grazing animals. In 1980, over 1.3 million Forest acres were included in grazing allotments. Currently, approximately 639,856 acres are suitable for livestock grazing. Suitable grazing acres vary, depending on the class of livestock being grazed.

The Forest manages 76 range allotments; 59 are under some form of intensive management. Approximate permitted animal unit months used on the Forest by cattle and sheep since 1943 are shown in Table II-13.

TABLE II-13
APPROXIMATE PERMITTED ANIMAL UNIT MONTHS
ON FISHLAKE NATIONAL FOREST

<u>YEAR</u>	<u>SHEEP</u>	<u>CATTLE</u>	<u>TOTAL</u>
1943	75,616	148,572	224,188
1944	74,142	145,697	219,839
1947	48,787	126,808	175,595
1948	46,353	120,699	167,052
1949	42,366	114,244	156,610
1950	41,096	113,756	154,852
1951	40,029	115,797	155,826
1952	40,877	116,407	157,284
1964	35,530	116,023	151,553
1965	34,682	115,458	150,140
1966	35,962	112,724	148,686
1968	35,420	116,415	151,835
1969	35,247	119,321	154,568
1970	32,917	111,764	144,681
1971	33,387	112,499	145,886
1972	32,640	113,154	145,794
1973	29,504	110,365	139,869
1977	24,089	127,604	151,693
1978	22,208	120,243	142,451
1979	19,248	118,052	137,300
1980	20,769	121,618	142,387
1981	19,440	121,064	140,504
1982	19,517	118,294	137,811
1983	18,792	120,597	139,389
1984	18,811	118,089	136,900

Demand for grazing exceeds available capacity. This trend will continue as more grazing land is converted to other uses and as long as the cost of grazing on the Forest does not increase to a point that it is no longer economical for the rancher.

Current management does not attain maximum production potential due to the need to provide for multiple resource management for soil, water, wildlife, riparian habitats, recreation, timber, etc. The maximum level of production (163,600 AUM's) would require substantial funding and changes in the management of other resources. Without such funding and with multiple resource considerations given for this plan, output for the year 2030 will be 131,000 AUM's.

Under current management direction, grazing numbers would decline slightly. Current management direction provides for attaining favorable forage production with stable or upward trends.

Implementation of this plan will result in about a four percent decrease in the second decade in the numbers of permitted livestock

from current numbers. From 1978 to 1982 actual use averaged 132,600 AUM's and varied from 130,000 to 135,000 AUM's. The reduction in grazing numbers is due to three factors:

First, some grazing areas have low productivity, high livestock numbers, poor conditions, or downward trends. In order to meet the Forest's goal of providing favorable forage production with stable or upward trend, these acres need to be evaluated, and measures must be taken to stabilize trends and improve conditions.

Second, many revegetation projects need to be maintained or their benefits will be lost. Current grazing capacities were based on outputs during the most productive periods for those projects. They need adjustment to reflect current production levels. Structural improvements are also in need of maintenance or rebuilding; many are currently non-functional.

Third, a trend of conversion from sheep to cattle operations has resulted in fewer suitable grazing acres and a need for more intensive management. With fewer acres being suitable for grazing, utilization of harvestable forage has declined.

The range grazing use (livestock) objectives established by the Region are as follows:

Year	1981	1982	1983	1984	1985	1986-1990	1991-2000	2001-2010	2011-2020	2021-2030
MAUM's (Avg.)										
Annual	147	150	153	156	158	160	163	165	167	169

Current outputs are below the Regionally assigned output levels. These targets can not be achieved under the plan.

Grazing management is shared between the Forest Service and the grazing permittees. The Forest issues grazing permits that specify the type and number of livestock and the season of use. Allotment management plans outline the use and development of each allotment on a long-term basis. Operating plans outline annual direction. Allotments are inspected by the Forest Service for use, condition, and compliance with grazing permits, the allotment management plan, and the annual operation plan. The permittee is responsible for herding, salting, and doctoring his livestock and for maintaining improvements on his allotment.

On some allotments timing of use is critical. Since there is a limited amount of big game winter range which often is used by livestock during the spring grazing period, the amount of time that livestock can spend on these areas is restricted. On some allotments, livestock management will be changed to insure that range readiness has been achieved and to protect big game winter range.

Because riparian area management has become a major concern in recent years, management practices are being implemented which will correct

many past abuses. This includes some adjustment in livestock numbers, fencing some spring areas, and using different grazing systems. In addition, better salting procedures and proper placement of key structural improvements will improve riparian area management. This will result in improved water quality onsite and downstream.

There are 11 species of sensitive plants and two threatened species on the Forest. In addition several other sensitive species occur on land adjacent to the Forest. Habitat for these species may occur within allotments. Where this happens, allotment management plans will recognize and provide for the protection of these species. Sites for the threatened species have been located and mapped.

The Forest cooperates with permittees and Animal Damage Control, Animal and Plant Health Inspection Service, USDA in controlling predators to reduce losses of livestock. The Forest Service makes recommendations to Animal Damage Control for each grazing allotment as to the need for control, methods to be used, and special precautions needed. The current program of control has consisted primarily of shooting coyotes from a helicopter in the winter. Some trapping and calling is also practiced. Control efforts are directed toward allotments where need is demonstrated.

Wild and free-roaming horses and burros do not exist on the Fishlake.

Noxious weed control is directed mostly at Scotch, musk, and Canada thistle infestations. These occur on the Fillmore, Beaver and Richfield Districts. White top and toad flax are also of concern, together with some poisonous plants that occur on all Districts. Past control efforts have helped prevent spread of these plants. Cooperation with county weed control agencies has been beneficial in past and current control efforts. Several hundred acres are being treated yearly.

Grasshopper and cricket infestations are cyclic on the Forest together with black bug infestations on many introduced range grasses. These insects take a major toll on forage in areas of concentration. The total quantity of forage available for livestock and wildlife is greatly reduced together with a reduction in quality. Leafy materials are stripped, leaving the coarser stems.

The value of coordination on allotment management has been demonstrated on the Oak Creek Cooperative Management Area. The area encompasses 316,500 acres about 15 miles north of Fillmore. It includes 117,200 acres managed by the Forest Service, 109,850 acres of private lands, 59,800 acres administered by the BLM, and 29,750 acres of State land. Cooperative management has allowed work to be performed regardless of land ownership. Examples are: chaining and spraying projects covering several land ownerships; pipelines supplying water to National Forest, BLM, and private land from single spring sources; and fences placed in more manageable locations, rather than following ownership boundaries.

5. TIMBER

a. Land Suitability

Some 386,635 acres have been classified as tentatively suitable forest land on the Fishlake National Forest. This acreage was determined in accord with regulations in 36 CFR 219.14. Suitability criteria are discussed in Appendix B (page B-1).

b. Existing Situation

Approximately 770 thousand acres of the Fishlake's 1.4 million acres, or 55 percent, are forested. Of these forested acres, about 50 percent are tentatively suitable for timber production. The Forest is selling between 2.5 and 3.0 MMBF (million board feet) annually. Due to the recent depressed lumber market, annual harvest has dropped from just over 2 million to slightly under a million board feet.

Current harvesting is on average slopes under 40 percent. Tractor logging is the only skidding method in use, but recently purchasers have expressed interest in cable logging steeper slopes.

Cutting practices have changed considerably over the years. In the early seventies spruce sales with extensive clearcutting were sold. Since 1977, the use of clearcutting has been reduced, with large spruce clearcuts no longer prescribed. Group selection, shelterwood, and small clearcuts are presently being prescribed in spruce.

Localized infestations of mountain pine beetle in ponderosa pine and Engelmann spruce beetle have inflicted light losses for several years. A moderate infestation of spruce budworm is present primarily in Douglas fir on the Beaver District. Dwarf mistletoe infects much of the Douglas fir and ponderosa pine. Rots are common in old growth spruce and aspen.

c. Supply and Opportunity

The maximum long term sustained yield is 16.3 MMBF, consisting primarily of conifer species. This plan allows an annual harvest of 3.0 MMBF in the first decade and 8.3 MMBF during the balance of the planning period. The forest lacks a major market for aspen. Nearly 236 thousand acres of aspen may be managed for timber with development of a market. This could lead to intensive management of the aspen resource. Another potential intensive management opportunity is the use of genetically improved planting stock.

The Fishlake National Forest Firewood Management Action Plan estimates the fuelwood supply to be 1,076,680 cords, as follows:

<u>TYPE</u>	<u>TOTAL CORDS</u>
Dead	968,060
Activity Fuels	43,730
Annual Mortality	53,590
Livewood Available	<u>6,300</u>
Total	1,076,680

Average annual allowable sale quantity and timber sale program quantity for the first decade is shown in table II-14 .

TABLE II-14
ALLOWABLE SALE QUANTITY AND TIMBER SALE PROGRAM QUANTITY 1/
(Annual Average For First Decade)

<u>Harvest Method</u>	<u>Allowable Sale Quantity 2/</u>	
	<u>Sawtimber</u> (MM CF)	<u>Other Products</u> (MM CF)
Regeneration Harvest:		
Clearcut	<u>.37</u>	<u>---</u>
Shelterwood and Seed Tree		
-Preparatory cut	<u>.22</u>	<u>---</u>
-Seed cut	<u>---</u>	<u>---</u>
-Removal cut	<u>---</u>	<u>---</u>
Selection	<u>---</u>	<u>---</u>
Intermediate Harvest:		
Commercial Thinning	<u>---</u>	<u>---</u>
Salvage Sanitation	<u>.01</u>	<u>---</u>
<u>Totals</u>	<u>.60</u>	<u>---</u>
	<u>Additional Sales 3/</u>	
	<u>Sawtimber</u> (MM CF)	<u>Other Products</u> (MM CF)
Total for all harvest methods	<u>---</u>	<u>2.4</u>
Allowable sale quantity <u>0.6</u> (MMCF)	<u>3.0</u> (MMBF) 4/	
Timber sale program quantity 5/ <u>0.6</u> (MMCF)	<u>3.0</u> (MMBF) 4/	

-
- 1/ To be expressed to nearest .1 MM board and cubic feet.
 - 2/ Includes only chargeable volumes from suitable lands.
 - 3/ Includes only nonchargeable volumes from suitable and/or unsuitable lands.
 - 4/ Based on local unit of measure.
 - 5/ Total of allowable sale quantity and additional sales.

The estimated maximum amount of firewood that can be supplied on a sustained basis, once the dead accumulation is gone, is 108,620 cords. Based on these estimates, it appears that a continuous supply of firewood will be available for both personal and commercial users. Firewood near existing roadways has become scarce in some areas and this trend will continue.

Christmas tree harvest over the last decade averages about 6,000 trees annually. In the last three years annual Christmas tree sales have totalled nearly 10,000 trees.

Opportunity exists in a number of areas (particularly in isolated white fir stands) for management of Christmas trees. For several years the Fishlake has been a leading Forest in the Intermountain Region in Christmas tree sales and in dollar value received from these sales.

d. Demand

Average annual production of timber over the last 29 years is 1.7 MMBF. Within this period there have been large fluctuations in annual harvest, ranging from a high of 6.6 MMBF in 1973 to a low of 120 MBF in 1967. Demand for timber is expected to slowly increase throughout the planning period (Fishlake AMS page 55).

As a result of the recent energy concern and high energy costs, firewood consumption has increased considerably. The following table shows a continual increase in personal use firewood from 1977 thru 1982. In 1983 use leveled off, partially due to easing of the energy situation and users becoming aware that gathering their own fuelwood was not as inexpensive and recreational as they thought.

=====

FREE USE PERMITS FOR FIREWOOD

<u>YEAR</u>	<u>VOLUME (MBF)</u>
1977	3,581
1978	3,579
1979	7,098
1980	5,476
1981	10,110
1982	11,140
1983	5,856*

* Charge firewood program in effect half the year produced 2,804 MBF for a total firewood harvest of 8,660 MBF in 1983. Based on this history, the demand for firewood is estimated at 17,000 cords annually (8,500 MBF per year).

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All of the quality Christmas trees the Forest has offered for sale have been purchased. Therefore, the demand for Christmas trees exceeds 10,000 trees, but the exact amount is unknown.

e. Present and Future Condition

Growing stock inventory, annual net growth, and age class distribution for suitable softwood lands are shown in table II-15. The productivity classification in table II-16 contains a potential growth estimate of all suitable and unsuitable lands.

TABLE II-15
PRESENT AND FUTURE FOREST CONDITION
(SOFTWOOD *)

	<u>UNIT</u>	<u>SUITABLE LAND</u>
<u>PRESENT FOREST:</u>		
Growing stock inventory	MMCF	114.0
	MMBF	570.0
Annual Net Growth	MMCF	.7
(Mortality loss included)	MMBF	3.5
<u>FUTURE FOREST (2035):</u>		
Growing stock inventory	MMCF	58.3
Annual Net Growth	MMCF	2.4
(Mortality loss included)		

AGE CLASS DISTRIBUTION

<u>AGE CLASS (YEARS)</u>	<u>PRESENT FOREST (1985)</u>	<u>FUTURE FOREST (2035)</u>
10	1670	18166
20	--	10004
30	--	11462
40	--	3796
50	--	1670
60	128	--
70	--	--
80	--	--
90	6020	--
100	--	128
110 - 140	37796	6020
150 +	<u>22358</u>	<u>16726</u>
TOTAL	67972	67972

* Inadequate information available to determine for hardwood.

TABLE II-16
TIMBER PRODUCTIVITY CLASSIFICATION

Potential Growth (cubic ft/ac/yr)	Suitable Lands (acres)	Unsuitable Lands * (acres)
Less than 20	0	490,134
20-49	0	146,701
50-84	69,697	60,972
85-119	10,275	0
120-164	0	0
165-224	0	0
225 +	0	0
TOTAL	79,972	697,807

* Extrapolated

f. Rotation Ages

Rotation ages to be applied vary by timber class and silvicultural methods:

(1) Hardwood (aspen)	80 years
(2) Softwood	
Clearcut (artificial regeneration)	110 years
Clearcut (natural regeneration)	150 years
Two Step Shelterwood	120 years
Three Step Shelterwood	130 years

6. WATER

a. Water Yield

Forest land produces an average of 611,000 acre feet of water annually. Of this, about 80 percent is delivered to the Great Basin and 20 percent to the Colorado River Basin.

Demand for water in the Sevier and Colorado Rivers already exceeds supply. As population increases and development continues, patterns of water use will change. The potential of the Forest to increase water yield by feasible means is limited. Since the Fishlake has only scattered timber resources and much of its aspen type is on potentially unstable soil, the prospect of increasing water yield by vegetative manipulation (timber harvest) is very poor. In vegetative

types at lower elevations than the conifer and aspen belt, vegetative manipulation lacks the potential to produce increased yield, as little moisture is available in excess of evapo-transpiration demand for these precipitation zones.

The maximum amount of water that can be produced would result from the complete removal of timber including both conifer and aspen on slopes less than 40 percent. Available water would increase from 611,000 acre feet per year in 1980 to 636,000 acre feet per year in 2030 for a total potential increase of 24,400 acre feet. This assumes the timber vegetation would be kept from re-establishing and brush species would be kept from invading. A complete timber removal program is not feasible. Therefore the actual production potential is much lower. By implementing this plan, water yield might increase by 177 acre feet per year over natural through timber harvest. State and private lands within the National Forest boundary supply about 57,300 acre feet of water annually. Per unit area yields are comparable to the yields produced from National Forest lands as the private and state lands are located randomly within the Forest, except for the interior exclusion in the Salina Creek drainage.

b. Water Uses

Major uses of water produced on the Forest are irrigation, livestock watering, domestic use, timber production, suitable flows for fisheries, maintenance of riparian habitats, fire control, wildlife, recreation, and energy production. All water originating on the Forest is in high demand. It is used on the Forest, as well as downstream by non-Forest users. Eighteen local communities get all or part of their municipal water from within the Forest boundary. Four other communities have water sources adjacent to the Forest boundary.

The reported consumption of water for domestic use in 1980 was 8,485 acre feet. By the year 2000 that volume is expected to increase to 17,570 acre feet per year. Proportional increases are expected from 2000 to 2030. An additional unmeasured volume of water is used at campgrounds, recreation residences, resorts, and administrative sites on the Forest. The demands for water for these uses are expected to be proportional to domestic use. Wildlife on the Forest consumes additional water. Livestock grazing on the Forest requires 285 acre feet of water per year. This quantity is not expected to change appreciably.

The newly constructed Intermountain Power Project will use 44,700 acre feet of water per year. The demands for other industrial uses are expected to increase. These demands do not include instream flow needs.

No waters on the Forest have been classified as "Outstanding Natural Resources."

c. Water Quality

The nature of National Forest management makes it more susceptible to non-point sources of water pollution than to point sources. Grazing, timber harvest, and dispersed recreation all have the potential to contribute sediments and other pollutants to streams. Presently, the only known point source on the Forest is the SUFCo coal mine in Convulsion Canyon.

Monitoring has shown that water quality on the Forest is generally high. Water leaving the Forest meets State standards of quality for designated uses. Some water bodies within the Forest boundaries do not meet state standards for cold water fisheries, due to natural factors and management impacts. Sediment is probably the most common pollutant on the Forest. There is no state standard for this parameter.

With implementation of this Plan, soil loss will decrease as the long term goals of management activities are met. This will improve water quality and watershed condition.

d. Water Rights

Until the Membres River Decision, the Forest claimed use of needed water through the reservation doctrine, and very few water rights were established through State procedures. Since that decision, national direction has been to obtain water rights through established State procedures. Currently the Forest is participating in State water adjudications on the Beaver and Eastern Colorado River basins.

Approximately 2,500 water uses have been identified on the Forest. A Forest goal is to obtain valid rights to all water used. Statements of Water-User's Claims to Diligence Rights are being prepared on all uses where this procedure is valid, and they are being submitted to the State Engineer. Where Diligence Rights are not applicable, water rights will be acquired by purchase or appropriation.

e. Instream Flows

The Forest Service Manual directs Forests to determine and obtain instream minimum flows in accordance with the reservation doctrine, where applicable. Where reservation is not applicable, water rights will be obtained in accordance with State law. Where neither the reservation principle nor State law can be used to secure a legal right to maintain instream flows, quantification of needed flows will be made as a basis for management decisions in future proposals for water diversions.

f. Wetlands and Floodplains

There are approximately 34,600 acres of riparian areas on the Fishlake National Forest. These lands were identified by interpretation of color and infrared aerial photography and transferred to 7 1/2 minute

quadrangle maps. Riparian areas and wetlands are important components of the landscape, both because of their sensitive nature, which is recognized in Executive Order 11990, and because of the wide variety of uses occurring on them. The need to manage these areas wisely will increase as populations of surrounding valleys increase, accelerating demands for water, recreation, and wildlife.

The condition of riparian areas on the Forest ranges from very poor to good. Causes of this variation are the location and use of individual areas.

The following table shows the disaggregation of the acreage of riparian areas:

RIPARIAN ACREAGES

<u>RIPARIAN AREAS</u>	<u>ACRES</u>
1. Wetlands	6,500
2. Aquatic Zones	4,400
3. Stream courses	
a. Conifer	7,300
b. Deciduous	11,600
c. Open	<u>4,800</u>
TOTAL	34,600

Executive Order 11988 defines floodplains as those areas inundated by 100-year floods. They occur along each drainage of the Forest and include bottomlands and alluvial fans at the mouths of canyons. Most of the Forest's floodplains have not been mapped. In general, they coincide with riparian areas, which have been mapped. Riparian areas will often be larger than floodplains, since the former extend 100 feet horizontally from either bank of a stream or body of water. In narrow canyons or along first order streams, 100-year floods will not extend this far.

g. Floods of 1983 and 1984

During the spring runoff periods of 1983 and 1984 the Forest sustained considerable flood and landslide damage. The water content of the snowpack in the spring of 1983 was about 500 percent of normal. That of 1984 was about 300 percent of normal. Further compounding the problem in 1983 was a cold spring season that delayed any gradual melting before hot weather arrived at the end of May. This resulted in floods on the main streams leaving the Forest which have an estimated 25-50 year recurrence interval. Not only the magnitude but also the two to six week duration of these floods caused considerable damage. Water levels in 1984 were not as high, but the removal of stream-side vegetation during 1983 led to higher than expected erosion and damage during the 1984 floods.

Not only did these two flood events differ in terms of their duration from the more common summer thunderstorm events, but they also differed in terms of increasing magnitude in the downstream direction. Since vast areas of a given watershed were contributing meltwater, as opposed to a few tributaries as in the case of a summer storm, the main streams leaving the Forest had higher magnitude events than did their tributaries. In many cases the valleys of these main streams also provide transportation routes onto the Forest. Road damage was in excess of four million dollars.

Rising groundwater tables and saturated soil conditions resulting from above average precipitation during 1983 and 1984 led to several hundred acres of landslides and debris flows. Studies (Godfrey in press) suggest that this amount of landslide activity has a 200 year recurrence interval. These landslides and debris flows not only damaged federally-owned facilities on the Forest, but also did several hundred thousand dollars worth of damage to Utah Power and Light power lines that cross the Forest.

The combined result of the flooding and landslides was considerable damage to roads, trails, recreation facilities, range facilities, watersheds and fisheries on the Forest. Over the two year period there was \$4,145,000 damage to Forest roads and \$200,000 damage to Forest trails that qualified for Emergency Relief to Federally Owned Roads from the Federal Highway Department. Damage to facilities and resources that was not covered by emergency funding is estimated as follows:

Recreation Facilities	\$223,000
Range Facilities	67,000
Roads	500,000
Watershed	211,000
Fisheries	1,473,000

7. MINERALS

a. Mineral Land Suitability

1. Availability

Approximately 97% of the Forest is open to mineral exploration and development under the mining and leasing laws. The lands removed from appropriation under these laws and the lands which are encumbered or are being managed in such a way as to constitute a defacto withdrawal from mineral development are listed below.

a. Land withdrawn from operations of the mining law but not the leasing laws.

1. Recreation sites	6,634
2. Administrative sites	3,406
3. Roadside zones	1,447
4. Watershed protection areas	<u>880</u>

SUBTOTAL 12,367

b. Land encumbered but not formally withdrawn from operations of the mining and leasing laws.

1. Partridge Mtn. Research Natural Area	1,200
2. Areas being studied for research natural area status (Bullion Canyon, Upper Fish Creek-Mt. Baldy, and Belknap Cirque)	3,100
3. Areas determined as unsuitable for stipulated methods of coal mining.	<u>None</u>

SUBTOTAL 4,300

c. Lands with reserved or outstanding rights 4,072

TOTAL 20,739

No Forest lands are constrained or removed from mineral appropriation by special legislation.

1. Capability

The Forest Service does not determine which areas are capable of mineral or energy production. Present technology and economics preclude extraction of some known mineral deposits. The Forest cannot predict new uses or needs for various minerals or mineral commodities. The difficulty in predicting where new mineral deposits may be found leads to the conclusion that areas capable of mineral or energy exploration and development may someday include the entire Forest regardless of the present status of the lands.

3. Suitability

Special designations and conditions present may allow mineral activities only with certain types of restrictions. Exploration for and production of minerals and energy resources from available acreage may be further reduced through stipulations and requirements to protect other resources and uses.

The physical characteristics and known resource needs of an area are used to determine constraints to be applied in future activities. After environmental assessments are complete, restrictions may be imposed on mineral activities to protect wildlife, soil, steep slopes, water quality, and visual resources.

b. Current Management Direction

The policy of the Forest is to integrate the development of mineral resources with the use and conservation of other Forest resources.

The Mining Law of 1872 consolidated earlier laws and established the rights of citizens to explore, claim, and mine certain minerals wherever they are found on public domain lands. This includes National Forest lands which have not been withdrawn. The minerals covered by this law are called locatable minerals. Congress removed certain minerals from the jurisdiction of the 1872 law and made them leasable minerals under the Mineral Leasing Act of 1920, the 1947 Mineral Leasing Act for Acquired Lands, and the 1955 Multiple Surface Use Act. The Materials Act of 1947 and the 1955 Mining Act gave the Forest Service the authority to sell certain common minerals (sand, gravel, and similar materials) called "saleable minerals".

All minerals owned by the United States and available for exploration and development are subject to disposal under one of these three categories--locatables, leasables or saleables.

For locatable minerals, any person proposing to conduct operations that might significantly disturb a surface resource must file a Notice of Intent and an Operating Plan with the District Ranger.

Permits, licenses, or leases for leasable minerals (oil, gas, coal, geothermal, phosphate) are issued by the Department of Interior. The Forest has the opportunity to perform environmental analysis, recommend action, list stipulations, and propose requirements for rehabilitation. On acquired lands, the Forest Service has authority to deny permits, licenses, and leases.

Saleable minerals are managed by the Forest Service. Permits are issued for use of these materials in accordance with Forest Service policy.

c. Current Situation

The Forest includes parts of two physiographic provinces--the Basin and Range and the Colorado Plateau Provinces. As presently recognized, the Tushar Mountains, Pahvant Range, and Canyon Mountains are within the former province and the remainder of the Forest within the latter.

Principal mineral deposits in the Basin and Range Province are arranged in three zones or belts, one of which crosses the Forest and runs through the Tushars and southern part of the Sevier Plateau. This mineralized area is the eastward continuation and terminus of the mineral belt extending westward through Beaver County, Utah, and into the Pioche region of Nevada. The rock types and structures are favorable for metallic deposits because of igneous intrusive bodies. Five of the six mining districts within the Forest are located within this belt. The sixth is located at the north end of the Forest in the Canyon Mountains.

In contrast to the complex geologic structures and deposits present in the Basin and Range Province, the mineral resources of the Colorado Plateau Province are primarily those associated with sedimentary rock.

Following is a discussion of the various categories of minerals on the Forest.

1. Locatable Minerals

Significant amounts of gold, silver, copper, lead, zinc, mercury, alunite, uranium and sulfur have been produced mainly from the Tushar Mountains. During the period of 1868 through 1963, a total gross value of about ten million dollars, based on December, 1965, prices was produced by these commodities. Unknown amounts of lead, silver, limestone and dolomite have been produced from the north end of the Forest in the Canyon Mountains during the same period. Activities for hardrock minerals have increased from 59 cases in 1977 to 97 in 1981.

Presently, limestone, shale, and quartz are being mined by open pit methods in the north part of the Canyon Mountains near Leamington. Starting in 1980, approximately one million tons of raw materials per year have been mined and used to produce an annual amount of approximately 650,000 tons of portland cement. Operations are expected to continue until 2025. The plant and mine is the largest cement producing operation in Utah and will provide cement for use throughout the West.

Gold, silver, copper, lead, and zinc are being produced in small amounts from the Bullion - Cottonwood and the Kimberly areas of the Tushar Mountains. Ore production during 1981 was between 7,000 and 8,400 tons. A total of 31 operating plans for prospecting and exploration for precious metals were processed during 1981. Prospecting and exploration for uranium occurred at 34 places on the Forest during 1981.

An uncommon form of kaolin clay is mined from three sites within the Forest. Two of the sites are located in the Mill Creek drainage on the north end of the Tushars and the third is near Box Creek. Mining is by open pit methods and has occurred during the past 12 years. Approximately 3,000 tons of material were removed from one of the Mill Creek pits during 1981.

Dendrite is being mined at the rate of 5 to 10 tons per year in the North Fork of North Creek drainage on the west side of the Tushars. Activity has been occurring for about 5 years.

Other mineral commodities, including alunite, fluorspar, molybdenum, sulfur, and gypsum, have generated prospecting and exploration activities in the Tushars and the Sevier Plateau areas. A total of 20 operating plans associated with these minerals were processed in 1981. No revenues to the Federal Government, in the form of rental fees or royalties, are generated by the locatable minerals. The 1872 Mining Law provides that: "...all valuable mineral deposits in lands belonging to the United States...shall be free and open to exploration and purchase...".

2. Leasable Minerals

Coal is the only leasable mineral produced on the Fishlake. Coal resources within the Forest underlie the southeast edge of the Wasatch Plateau and are included in the Salina Canyon coal field and portions of the Wasatch Plateau and Emery coal fields. The reserves are approximately 1693.6 million tons, which underlie approximately 220,527 acres within the Forest. Forest lands identified as potentially minable but presently not leased for coal development are approximately 81,534 acres. These potentially minable lands contain an estimated reserve of 1,515 million tons which are recoverable by underground mining methods. The coal quality is described as low sulfur and low to medium ash. (See "Coal Lands Review and Fishlake National Forest", April, 1984 in Appendix O).

There is one active coal mine on the Forest at the present time, located in the Convulsion Canyon area of the Wasatch Plateau. It produces 2.2 million tons per year and production is expected to continue until 2005. It has five Federal coal leases covering a total of 6,773 acres. About 5,860 acres are administered by the Fishlake National Forest, 743 acres by the Manti-LaSal National Forest, and 164 acres by the Richfield District of the Bureau of Land Management. Approximately 640 acres of fee land (coal and minerals privately owned) is connected with the operation.

Even though no other coal mines are active at this time, an additional 12,214 acres of the Forest are under lease to two energy companies. Core drilling operations are presently being conducted by these companies. The U. S. Geological Survey is conducting a continuing drilling program to define the coal resources of unleased lands. An average of 32 holes per year have been drilled since 1977 on the Forest.

Coal activity planning, in preparation for additional lease sales, is being done in coordination with the Bureau of Land Management. Three lease tracts involving about 423 acres of the Forest were evaluated in the Uinta-Southwestern Utah Coal Region Environmental Impact Statement.

Total receipts from coal lease conveyances, including bonus payments, royalties, and rentals for fiscal year 1981, were \$1,351,520.

Much of the Forest has a moderate potential for oil and gas, particularly the overthrust area of the Basin and Range Province. Over 1.5 million acres or 85 percent of the Forest was under lease for oil and gas development as of 1981. The major blocks of land not under lease are the upper elevations of the Tushars, Thousand Lake Mountain, and the area east of Bicknell, Utah. During the five year period October, 1976, through September, 1981, an average of 52 leases per year were issued for the Forest. The average for the previous five year period was 80.

Oil and gas exploration has been by surface seismic methods or shot holes less than 100 feet deep. An average of 267 miles of seismic exploration per year was permitted between 1977 and 1981. This involved an average of 16 permits per year. Fifty-two percent of the seismic surveys are in the Pahvant and Canyon Mountains, 23 percent each on the Fishlake and Wasatch Plateaus, and 2 percent on the north end of the Tushars.

Since 1958, 15 wells have been drilled on the Forest. None are producing wells. Funds generated from oil and gas activities (lease rental fees and prospecting permits) for fiscal year 1981 totaled \$880,415.

The potential for geothermal resources exists in an area of the Forest beginning in the Cove Fort-Sulphurdale area and extending eastward to the west edge of the Sevier Plateau near the town of Monroe. Sixteen leases containing 22,728 acres of Forest land occur in Cove Fort-Sulphurdale area and one lease containing 707 acres of Forest land is present in the Monroe area. These leases were issued in 1975 for a term of 20 years. Applications for adjoining lands are presently being evaluated.

A considerable amount of geophysical exploration, including deep wells, was conducted in the Cove Fort-Sulphurdale area between 1977 and 1979 in quest of geothermal resources. In one well hot water was discovered and tested to have a high potential for low temperature non-electrical application. A second well hit hot water but was not tested for production. A third well was abandoned because of drilling problems.

In 1983 and 1984 three wells were drilled near Sulphurdale. High pressure steam was hit at a depth of 1,170 feet. These wells are being tested and plans are being developed to generate electricity with the steam.

No geothermal activities other than casual exploration have occurred on the Forest near Monroe. Two deep wells drilled outside the Forest near Monroe in 1979-1980 tested favorably for use in heating and other direct applications. No utilization of the resource has been made.

The money paid into the U.S. Treasury for geothermal lease rental fees for fiscal year 1981 totalled \$23,435.

In 1977 the Forest received several applications for prospecting permits for potassium. There has been no follow up on these applications.

3. Saleable Minerals

The Forest contains significant amounts of sand and gravel, building stone, and light-weight aggregate. The amount of sand and gravel removed in selected years and their estimated values follow:

1977	\$ 243	7,300 Tons
1978	\$ 89	2,670 Tons
1979	\$6,235	187,060 Tons
1981	\$ 78	2,350 Tons

Presently, there are six permits authorizing removal of up to a total of 65,000 cubic yards per year. Of these only one is a commercial permit where the material removed is for resale. The remainder of the material has been removed by Federal or State agencies without charge for use in road construction and maintenance.

Small amounts of building stone are sold each year from various sites around the Forest. No large-scale or commercial operations exist.

A light-weight aggregate is abundant in the Clear Creek Canyon area. Large amounts are being used in construction of I-70 through the canyon.

d. Future Demand

The U.S. Bureau of Mines estimates mineral demand will increase until the year 2000. This is coupled with an increasing need for the demand to be met domestically. Prediction of mineral activity is risky and can be inaccurate. Confidential company information, economics, changing concepts of mineral localization, new techniques of exploration, and other factors can bring exploration to a new area or shift it from an existing area.

1. Energy Minerals

Coal activity is expected to increase gradually in the future. Additional leasing is expected in the northeast corner of the Forest as indicated from the expressions of interest received for that area in January, 1982. The existing, non-producing leases on the Forest are expected to be in production by 1990. Considerable oil and gas activity is expected through 1997. On the ground activity has included the entire Forest, except for the Tushar Mountains. Most seismic prospecting has been on the Pahvant and Canyon Ranges.

The Cove Fort-Sulphurdale and the Monroe-Joseph areas have been designated as Known Geothermal Resource Areas (KGRA's). Activity in and adjoining these KGRA's is expected to increase as technology improves and the extent of the resource is defined.

Uranium occurs in the Tushar Mountains. Continued exploratory work is expected due to the recent U.S. Geological Survey report indicating the area has high potential for uranium.

2. Non-Energy Minerals

High prices and increased demand for gold and silver have renewed interest in these precious metals. The Tushar Mountains have both, found in association with lead, zinc, and copper. Continued small scale activity is expected.

Base metal occurrences, particularly if accompanied by precious metal, will continue to attract exploration interest to their vicinity. It is expected the Tushar Mountains will be impacted by this trend until 1990.

Demand for molybdenum is predicted to be high, which might lead to activity in the Tushar Mountains.

Demand for limestone, sand and gravel, crushed stone, kaolin clay and lightweight aggregate is expected to continue.

Demand for gypsum from the Forest is not expected to materialize within the near future due to more accessible deposits of considerable size outside the Forest.

8. PROTECTION

a. Fire

1. Existing Situation

The present fire management policy requires suppression of wildfires on all areas of the Forest, with the exception of those occurring within the Beehive Peak Fire Management Area. Under specified conditions, fires in this area may be managed according to prescription, to accomplish predetermined objectives. The Fire Management Area covers 275,000 acres of the Fillmore Ranger District. The ten year average (1974-1983) fire occurrence is 35 fires per year (26 lightning and 9 man-caused). The average annual acreage burned during that period was 3,134 acres.

The Forest's fuel management program is relatively small due to the low fuel loading and abundance of natural fuel breaks. Fuel reduction is accomplished primarily through the use of planned ignitions under prescribed fire conditions. Prescribed fire is also used to accomplish wildlife habitat improvement (increasing habitat diversity and available palatable forage), range improvement (increasing palatable forage), and insect and disease control.

2. Expected Future Situation

The number of fires is expected to increase in the future because of increased use of the National Forest for recreation, wood gathering, and mineral related activities.

Although the Beehive Peak Fire Management Area Plan will no longer be valid when the Forest Plan is implemented, the application of predetermined prescriptions for management of fires will increase. Prescriptions to deal with fires which occur as a result of unplanned ignition have been prepared for a much greater area of the Forest than that previously covered by the Beehive Peak Plan.

b. Air Quality

1. Existing Situation

The National Clean Air Act requires that airsheds be designated under one of three classes:

- Class I - Only minor air quality deterioration
- Class II - Permitted moderate deterioration
- Class III - Permitted deterioration up to National Ambient Air Quality Standards

Presently, all of the Fishlake National Forest is designated as Class II. Air quality is managed on the Forest to ensure compliance with the Clean Air Act Amendment of 1977 (PL. 95-95). The Forest Service's responsibility in this regard is to protect air quality and related values.

Air quality on the Forest is generally excellent. At times during the dry summer months, vehicular traffic produces dust which temporarily reduces the air quality. Smoke impact from fires is slight, since most are small and burn a short time.

The State of Utah has been divided into three air quality basins for purposes of using the clearing index system. The Forest is included in areas 1 and 3. Area 1 includes those valleys less than 6500 feet above sea level, west of the Wasatch Mountain Range, and extending south through the Wasatch and Aquarius Plateaus to the Arizona border. Area 3 includes all valleys and areas more than 6500 feet above sea level.

Air quality data for each of these areas is obtained from the following sites:

Area 1 - Salt Lake City Airport and Chalk Creek Weather Station

Area 3 - Remote Automated Weather Station east of Monroe, Utah

The present Utah Air Conservation Regulations require a clearing index of 500 or greater before prescribed burning can occur.

2. Expected Future Condition

Future air quality is not expected to decrease significantly on the Forest. The increase in wood burning for home heating in communities adjacent to the Forest will have a minor effect. A large coal fired power plant, the Intermountain Power Project, is presently under construction 11 miles north of Delta, Utah. The impact of this plant on the air quality of the Forest should be minimal due to the prevailing southwesterly winds. Occasionally, wind patterns may shift to the northwest and north, which may carry pollutants over the Forest. The environmental impact statement for that project states that emissions will not exceed existing Class II Air Quality Standards.

Management activities may cause a temporary change in air quality. The change will be in the form of increased dust, odor, and smoke. None of these activities is expected to cause a violation of State Air Quality Standards.

c. Insects and Disease

1. Existing Situation

Insect and disease occurrences continually pose a threat to timber and range resources of the Fishlake National Forest. Although most occurrences have been endemic, localized, and of short duration, the Engelmann spruce beetle, mountain pine beetle, dwarf mistletoe, and a number of decay pathogens have caused considerable damage. Dwarf mistletoe continues to reduce growth and inflict some mortality in Douglas fir and ponderosa pine. Heart rots are causing deterioration in many overmature Engelmann spruce and aspen stands.

Pest outbreaks that affect rangelands are not frequent. They usually occur in localized areas and are easily detected in the early spring. Two major insect pests that affect rangelands are the Mormon cricket and the grasshopper. Infestations have been treated only in areas where they have reached epidemic proportions.

2. Expected Future Condition

Insect and disease damage is expected to remain at present levels.

The Forest's vegetative diversity minimizes epidemic insect and disease losses. The largest uniform timber types are aspen and Engelmann spruce. Insects and diseases which might cause extensive losses within these types are of foremost concern. Proper timing for treatment of logging and road building debris and the maintenance of species diversity through cultural treatments will reduce the danger of insect build-up. Other preventative measures which will be taken include surveys to detect and monitor insect and disease activity and commercial and precommercial thinning. More information concerning the prevention and control of root, butt, and bole rots is needed.

d. Law Enforcement

The Forest Service is charged with enforcing Federal laws on National Forest System land. This responsibility cannot be delegated to state or local law enforcement agencies. Forest personnel cooperate with state and local officials in enforcing state and local laws. The Sisk Act provides authority to reimburse local law enforcement agencies for the protection of persons using National Forest System lands.

1. Existing Situation

Personnel on the Forest have minimal law enforcement training. Vandalism to property and equipment is frequently not promptly reported nor adequately investigated. Fuelwood, post, pole and Christmas tree loss is considerable. Vehicle use in closed areas, littering, and archeological artifact theft and destruction are common.

2. Future Situation

The Fishlake Forest Law enforcement situation will include:

- a. Forest employees better trained in law enforcement.
- b. Improved reports and statistic keeping.
- c. Increased risk to Forest personnel collecting and transporting greater amounts of user fees.
- d. Increased probability of theft from collection boxes.
- e. Increased resource damage caused by off-road-vehicles.
- f. Insufficient facilities to accommodate increasing numbers of visitors will contribute to increased conflicts between visitors and increased resource damage.

- g. Trespass onto National Forest System lands by adjoining land owners and others.
- h. Continuing thefts of Forest products.

9. LANDS

a. Existing Situation

1. Classification

The following (Table II-17) shows the distribution of ownership of lands within the Fishlake National Forest by county:

TABLE II-17
DIVISION OF OWNERSHIP OF LAND IN
FISHLAKE NATIONAL FOREST BY COUNTY

County	National Forest Land (Acres)	Private & State Inholdings (Acres)	Total
Beaver	137,906	6,393	144,299
Garfield	3,344	0	3,344
Iron	2,297	0	2,297
Juab	20,788	21	20,809
Millard	306,956	14,421	321,377
Piute	188,787	15,320	204,107
Sanpete	1,941	0	1,941
Sevier	685,551	64,975	750,526
Wayne	76,909	79	76,988
TOTAL	1,424,479	101,209	1,525,688

2. Research Natural Areas (RNA's)

The Fishlake National Forest now administers one established Research Natural Area (Partridge Mountain). This area of 1200 acres is located in the Canyon Range in the northwestern portion of the Forest. It was established in 1979 and represents Society of American Foresters Types 210 (Interior Douglas fir) and 239 (Pinyon-juniper). Kuchler types 20 (Spruce-fir - Douglas fir forest), 23 (Juniper-pinyon woodland) 37 (Mountain mahogany-oak scrub), and 38 (Great Basin sagebrush) are also represented.

3. Land Exchange, Rights-of-Way, and Landline Location

- a. Land exchange - From the mid 1970's through fiscal year 1984, the Forest has acquired 3,390 acres through the land exchange program while disposing of 3,032 acres. During the same period 5.5 acres were acquired through donation.

- b. Rights-of-Way - The Forest right-of-way program has been very active in recent years. Since 1981, some 133 rights-of-way have been acquired. These are classified as:

1. Acquired outright through purchase or donation - -	9
2. State of Utah assignment - - - - -	1
3. Other than linear (Repeater sites) - - - - -	2
4. County declarations- - - - -	115
5. Land exchange program- - - - -	6

- c. Landline Location - Most of the property lines between National Forest and other ownerships have not been resurveyed and posted to National Forest standards. Accomplishment has been completely dependent upon available funds. In the period 1979 through 1981, 28 corners were remonumented and 31.6 miles of boundary line were resurveyed and posted.

4. Special land uses

As of early 1982, there were 384 special use permits on the Forest, of which 79 were free-use. These permits authorize use of 7,454.2 acres and 1,186.4 miles of rights-of-way. They vary in size from 0.1 acre to 625.6 acres, and 0.1 mile in length to over 51.9 miles. Improvement values range from less than \$100 to more than \$3,000,000. Uses are by individuals, interest and sports groups, corporations, cooperatives, and public agencies.

STATUS OF LAND USE ACTIVITIES
as of NOVEMBER 1983

<u>Type</u>	<u>Cases</u>	<u>Acres</u>	<u>Miles</u>
Agriculture	10	352.2	.1
Industrial Uses	23	205.7	54.5
Recreation Uses	137	162.6	.0
Research, Study & Training Uses	7	81.3	.0
Transportation Uses	34	2,483.7	108.5
Utilities & Communication Uses	68	1,928.7	214.4
Water Uses	105	2,240.0	145.0

There are also three existing Federal Energy Regulatory Commission (FERC) licenses for hydroelectric power plants. There are two pending FERC applications for exemptions from licensing for hydro projects. If exemptions are granted, these activities will be covered by special use permits.

b. Expected Future Situation

1. Classification

It is expected that the present land ownership pattern will not change significantly. No major Forest boundary changes have been proposed. However, boundary changes between National Forest and Bureau of Land Management lands have been discussed. Should these changes materialize, significant increases in National Forest ownership would occur.

2. Research Natural Areas (RNA's)

Two areas in the Tushar Mountains are being evaluated for inclusion in the Research Natural Area program. Both areas represent alpine, subalpine and mountain systems. A draft establishment report has been prepared for Bullion Canyon and another is being prepared for Upper Fish Creek.

- a. Bullion Canyon. Approximately 1380 acres in portions of sections 6 and 7, of T.28S.,R.4W., and in sections 1, 2, 11, 12, 13, and 14 of T.28S.,R.5W., Salt Lake Meridian.
- b. Upper Fish Creek. Approximately 1720 acres in portions of [protracted] sections 28, 29, 32, 33, and 34 of T27S R5W, and [protracted] sections 4 and 5 of T28S R5W, Salt Lake Meridian.

3. Land Exchange, Rights-of-Way, and Landline Location

- a. Land Exchange - The land exchange program is expected to increase substantially in the future. Although exchanges for private lands will remain close to the present level, exchanges with the State of Utah are expected to increase. Most of the 30,000 acres of State of Utah lands within the Forest boundary are in blocks of 640 acres or less which are surrounded by National Forest lands.
- b. Rights-of-Way - The Forest right-of-way program is expected to remain at its present high level until rights-of-way are acquired to cover all existing roads on the Forest Development Road system. Most of these should be acquired early in the planning period. The program will decrease substantially once the backlog is eliminated.
- c. Landline Location - The landline location program will increase substantially. The program will be designed to eliminate the large backlog of unposted boundaries. Because of the uncertainty of funding in this area, no prediction for completion of the program can be made.

4. Special Land Uses.

It is expected that demand for special use permits will continue to increase, especially in energy, transportation, water, and industrial uses. The increase is a function of development of private lands within the Forest and energy developments.

10. SOILS

a. Existing Situation

The history of soil condition closely parallels the history of grazing use. Grazing by domestic livestock reached a peak during the period 1890 to about 1910. The mountain ranges were heavily overgrazed, resulting in devastating floods. With the creation of the Forest Reserves in the early 1900's, a control on grazing was started. Soils previously subjected to severe erosion by heavy grazing eventually began to respond and produce more forage. Since the early 1900's, soils and vegetation have improved in condition.

During the 1950's and 60's, some of the areas still not satisfactorily recovered were treated to hasten recovery. Treatments included seeding, contour furrowing and trenching, Dixie harrowing, and elimination of livestock use.

Problem areas and conditions still exist, but overall the soils and vegetation have improved remarkably from the conditions present in the early 1900's. Table II-18 shows the results of a recently completed watershed condition inventory which identifies areas needing remedial work:

TABLE II-18
WATERSHED CONDITION INVENTORY

<u>District</u>	<u>Acres Identified On Aerial Photographs</u>	<u>Acres Field Verified</u>	<u>Remaining Acres to be Verified</u>
Fillmore	3,510	2,700	810
Loa	10,525	6,825	3,700
Beaver	2,883	2,883	0
Richfield	<u>9,584</u>	<u>3,070</u>	<u>6,514</u>
Total	26,502	15,478	11,024

The acres delineated are areas immediately adjacent to gully networks identifiable through area photo interpretation. Sheet erosion and unstable streambanks are not evident on aerial photos and have not been completely inventoried. When these areas are checked on the ground, acreages will undoubtedly increase.

The major cause of the deteriorated watershed condition on the Forest is overgrazing. Approximately 95 percent of the inventoried acreage requiring soil restoration is the result of overgrazing. A combination of restoration structures, reseeding, fertilization, and grazing adjustments is needed to restore and protect the soil and water resources. In addition, proper stocking rates are being established. Protective fencing is provided on some treated areas together with deferment of grazing until vegetative cover is established.

Regulations require the quantification of soil loss or sedimentation in development of this plan. These result in approximations when dealing with a unit of land as large as the Forest. Analysis areas were established by stratifying by major vegetative types and two slope classes. Average current rates of soil loss were determined and expressed for each vegetative type and slope class. These data were then entered in the FORPLAN model to compute total soil loss per decade. A preliminary list of threshold rates was established as a Forest Standard. Future changes in soil loss resulting from changes in management can be evaluated against this standard. The threshold values will be validated by monitoring.

Table II-19 gives the summation of soil loss by vegetation type and slope for the Forest.

TABLE II-19
SOIL LOSS BY VEGETATIVE TYPE AND SLOPE CLASS

Vegetative Type	Slope	Acres	Yds ³ /ac/decade	Soil Loss	
				M Yds ³ /decade	Ac.Ft./decade
Ponderosa Pine	All	13,000	30	390	242
Meadow	<40	17,000	20	340	216
Conifer	>40	57,000	10	570	353
	<40	70,000	5	350	217
Sage/grass	>40	235,000	40	9,400	5,828
	<40	33,000	30	990	614
Mtn. Brush	>40	180,000	30	5,400	3,348
	<40	152,000	25	3,800	2,356
Aspen	>40	186,000	10	1,860	1,153
	<40	81,000	5	405	251
Pinyon-Juniper	>40	256,000	50	12,800	7,936
	<40	114,000	40	4,560	2,827
Barren	>40	28,000	60	1,680	1,042
Total Soil Loss				42,545	26,383

The soil and water resource improvement targets established by the Region are as follows:

Year	1981	1982	1983	1984	1985	1986	1991-	2001-	2011-	2021-
Acres	160	252	344	436	526	506	485	482	480	479

Current soil restoration outputs are below the Regionally assigned output levels. It is highly unlikely that these targets can be achieved under the plan that is being implemented.

b. Future Situation

By implementating this plan, soil conditions will improve. This will result from the use of improved grazing standards and guidelines, additional protection for riparian areas, soil and water treatments on high priority watershed areas, and range structural and non-structural treatments. On-site soil losses will be reduced through improved ground cover, which should decrease overland flow with associated sheet and rill erosion.

11. FACILITIES

a. Present Situation

Facilities on the Fishlake National Forest include roads, bridges, administrative sites, buildings, dams, and water and sanitation systems. They require considerable time and money for operation and maintenance. There has been large investment in these facilities to enable the development, protection, and use of Forest resources.

1. Roads

There are approximately 1,408 miles of system roads on the Fishlake National Forest. In addition there are 2 to 3 times this mileage of non-system roads and wheel tracks. The non-system mileage increases annually. The Forest's transportation system includes roads, trails, bridges, and major culverts. The present system is substandard. Much of the system received additional damage from the floods of 1983 and 1984. Steep grades, sharp curves, variable widths, rough surfaces, inadequate sight distances, few passing areas and turnouts, inadequate drainage and lack of surfacing material are characteristics of the existing system. Lack of comprehensive planning and a lack of maintenance are additional problems.

The roads are classified as arterial, collector, or local, depending upon their uses and the land area accessed by them. Standards vary from relatively high speed, double lane asphalt to natural surfaced single lane roads suitable for four wheel drive vehicles. Access to the Forest is generally fair to good, as most areas are within three miles of some type of road. Access is limited during the winter and spring by mud and snow. Heavy use is made of the system during holidays, weekends, and hunting and fishing seasons.

Basic road types are:

<u>Type of Road</u>		<u>Classification</u>	
Primitive	930 Miles	*Arterial	262 Miles
Graded & drained	414 Miles	Collector	349 Miles
Gravel surfaced	30 Miles	Local	797 Miles
Hard surfaced	<u>34 Miles</u>		
	1,408 Miles		<u>1,408 Miles</u>

* Includes State and Federal Highways.

The miles of non-system roads have never been maintained. Most of these roads are causing resource damage, are hazardous to travel, and should be closed.

Proposed mileage and priorities for construction and reconstruction of the arterial and collector roads on the Forest are shown in Appendix J, assuming a 40 year rotation life of a given facility. Costs for a replacement schedule of this magnitude would be too large for present budgets and would depend on funding from outside the normal Forest allocations.

Approximately 700 miles of collector and local roads are maintained annually. About 300 miles of collector roads are in such poor condition that they cannot be adequately maintained. With the exception of recently constructed timber purchaser and oil and gas roads, most local roads are primitive, poorly located, and difficult to maintain. They will continue to deteriorate, cause resource damage, and become a safety hazard. Many should be reconstructed. Others should be closed.

Usually only 2-4 miles of local road are constructed each year, while up to 2 miles of the collector system are reconstructed or receive heavy maintenance annually. The remainder of the system is deteriorating because of inadequate maintenance.

The Forest has 28 bridges and major culverts on the inventory. Twelve of the bridges are new or in good condition and need only minor maintenance. Ten need repairs or maintenance. Six need to be replaced. Two new bridges need to be built. Several bridges and culverts have been damaged or destroyed by recent floods and are scheduled for replacement.

2. Administrative Sites, Buildings and Support Facilities

Most structures on the Forest are classified as administrative, are over 40 years old, and are of wood construction. They have been kept in fair to good repair over the years.

More emphasis is being placed on maintaining guard stations to save on travel costs. Maintenance is limited to health, safety, and energy items on high-use sites. Most buildings have deficient electrical and

culinary water systems. Currently only one of twelve sites has a system meeting current state standards for culinary water.

3. Dams

There are 54 dams on the Forest. These range from small structures for flood control, irrigation and electrical generation to major reservoirs. Most of these dams are on special use permit and are maintained by the owners. The Forest Service and the Utah State Engineer's Office cooperate on the inspection of these dams with permittees doing the necessary maintenance. No new dams are contemplated at present, but several modifications of existing structures are underway or programmed. This includes restoration for safety and resource protection of several dams recently breached.

4. Trails

There are about 900 miles of system trails on the Forest plus a number of non-system trails. Most are in need of improvement to correct erosion problems. Many trails on the recreation system are used primarily for livestock movement, which is causing damage. Severe damage has occurred to many trails due to the 1983 and 1984 flooding. The Forest has applied for emergency funds to make needed repairs.

5. Water Systems

The Forest has 31 inventoried sites with culinary water systems. Most culinary systems are in need of major reconstruction to comply with current state standards. Six of these systems are being rebuilt as part of the Job's Bill program. In addition there are a large number of range water systems for livestock and wildlife use. More of these systems have been built in recent years. These systems have opened new areas for livestock production and help distribute livestock more evenly on the Forest.

6. Solid Waste Disposal

Currently the Forest operates a system of solid waste collection and disposal. A 25 cubic yard packer truck collects waste from recreation and administrative sites for disposal at a central land-fill near Richfield, Utah.

7. Sanitation Facilities

Forest operation of recreation sites has prompted development of sanitary facilities to prevent pollution of water and soil and provide user comfort and privacy. Most of these facilities are in developed recreation sites although some are in dispersed recreation areas. Considerable investment has been made in facilities to handle human waste in a manner meeting State and Federal standards. Maintenance is expensive but necessary.

8. Radio and Communication Sites

The Forest is currently upgrading its communications system. Several new repeater sites are being built for a microwave system that is being installed. Development and maintenance of these sites is not considered to be a major impact on existing lands since most access is already developed and the actual sites are quite small.

b. Future Situation

1. Roads

Proposed mileage and priorities for construction and reconstruction of the arterial and collector roads on the Forest are shown in Appendix J assuming a 40 year rotation life of a given facility. Costs for a replacement schedule of this magnitude would be too large for present budgets and would depend on funding from outside the normal Forest allocations.

No new arterial or collector roads will be constructed in the first decade. After the first decade only 1 mile will be constructed in each future decade. However, many existing arterial and collector roads will be improved to meet demands through road betterment. About 13 miles of road betterment is planned to be accomplished annually in the planning period. Some local roads will also be included in the betterment program.

Local road construction will be limited to about 1 mile for the first decade and slightly more in the other four decades. Timber purchaser road construction will amount to six miles per year during the first decade. As the timber program increases in the remaining decades, purchaser road construction will increase proportionately.

Maintenance needs will be determined through a traffic monitoring program.

2. Administrative Sites, Buildings, and Support Facilities

Several new buildings will be constructed to house communications equipment. Also, increased work space, office space, housing and warehousing space will be needed to accommodate increased activities.

3. Dams

No new dams are contemplated, but reconstruction and enlargement of eight existing dams is planned to improve fisheries and recreation opportunities. These projects will increase potential water storage in the project area. There will be localized ground disturbance and increased soil erosion at borrow sites while these projects are being completed. Borrow areas will be revegetated as quickly as possible to minimize long term effects.

4. Trails

About one mile of new trail will be reconstructed or constructed annually during the first decade. This will increase to 2.5 miles per year in subsequent decades. The planned increase in trail maintenance activity and the planned construction and reconstruction program should accommodate projected demands for dispersed recreation. Trails used primarily for the movement of livestock will be inventoried and managed as range facilities.

5. Water systems

All Forest Service owned culinary water systems will be improved to comply with current standards for safe drinking water during the first decade.

6. Other

Other facilities, such as sanitation and communication systems, will be expanded to meet anticipated needs.

12. ENERGY TRANSPORTATION CORRIDORS

a. Current Situation

Table II-20 lists rights-of-way for transmission lines over 66 kilovolts (kV) that pass into or through the Forest. No rights-of-way exist on the Forest for oil, gas or coal slurry pipeline over 10 inches in diameter; interstate communication lines or electronic sites; or railroads.

Federal, State, and Interstate highways crossing the Forest are listed in Table II-21.

As per Regional plan direction, if a transportation, transmission, or pipeline route is to serve an end use on the Forest, they are not considered potential corridors. Strips of land may be designated energy corridors when they contain existing rights-of-way and have the potential for future energy transmission systems.

Tables II-22 and II-23 provide analysis of existing energy and transportation rights-of-way.

b. Future Demands

Demands for expansion of existing transportation and transmission rights-of-way or the designation of new rights-of-way on the Forest are based on the Western Regional Corridor Study for the State of Utah. (May 1, 1980).

From the present to year 1990, the utility companies involved in the corridor study have proposed the following energy transportation additions to existing transportation and transmission right-of-way locations on the Forest:

- One coal slurry pipeline within or adjacent to the Interstate 70 right-of-way in Salina Canyon.
- One coal slurry pipeline adjacent to the Sigurd-Cedar City 230-kV transmission line right-of-way portion located south of Beaver, Utah.

- One 345-kV transmission line from Lynndyl, Utah, to Mona, Utah, via Leamington Pass.
- One natural gas pipeline within and/or adjacent to the Interstate 15 right-of-way at Scipio Pass; and
- One 230-kV transmission line adjacent to the Sigurd-Cedar City 230-kV transmission line right-of-way.

These proposed energy transportation rights-of-way could meet the expansion criteria for proposed designated corridors as presented on Tables II-22 and II-23 i.e., the proposed transportation facilities could be constructed within the corridor designations as stated in Tables II-22 and II-23.

From the present to year 1990, one new energy transportation corridor has been proposed for the following uses and location:

- One 69-kV transmission line from the Sigurd-Emerly 345-kV line to the Skutumpah Coal Mine.

The location follows an existing 25-kV line up Convulsion Canyon to the Acord Lakes area. The proposal is to upgrade the existing line to 69-kV and extend it to the Skutumpah Mine. The line would serve two coal mines and a summer home area.

The utility companies involved in the corridor study also proposed two new transportation rights-of-way on the Forest for years 1990 to 2020. One proposal has its route location adjacent to an existing State highway while the other proposal has its route location outside of the existing transportation and transmission routes discussed above. These proposals are as follows:

- One railroad right-of-way from the Alton Coalfield to Price via the general location of State Highways 62, 24, and 72. (U-72 location would be the only location on the Forest.)

This proposed energy transportation right-of-way could meet the expansion criteria for a designated corridor as presented in Table II-20 for State Highway 72, i.e., the proposed transportation facilities could be constructed within the corridor designation as stated for U-72.

- One 500-kV transmission line right-of-way from Green River, Utah, to the Alton Coalfield via the north slopes of Thousand Lake Mountain and the Awapa Plateau. Potential corridor designation for this location would depend on a comparative analysis done for the proposed new route versus the existing State Highway 72 route.

TABLE II-20
EXISTING ENERGY TRANSPORTATION SYSTEMS
OCCUPYING POTENTIAL UTILITY CORRIDOR ROUTES ON THE
FISHLAKE NATIONAL FOREST

Name	Location Beginning-Ending	Size	R/W Width (Feet)	Length (Miles)	Acres
Sigurd-Cedar City (UP&L)	From Sigurd sub- station to Cedar City via Clear Creek Canyon Area	138-kV	75	15.14	137.62
Sigurd-Nevada State Line (UP&L)	From Sigurd sub- station to Ely, Nevada, via Round Valley & Scipio Pass	230-kV	120	7.83	113.89
Sigurd-Cedar City (UP&L)	From Sigurd sub- station to Cedar City via Sevier Valley/Circleville	230-kV	110	8.34	111.18
Huntington- Sigurd (UP&L)	From Huntington Power Plant at Huntington, Utah, to Sigurd substa- tion via Salina Canyon/Gooseberry Valley	345-kV	130	23.45	369.53
Emery-Sigurd (UP&L)	From Hunter Power Plant at Castle- dale, Utah, to Sigurd substation via Salina Canyon/ Gooseberry Valley	345-kV	130	23.44	369.40
Lynndyl-Mona (IPP)	From IPP Power Plant to Mona, Utah, via Leaming- ton Pass	345-kV	150	2.77	50.36

TABLE II-21
EXISTING FEDERAL, STATE, AND INTERSTATE HIGHWAYS
OCCUPYING POTENTIAL UTILITY CORRIDOR ROUTES

Name	Location	R/W Width (Feet)	Length (Miles)	Acres
Interstate 70 (I-70)	Salina Canyon	550	23*	1,533*
Interstate 70 (I-70) (Approximately 10.0 miles still under construction)	Clear Creek Canyon	550	13*	867*
Interstate 15 (I-15)	Within one mile of National Forest for approximately 6 miles at Scipio Pass	--	--	--
State Highway (U-13)	Clear Creek Canyon	200	7*	170*
State Highway (U-24)	Torrey, Utah, to Fruita, Utah	132	0.7	11.2
State highway (U-25)	Fishlake	400	6*	290*
State Highway (U-72)	I-70 (Salina Canyon) to U-24 at Loa, Utah	132*	18*	288*
State Highway (U-132)	Leamington, Utah, to Nephi, Utah	132	0.34	5.45
State Highway (U-153)	Beaver, Utah, to Junction, Utah	32	26.10	417.6

• Approximate figures.

TABLE II-22
ANALYSIS OF EXISTING ENERGY TRANSPORTATION
RIGHTS-OF-WAY LISTED ON TABLE II-20

Analysis of Situation	a)Are ROW's suitable for retention and designation as a corridor?	b)Are ROW's to be designated as corridors capable of being expanded within identified environmental con- straints and, if so, how much?	c)Will ROW's meet local, regional, national needs and are they located t serve energy load center require- ments. If not, will new corridors be established?
Sigurd- Cedar City 138-kV	Yes. Probably other high voltage (IIV) and extra high voltage (EVH) lines will cross the Forest in this location.	Yes. A designated corridor could accommodate up to two additional IIV or EVH lines prior to a requirement for line upgrading. (Distance between lines limited to 1000 feet or less)	Corridor would mee regional needs and would be located t serve existing energy load centers.
Sigurd- Nevada State 230-kV	Yes. Probably other high voltage (IIV) and extra high voltage (EVH) lines will cross the Forest in this location.	Yes. A designated corridor could accommodate up to two additional IIV or EVH lines prior to a requirement for line upgrading. (Distance between lines limited to 1000 feet or less)	Corridor would mee regional and nat'l needs and would be located to serve existing energy load centers.
Lynndyl Mona 345-kV	Yes. Probably other high voltage (IIV) and extra high voltage (EVH) lines will cross the Forest in this location.	Yes. A designated corridor could accommodate up to two additional IIV or EVH lines prior to a requirement for line upgrading. (Distance between lines limited to 1000 feet or less)	Corridor would mee regional and nat'l needs and would be located to serve existing energy load centers.

TABLE II-22 (con't)
ANALYSIS OF EXISTING ENERGY TRANSPORTATION
RIGHTS-OF-WAY LISTED ON TABLE II-20

Analysis of Situation	a)Are ROW's suitable for retention and designation as a corridor?	b)Are ROW's to be designated as corridors capable of being expanded within identified environmental con- straints and, if so, how much?	c)Will ROW's meet local, regional, national needs and are they located to serve energy load center require- ments. If not, will new corridors be established?
Sigurd- Cedar City 230-kV	Yes. Probably other high voltage (IIV) and extra high voltage (EVH) lines will cross the Forest in this location.	Yes. A designated corridor could accommodate up to two additional IIV or EVH lines prior to a requirement for line upgrading. (Distance between lines limited to 1000 feet or less)	Corridor would meet regional and nat'l needs and would be located to serve existing energy load centers.
Huntington- Sigurd 345-kV	Yes. Probably other high voltage (IIV) and extra high voltage (EVH) lines will cross the Forest in this location.	No. Potential for widening ROW limited by res- trictive terrain. Upgrading existing line should be done to meet power pro- duction and delivery requirements.	Existing ROW will meet the needs of projected power production from energy load centers.
Emery- Sigurd 345-kV	Yes. Probably other high voltage (IIV) and extra high voltage (EVH) lines will cross the Forest in this location.	No. Potential for widening ROW limited by res- trictive terrain. Upgrading existing line should be done to meet power pro- duction and delivery requirements.	Existing ROW will meet the needs of projected power production from energy load centers.

TABLE II-23
ANALYSIS OF EXISTING HIGHWAY RIGHTS-OF-WAY
(POTENTIAL ENERGY TRANSPORTATION CORRIDORS)
LISTED ON TABLE II-21

Analysis of Situation	a)Are ROW's suitable for retention and designation as a corridor?	b)Are ROW's to be designated as corridors capable of being expanded within identified environmental con- straints and, if so, how much?	c)Will ROW's meet local, regional, national needs and are they located to serve energy load center require- ments? If not, will new corridors be established?
I-70 Salina Canyon	Yes, but ROW and adjacent terrain would be only suit- able for pipeline ROW's.	No. Restrictive terrain would limit location of energy transportation ROW's to the highway ROW width.	Would meet local, regional and nat'l needs and would be located to serve future energy load centers.
I-70 Clear Creek Cyn.	Yes. Corresponds with Sigurd-Cedar City 138- kV Transmission line. (See table C).	Yes. (See discus- sion on Table C for Sigurd-Cedar City 138-kV transmission line).	Would meet regional needs and would be located to serve existing energy load centers.
I-15 Scipio Pass	Yes. Probability exists that interstate energy transportation ROW's will be constructed along this route.	Highway ROW fully occupies Scipio Pass Area. Pro- posed energy trans- portation ROW's would have to be located outside of the highway ROW.	Would meet regional and nat'l needs and would be located to serve energy load centers.
U-13 Clear Creek Cyn.	No. This route is adjacent to a more suitable transportation ROW, i.e., Sigurd- Cedar City 138-kV.	Highway ROW occupies a narrow and steep canyon. Environmen- tal constraints pre- clude expansion for energy transporta- tion ROW's.	Limited potential corridor space would preclude use of route for regional and nat'l energy transporta- tion needs.

TABLE II-23 (con't)
ANALYSIS OF EXISTING HIGHWAY RIGHTS-OF-WAY
(POTENTIAL ENERGY TRANSPORTATION CORRIDORS)
LISTED ON TABLE II-21

Analysis of Situation	a)Are ROW's suitable for retention and designation as a corridor?	b)Are ROW's to be designated as corridors capable of being expanded within identified environmental con- straints and, if so, how much?	c)Will ROW's meet local, regional, national needs and are they located to serve energy load center require- ments? If not, will new corridors be established?
U-24 NE of Torrey	No. Proximity of Capitol Reef Nat'l Park precludes this ROW as a potential corridor.	Highway ROW occupies a narrow and steep canyon. Environmen- tal constraints pre- clude expansion for energy transporta- tion ROW's.	Limited potential corridor space would preclude use of route for regional and nat'l energy transporta- tion needs.
U-25 Fish lake	No. This highway serves a particular end use on the Forest and does not coincide with existing and pro- posed energy trans- portation ROW's.	Highway ROW occupies a narrow and steep canyon. Environmen- tal constraints pre- clude expansion for energy transporta- tion ROW's.	Limited potential corridor space would preclude use of route for regional and nat'l energy transporta- tion needs.
U-72 Salina Canyon to Loa	Yes. Probability exists that energy transportation ROW's will be constructed along this route.	Terrain adjacent to highway ROW would not restrict loca- tion of energy trans- portation ROW's. Corridor width of 1 mile could be accom- modated.	Would meet local and regional needs and would be loca- ted to serve energy load centers.
U-132 Leamington to Nephi	Yes. Probability exists that inter- state energy trans- portation ROW's will be constructed along this route.	Existing uses adja- cent to ROW would require that energy transportation ROW's will be located 1/2 to 1 mile north or south of the highway.	Would meet local, regional and nat'l needs and would be located to serve energy load cen- ters.

TABLE II-23 (con't)
ANALYSIS OF EXISTING HIGHWAY RIGHTS-OF-WAY
(POTENTIAL ENERGY TRANSPORTATION CORRIDORS)
LISTED ON TABLE II-21

Analysis of Situation	a)Are ROW's suitable for retention and designation as a corridor?	b)Are ROW's to be designated as corridors capable of being expanded within identified environmental con- straints and, if so, how much?	c)Will ROW's meet local, regional, national needs and are they located to serve energy load center require- ments? If not, will new corridors be established?
U-153 Beaver to Junction	No. This highway serves a particular end use on the Forest and does not coincide with existing and pro- posed energy trans- portation ROW's.	Existing uses adja- cent to ROW would require that energy transportation ROW's will be located 1/2 to 1 mile north or south of the highway.	Would meet local, regional and nat'l needs and would be located to serve energy load cen- ters.

D. RESEARCH NEEDS

Research needs identified during the planning process include the continuation of the work on the Oak Creek Cooperative Management Area. The Intermountain Research Station needs to continue their involvement in this project. A second research need is the determination of the growth volumes occurring in the pinyon-juniper woodland. Previously thought to be a low value area, this planning effort has shown the pinyon-juniper woodland to have potential value for commercial wood products, Christmas trees, firewood, wildlife, and range. It is possible that commercial timber sales will be made from this area in the future. Regulation 36 CFR 219.3 defines forest land as land at least 10 percent occupied by forest trees of any size. Thus the pinyon-juniper woodland could be considered commercial forest land in the future.

These research needs may be supplemented by additional needs identified during the plan monitoring and evaluation activities.

CHAPTER III

PLAN RESPONSES TO ISSUES, CONCERNS, AND OPPORTUNITIES

This chapter shows how the proposed Plan addresses and responds to the planning problems that were identified during the planning process.

A discussion of the process used to identify the issues to be resolved in this Plan is found in Appendix A of the Environmental Impact Statement. Additional information may be found in the public involvement records at the Supervisor's office in Richfield.

The specific methods for resolving and implementing management actions for the 10 problems dealt with are found in Chapter IV of this Plan. In that chapter the Forest's multiple-use goals and objectives are listed, as is each management area.

This plan's responses to the ten planning problems are:

#1. RECREATION SITES AND FACILITIES

The plan calls for increasing recreation funding to maintain and reconstruct existing sites. This includes upgrading water systems to meet state standards. There will be construction of new sites, including facilities to meet local community and large organized group needs. Limited funding during the first decade will be used first to maintain or replace existing facilities and then, if sufficient, to construct additional sites.

Trails and trailheads will be maintained, reconstructed or constructed to provide the best combination of desired recreation opportunities. Some roads will be closed to mitigate adverse soil and watershed impacts.

#2. MANAGING RECREATION USE

The planned action is to provide desired recreation opportunities and manage use now and as it increases. More funding will improve management and conformance with laws and regulations. Better managed use will reduce conflicts and mitigate resource damage. Opportunities for ORV use are provided, as are opportunities for nonmotorized recreation.

The four recreation opportunity spectrum classes that the forest can provide are Semi-Primitive Nonmotorized, Semi-Primitive Motorized, Roaded Natural and Rural. These will be managed to accomodate projected increase in demand. A reserve of Semi-Primitive Nonmotorized acres will be retained for the future.

#3. MINERAL AND ENERGY DEVELOPMENT

Mineral management stipulations for lands under the jurisdiction of the Forest Service are found in Appendix H of this plan. They establish requirements for conducting all operations to sustain good land management. Approximately 97 percent of the Forest will be open to mineral exploration and development under the mining and leasing laws. Appendix O lists the coal bearing lands within the Forest that are acceptable for further consideration for coal leasing.

#4. LIVESTOCK AND WILDLIFE FORAGE RESOURCE

Grazing capacity will decrease to 131,400 AUM's by 2000. Permitted use would be made compatible with grazing capacity. An upward trend will result from improved administration and range improvements. Common use of winter game range by wildlife and livestock will continue. Adequate forage will be available to meet big game needs.

#5. WILDLIFE AND FISH HABITAT FOR GAME AND NONGAME SPECIES

Current habitat of threatened and endangered species will be maintained. No adverse effects from management activities will be allowed. Fisheries habitat will be significantly improved. Big game winter range will be enhanced. Non-game habitat improvement will be emphasized in some management areas. Hunted and fished management indicator species will increase in numbers over current levels.

#6. ROAD SYSTEM EXPANSION AND CLOSURES

Expansion of the arterial and collector road system will be minimal in future decades. The only significant expansion of the local road system will be to accommodate timber sales and mineral activities. However, the present system will be systematically improved with road betterment funds.

Area closures will be implemented yearlong on 108,00 acres and seasonal road closures will be applied where resource damage could be sustained. In addition, seasonal area closures will be implemented on some 67,000 acres of big-game winter range.

Accomplishment of planned road improvements, area closures, and road closures will satisfy this planning problem.

#7. COMMERCIAL AND FUELWOOD TIMBER RESOURCES MANAGEMENT

Timber sales will remain at 3.0 MMBF annually over the first decade. Beginning in the second decade, sales will increase to 8.3 MMBF annually. These sale programs both include 60 to 70 acres per year of aspen. If an aspen market develops, the forest potentially could harvest approximately 2350 acres of aspen annually.

The largest percentage of firewood will come from chainings, residual logging debris, and standing dead trees. Slightly over 38,500 cords (19,280 MMBF) of firewood can be harvested annually in the first decade. Personal and commercial use sales can increase to 51,200 cords (25,600 MMBF) for the balance of the planning period.

#8. WATERSHED CONDITION, WATER QUALITY, AND WATER PRODUCTION

About 300 acres per year of watershed improvement projects will be accomplished through the first decade. This will increase to 414 acres per year in later decades. Water yield may increase by 177 acre feet per year through timber harvest. About 20 percent of this will be delivered to the Colorado River drainage. Over the long term, soil loss will decrease as goals of management activities are met. This will improve water quality and watershed condition. Short term impacts will result from road construction and timber harvest. Existing riparian habitat will be maintained and conditions improved.

#9. MIXED PUBLIC AND PRIVATE LAND OWNERSHIP

Lands to be considered for acquisition and disposal have been identified in the Land Adjustment Plan, Appendix K to this plan. Needed rights-of-ways are identified in the Right-of-Way Plan, Appendix N to this plan. Accomplishment of the action items in the above plans will resolve this issue.

#10. WILDERNESS RECOMMENDATIONS TO CONGRESS

Public Law 98-428, The Utah Wilderness Act of 1984, resolved this planning problem for the Forests in Utah. No further evaluation will be conducted of released lands until the plan is revised in the next iteration, about 10 years after implementation. No Wilderness areas were designated on the Fishlake by the Utah wilderness Act. Much of the existing roadless area will remain in an undeveloped state at the time of the next planning sequence and will be reconsidered for wilderness proposals at that time.

CHAPTER IV

MANAGEMENT DIRECTION

A. IMPLEMENTATION

This Forest Land and Resource Management Plan provides long-range management direction for the Fishlake National Forest.

As soon as practicable after the Plan is approved, the Forest Supervisor will ensure that, subject to valid existing rights, all outstanding and future permit and other occupancy and use documents which affect National Forest System lands are consistent with the Plan. The management direction contained in the Forest Plan is used in analyzing proposals by prospective Forest users. All permits, contracts, and other instruments for occupancy and use of the National Forest System lands covered by this Plan must be consistent with the Management Area Direction sections. This is required by 16 USC 1604(i) and 36 CFR 219.10(e).

Subsequent administrative activities affecting National Forest System lands, including budget proposals, shall be based on the Plan. The Forest Supervisor may change proposed implementation schedules to reflect differences between proposed annual budgets and actual funds received. Schedule changes resulting from the budget appropriation process will be considered an amendment to the Forest Plan. The final annual budget allocation for the National Forest will serve as documentation of the amendment. Changes resulting from the budget appropriation process shall not be considered a significant amendment, and will not require the preparation of an environmental impact statement. Budget changes which, over time, significantly alter the long-term relationships between levels of multiple use goods and services projected in the Forest Plan will be evaluated in conjunction with the update of RPA Program every five years and may result in an amendment or revision of the Forest Plan.

Management direction is expressed in terms of both Forest Direction and Management Area Direction. Forest Direction consists of goals, objectives, and management requirements which are generally applicable to the entire Forest. Management Area Direction contains management requirements specific to individual areas within the Forest and is applied in addition to the Forest Direction Management Requirements. Management direction responds to public issues, management concerns, and opportunities within the availability, suitability, and capability of the land and resources.

Implementation of this management direction is the key to translating the goals, objectives, and management requirements stated in the Forest Plan into on-the-ground results. The Forest Plan is implemented through the program development, budgeting, and annual work planning processes. These processes supplement the Forest Plan and make the annual adjustments and changes needed to reflect current priorities within the overall management direction contained in the Plan.

The Forest Plan guides development of multi-year implementation programs for each Ranger District. The Plan's management area direction, objectives and management requirements are translated into these multi-year program budget proposals, which specifically identify the activities and expenditures necessary to achieve the direction provided by the Forest Plan. These implementation programs form the basis for the Forest's annual program budget.

Upon approval of the final budget appropriation for the Forest, the annual program of work is completed and implemented on the ground. The annual work plan provides the detail to the program budget proposals necessary to guide the land managers and their staffs in responding to the direction of the Forest Plan. The activity files in the data base and the Program Accounting and Management Attainment Reporting System provide the information on monitoring the accomplishment of the annual Forest program.

Environmental assessments and environmental impact statements, when needed, will supplement the Forest Plan Environmental Impact Statement. Future environmental analyses will be directed by the Forest Plan. Additional detail will be included in the environmental documents for future project level decisions.

The management direction in this chapter is composed of two major parts: Forest Direction and Management Area Direction.

Forest Direction consists of goals, objectives, and management requirements. The goals and objectives provide broad overall direction regarding the type and amount of goods and services that the Forest will provide. The management requirements contained in the Forest Direction section set the minimum conditions that must be maintained while achieving the goals and objectives.

Management Area Direction consists of management area prescriptions applicable to specific management areas shown on the Forest Plan map. The management area prescriptions contain management requirements specifying which activities will be implemented to achieve the goals and objectives. Management requirements contained in individual management area prescriptions are applied to the specific areas shown on the management area map in the back of this document.

B. FOREST DIRECTION

1. 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. These goals respond to the Planning Questions listed in Chapter III as well as appropriate laws, regulations, and policies.

The goals of the Forest Plan are:

Diversity

- Integrate vegetation management with resource management to maintain productivity and provide for diversity of plant and animal communities.

Recreation

- Provide motorized recreation opportunities.
- Bring off-road vehicle (ORV) use into harmony with land capability.
- Provide for non-motorized recreation opportunities in selected areas.
- Manage the land and activities on it, including visitor use, to achieve desired physical and social recreation settings.
- Provide additional sites and facilities on the Forest.
- Provide trailhead (motorized and non-motorized use) with facilities for winter and summer use.
- Provide and manage opportunities for winter recreation uses.
- Inform the public about physical, historic and resource management activities of the Fishlake National Forest.
- Provide a trail system for public and resource needs.
- Encourage private enterprise to provide needed recreation services not traditionally supplied by the Forest Service.

Cultural

- Identify, protect, interpret, and manage significant cultural resources on the Fishlake National Forest.
- Work with other agencies to protect and interpret the outstanding cultural resources of the Fremont people in Clear Creek Canyon.

Visual Resources

- Manage resource activities to meet visual quality objectives.

Wildlife and Fish

- Protect aquatic habitats which are in good or excellent condition and improve habitats where ecological conditions are below biological potential.
- Coordinate wildlife and fish habitat management with State, other Federal and local agencies.

- Identify and improve habitat for sensitive, threatened and endangered species including participation in recovery efforts for both plants and animals.
- Improve or maintain the quality of habitat on big game winter ranges.
- Determine current status and monitor trends in management indicator species and their habitats.

Range

- Provide livestock grazing consistent with range capacity and other uses.
- Maintain range lands being used by livestock in at least fair condition with stable or upward trend through the use of proper management and restoration measures.
- Encourage permittees to assume greater responsibility and latitude in managing permitted grazing use.
- Establish proper grazing capacity for each allotment.
- Assure maintenance of range structural and non-structural improvements and promote permittee investment in new structural improvements.
- Control noxious weed infestations.

Timber

- Provide wood fiber while maintaining or improving other resource values.
- Integrate aspen management into the timber management program to perpetuate the species and improve aspen quality.
- Improve the timber age class distribution and maintain species diversity.
- Manage the timber resources on lands suitable for production of saw timber and other Forest products.

Soil and Water

- Identify needs and obtain water rights, including consumptive and non-consumptive uses, following State and Forest Service procedures.
- Maintain water quality to meet State standards.
- Manage municipal watersheds to protect quality of water supplies.
- Maintain productive streams, lakes, and riparian areas and mitigate hazards on floodplains.

- Maintain or improve current soil productivity and restore areas with watershed problems.

Minerals

- Protect surface resources and environmental quality.
- Encourage mineral exploration, development and extraction consistent with management of surface resources.
- Coordinate minerals management with State and other Federal agencies.
- Inventory geologic hazards and ground water resources.

Special Uses

- Manage Land Uses to insure permit compliance and resource protection.

Rights-of-Way

- Acquire necessary rights-of-way to facilitate access to National Forest system lands.

Facilities

- Install a forest telecommunications system.
- Develop and implement a plan to manage Forest Administrative Sites.
- Construct, reconstruct and maintain roads to facilitate safe access and management of the Forest.
- Develop and implement a road management system.

Human and Community Development

- Provide opportunities for community stability and development in harmony with Forest resources and activities.
- Provide equal employment opportunities for women, minorities, the elderly and the handicapped.
- Encourage the use of volunteers in all National Forest Programs.

Protection

- Use prescribed fire to reduce fuel buildup and meet resource objectives.
- Maintain air quality to comply with Federal and State laws.
- Prevent and control insect infestation and disease.
- Provide cost-effective (level of) fire protection.

- Provide law enforcement to protect Forest values, human life and property.

Lands

- Develop an effective lands adjustment program for the Forest.
- Locate and post Forest property boundaries.

Research

- Assist in the establishment and management of research natural areas.

2. OBJECTIVES

The following objectives, along with the projected outputs, benefits, and costs listed in Table IV-1, are concise, time specific, measurable results that respond to the goals listed earlier in this chapter. In addition to the objectives and projected outputs, Appendices A through R list projects and activities that are an integral part of plan implementation.

Other objectives of Forest Management are to:

- a. Complete reinventory of Visual Quality Objectives within 5 years of plan implementation.
- b. Design the next timber inventory to obtain additional resource information as follows:
 1. Suitability of all potential timber lands including pinyon-juniper.
 2. Firewood acreages and volumes.
 3. Adequate production information to produce yield tables by appropriate species groups i.e: aspen, spruce-fir and ponderosa pine-Douglas fir.
 4. Volume losses due to defect caused by a variety of rots in aspen, Engelmann spruce, and true fir.

Encourage development of a market whereby the extensive aspen resource on the Forest can be intensively managed and better utilized.

c. Water Rights

Congress has directed the Forest Service to administer National Forest System lands for multiple use purposes. These purposes have been stated in the Organic Administration Act, Multiple-Use Sustained-Yield Act, Wilderness Act, Wild and Scenic Rivers Act, and other legislation and Executive Orders. The water needed to successfully accomplish the programs mandated by these acts and Executive Orders will be protected.

Water needed for National Forest System management but not available under State law and not meeting the Supreme Court criteria for a

reserved right under the Organic Administration Act, will be secured by citing the applicable Federal law and conditioning occupancy permits.

Whenever water rights are authorized by Federal or State law, these will be quantified, documented, and recorded. Applicable fees will be paid by the benefiting function.

A Federal reserved water right will be asserted for water needed for programs of timber management and watershed management including fire protection. A reserved right will also be used to acquire water needed in the form of instream flow sufficient to maintain stability of the stream channel for the purposes of securing favorable conditions of water flow and protecting against the loss of productive timber lands adjacent to the stream channels.

Quantification of instream flows to secure favorable conditions of water flow for the streams will be accomplished over a ten year period for the streams shown in Table Q-2. Immediate quantification will be done in support of Forest Service protests of water right applications by others and for adjudications.

- d. Complete watershed improvements in the priority listed in Table Q-3 by the year 2000.
- e. Complete abandoned mine land rehabilitation in the priority listed in Table Q-4 by the year 2000.

TABLE IV - 1
PROJECTED OUTPUTS AND COSTS OF THE FISHLAKE NATIONAL FOREST
(ANNUAL OUTPUTS, BENEFITS, AND COSTS AVERAGED FOR THE DECADE OF THE PLAN)

AVERAGE ANNUAL OUTPUT OR ACTIVITY	UNITS	OUTPUTS
RECREATION		
DEV. REC. USE		
RURAL	MRVD	269.2
RD. NAT.	MRVD	179.5
DISP. REC. USE		
RURAL	MRVD	53.9
RD. NAT.	MRVD	473.0
S.P. MOT.	MRVD	151.9
S.P.N. MOT.	MRVD	11.7
WILDLIFE		
STRUCT. HAB. IMP.	STRUC	567
NSTRUCT. HAB. IMP.	M. AC.	.418
WLD. & FISH USE	MWFUD	187.9
RANGE		
GRAZING USE	M AUM	133.5
TIMBER ANNUAL SALE QUANTITY	MMBF ^{1/}	3.0
SAW. T. SOFTWOOD	MMCF	.54
SAW. T. HARDWOOD	MMCF	.06
ROUNDWOOD PRODUCTS	MCF	0
FUELWOOD	MCF	2410
REFORESTATION	M AC	.174
TSI	M AC	.50
WATER		
MGT. ST. STANDARDS	M AC FT	611.0
INCR. OVER NAT.	M AC FT	.177
PROTECTION		
FUEL BKS. & TRT.	ACRES	0
MINERALS		
LEASES & PERMITS	CASES	200
HC&D		
HUMAN RES. PROG.	ENRY'S	13

LANDS		
PUR. & ACQ.	ACRES	110
SOILS		
S. & WAT. RES. IMP.	AC	300
FACILITIES		
TRAIL CONST./RECONST.	MILES	1.1
ROAD CONST./RECONST. (ART. & COLLECT)	MILES	0
RD. BETTERMENT	MILES	13.0
LOCAL RD. CONST.	MILES	0.1
LOCAL RD. RCONST.	MILES	0.1
TM PURCH. RD. CONST.	MILES	6.2
TM PURCH. RD. RCONST.	MILES	0
AVERAGE ANNUAL BENEFITS		

RECREATION		
DEVELOPED	M \$	18871.1
DISPERSED	M \$	3879.4
RANGE	M \$	1586.0
TIMBER	M \$	1001.7
WILDLIFE (WFUDS)	M \$	4594.1
WATER YIELD INCREASE	M \$	10.3
MINERALS	M \$	9292.7
AVERAGE ANNUAL COST		

TOTAL FOREST BUDGET ^{2/}	M \$/YR	4766.6
FIXED COSTS		
PROTECTION	M \$/YR	576.0
GEN. ADMIN.	M \$/YR	407.0
VARIABLE COSTS		
INVESTMENTS ^{3/}	M \$	856.5
TOT. RDS.	M \$	195.6
APP. FUND RDS.	M \$	58.1
PURCH. CREDIT. RDS. ^{4/}	M \$	137.5
OPERATIONAL	M \$	2352.4
GENERAL ADMIN.	M \$	424.6
NON-F.S. COSTS	M \$	4766.6
RETURNS TO TRES.	M \$	9629.1

- 1/ BOARD FOOT/CUBIC FOOT RATIOS: SAWTIMBER 5 TO 1, FUELWOOD 4 TO 1.
2/ DOES NOT INCLUDE NON-F.S. PURCHASER CREDIT ROADS NOR HUMAN RESOURCE PROGRAMS.
3/ DOES NOT INCLUDE ROAD COSTS.
4/ INCLUDES F.S. ENGINEERING COSTS.

C. MANAGEMENT REQUIREMENTS

The management requirements in this Forest Direction Section set the baseline conditions that must be maintained throughout the Forest in carrying out this Forest Plan. They establish the environmental quality requirements, natural and depletable resource requirements, and mitigating measures that apply to all areas of the Forest. Any necessary additions to them are included in the management requirement for the individual management areas. The management requirements listed in the Management Area Direction section are applied in addition to those in this section. Substantive changes which alter the intent of these management requirements may not be made without amending or revising the Forest Plan. Editorial and other minor modifications to these management requirements which do not alter their intent may be made without amending or revising the Forest Plan.

Management requirements are presented in three columns: Management Activities, General Direction Statements, and Standards and Guidelines.

Management Activities are work processes that are conducted to produce, enhance, or maintain levels of outputs, or to achieve administrative and environmental quality objectives. Management Activities are identified by a code number and title defined in the Management Information Handbook (FSH 1309.11) dated July, 1980. In some cases, management activities were grouped under one activity when it was not appropriate to develop separate requirements. National Forest System lands will be managed to comply with Laws, Regulations, Executive Orders, direction in the Forest Service Manual, and Regional Acceptable Work Standards.

General Direction Statements specify the actions, measures, or treatments (management practices) to be done when implementing the management activity or the condition expected to exist after the general direction is implemented.

Standards and Guidelines are quantifications of the acceptable limits within which the general direction is implemented.

Management requirements included in overall Forest Direction are detailed on the following pages.

C. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
DIVERSITY ON NATIONAL FORESTS (A00)	1. MAINTAIN STRUCTURAL DIVERSITY OF VEGETATION ON MANAGEMENT AREAS DOMINATED BY FORESTED ECOSYSTEMS.	a. MAINTAIN OR ESTABLISH A MINIMUM OF 20 PERCENT OF THE FORESTED AREA WITHIN A UNIT TO PROVIDE VERTICAL DIVERSITY. b. MAINTAIN OR ESTABLISH A MINIMUM OF 30 PERCENT OF THE FORESTED AREA WITHIN A UNIT TO PROVIDE HORIZONTAL DIVERSITY. c. IN FORESTED AREAS OF A UNIT, 5 PERCENT OR MORE SHOULD BE IN OLD-GROWTH AND 5 PERCENT OR MORE SHOULD BE IN GRASS/FORB STAGES. d. IN FORESTED UNITS, CREATE OR MODIFY CREATED OPENINGS SO THEY HAVE A PATTON EDGE- SHAPE INDEX OF AT LEAST 1.4 AND HAVE AT LEAST A MEDIUM-EDGE CONTRAST.
	2. MANAGE MEDIUM-CONTRAST EDGES CREATED IN MANAGEMENT AREAS DOMINATED BY GRASSLAND OR SHRUBLAND.	a. CREATE OPENINGS WITH PATTON EDGE-SHAPE INDEX OF AT LEAST 1.4.
	3. IN FORESTED ECOSYSTEMS, MAINTAIN SNAGS WELL DISTRIBUTED OVER THE ECOSYSTEM.	a. FSM 2631, FISHLAKE SUPPLEMENT NO. 1, FOR SNAG MANAGEMENT. b. FOLLOW DIRECTION IN FSM 2631, R-4 SUPPLEMENT 26, FOR DOWN-DEAD LOGS.
	4. MANAGE ASPEN FOR RETENTION WHERE NEEDED FOR WILDLIFE, WATERSHED OR ESTHETIC PURPOSES	

FOREST DIRECTION

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF:	5. MANAGE SERAL ASPEN STANDS FOR A DIVERSITY OF AGE CLASSES.	
	6. ASSIST IN THE ESTABLISHMENT AND MANAGEMENT OF RESEARCH NATURAL AREAS.	
CULTURAL RESOURCE MANAGEMENT (AO2)	1. PROTECT, FIND AN ADAPTIVE USE FOR, OR ENHANCE ALL CULTURAL RESOURCES ON NATIONAL FOREST SYSTEM (NFS) LANDS WHICH ARE LISTED ON OR ARE ELIGIBLE FOR THE NATIONAL REGISTER OF HISTORIC PLACES.	a. FOLLOW DIRECTION IN FOREST SERVICE MANUAL (FSM) 2360.
	2. NOMINATE SIGNIFICANT CULTURAL RESOURCE SITES TO THE NATIONAL REGISTER OF HISTORIC PLACES.	a. COMPLETE DEVELOPMENT AND PROTECTION PLANS WITHIN ONE YEAR OF A SITE BEING PLACED ON THE NATIONAL REGISTER.
	3. PROTECT ALL NATIONAL FOREST CULTURAL RESOURCES.	a. FOLLOW DIRECTION IN FOREST SERVICE MANUAL (FSM) 2360.
	A. COMPLETE CULTURAL RESOURCE SURVEYS PRIOR TO ANY FEDERAL UNDERTAKING WHICH COULD EFFECT SIGNIFICANT CULTURAL RESOURCES.	
	B. AVOID DISTURBANCE OF CULTURAL RESOURCES UNTIL EVALUATED AND UNTIL APPROPRIATE ADVERSE EFFECT MITIGATION PROCEDURES ARE EFFECTED FOR SIGNIFICANT PROPERTIES.	
	4. ENCOURAGE RESEARCH AND INTERPRETATION OF SIGNIFICANT CULTURAL PROPERTIES.	a. FOLLOW DIRECTION IN FOREST SERVICE MANUAL (FSM) 2360.
VISUAL RESOURCE MANAGEMENT (AO4)	1. APPLY THE VISUAL MANAGEMENT SYSTEM TO ALL NATIONAL FOREST SYSTEM (NFS) LANDS.	a. FOLLOW DIRECTION PROVIDED IN FSM 2380 AND FSH 2309.16 THROUGH FSH 2309.25.
	TRAVEL ROUTES, USE AREAS AND WATER BODIES DETERMINED TO BE OF PRIMARY IMPORTANCE ARE SENSITIVITY LEVEL 1 AND APPROPRIATE VISUAL QUALITY OBJECTIVES ARE ESTABLISHED ACCORDING TO THE VISUAL MANAGEMENT SYSTEM.	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
VISUAL RESOURCE
MANAGEMENT
(A04)

2. REHABILITATE ALL EXISTING PROJECTS AND AREAS WHICH DO NOT MEET THE ADOPTED VISUAL QUALITY OBJECTIVE(S) (VQO) SPECIFIED FOR EACH MANAGEMENT AREA. SET PRIORITIES FOR REHABILITATION, CONSIDERING THE FOLLOWING:
 - A. RELATIVE IMPORTANCE OF THE AREA AND THE AMOUNT OF DEVIATION FROM THE ADOPTED VQO. FOREGROUND AREAS HAVE HIGHEST PRIORITY;
 - B. BENEFITS TO OTHER RESOURCE MANAGEMENT OBJECTIVES TO ACCOMPLISH REHABILITATION.
 - C. LENGTH OF TIME IT WILL TAKE NATURAL PROCESSES TO REDUCE THE VISUAL IMPACTS SO THAT THEY MEET THE ADOPTED VQO; AND
 - D. LENGTH OF TIME IT WILL TAKE REHABILITATION MEASURES TO MEET THE ADOPTED VQO.
3. ACHIEVE ENHANCEMENT OF LANDSCAPES THROUGH ADDITION, SUBTRACTION OR ALTERATION OF ELEMENTS OF THE LANDSCAPE SUCH AS VEGETATION, ROCKFORM, WATER FEATURES OR STRUCTURES. EXAMPLES OF THESE INCLUDE:
 - A. ADDITION OF VEGETATION SPECIES TO INTRODUCE UNIQUE FORM, COLOR OR TEXTURE TO EXISTING VEGETATION
 - B. VEGETATION MANIPULATION TO OPEN UP VISTAS OR SCREEN OUT UNDESIRABLE VIEWS.
4. PLAN, DESIGN AND LOCATE VEGETATION MANIPULATION IN A SCALE WHICH RETAINS THE COLOR AND TEXTURE OF THE CHARACTERISTIC LANDSCAPE, BORROWING DIRECTIONAL EMPHASIS OF FORM AND LINE FROM NATURAL FEATURES.

a. MEET THE VISUAL QUALITY OBJECTIVES OF RETENTION AND PARTIAL RETENTION ONE FULL GROWING SEASON AFTER COMPLETION OF A PROJECT. MEET MODIFICATION AND MAXIMUM MODIFICATION OBJECTIVES THREE FULL GROWING SEASONS AFTER COMPLETION OF A PROJECT.

b. DETERMINE SENSITIVITY LEVELS IN ACCORDANCE WITH FSH 2309.16, AGRICULTURE HANDBOOK NO. 462, VOL. 2, CHAPTER 1; SENSITIVITY LEVELS.

FOREST DIRECTION

STANDARDS & GUIDELINES

CONTINUATION OF:
VISUAL RESOURCE
MANAGEMENT
(A04)

5. BLEND SOIL DISTURBANCE INTO NATURAL TOPOGRAPHY TO ACHIEVE A NATURAL APPEARANCE, REDUCE EROSION AND REHABILITATE GROUND COVER.

6. REVEGETATE DISTURBED SOILS. IN LARGE PROJECTS THIS MAY HAVE TO BE DONE IN STAGES.

a. REVEGETATE DISTURBED SOILS BY THE GROWING SEASON FOLLOWING THE COMPLETION OF THE PROJECT.

7. CHOOSE FACILITY AND STRUCTURE DESIGN, COLOR OF MATERIALS, LOCATION AND ORIENTATION TO MEET THE ADOPTED VISUAL QUALITY OBJECTIVE(S) FOR THE MANAGEMENT AREA.

RECREATION
FACILITY
AND SITE
CONSTRUCTION AND
RECONSTRUCTION
(A05 AND 06)

1. PROVIDE APPROPRIATE DEVELOPMENT FACILITIES WHERE THE PRIVATE SECTOR IS NOT MEETING THE DEMAND.

2. PROVIDE COST-EFFECTIVE DEVELOPED RECREATION FACILITIES WHICH COMPLEMENT NON-FOREST SERVICE DEVELOPMENTS.

3. PROVIDE FACILITIES WHICH ARE ACCESSIBLE TO HANDICAPPED PERSONS.

4. FACILITIES PROPOSED FOR CONSTRUCTION OR RECONSTRUCTION WHICH LIE WITHIN IDENTIFIED 100-YEAR FLOODPLAINS WILL BE EVALUATED AS TO THE SPECIFIC FLOOD HAZARDS AND VALUES INVOLVED WITH THE SITE. VIABLE ALTERNATIVES WILL BE THOROUGHLY EVALUATED.

a. FOLLOW PROCEDURES AND GUIDELINES IN FSM 2527.04C.

5. PAST AND PROBABLE FLOOD HEIGHTS IN INVENTORIED 100-YEAR FLOODPLAINS WILL BE POSTED TO PROVIDE VISIBLE WARNINGS TO THE USING PUBLIC ABOUT POSSIBLE PERIODIC FLOODING.

a. FOLLOW PROCEDURES AND GUIDELINES IN FSM 2527.6.

RECREATION
FACILITY AND
SITE MANAGEMENT
(A08, 09, 11 &
13)

1. CONSTRUCT, RECONSTRUCT AND MAINTAIN DEVELOPED SITES IN ACCORDANCE WITH THE ESTABLISHED RECREATION OPPORTUNITY SPECTRUM (ROS) CLASSIFICATION FOR THE MANAGEMENT AREA.

a. STANDARDS AND GUIDELINES	
ROS CLASS*	SITE DEVELOPMENT SCALE**
P	NOT TO EXCEED 1

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
FACILITY AND
SITE MANAGEMENT
(A08, 09, 11 &
13)

SPNM NOT TO EXCEED 2
SPM NOT TO EXCEED 2
RN CLASS 3 OR 4
R CLASS 3 OR 4
U CLASS 5

• P = PRIMITIVE
SPNM = SEMI-PRIMITIVE NON-
MOTORIZED
SPM = SEMI-PRIMITIVE
MOTORIZED
RN = ROADED NATURAL
R = RURAL
U = URBAN
** FSM 2331.47

2. MANAGE DEVELOPMENT SCALE 3 AND 4 SITES FOR
FULL SERVICE WHEN AT LEAST ONE OF THE FOLLOWING
ARE MET:

- A. A CAMPGROUND IS DESIGNATED AS A FEE SITE;
- B. MORE THAN 20 PERCENT OF THEORETICAL CAPACITY
IS BEING UTILIZED;
- C. A GROUP CAMPGROUND OR PICNIC GROUND HAS A
RESERVATION SYSTEM AND/OR USER FEE; OR
- D. THE SITE IS A SWIMMING SITE, A BOATING SITE
WITH A CONSTRUCTED RAMP, OR A STAFFED VISITOR
INFORMATION CENTER.

a. FSM 2331.47

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. PROVIDE RECREATION OPPORTUNITES IN
ACCORDANCE WITH THE ESTABLISHED RECREATION OPPORTUNITY
SPECTRUM (ROS) CLASSIFICATION FOR THE MANAGEMENT AREA.

2. CLOSE OR REHABILITATE DISPERSED SITES WHERE
UNACCEPTABLE ENVIRONMENTAL DAMAGE IS OCCURRING.

a. CLOSE SITES THAT CANNOT BE
MAINTAINED IN FRISSELL CONDITION
CLASS 1, 2, OR 3 (FRISSELL, S.S.
1978).

b. REHABILITATE SITES THAT
ARE IN FRISSELL CONDITION
CLASS 4.

FOREST DIRECTION

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	3. MANAGE SOCIAL SETTING SO AS TO NOT EXCEED THE ESTABLISHED ROS PAOT/ACRE CAPACITY. MANAGE USE OF TRAILS TO NOT EXCEED THE ESTABLISHED PAOT/MILE OF TRAIL GUIDELINES.	a. STANDARDS AND GUIDELINES. - - - - - RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE): - - - - - TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL): - - - - - CAPACITY RANGE * USE VERY MODER- LEVEL LOW LOW ATE HIGH - - - - - ROS CLASS - PRIMITIVE - - - - - ON TRAILS 0.5 1.0 2.0 3.0 PAOT/MILE - - - - - AREA WIDE PAOT/ACRE .001 .002 .007 .025 - - - - - ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED - - - - - ON TRAILS PAOT/MILE 2.0 3.0 9.0 11.0 - - - - - AREA-WIDE PAOT/ACRE .004 .008 .05 .08 - - - - - ROS CLASS - SEMI-PRIMITIVE MOTORIZED - - - - - ON TRAILS PAOT/MILE 2.0 3.0 9.0 11.0 - - - - - AREA-WIDE PAOT/ACRE .004 .008 .05 .08 - - - - - ROS CLASS - ROADED NATURAL - - - - - ON TRAILS PAOT/MILE - - - - - - - - - AREA-WIDE PAOT/ACRE .04 .08 1.2 2.5

MANAGEMENT
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GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS - RURAL

DO NOT EXCEED DESIGNED CAPACITY

REDUCE THE ABOVE USE LEVEL CO-
EFFICIENTS AS NECESSARY TO REFLECT
USABLE ACRES, PATTERNS OF USE, AND
GENERAL ATTRACTIVENESS OF THE
SPECIFIC MANAGEMENT AREA TYPE AS
DESCRIBED IN THE ROS USERS GUIDE,
CHAPTER 25.

REDUCE THE ABOVE USE LEVELS WHERE
UNACCEPTABLE CHANGES TO THE BIO-
PHYSICAL RESOURCES WILL OCCUR.

- VERY LOW APPLIES TO ALPINE.
LOW APPLIES TO ROCK, MTN. GRASS,
AND CLEARCUTS 1-20 YEARS OLD.
MODERATE APPLIES TO
MTN. GRASS, PP SIZE
CLASS 9,8 AND 7, DF SIZE CLASS
9,8 AND 7, ASPEN SIZE CLASS 9,
SF SIZE CLASS 7, SHELTERWOOD
CUTS 90-120 YEARS OLD, SELECT-
ION CUTS 1-20 YEARS OLD AND
CLEARCUTS 80-120 YEARS OLD.
HIGH APPLIES TO SF SIZE CLASS
9 AND 8,
ASPEN SIZE CLASS 8 AND 7 AND
CLEARCUTS 20-80 YEARS OLD.

4. LIMIT USE WITHIN A MINIMUM OF 100 FEET FROM
LAKES AND STREAMS WHERE RESOURCE DEGRADATION IS
OCCURRING.

- a. CLOSE AREAS THAT CANNOT BE
MAINTAINED IN FRISSELL CONDITION
CLASS 1 AND 2. FRISSELL, SS 1978.

RECREATION
MANAGEMENT
(PRIVATE AND
OTHER PUBLIC
SECTOR)
(A16)

1. ISSUE PERMITS FOR RECREATIONAL SITES OR ACTIVITIES
WHEN IN THE PUBLIC INTEREST. THE ENVIRONMENTAL ASSESSMENT
PROCESS WILL BE UTILIZED TO DETERMINE PUBLIC INTEREST
AND NEED. APPLICATIONS WILL BE DENIED OR PERMITS
ELIMINATED IF THE PUBLIC INTEREST IS COMPROMISED.

FOREST DIRECTION

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
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CONTINUATION OF:
RECREATION
MANAGEMENT
(PRIVATE AND
OTHER PUBLIC
SECTOR)
(A16)
WILDLIFE AND
FISH RESOURCE
MANAGEMENT
(C01)

2. MANAGE OUTFITTER-GUIDE OPERATIONS IN THE SAME MANNER AS OTHER VISITORS. PERMIT CAMPING ONLY IN SITES SPECIFIED IN OUTFITTER-GUIDE PERMITS. KEEP OUTFITTER-GUIDE ACTIVITIES HARMONIOUS WITH ACTIVITIES OF NON-GUIDED VISITORS. INCLUDE OUTFITTER-GUIDE OPERATIONS IN CALCULATIONS OF LEVEL-OF-USE CAPACITIES.

1. THE FOLLOWING SPECIES ARE THE FISHLAKE NATIONAL FOREST MANAGEMENT INDICATOR SPECIES:

MIS	INDICATOR HABITAT
MACROINVERTEBRATES	STREAMS
RESIDENT TROUT	PONDS & STREAMS
BONNEVILLE CUTTHROAT TROUT	STREAMS
ELK	GENERAL
MULE DEER	GENERAL
SAGE NESTERS	SAGEBRUSH
RIPARIAN GUILD	RIPARIAN COMMUNITIES
GOSHAWK	CONIFER (OLD GROWTH)
CAVITY NESTERS	CONIFER-ASPEN (SNAGS)
RYDBERG MILKVETCH	MID TO UPPER ELEVATION HARSH SITES

2. MAINTAIN HABITAT FOR VIABLE POPULATIONS OF EXISTING VERTEBRATE WILDLIFE SPECIES.

3. ALLOW FOR THE ESTABLISHMENT OF ELK AND OTHER DESIRABLE SPECIES ON SITES THAT CAN SUPPLY THE HABITAT NEEDS OF THE SPECIES.

4. MANAGE WATERS CAPABLE OF SUPPORTING SELF-SUSTAINING TROUT POPULATIONS TO PROVIDE FOR THOSE POPULATIONS.

a. HABITAT FOR EACH SPECIES ON THE FOREST WILL BE MAINTAINED BY PROTECTING AT LEAST 40 PERCENT OF THE ECOSYSTEMS FOR EXISTING SPECIES. PROPER JUXTAPOSITION OF ECOSYSTEMS MUST BE CONSIDERED.

a. MAINTAIN 40% OR MORE OF OVERHANGING GRASSES, FORBS, SEDGES, AND SHRUBS ALONG BANKS OF STREAMS.
B. MAINTAIN 50% OR MORE OF TOTAL STREAMBANK LENGTH IN STABLE CONDITION WHERE NATURAL CONDITIONS ALLOW.
SEE PFANKUCH, 1978, FOR STABILITY

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CONTINUATION OF:
WILDLIFE AND
FISH RESOURCE
MANAGEMENT
(C01)

RATING.
C. NO MORE THAN 25% OF STREAM
SUBSTRATE SHOULD BE COVERED BY
INORGANIC SEDIMENT LESS THAN
3.2 MM IN SIZE WHERE NATURAL
CONDITIONS ALLOW. USE R-4 GAWS
AQUATIC HABITAT SURVEYS HANDBOOK,
OR R-1 COWFISH HABITAT CAPABILITY
MODEL.
D. MAINTAIN A BIOLOGIC CONDITION
INDEX (BCI) OF 75 OR GREATER.

5. MANAGE AND PROVIDE HABITAT FOR RECOVERY OF
ENDANGERED AND THREATENED SPECIES.

6. DO NOT ALLOW ACTIVITIES OR PRACTICES THAT WOULD
NEGATIVELY IMPACT ENDANGERED, THREATENED, OR SENSITIVE
PLANT OR ANIMAL SPECIES.

a. FOLLOW DIRECTION IN RECOVERY
PLANS.

1. USE BOTH COMMERCIAL AND NONCOMMERCIAL SILVICULTURAL
PRACTICES TO ACCOMPLISH WILDLIFE HABITAT OBJECTIVES.

a. IN FORESTED AREAS, MAINTAIN
DEER OR ELK HIDING COVER ON 60
PERCENT OR MORE OF THE PERIMETER
OF ALL NATURAL OPENINGS, ALL
CREATED OPENINGS AND ALONG AT
LEAST 75 PERCENT OF THE EDGE
OF ARTERIAL AND COLLECTOR ROADS
AND 40 PERCENT ALONG STREAMS
AND RIVERS.

b. IN MANAGEMENT AREAS DOMINATED
BY FORESTED ECOSYSTEMS, MAINTAIN A
MINIMUM OF 40 PERCENT OF THE
VEGETATION IN DEER OR ELK
HIDING COVER. THIS HIDING COVER
SHOULD BE WELL DISTRIBUTED OVER
THE UNIT. ONE HALF OF THE
HIDING COVER SHOULD ALSO BE
THERMAL COVER WHERE BIOLOGICALLY
FEASIBLE.

c. IN MANAGEMENT AREAS DOMI-
NATED BY NON-FORESTED ECO-
SYSTEMS, MAINTAIN DEER AND

WILDLIFE
HABITAT
IMPROVEMENT AND
MAINTENANCE
(C02, 04, 05
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WILDLIFE
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MAINTENANCE
(C02, 04, 05
AND 06)

ELK HIDING COVER AS FOLLOWS:

% OF UNIT FORESTED	% OF FORESTED AREA IN COVER
35-50	AT LEAST 50%
20-34	AT LEAST 60%
LESS THAN 20	AT LEAST 75%

THESE LEVELS MAY BE EXCEEDED
TEMPORARILY DURING PERIODS
WHEN STANDS ARE BEING RE-
GENERATED TO MEET THE COVER
STANDARD, OR TO CORRECT TREE
DISEASE PROBLEMS, IN ASPEN
STANDS, OR WHERE WINDTHROW OR
WILDFIRE OCCURRED. MAINTAIN
HIDING COVER ALONG AT LEAST 75
PERCENT OF THE EDGE OF ARTERIAL
AND COLLECTOR ROADS, AND AT
LEAST 60 PERCENT ALONG STREAMS
AND RIVERS, WHERE TREES OCCUR.

d. ALTER AGE CLASSES OF BROWSE
STANDS IN A MANAGEMENT AREA, NO
MORE THAN 30 PERCENT WITHIN A
TEN-YEAR PERIOD.

2. IMPROVE HABITAT CAPABILITY THROUGH DIRECT TREATMENTS
OF VEGETATION, SOIL, AND WATERS.

3. COORDINATE HABITAT IMPROVEMENT PROJECTS WITH OTHER
AGENCIES AS NEEDED.

4. MAINTAIN EDGE CONTRAST OF AT LEAST MEDIUM OR HIGH
BETWEEN TREE STANDS CREATED BY EVEN-AGED MANAGEMENT.

a. CONTRAST BY AGE CLASS IS:

CONTRAST**									
AGE CLASS* O				S		S	G		
	G	M	P	S	F	R	A		
OG	-	L	M	H	H	M	H		
M	L	-	M	M	H	M	H		

FOREST DIRECTION

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CONTINUATION OF:
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P	M	M	-	M	H	M	H
SSS	H	M	M	-	L	L	L
GF	H	H	H	L	-	M	L
SHR	M	M	M	L	M	-	M
GRA	H	H	H	L	L	M	-

• OG = OLD GROWTH
M = MATURE
P = POLES
SSS = SHRUB-SEEDLING-
SAPLING
GF = GRASS-FORB
SHR = SHRUBLAND
GRA = GRASSLAND
** H = HIGH CONTRAST
M = MEDIUM CONTRAST
L = LOW CONTRAST

5. FOLLOW FISHLAKE SNAG POLICY AS STATED IN FOREST
SUPPLIMENT TO FSM 2630.

WILDLIFE AND
FISH COOPERATION
WITH OTHER
AGENCIES
(C12)

1. MANAGE ANIMAL DAMAGE IN COOPERATION WITH THE DIVISION
OF WILDLIFE RESOURCES, THE FISH AND WILDLIFE SERVICE,
OTHER APPROPRIATE AGENCIES, AND COOPERATORS.

a. FOLLOW DIRECTION IN THE
INTERAGENCY GUIDELINES FOR ANIMAL
DAMAGE CONTROL. FSM 2651,
SUPPLEMENT 32.

2. COORDINATE WITH U.S. FISH AND WILDLIFE SERVICE
ON ALL MATTERS DEALING WITH DIVERSION OR MODIFICATION
OF WATERS OF THE UNITED STATES.

a. FOLLOW REQUIREMENTS OF THE
FISH AND WILDLIFE COORDINATION
ACT, AND CLEAN WATER ACT.

RANGE RESOURCE
MANAGEMENT
(D02)

1. PROVIDE FORAGE FOR LIVESTOCK AND WILDLIFE WITHIN
RANGE CAPACITY TO SUSTAIN LOCAL DEPENDENT LIVESTOCK
INDUSTRY, AND WILDLIFE NUMBERS.

2. MANAGE LIVESTOCK AND WILD HERBIVORES FORAGE USE
BY IMPLEMENTING PROPER USE GUIDES.

a. LIVESTOCK AND WILD HERBIVORES
PROPER USE GUIDES BY GRAZING
SYSTEM ARE:
1. REST ROTATION SYSTEM:
A. UTILIZATION:
-UP TO 55 PERCENT UTIL-
IZATION OF TOTAL FORAGE (80
PERCENT UTILIZATION OF KEY
SPECIES) ON LATE USE

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CONTINUATION OF:
RANGE RESOURCE
MANAGEMENT
(D02)

- PASTURES.
-UP TO 45 PERCENT UTIL-
IZATION OF TOTAL FORAGE (70
PERCENT UTILIZATION OF KEY
SPECIES) ON EARLY USE
PASTURES.
-WILD HERBIVORES USE DURING
SPRING IN REST-PASTURES
WILL NOT EXCEED 25% UTIL-
IZATION OF KEY SPECIES.
- B. TREND OF SOIL AND
VEGETATION:
SOIL AND VEGETATION CONDI-
TION MUST HAVE A STABLE OR
UPWARD TREND EXCEPT WHERE
CONDITION IS POOR AND
AN UPWARD TREND MUST
BE MAINTAINED.
2. DEFERRED ROTATION SYSTEM/
DEFERRED SYSTEM:
A. UTILIZATION:
-UP TO 27 PERCENT
UTILIZATION OF TOTAL
FORAGE ON ALL PASTURES
GRAZED BEFORE SEED RIPE
(50 PERCENT OF KEY SPECIES)
UP TO 37 PERCENT OF TOTAL
FORAGE GRAZED AFTER SEED
RIPE (60 PERCENT OF KEY
SPECIES).
B. TREND OF SOIL AND
VEGETATION:
SAME AS REST ROTATION
SYSTEM ABOVE.
3. ROTATION SYSTEM (HIGH IN-
TENSITY/LOW FREQUENCY)
A. UTILIZATION:
UP TO 55 PERCENT UTIL-
IZATION OF TOTAL
FORAGE (80 PERCENT OF
KEY SPECIES).
B. TREND OF SOIL AND
VEGETATION:
SAME AS REST ROTATION
SYSTEM ABOVE.
4. CONTINUOUS SYSTEM (GRAZING SAME

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CONTINUATION OF:
RANGE RESOURCE
MANAGEMENT
(D02)

TIME AND PLACE EVERY YEAR):

A. UTILIZATION:

UTILIZATION OF KEY SPECIES (TOTAL FORAGE) BY CONDITION CLASS		
GOOD & EXCELLENT	FAIR	POOR AND VERY POOR
50% (27%)	40% (22%)	30% (15%)

B. TREND OF SOIL
AND VEGETATION:
SAME AS REST ROTATION
SYSTEM ABOVE.

5. ALTERNATE YEARS SYSTEM:

A. UTILIZATION:

KEY SPECIES USE (TOTAL
FORAGE) USE BY CONDITION CLASS

CONDITION CLASS	USE
GOOD-EXCELLENT	75% (50%)
FAIR	65% (40%)
POOR/VERY POOR	52% (30%)

B. TRENDS OF SOIL
AND VEGETATION:
SAME AS REST ROTATION
SYSTEM ABOVE.

3. ACHIEVE OR MAINTAIN FAIR OR BETTER RANGE CON-
DITIONS ON ALL RANGELANDS USED BY LIVESTOCK.

4. TREAT NOXIOUS WEEDS IN THE FOLLOWING PRIORITY:

- INVASION OF NEW PLANT SPECIES CLASSIFIED AS NOXIOUS WEEDS;
- INFESTATION IN NEW AREAS;
- EXPANSION OF EXISTING INFESTATIONS; AND
- REDUCE ACREAGE OF CURRENT INFESTATION.

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RANGE
IMPROVEMENT AND
MAINTENANCE
(D03, 04, 05
AND 06)

1. STRUCTURAL RANGE IMPROVEMENT SHOULD BE DESIGNED
TO BENEFIT WILDLIFE AND LIVESTOCK.

a. STRUCTURAL IMPROVEMENTS AND
MAINTENANCE WILL BE IN ACCORDANCE
WITH FSH 2209.22-R4.

b. STRUCTURAL IMPROVEMENTS
WILL NOT ADVERSLY AFFECT BIG
GAME MOVEMENT (FSH 2209.22).

c. WATER DEVELOPMENTS WILL BE
MODIFIED OR CONSTRUCTED TO ALLOW
SAFE ACCESS FOR WILDLIFE.

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. PROVIDE FOR WILDLIFE HABITAT IMPROVEMENT AND ENHANCE-
MENT OF OTHER RENEWABLE RESOURCES IN SALE AREA IMPROVEMENT
PLANS.

2. APPLY A VARIETY OF SILVICULTURAL SYSTEMS AND HARVEST
METHODS WHICH BEST MEET RESOURCE MANAGEMENT OBJECTIVES.

a. THE APPROPRIATE HARVEST METHOD
BY FOREST COVER TYPE ARE:

	: APPROPRIATE	
	: HARVEST METHODS*	
	:	
FOREST COVER	: EVEN-	: UNEVEN
TYPE	: AGED	: AGED
	:	
PONDEROSA PINE	: SW,CC &S:	GS & ST
MIXED CONIFER **	: SW & CC	:GS & ST
ASPEN	: CC	:--
ENGELMANN SPRUCE-	:	:
SUBALPINE FIR	: SW & CC	:GS & ST

* THE FOLLOWING ABBREVIATIONS ARE
USED FOR HARVEST METHODS:

SW = SHELTERWOOD
CC = CLEARCUT
GS = GROUP SELECTION
ST = SINGLE TREE SELECTION
S = SEED TREE
** MIXED CONIFER INCLUDES
DOUGLAS FIR AND WHITE FIR.

b. UTILIZATION STANDARDS FOR

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CONTINUATION OF:
SILVICULTURAL
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FOR LIVE AND DEAD MATERIAL ARE:

PRODUCTS	MIN. DBH	MIN. TOP DIA.	LENGTH (FEET)	%NET OF GROS
LIVE TIMBER				
ALL SPECIES				
LOGS	8.0	6.0	8	33-1/3
SPECIAL PRODUCTS				
ALL SPECIES				
LIVE AND DEAD				
PROPS	7.0	6	6	NONE
POSTS	5.0	4	6.5	NONE
CORDWOOD	4.0	-	-	NONE
DEAD TIMBER				
ALL SPECIES				
LOGS	8.0	6.0	8	33-1/3*

*PERCENT OF DEFECT FOR UTILIZATION
WILL BE BASED ON SCRIBNER D.C. LOG
RULE DEDUCTION EXCEPT DEDUCTIONS
FOR WEATHER CHECKS WILL BE LIMITED
TO PROMINENT OPEN CHECKS. DEAD
MATERIAL PRESENTED FOR SCALING
WILL BE SCALED AS PRESENTED AND
CHARGED ON THE BASIS OF GROSS
SCALE SCRIBNER DECIMAL C LOG RULE.

c. SILVICULTURAL STANDARDS BY
HARVEST METHOD:

1. CLEARCUT:

FOREST COVER TYPE	ROTATION AGE	THINNING CYCLE
ENGELMANN SPRUCE	90 TO	20 TO
SUBALPINE FIR	180 YRS	50 YRS
ASPEN	80 TO 120 YRS.	NA
OTHER	80 OR	10 TO

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REMOVE ALL OVERSTORY WHEN
REGENERATED STAND MEETS MINIMUM
STOCKING STANDARDS.

4. SELECTION:

FOREST COVER TYPE	RESIDUAL BA	CUTTING CYCLE
SF AND MC	80 TO 120	20 TO 50 YRS.
OTHER	80 TO 120	20 TO 50 YRS.

d. TO FACILITATE THE CONTROL OF
SOIL EROSION WITHIN ACCEPTABLE
TOLERANCE:

1. ALLOW CONVENTIONAL LOGGING
EQUIPMENT ON SLOPES UP TO
40 PERCENT WHERE SOIL SURVEYS
OR SITE-SPECIFIC SOIL DATA
ARE AVAILABLE TO DESIGN
EROSION MITIGATION NEEDS.
2. UTILIZE CABLE AND AERIAL
SYSTEMS ON SLOPES OVER
40 PERCENT.

3. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED
STANDS OF ANY FOREST COVER TYPE.

4. ASSURE THAT ALL EVEN-AGED STANDS SCHEDULED TO BE
HARVESTED DURING THE PLANNING PERIOD WILL GENERALLY HAVE
REACHED THE CULMINATION OF MEAN ANNUAL INCREMENT OF GROWTH.

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5. THE MAXIMUM SIZE OF OPENINGS CREATED BY THE
APPLICATION OF EVEN-AGED SILVICULTURE WILL BE 40 ACRES.
EXCEPTIONS ARE:

- A. PROPOSALS FOR LARGER OPENINGS ARE SUBJECT TO A 60-DAY
PUBLIC REVIEW AND ARE APPROVED BY THE REGIONAL
FORESTER;
- B. LARGER OPENINGS ARE THE RESULT OF NATURAL CATASTROPHIC
CONDITIONS OF FIRE, INSECT OR DISEASE ATTACK,
WINDSTORM; OR
- C. THE AREA DOES NOT MEET THE DEFINITION OF CREATED OPEN-
INGS.
- D. ASPEN COVER TYPE WHERE DESIRABLE TO ASSURE REGENERATION
OR MANAGE INDIVIDUAL CLONES.

6. FOR MANAGEMENT PURPOSES, A CUT-OVER AREA IS
CONSIDERED AN OPENING UNTIL SUCH TIME AS:

- INCREASED WATER YIELD DROPS BELOW 50
PERCENT OF THE POTENTIAL INCREASE;
- FORAGE AND/OR BROWSE PRODUCTION DROPS
BELOW 40 PERCENT OF POTENTIAL PRODUCTION;
- DEER AND ELK HIDING COVER REACHES 60
PERCENT OF POTENTIAL;
- MINIMUM STOCKING STANDARDS BY FOREST
COVER TYPE AND SITE PRODUCTIVITY ARE
MET; AND
- THE AREA APPEARS AS A YOUNG FOREST RATHER
THAN A RESTOCKED OPENING, AND TAKES ON THE
APPEARANCE OF THE ADJOINING CHARACTERISTIC
LANDSCAPE.

a. SIZE OF OPENINGS:
PATCH CLEARCUTS: 1-10 ACRES
CLEARCUTS : 10-40 ACRES

a. WHEN THE VISUAL
QUALITY OBJECTIVE OF AN AREA
IS PARTIAL RETENTION, THE RE-
GENERATED STAND SHALL MEET OR
EXCEED ALL OF THE FOLLOWING
CHARACTERISTICS BEFORE A CUT-
OVER AREA IS NO LONGER CONSIDER-
ED AN OPENING:

FOREST COVER TYPE	MINIMUM STOCKING LEVEL (TREES/ ACRE)	TREE HEIGHT 1/ (% OF THE ADJACENT MATURE STAND HEIGHT)
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PONDEROSA		
PINE		
MIXED		
CONIFERS	190	25
ENGELMANN		
SPRUCE - SUB-		
ALPINE FIR	150	25
ASPEN	300	25

FOREST COVER TYPE	CROWN CLOSURE (PERCENT)	DISTRI- BUTION 2/ (PERCENT)
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PONDEROSA	30	70%
PINE		
MIXED		

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CONIFERS	30	75%
ENGELMANN SPRUCE- SUBALPINE FIR	30	75%
ASPEN	30	75%

- 1/ APPLIES TO TREES SPECIFIED AS
MINIMUM STOCKING LEVEL.
2/ PERCENT OF PLOTS OR TRANSECTS
THAT ARE STOCKED.

7. DEAD AND DEFECTIVE TREES WILL BE HARVESTED CONCURRENT
WITH TIMBER SALES AND FIREWOOD POLICY. TREES NEEDED FOR
WILDLIFE HABITAT WILL BE PROTECTED.

FOREST DIRECTION

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CONTINUATION OF:
SILVICULTURAL
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8. ACCEPTABLE MANAGEMENT INTENSITY ACTIVITIES TO DETERMINE
HARVEST LEVELS ARE:

MANAGEMENT ACTIVITY*	ENGEL- MANN SPRUCE- SUBAL- PINE FIR	PONDEROSA PINE	DOUGLAS- FIR AND WHITE FIR	AS- PEN	OTHER PINES	HARD- WOODS
TREE IMPROVEMENT	X	X	X	N	N	N
SITE PREPARATION	X	X	X	N	N	N
REFORESTATION PLANTING	X	X	X	O'	N	N
SEEDING	O	O	O	O	O	N
NATURAL REGENERATION	X	N	X	X	X	X
PROTECTION	X	X	X	N	X	X
STOCKING CONTROL (THINNING):						
PRE- COMMERCIAL	X	X	X	O	N	N
COMMERCIAL	X	X	X	O	N	X
SALVAGE OF DEAD MATERIAL	X	X	X	X	N	X
CUTTING METHODS:						
CLEARCUT	X	X	X	X	N	X
SHELTERWOOD	X	X	X	O	N	X
SELECTION	X	X	X	O	X	X

*VARIOUS COMBINATIONS OF THESE ACTIVITIES PROVIDE THE
ACCEPTABLE RANGE OF MANAGEMENT INTENSITY FOR TIMBER PRO-
DUCTION (36 CFR 291.2(B)(2)).

X = APPROPRIATE PRACTICE.

O = NOT AN APPROPRIATE PRACTICE.

N = APPROPRIATE, BUT NOT A STANDARD PRACTICE.
MAY BE ACCEPTABLE WHERE JUSTIFIED.

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9. IDENTIFY AND MANAGE SELECTED AREAS FOR CHRISTMAS TREE
PRODUCTION, PARTICULARLY IN THE WHITE FIR TYPE.

10. MAKE CHRISTMAS TREES AVAILABLE IN AREAS WHERE OTHER
RESOURCE OBJECTIVES CAN BE ACCOMPLISHED THROUGH COMMERCIAL
OR PERSONAL USE CHRISTMAS TREE SALES.

11. TIMBER MANAGEMENT ACTIVITIES MAY BE CARRIED OUT ON
UNSUITABLE LANDS ONLY WHEN COMPATIBLE WITH OTHER
RESOURCE OBJECTIVES AND WHEN THEY MEET ONE OF THE
ATTACHED GUIDELINES.

a. A. SALVAGE OR SANITATION HAR-
VESTING OF TREES OR STANDS THAT
ARE SUBSTANTIALLY DAMAGED BY
FIRE, WINDTHROW, OR OTHER CATAS-
TROPHE, OR WHICH ARE IN IMMINENT
DANGER FROM INSECT OR DISEASE
ATTACK.

B. CUTTING OF INDIVIDUAL
TREES OR STANDS TO TEST LOGGING
SYSTEMS, TO CONDUCT EXPERIMENTS,
OR FOR THE PURPOSE OF GATHERING
INFORMATION ABOUT TREE GROWTH,
INSECT OR DISEASE ORGANISMS,
OR DETERMINING THE EFFECT OF
SUCH HARVESTING ON OTHER
RESOURCES.

C. CUTTING OF TREES TO
PROMOTE THE SAFETY OF FOREST
USERS, SUCH AS HAZARD-TREE
REMOVAL IN CAMPGROUNDS AND
PICNIC GROUNDS, ADMINISTRATIVE
SITES, AND ALONG ROADS OPEN TO
THE PUBLIC.

D. HARVESTING TO MEET HABI-
TAT OBJECTIVES FOR THREATENED
OR ENDANGERED ANIMAL OR PLANT
SPECIES, OR TO MAINTAIN OR
IMPROVE HABITAT FOR OTHER WILD-
LIFE OR FISH MANAGEMENT INDI-
CATOR SPECIES.

E. HARVESTING TO MEET FORAGE
PRODUCTION OBJECTIVES FOR LIVE-
STOCK.

F. HARVESTING TO IMPROVE THE
SCENIC RESOURCE BY OPENING SCE-
NIC VISTAS OR BY IMPROVING VIS-
UAL VARIETY.

FOREST DIRECTION

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(EO3, 06 & 07)

G. HARVESTING OF FUELWOOD
AND CHRISTMAS TREES.
H. HARVESTING TO PROVIDE
FOR ACCESS, SUCH AS ROAD CON-
STRUCTION.

REFORESTATION
(EO4)

1. ESTABLISH A SATISFACTORY STAND ON CUTOVER AREAS, EM-
PHASIZING NATURAL REGENERATION WITHIN FIVE YEARS AFTER
FINAL HARVEST EXCEPT:
- A. FOR PERMANENT OPENINGS THAT SERVE SPECIFIC MANAGEMENT
OBJECTIVES;
 - B. WHEN OTHER RESOURCE OBJECTIVES DICTATE A DIFFERENT
PERIOD SUCH AS HIGH INTENSITY MANAGED AREAS;
 - C. WHEN PROVIDED FOR OTHERWISE IN SPECIFIC MANAGEMENT
PRESCRIPTIONS.

a. MINIMUM STOCKING STANDARDS
BY PRODUCTIVITY AND FOREST
COVER TYPE:

FOREST COVER TYPE	SITE PROD. (CU.FT. /A/YR)	PLANTING 1/ DENSITIES (TREES/A)
SPRUCE-	85+	360-680
FIR	50-84	360-540
	20-49	300
ASPEN	ALL	---
MIXED	85+	435-680
CONIFER	50-84	435-550
	20-49	300-360
PONDEROSA	85+	435-680
PINE	50-84	435-550
	20-49	300-360
FOREST COVER TYPE	SEEDLING STOCKING PER ACRE MIN. 2/ DESIR. 3/	
SPRUCE-FIR	200	340
	200	280
	150	155
ASPEN	300	600
MIXED CONIFER	205	310
	205	255
	190	240
PONDEROSA	205	310
PINE	205	255
	190	240
FOREST COVER TYPE	SEEDLING HEIGHT (INCHES) MINIMUM DESIRED	
SPRUCE-FIR	5>	18>

FOREST DIRECTION

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CONTINUATION OF:
REFORESTATION
(E04)

ASPEN	12>	45>
MIXED CONIFER	5>	18>
PONDEROSA PINE	6>	18>

- 1/ LOWER DENSITIES ARE RECOMMENDED TO MEET MINIMUM STOCKING STANDARDS. HIGHER DENSITIES ARE RECOMMENDED TO MEET DESIRED STOCKING STANDARDS, WITH AMPLE STOCK FOR SELECTING GENETICALLY SUPERIOR TREES.
- 2/ MINIMUM STOCKING STANDARDS ARE TO BE USED WHERE NO PRECOMMERCIAL CUTTING WILL BE DONE, AND ONLY ONE HARVEST WILL BE MADE TO REGENERATE THE STAND.
- 3/ DESIRED STOCKING STANDARDS ARE TO BE USED WHERE AT LEAST ONE PRECOMMERCIAL CUT WILL BE DONE FOLLOWED BY TWO SAWLOG HARVESTS BEFORE THE FINAL CUT IS DONE. (ASPEN WILL HAVE ONLY ONE FINAL CUT.)

2. DO NOT APPLY FINAL SHELTERWOOD REMOVAL CUT UNTIL THE DESIRED NUMBER (AS SPECIFIED IN MINIMUM STOCKING STANDARDS) OF WELL-ESTABLISHED SEEDLINGS PER ACRE ARE EXPECTED TO REMAIN FOLLOWING OVERWOOD REMOVAL.

3. USE TREES OF THE BEST GENETIC QUALITY AVAILABLE WHICH ARE ADAPTED TO THE PLANTING SITE WHEN SUPPLEMENTAL PLANTING. (REFERENCE FSM 2475)

TIMBER STAND
IMPROVEMENT
(E05)

1. UTILIZE CHRISTMAS TREE SALES FOR STOCKING CONTROLS WHERE THE OPPORTUNITY EXISTS.

RIPARIAN
AREA
MANAGEMENT
(F03)

1. SPECIAL PROTECTION AND MANAGEMENT WILL BE GIVEN TO FLOODPLAINS, WETLANDS, AND ALL LAND AND VEGETATION FOR A MINIMUM OF 100 FEET FROM THE EDGES OF ALL PERENNIAL STREAMS, LAKES AND OTHER BODIES OF WATER OR TO THE OUTER MARGIN OF THE RIPARIAN ECOSYSTEM IF WIDER THAN 100 FEET.

a. FOLLOW DIRECTION IN FSM 2526 AND 2527.

b. MAINTAIN RIPARIAN DEPENDENT RESOURCE VALUES INCLUDING WILDLIFE, FISH, VEGETATION, WATERSHED, AND RECREATION IN A

FOREST DIRECTION

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CONTINUATION OF:
RIPARIAN
AREA
MANAGEMENT
(FO3)

STABLE OR UPWARD TREND.

2. DESIGN AND IMPLEMENT ACTIVITIES IN MANAGEMENT AREAS
TO PROTECT AND MANAGE THE RIPARIAN ECOSYSTEM.

3. PRESCRIBE LIVESTOCK GRAZING SYSTEMS TO ACHIEVE
RIPARIAN AREA OBJECTIVES ALONG STREAMS CAPABLE OF
SUPPORTING SELF-SUSTAINING FISHERIES.

a. ALLOW A MAXIMUM OF 50% USE
(SEASON-LONG SYSTEM), 60% USE
(DEFERRED ROTATION SYSTEM) 65%
USE (REST ROTATION SYSTEM) OF
TOTAL FORAGE PRODUCTION IN
RIPARIAN AREAS.

ALLOW A MAXIMUM OF 50% USE OF
CURRENT YEARS GROWTH ON BROWSE
SPECIES IN RIPARIAN AREAS.

MAINTAIN GROUND COVER OF AT
LEAST 70 PERCENT WITHIN RIPARIAN
AREAS.

4. PRESCRIBE SILVICULTURAL SYSTEMS TO ACHIEVE
RIPARIAN AREA OBJECTIVES.

A. PROHIBIT THE OPERATION OF MOTORIZED EQUIPMENT
WITHIN THE RIPARIAN AREA EXCEPT AT CONSTRUCTED
STREAM CROSSINGS.

B. LOCATE SKID TRAILS, LANDING AND DECKING SITES AND
OTHER HARVEST FACILITIES OUTSIDE THE RIPARIAN AREA.

a. MAINTAIN SHADE, BANK STABILITY
AND SEDIMENT STANDARDS AS
SPECIFIED UNDER WILDLIFE AND FISH
RESOURCE MANAGEMENT STANDARDS
AND GUIDELINES.

5. LOCATE AND CONSTRUCT ARTERIAL AND COLLECTOR ROADS
TO MAINTAIN THE BASIC NATURAL CONDITION AND CHARACTER
OF RIPARIAN AREAS.

A. LOCATE ROADS OUTSIDE OF RIPARIAN AREA EXCEPT
FOR STREAM CROSSINGS OR WHERE OTHER FEASIBLE
ALTERNATIVES DO NOT EXIST.

B. SELECT STREAM CROSSING POINTS TO MINIMIZE BANK
AND CHANNEL DISTURBANCE.

a. MAINTAIN FISH PASSAGE DURING
ALL FLOW LEVELS EXCEPT PEAK FLOW
EVENTS. FOLLOW GUIDELINES IN
EVANS AND JOHNSTON, 1980.

WATER USES
MANAGEMENT
(FO4)

1. DETERMINE AND OBTAIN RIGHTS TO INSTREAM FLOW VOLUMES
TO PROTECT AND MAINTAIN STREAM CHANNEL STABILITY
AND CAPACITY AND TO MEET MULTIPLE USE REQUIREMENTS.

FOREST DIRECTION

MANAGEMENT
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GUIDELINES

CONTINUATION OF:
WATER USES
MANAGEMENT
(FO4)

2. PROTEST WATER RIGHT APPLICATIONS OF OTHERS WHEN SUCH USES WILL LOWER STREAMFLOWS BELOW LEVELS ACCEPTABLE FOR NATIONAL FOREST USES AND PURPOSES.

3. SPECIAL USE PERMITS, EASEMENTS, RIGHTS-OF-WAY, AND SIMILAR AUTHORIZATIONS FOR USE OF NFS LANDS SHALL CONTAIN CONDITIONS AND STIPULATIONS TO MAINTAIN INSTREAM OR BY-PASS FLOWS NECESSARY TO FULFILL ALL NATIONAL FOREST USES AND PURPOSES.

4. DETERMINE AND OBTAIN RIGHTS TO OTHER SURFACE AND GROUND WATERS TO MEET MULTIPLE USE REQUIREMENTS.

5. FOLLOW UTAH WATER LAW PROCEEDURES FOR WATER FILINGS AND FOR CHANGES IN POINT OF DIVERSION, PLACE, PURPOSE, OR PERIOD OF USE.

WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(FO5 AND 06)

1. MAINTAIN INSTREAM FLOWS AND PROTECT PUBLIC PROPERTY AND RESOURCES.

2. IMPROVE OR MAINTAIN WATER QUALITY TO MEET STATE WATER QUALITY STANDARDS. HOWEVER, WHERE THE NATURAL BACKGROUND WATER POLLUTANTS CAUSE DEGRADATION, IT IS NOT NECESSARY TO IMPLEMENT IMPROVEMENT ACTIONS. SHORT-TERM OR TEMPORARY EXCEEDANCE OF SOME PARAMETERS OF THE STATE STANDARD, SUCH AS INCREASED SEDIMENT FROM ROAD CROSSING CONSTRUCTION OR WATER RESOURCE DEVELOPMENT MAY BE PERMITTED IN SPECIAL CASES.

3. COORDINATE WITH THE STATE AT THE LOCAL AND STATE LEVELS IN ASSESSING WATER QUALITY PROBLEMS.

4. REHABILITATE DISTURBED AREAS THAT ARE CONTRIBUTING SEDIMENT DIRECTLY TO PERENNIAL STREAMS AS A RESULT OF MANAGEMENT ACTIVITIES TO MAINTAIN WATER QUALITY AND RE-ESTABLISH VEGETATION COVER.

a. FOLLOW REQUIREMENTS OF THE FISH AND WILDLIFE COORDINATION ACT, AND CLEAN WATER ACT.

a. REDUCE TO NATURAL RATE ANY EROSION DUE TO MANAGEMENT ACTIVITY THROUGH NECESSARY MITIGATION MEASURES SUCH AS WATER-BARRING AND REVEGETATION. REHABILITATION MEASURES WILL BE IMPLEMENTED WITHIN ONE YEAR OF THE ACTIVITY.

FOREST DIRECTION

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: WATER RESOURCE IMPROVEMENT AND MAINTENANCE (F05 AND 06)	5. LIMIT USE OF HERBICIDES, INSECTICIDES, RODENTICIDES, OR OTHER CHEMICAL AGENTS AS PART OF TERRESTRIAL MANAGEMENT ACTIVITIES TO TIMES AND PLACES WHERE POSSIBLE TRANSPORT TO OR BY SURFACE WATER HAS A LOW PROBABILITY OF OCCURRENCE. FOLLOW ALL LABEL REQUIREMENTS CONCERNING WATER QUALITY PROTECTION.	
MINERALS MANAGEMENT GENERAL (G00)	1. ADMINISTER AREAS WITH PRODUCING SITES AND KNOWN RESERVES WITH CONSIDERATION OF ONGOING AND POTENTIAL MINERAL ACTIVITIES. 2. AVOID OR MINIMIZE SIGNIFICANT PUBLIC OR PRIVATE INVESTMENTS IN AND NEAR AREAS WHERE MINERAL ACTIVITIES CAN BE EXPECTED IN THE FORESEEABLE FUTURE. THIS INCLUDES CONSIDERATION FOR RESERVED AND OUTSTANDING RIGHTS. 3. ON UNCLASSIFIED (REMAINING) LANDS, PROVIDE FOR RECLAMATION OF DISTURBED LANDS TO ACHIEVE THE PLANNED USE SPECIFIED IN THE FOREST PLAN, WHEN THOSE LANDS ARE NO LONGER NEEDED FOR MINING OPERATIONS. 4. OTHER CLASSIFIED LANDS NOT WITHDRAWN FROM OPERATIONS UNDER THE GENERAL MINING LAWS: SUCH LANDS MAY INCLUDE RESEARCH NATURAL AREAS, NATIONAL RECREATION AREAS, NATIONAL RECREATION TRAILS, SPECIAL INTEREST AREAS SUCH AS SCENIC AND GEOLOGIC, AREAS NATIONAL HISTORIC SITES, OR SOME OTHER SPECIAL CLASSIFICATION: THE STATUS OF THE WITHDRAWAL MUST BE DETERMINED BEFORE AN OPERATING PLAN IS PROCESSED. PROVIDE REASONABLE PROTECTION FOR THE PURPOSES FOR WHICH THE LANDS WERE CLASSIFIED AND FOR REASONABLE RECLAMATION OF DISTURBED LANDS TO A CONDITION SUITABLE FOR THOSE PURPOSES. -	
MINING LAW COMPLIANCE AND ADMINISTRATION (LOCATABLES) (G01)	1. MINIMIZE OR, AS APPROPRIATE, PREVENT ADVERSE IMPACTS ON SURFACE RESOURCES.	

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CONTINUATION OF:
MINING LAW
COMPLIANCE AND
ADMINISTRATION
(LOCATABLES)
(G01)

2. REVIEW CASES OF SUSPECTED ABUSE OF THE MINING LAWS SUCH AS OCCUPANCY OF THE LAND FOR PURPOSES OTHER THAN PROSPECTING, MINING, AND RELATED ACTIVITIES. INITIATE APPROPRIATE ACTION TO RESOLVE.

MINERALS
MANAGEMENT
LEASABLES
(G02 TO G07)

1. LEASING, PERMITTING, OR LICENSING OF NATIONAL FOREST SYSTEM LANDS WILL BE BASED ON SITE SPECIFIC CONSIDERATIONS USING APPROPRIATE STANDARDS AND GUIDELINES FOR THE MANAGEMENT UNIT CONCERNED. CRITERIA FOR THESE ACTIONS SHOULD MINIMIZE IMPACTS ON, OR CONFLICTS WITH, OTHER RESOURCE USES AND SHOULD RETURN DISTURBED LANDS TO PLANNED SURFACE RESOURCES OR USES.
A. FOREST SERVICE AUTHORIZATION OF GEOPHYSICAL PROSPECTING WILL INCLUDE TERMS AND CONDITIONS (SEE STIPULATION IN APPENDIX H) CONTROLLING OPERATING METHODS AND TIMES TO PREVENT OR CONTROL ADVERSE IMPACTS ON SURFACE RESOURCES AND USES.
B. RECOMMENDATIONS OF CONSENT TO BLM FOR ISSUANCE OF LEASES AND PERMITS WILL INCLUDE ALL CURRENT STANDARD STIPULATIONS AND THE REGIONALLY APPROVED SPECIAL STIPULATIONS THAT MAY BE NECESSARY FOR ADDITIONAL PROTECTION OF SPECIFIC SURFACE RESOURCES AND USES. THESE STANDARD AND CURRENT REGIONALLY APPROVED SPECIAL STIPULATIONS ARE IN APPENDIX H TO THE FOREST PLAN.
C. RECOMMEND AGAINST OR DENY CONSENT OR CONCURRENCE TO BLM FOR ISSUANCE OF LEASES, PERMITS, OR LICENSES WHERE OPERATIONAL DAMAGES ON SURFACE RESOURCES, INCLUDING THE IMPACTS OF SURFACE-BASED ACCESS, PRODUCT TRANSPORTATION AND ANCILLARY FACILITIES NECESSARY TO PRODUCTION AND RELATED OPERATIONS, WOULD BE EITHER 1) IRREVERSIBLE AND IRRETRIEVABLE, OR 2) WITH LOW POTENTIAL FOR RECLAMATION. NEGATIVE RECOMMENDATIONS OR CONCENT DENIALS WILL BE BASED ON SITE-SPECIFIC CONSIDERATION USING THE APPROPRIATE STANDARDS AND GUIDELINES.

a. ALL LEASABLE AND SALABLE MINERALS: ACTIVITIES MAY BE DENIED OR LIMITED WHERE THE CURRENT USES OR ACTIVITIES EXCEED, OR THE PROPOSED ACTIVITIES MAY RESULT IN EXCEEDING THE STANDARDS OUTLINED IN THE STIPULATIONS PROVIDED IN APPENDIX H.

b. OIL AND GAS, GEOTHERMAL, COAL, AND CO2 ACTIVITIES MAY BE LIMITED WHERE:
1. SLOPES ARE STEEPER THAN 40 PERCENT,
2. EROSION HAZARD RATING IS HIGH, OR
3. GEOLOGICAL HAZARD RATING IS HIGH.

c. COAL AND LEASABLE URANIUM AND NONENERGY MINERALS ACTIVITIES MAY BE LIMITED WHERE:
1. TERRAIN DOES NOT PROVIDE FOR ADEQUATE WASTE DUMPS AND TAILINGS DISPOSAL, LEAVING THEM UNSTABLE OR UNRECLAIMABLE.
2. SURFACE-BASED ACCESS, PRODUCT TRANSPORTATION AND ANCILLARY FACILITIES NECESSARY TO OPERATIONS ARE ON SLOPES STEEPER THAN 40 PERCENT WITH HIGH EROSION HAZARD, OR WITH HIGH GEOLOGIC HAZARD.
3. NATIONAL SCENIC TRAILS AND EXISTING OR PROPOSED WILDERNESS AREAS OCCUR. (MINING IN THESE AREAS IS PROHIBITED BY THE COAL

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CONTINUATION OF:
MINERALS
MANAGEMENT
LEASEABLES
(G02 TO G07)

LEASING AMENDMENTS ACT OF 1975.
COAL LEASING AND COAL EXPLORATION
LICENSES WILL NOT BE AUTHORIZED
ON ANY OF THE FOREGOING DESCRIBED
LANDS, UNLESS MINING CAN OCCUR
WITHOUT CONFLICTING WITH THE
PURPOSE FOR WHICH THE AREA WAS
ESTABLISHED.)

MINERALS
MANAGEMENT
LEASEABLES
(G02 TO G07)

1. THE FOREST SERVICE AUTHORIZES COMMON VARIETY
EXPLORATION AND DISPOSAL UNDER TERMS AND CONDITIONS
TO PREVENT, MINIMIZE, OR MITIGATE ADVERSE IMPACTS ON
SURFACE RESOURCES AND USES. THE OBJECTIVE OF
RECLAMATION REQUIREMENTS WILL BE TO RETURN DISTURBED
LAND TO THE PLANNED USES.

a. SEE THE STANDARDS AND GUIDE-
LINES FOR LEASABLE MINERALS.

SPECIAL USE
MANAGEMENT (NON
-RECREATION)
(J01)

1. ACT ON SPECIAL USE APPLICATIONS ACCORDING TO THE FOLLOW-
ING PRIORITIES:

- A. LAND AND LAND USE ACTIVITY REQUESTS RELATING TO PUBLIC
SAFETY, HEALTH AND WELFARE, E.G., HIGHWAYS, POWERLINES
HYDRO-ELECTRIC PLANTS AND PUBLIC SERVICE IMPROVEMENTS.
- B. LAND AND LAND USE ACTIVITIES CONTRIBUTING TO INCREASED
ECONOMIC ACTIVITY ASSOCIATED WITH NATIONAL FOREST
RESOURCES, E.G., OIL AND GAS, AND ENERGY MINERALS.
- C. LAND AND LAND USE ACTIVITIES THAT BENEFIT ONLY PRIVATE
USERS, E.G., ROAD PERMITS, RIGHTS-OF-WAY FOR POWER-
LINES, TELEPHONES, WATERLINES, ETC.

2. DO NOT APPROVE ANY SPECIAL USE APPLICATIONS THAT CAN BE
REASONABLY MET ON PRIVATE OR OTHER FEDERAL LANDS UNLESS IT
IS CLEARLY IN THE PUBLIC INTEREST.

3. BURY NEW OR RECONSTRUCTED ELECTRICAL UTILITY LINES OF
33 KV OR LESS AND TELEPHONE LINES EXCEPT WHEN:

- A. VISUAL QUALITY OBJECTIVES OF THE AREA CAN BE MET USING
AN OVERHEAD LINE.
- B. BURIAL IS NOT FEASIBLE DUE TO GEOLOGIC HAZARD OR UN-
FAVORABLE GEOLOGIC CONDITIONS.
- C. IT IS NOT ECONOMICAL AS DETERMINED BY A COST ANALYSIS.
- D. GREATER LONG-TERM SITE DISTURBANCE WOULD RESULT.
- E. IT IS NOT TECHNICALLY FEASIBLE.

MANAGEMENT
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CONTINUATION OF:
SPECIAL USE
MANAGEMENT (NON
-RECREATION)
(J01)

4. DO NOT APPROVE SPECIAL USE APPLICATIONS FOR AREAS
ADJACENT TO DEVELOPED SITES UNLESS THE PROPOSED USE IS
COMPATIBLE WITH THE PURPOSE AND USE OF THE DEVELOPED SITE.

RIGHTS-OF-WAY
AND LAND
ADJUSTMENTS
(J02, 13, 15,
16, 17, AND 18)

1. ACQUIRE RIGHTS-OF-WAY ON EXISTING FOREST SYSTEM ROADS
AND TRAILS THAT CROSS PRIVATE LAND.

2. INSURE FLOODPLAIN AND WETLAND VALUES ARE APPROXI-
MATELY EQUAL ON BOTH OFFERED AND SELECTED TRACTS IN
PROPOSED LAND EXCHANGES OR THAT VALUES ARE IN FAVOR OF
THE UNITED STATES.

3. CLASSIFY LANDS OR INTEREST IN LANDS FOR ACQUISSI-
TION WHERE LANDS ARE VALUABLE FOR NATIONAL FOREST
SYSTEM PURPOSES ACCORDING TO THE FOLLOWING PRIORITIES:
A. CONGRESSIONALLY CLASSIFIED AREAS SUCH AS DESIGNATED
WILDERNESS.
B. LANDS OR RIGHTS-OF-WAY NEEDED TO MEET RESOURCE
MANAGEMENT GOALS AND OBJECTIVES.
C. LANDS WHICH PROVIDE HABITAT FOR THREATENED AND EN-
DANGERED SPECIES OF ANIMALS AND PLANTS.
D. LANDS WHICH INCLUDE FLOODPLAIN OR WETLANDS.
E. LANDS HAVING HISTORICAL OR CULTURAL RESOURCES,
OUTSTANDING SCENIC VALUES OR CRITICAL ECOSYSTEMS,
WHEN THESE RESOURCES ARE THREATENED BY CHANGE OF USE
OR WHEN MANAGEMENT MAY BE ENHANCED BY PUBLIC OWNER-
SHIP.

FOREST DIRECTION

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CONTINUATION OF:
RIGHTS-OF-WAY
AND LAND
ADJUSTMENTS
(J02, 13, 15,
16, 17, AND 18)

4. CLASSIFY LANDS FOR DISPOSAL ACCORDING TO THE FOLLOWING PRIORITIES:
- A. TO STATES, COUNTIES, CITIES, OR OTHER FEDERAL AGENCIES WHEN DISPOSAL WILL SERVE A GREATER PUBLIC INTEREST.
 - B. IN SMALL PARCELS INTERMINGLED WITH MINERAL OR HOMESTEAD PATENTS.
 - C. WHEN SUITABLE FOR DEVELOPMENT BY THE PRIVATE SECTOR, IF DEVELOPMENT (RESIDENTIAL, AGRICULTURAL, INDUSTRIAL, RECREATIONAL, ETC.) IS IN THE PUBLIC INTEREST.
 - D. WHEN CRITICAL OR UNIQUE RESOURCE (WETLANDS, FLOODPLAINS, ESSENTIAL BIG GAME WINTER RANGE, THREATENED OR ENDANGERED SPECIES HABITAT, HISTORICAL OR CULTURAL RESOURCES, CRITICAL ECOSYSTEMS, ETC.) EFFECTS ARE MITIGATED BY RESERVING INTERESTS TO PROTECT THE RESOURCE, OR BY EXCHANGE WHERE OTHER CRITICAL RESOURCES TO BE ACQUIRED ARE CONSIDERED TO BE OF EQUAL OR GREATER VALUE.

5. EFFECT JURISDICTIONAL TRANSFERS WHICH ACHIEVE THE FOLLOWING OBJECTIVES:
- A. REDUCE DUPLICATION OF EFFORTS BY USERS AND AGENCIES IN TERMS OF TIME, COST, AND COORDINATION.
 - B. IMPROVE OR MAINTAIN USER ACCESS TO THE ADMINISTERING AGENCY.
 - C. DECREASE TRAVEL AND ENHANCE MANAGEMENT.
 - D. IMPROVE PUBLIC UNDERSTANDING OF APPLICABLE LAWS, REGULATIONS, POLICIES, AND PROCEDURES.
 - E. DEVELOP MORE EFFECTIVE AND EFFICIENT WORK UNITS.
 - F. REDUCE ADMINISTRATIVE COST.

WITHDRAWALS,
MODIFICATIONS
AND REVOCATIONS
(J04)

1. WITHDRAWALS MUST BE FOR THE PURPOSE OF PROTECTING SPECIFIC EXISTING PROPOSED USES. INITIATE ACTION FOR WITHDRAWAL FROM ENTRY WHEN OTHER APPLICABLE LAWS AND REGULATIONS WILL NOT PROVIDE THE CAPABILITY FOR PROTECTION OF THE SURFACE RESOURCES AND USES.

- a. WITHDRAWALS FROM ENTRY UNDER THE GENERAL MINING LAWS WILL BE IN CONFORMANCE WITH SECTION 204 OF THE FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (P.L. 94-579).

- b. WITHDRAWALS UNDER THE MINERALS LEASING ACT WILL BE IN EXCEPTIONAL SITUATIONS BECAUSE OF THE DISCRETION ALLOWED IN EACH CASE FOR DISPOSAL.

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WITHDRAWALS,
MODIFICATIONS
AND REVOCATIONS
(J04)

c. COMMON VARIETY MINERALS WITH-
DRAWALS ARE UNNECESSARY SINCE
FULL AUTHORITY FOR DISPOSAL IS
HELD BY THE FOREST SERVICE.

PROPERTY
BOUNDARY
LOCATION
(J06)

1. LOCATE, MARK, AND POST LANDLINES ACCORDING TO THE
FOLLOWING PRIORITIES:
 - A. LINES NEEDED TO MEET PLANNED ACTIVITIES;
 - B. LINES NEEDED TO PROTECT NFS LANDS FROM ENCROACHMENT,
AND
 - C. ALL OTHER LINES.

FOREST DIRECTION

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINESSOIL RESOURCE
MANAGEMENT
(KA1)

1. MAINTAIN SOIL PRODUCTIVITY, MINIMIZE MAN-CAUSED SOIL EROSION, AND MAINTAIN THE INTEGRITY OF ASSOCIATED ECOSYSTEMS.
 - A. USE SITE PREPARATION METHODS WHICH ARE DESIGNED TO KEEP FERTILE, FRIABLE TOPSOIL ESSENTIALLY INTACT.
 - B. GIVE ROADS AND TRAILS SPECIAL DESIGN CONSIDERATIONS TO PREVENT RESOURCE DAMAGE ON CAPABILITY AREAS CONTAINING SOILS WITH HIGH SHRINK-SWELL CAPACITY.
 - C. PROVIDE ADEQUATE ROAD AND TRAIL CROSS DRAINAGE TO REDUCE SEDIMENT TRANSPORT ENERGY.
 - D. REVEGETATE ALL AREAS, CAPABLE OF SUPPORTING VEGETATION, DISTURBED DURING ROAD CONSTRUCTION AND/OR RECONSTRUCTION TO STABILIZE THE AREA AND REDUCE SOIL EROSION. WHERE PRACTICABLE USE LESS PALATABLE PLANT SPECIES ON CUTS, FILLS, AND OTHER AREAS SUBJECT TO TRAMPLING DAMAGE BY DOMESTIC LIVESTOCK AND BIG GAME TO DISCOURAGE GRAZING.
 - E. PREVENT LIVESTOCK AND WILDLIFE GRAZING WHICH REDUCES THE PERCENT OF PLANT COVER TO LESS THAN THE AMOUNT NEEDED FOR WATERSHED PROTECTION AND PLANT HEALTH.
 - F. PLACE TRACTOR-BUILT FIRELINES ON THE CONTOUR, WHERE POSSIBLE, AND AVOID USE OF TRACTORS ON HIGHLY ERODIBLE SITES.
 - G. PROVIDE PERMANENT DRAINAGE AND ESTABLISH PROTECTIVE VEGETATIVE COVER ON ALL NEW TEMPORARY ROADS OR EQUIPMENT WAYS, AND ALL EXISTING ROADS WHICH ARE BEING REMOVED FROM THE TRANSPORTATION SYSTEM.
 - H. MINIMIZE SOIL COMPACTION BY REDUCING VEHICLE PASSES, SKIDDING ON SNOW, FROZEN OR DRY SOIL CONDITIONS, OR BY OFF-GROUND LOGGING SYSTEMS.
 - I. RESTORE SOIL DISTURBANCE CAUSED BY HUMAN USE TO SOIL LOSS TOLERANCE LEVELS COMMENSURATE WITH THE NATURAL ECOLOGICAL PROCESSES FOR THE TREATMENT AREAS.

- a. USE THE FOLLOWING STANDARDS AND GUIDELINES UNLESS MORE SITE SPECIFIC REQUIREMENTS ARE DEVELOPED DURING PROJECT DESIGN.
 1. LIMIT INTENSIVE GROUND DISTURBING ACTIVITIES ON UNSTABLE SLOPES AND HIGHLY ERODIBLE SITES.
 2. APPLY GUIDE DEVELOPED BY PACKER, (19) IN THE DESIGN FOR CROSS DRAIN SPACING AND BUFFERS.

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SOIL RESOURCE
MANAGEMENT
(KA1)

2. IDENTIFY AT THE PROJECT LEVEL, UPLAND AREAS THAT ARE IMMEDIATELY ADJACENT TO RIPARIAN (PRESCRIPTION 9A) MANAGEMENT AREAS. ADJACENT UPLAND AREAS ARE THOSE PORTIONS OF A MANAGEMENT AREA WHICH, WHEN SUBJECTED TO MANAGEMENT ACTIVITIES, HAVE A POTENTIAL FOR DIRECTLY AFFECTING THE CONDITION OF THE ADJACENT RIPARIAN MANAGEMENT AREA. THE MAGNITUDE OF EFFECTS IS DEPENDENT UPON SLOPE STEEPNESS, AND THE KIND, AMOUNT, AND LOCATION OF SURFACE AND VEGETATION DISTURBANCE WITHIN THE ADJACENT UPLAND UNIT.

a. THE FOLLOWING IS A GUIDE TO IDENTIFY THE APPROXIMATE EXTENT OF ADJACENT UPLAND AREAS:

SLOPE GRADIENT OF UPLAND AREAS ADJACENT TO RIPARIAN MANAGEMENT AREA.	UPSLOPE DISTANCE FROM BOUNDARY OF RIPARIAN MANAGEMENT AREA.
% SLOPE RANGE	FEET

0-20	100
20-30	180
30-40	280
40-50	400
50-60	520
60-70	640
70-80	760
80-90	880
90-100	1000
100-150	1000-1300

3. REDUCE PROJECT CAUSED, ON SITE, EROSION RATES THROUGH DESIGNED MANAGEMENT PRACTICES AND APPROPRIATE EROSION MITIGATION, VEGETATION, OR RESTORATION MEASURES.

a. REDUCE EROSION BY 75% WITHIN THE FIRST YEAR AFTER DISTURBANCE. REDUCE PROJECT CAUSED ON-SITE EROSION BY 95% WITHIN FIVE YEARS AFTER INITIAL DISTURBANCE. CALCULATE EROSION WITH APPROPRIATE UNIVERSAL SOIL LOSS EQUATION METHODOLOGY.

4. DESIGN CONTINUING MITIGATION AND RESTORATION PRACTICES, AND FOLLOW-UP MAINTNANCE ACTIVITIES.

a. INSURE THAT 80% ORIGINAL GROUND COVER (VEGETATION) RECOVERY OCCURS WITHIN FIVE YEARS AFTER DISTURBANCE.

TRANSPORTATION
SYSTEM
MANAGEMENT
(LO1 & 20)

1. CLASSIFY AREAS AS TO WHETHER OFF-ROAD VEHICLE USE IS PERMITTED.

a. SPECIFY OFF-ROAD VEHICLE RESTRICTIONS BASED ON ORV USE MANAGEMENT (FSM 2355).

FOREST DIRECTION

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF
TRANSPORTATION
SYSTEM
MANAGEMENT
(L01 & 20)

2. MANAGE ROAD USE BY SEASONAL OR PERMANENT CLOSURE IF:
 - A. USE CAUSES UNACCEPTABLE DAMAGE TO SOIL AND WATER RESOURCES DUE TO WEATHER OR SEASONAL CONDITIONS
 - B. USE CONFLICTS WITH THE ROS CLASS ESTABLISHED FOR THE AREA;
 - C. USE CAUSES UNACCEPTABLE WILDLIFE CONFLICT OR HABITAT DEGRADATION,
 - D. USE RESULTS IN UNSAFE CONDITIONS.
 - E. THE ROAD DOES NOT SERVE AN IDENTIFIED PUBLIC OR ADMINISTRATIVE NEED;
 - F. AREA ACCESSED HAS SEASONAL NEED FOR PROTECTION OR NONUSE; OR
 - G. FINANCING IS NOT AVAILABLE TO MAINTAIN THE FACILITY OR MANAGE THE ASSOCIATED USE OF ADJACENT LANDS.
3. CLOSED OR RESTRICTED ROADS MAY BE USED FOR AND TO ACCOMPLISH ADMINISTRATIVE PURPOSES WHEN:
 - A. PRESCRIBED IN MANAGEMENT AREA DIRECTION STATEMENTS;
 - B. AUTHORIZED BY THE FOREST SUPERVISOR; AND
 - C. IN CASE OF EMERGENCY.

ARTERIAL AND
COLLECTOR ROAD
CONSTRUCTION AND
RECONSTRUCTION
(L02 THRU L09,
L16 THRU L18)

1. CONSTRUCT AND RECONSTRUCT ARTERIAL AND COLLECTOR ROADS TO MEET MULTIPLE RESOURCE NEEDS.

a. CONSTRUCTION AND RECONSTRUCTION
STANDARDS FOR ARTERIAL AND COLLEC-
TOR ROADS ARE:

STANDARD	ARTERIAL	COLLECTOR
TRAVEL SPEED	AVERAGE 30-55 MPH	AVERAGE 10-30 MPH
LANES	GENERALLY 2 LANES	GENERALLY 1 LANE
SURFACE	ALL WEATHER, GENERALLY ASPHALT OR GRAVEL	GENERALLY GRAVEL OR NATIVE SURFACE, SOMETIMES ASPHALT
WIDTH	TYPICALLY 20 TO 24 FEET, BUT SOME SINGLE	TYPICALLY 12 TO 16 FEET, WITH

MANAGEMENT ACTIVITIES	GENERAL DIRECTION		STANDARDS & GUIDELINES
CONTINUATION OF: ARTERIAL AND COLLECTOR ROAD CONSTRUCTION AND RECONSTRUCTION (L02 THRU L09, L16 THRU L18)			LANE WITH INTER- VISIBLE 10-FOOT TURNOUTS INTER- VISIBLE 10-FOOT TURNOUTS
		DRAINAGE	PERMANENT, NOT TO IMPEDE TRAFFIC PERMANENT BUT MAY IMPEDE TRAFFIC
LOCAL ROAD CONSTRUCTION AND RECONSTRUCTION (L11, 12, & 13)	1. CONSTRUCT AND RECONSTRUCT LOCAL ROADS TO PROVIDE ACCESS FOR SPECIFIC RESOURCE ACTIVITIES SUCH AS CAMPGROUNDS, TRAILHEADS, TIMBER SALES, RANGE ALLOTMENTS, MINERAL LEASES, ETC., WITH THE MINIMUM AMOUNT OF EARTHWORK.	a. CONSTRUCTION AND RECONSTRUCTION STANDARDS FOR LOCAL ROADS ARE:	>>>>>>>>>>>>>>
		TRAVEL SPEED	AVERAGE LESS THAN 20 MPH
		LANES	USUALLY SINGLE LANE EXCEPT FOR DEVELOPED RECREATION SITES.
		SURFACE	VARIABLE FROM ASPHALT TO NATIVE SURFACE; MAJORITY NATIVE SURFACE.
		WIDTH	TYPICALLY 10 THRU 14 FEET. TURNOUTS OPTIONAL DEPENDING UPON TRAFFIC MANAGEMENT. USUALLY NOT INTERVISIBLE.
		DRAINAGE	DIPS AND CULVERTS.
ROAD MAINTENANCE (L19)	1. MAINTAIN ALL ROADS TO THE FOLLOWING MINIMUM REQUIREMENTS: A. ALL ARTERIAL AND OPEN COLLECTORS - LEVEL 3; B. ALL OPEN LOCAL ROADS - LEVEL 2; AND C. ALL CLOSED ROADS - LEVEL 1.	a. SEE LEVELS OF MAINTENANCE IN FSM 7730. b. LEVEL 1 MAINTENANCE INCLUDES UPKEEP OF DRAINAGE STRUCTURES AND VEGETATION COVER NECESSARY TO PREVENT EROSION.	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
ROAD
MAINTENANCE
(L19)

2. MAINTAIN STRUCTURES, BRIDGES, CATTLEGUARDS, ETC., TO BE STRUCTURALLY SOUND AND SAFE FOR USE.

TRAIL
CONSTRUCTION AND
RECONSTRUCTION
(L22)

1. CONSTRUCT OR RECONSTRUCT TRAILS WHEN NEEDED AS PART OF THE TRANSPORTATION SYSTEM.

a. MAINTAIN TRAILS IN ACCORDANCE WITH STANDARDS IN THE TRAIL HANDBOOK (FSH 7709.12).

b. CROSS DRAINS AND CONVEYANCE STRUCTURES ARE PLANNED ACCORDING TO FOREST DESIGN STANDARDS.

2. USE CORDUROY AND/OR PUNCHEON TREADS ACROSS BOGS WHERE NO SAFE AND FEASIBLE BYPASS OPPORTUNITY EXISTS.

TRAIL
SYSTEM
MANAGEMENT
(L23)

1. MAINTAIN ALL TRAILS TO MEET STANDARD OF USE DESIGNATED IN TRAVEL PLAN.

2. MAINTAIN ALL TRAILS TO THE FOLLOWING MINIMUM REQUIREMENTS:
 - A. STRUCTURES (BRIDGES, CORDUROY, ETC.) ARE STRUCTURALLY SOUND AND SAFE FOR SPECIFIED CLASS OF USER,
 - B. MAINTAIN DRAINAGE STRUCTURES TO PREVENT UNACCEPTABLE RESOURCE DAMAGE, AND
 - C. REMOVE HAZARDS FROM TRAILS TO ALLOW SAFE PASSAGE FOR SPECIFIED CLASS OF USERS. A SAFETY HAZARD IS DEFINED HERE AS A PHYSICAL CONDITION OF A TRAIL WHICH MAY CAUSE INJURY, IS UNUSUAL OR UNEXPECTED, AND NOT READILY IDENTIFIABLE BY THE TRAIL USER. A HAZARD IS A ROTTEN BRIDGE DECKING. A STREAM CROSSING WHERE NO BRIDGE IS PROVIDED AND THE USER WOULD EXPECT NONE IS NOT A HAZARD.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
TRAIL
SYSTEM
MANAGEMENT
(L23)
TELECOMMUNICA-
TIONS SYSTEM

3. PROVIDE A FULL RANGE OF TRAIL OPPORTUNITIES IN COORDINATION WITH OTHER FEDERAL, STATE, AND MUNICIPAL JURISDICTIONS AND PRIVATE INDUSTRIES BOTH ON AND OFF NFS LANDS.

1. MAINTAIN A COST EFFECTIVE, RELIABLE TELE-COMMUNICATIONS SYSTEM THAT SUPPORTS BOTH ON AND OFF FOREST COMMUNICATIONS FOR DATA, RADIO, AND TELEPHONE.

a. R-4 AND FOREST TELECOMMUNICA-TIONS PLAN.

ADMINISTRATIVE
SITES

1. DEVELOP A PLAN TO MANAGE FOREST ADMINISTRATIVE SITES THAT RECOGNIZES NEED AND LOCATION OF PERMANENT AND TEMPORARY HOUSING AND STORAGE.

a. MEET HEALTH, SAFETY, AND SANITARY REQUIREMENTS.

FIRE PLANNING
AND
SUPPRESSION
(P01)

1. PROVIDE A LEVEL OF PROTECTION FROM WILDFIRE THAT IS COST EFFICIENT AND THAT WILL MEET MANAGEMENT OBJECTIVES FOR THE AREA CONSIDERING THE FOLLOWING:
A. THE VALUES OF THE RESOURCES THAT ARE THREATENED BY FIRE.
B. THE PROBABILITY OF FIRE OCCURRENCE.
C. THE PROBABLE FUELBED.
D. THE WEATHER CONDITIONS LIKELY TO INFLUENCE FIRES THAT OCCUR.
E. THE COSTS OF FIRE PROTECTION PROGRAMS (FFP AND FFF).
F. THE SOCIAL, ECONOMIC, POLITICAL, CULTURAL, ENVIRONMENTAL, LIFE AND PROPERTY CONCERNS.
G. MANAGEMENT OBJECTIVES FOR THE AREA. USE THE FIRE MANAGEMENT ANALYSIS PROCESS (FSH 5109.19) FOR THIS ANALYSIS.
H. AIRSHEDS AND SMOKE MANAGEMENT IN SENSITIVE AREAS.

FOREST DIRECTION

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

ESCAPED FIRE
SUPPRESSION
(P09)

1. TAKE SUPPRESSION ACTION ON ALL ESCAPED FIRES CONSIDERING THE FOLLOWING:
 - A. THE VALUES OF THE RESOURCES THREATENED BY THE FIRE (BOTH POSITIVE AND NEGATIVE).
 - B. MANAGEMENT OBJECTIVES FOR THE THREATENED AREA(S).
 - C. THE TYPE OF FUELBED.
 - D. THE CURRENT AND PROJECTED WEATHER CONDITIONS THAT WILL INFLUENCE FIRE BEHAVIOR.
 - E. NATURAL BARRIERS AND FUEL BREAKS.
 - F. SOCIAL, ECONOMIC, POLITICAL, CULTURAL, AND ENVIRONMENTAL CONCERNS.
 - G. PUBLIC SAFETY.
 - H. FIREFIGHTER SAFETY.
 - I. COSTS OF ALTERNATIVE SUPPRESSION STRATEGIES. USE THE ESCAPED FIRE SITUATION ANALYSIS TO MAKE THIS DETERMINATION (FSM 5130.31).

FUEL TREATMENT
(P11 THRU 14)

1. MAINTAIN FUEL CONDITIONS WHICH PERMIT FIRE SUPPRESSION FORCES TO MEET FIRE PROTECTION OBJECTIVES FOR THE AREA.

- a. REDUCE OR OTHERWISE TREAT ALL ACTIVITY FUELS SO THAT THE TOTAL LOADING OF MATERIALS LESS THAN 6 INCHES IN DIAMETER IS LESS THAN 25 TONS/ACRE,
OR
BREAK UP CONTINUOUS ACTIVITY FUEL CONCENTRATIONS EXCEEDING THE ABOVE STANDARD INTO MANAGEABLE UNITS WITH FUEL BREAKS OR FIRE LANES,
OR
PROVIDE ADDITIONAL PROTECTION FOR ACTIVITY FUEL AREAS EXCEEDING THE ABOVE STANDARD WHEN SUCH PROTECTION WILL NOT BE REQUIRED FOR MORE THAN FIVE YEARS.

VEGETATION
TREATED BY
BURNING
(P15)

1. USE PRESCRIBED FIRE FROM PLANNED AND UNPLANNED IGNITIONS TO ACCOMPLISH RESOURCE MANAGEMENT OBJECTIVES, SUCH AS REDUCING FUEL LOAD BUILDUP, WILDLIFE HABITAT IMPROVEMENT, ETC.

- a. MANAGE ALL PRESCRIBED FIRES FROM UNPLANNED IGNITIONS IN ACCORDANCE WITH THE GUIDELINES IN APPENDIX L. ALL UNPLANNED IGNITIONS OCCURRING IN SPECIAL SITUATION ZONE 4 (TOTAL SUPPRESSION ZONE) WILL BE SUPPRESSED IMMEDIATELY.

- b. SEE APPENDIX AND MAP.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
VEGETATION
TREATED BY
BURNING
(P15)

2. LIMIT USE OF PRESCRIBED FIRES ON AREAS ADJACENT TO
RIPARIAN AREAS TO PROTECT RIPARIAN AND AQUATIC VALUES.

3. USE UNPLANNED IGNITION ON AREAS IDENTIFIED
IN THIS PLAN TO ACHIEVE MANAGEMENT OBJECTIVES.

AIR RESOURCE
MANAGEMENT
(P16)

1. COMPLY WITH STATE AND FEDERAL AIR QUALITY STANDARDS.
(SEE FSM 2120)

a. MEET APPLICABLE STATE AIR
QUALITY STANDARDS.

INSECT AND DIS-
EASE MANAGEMENT/
SUPPRESSION
(P35)

1. PREVENT OR SUPPRESS EPIDEMIC OR THREATENING INSECT
AND DISEASE POPULATIONS WITH AN INTEGRATED PEST
MANAGEMENT (IPM) APPROACH CONSISTENT WITH RESOURCE
MANAGEMENT OBJECTIVES.

LAW ENFORCEMENT
(P24 THRU 27)

1. PROVIDE LAW ENFORCEMENT TO PROTECT HUMAN LIFE,
FOREST VALUES, AND PROPERTY.

a. PROVIDE ROUTINE PATROLS OF
HEAVILY USED CAMPGROUNDS AND
PATROLS OF OTHER AREAS AS
NEEDED. DEVELOP ACTION PLANS
TO COORDINATE RESPONSES TO
EMERGENCIES, REPORTED LAW
VIOLATIONS AND INCIDENTS WITH
LAW ENFORCEMENT AUTHORITIES.

FOREST DIRECTION

D. MANAGEMENT AREA DIRECTION

The management area prescriptions included in this section represent the Management Area Direction applicable to specific areas of land. These management area prescriptions in various combinations were used as the basis for developing the alternatives analyzed in the accompanying Draft Environmental Impact Statement.

A management area prescription number was assigned to each management area in order to link the prescription to the land area. The location of management areas is illustrated on the Management Area Map inserted inside the back cover of this document.

The prescription for each management area consists of a summary and a set of management requirements. The prescription summary identifies the primary emphasis of the prescription. All prescriptions are multiple use prescriptions but each has a primary emphasis.

Management requirements are presented in three columns: Management Activities, General Direction Statements, and Standards and Guidelines.

Management Activities are work processes that are conducted to produce, enhance, or maintain levels of outputs or to achieve administrative and environmental quality objectives. Management Activities are identified by a code number and title defined in the Management Information Handbook (FSH 1309.11) dated July, 1980. In some cases, management activities were grouped under one activity when it was not appropriate to develop separate requirements. Not all management activities need management requirements. When there are no management requirements listed for an activity, the Forest Direction or direction in laws, regulations or executive orders of Forest Service directives adequately covers the activity.

General Direction Statements specify the actions, measures, or treatments (management practices) to be done when implementing the management activity or the condition expected to exist after the general direction is implemented.

Standards and Guidelines are quantifications of the acceptable limits within which the general direction is implemented.

The following Management Area Summary (Table IV-2) lists the management emphasis and shows the acreage allocations for each management area. The pages following contain prescriptions for the management areas. They are in the same order as listed in the Summary.

MANAGEMENT AREA SUMMARYTABLE IV-2
MANAGEMENT AREA SUMMARY

Management Area	Emphasis	Acres
1A	Developed Recreation Sites	299
1D	Utility Corridors	(71,084) 1/
2A	Semi-Primitive Motorized Recreation	6,626
2B	Rural/Roaded Natural Recreation	27,855
3A	Non Motorized Recreation with Devel. of Other Resources	69,237
3B	Non motorized Recreation without Devel. of Other Resources	17,691
3C	Management of Fish Lake Mountain	19,044
4A	Fish Habitat Improvement	2,474
4B	Habitat for Management Indicator Species	354,732
5A	Big Game Winter Range in Non Forested Areas	66,720
6B	Livestock Grazing	658,704
7A	Wood-Fiber Production and Utilization	44,104
7B	Wood-Fiber Prod. and Util. Through Selected Planting Stock	6,061
7C	Management of Forested Areas on Steep Slopes	2/
7D	Wood-Fiber Prod. and Util. for Products Other Than Sawtimber	
9A	Riparian Area Management	1,038
9F	Improved Watershed Condition	135,842
10A	Research Natural Areas	4,300
10E	Municipal Watershed	1,179
Total		1,424,479

1/ Excluded from total because it is applied in conjunction with another prescription.

2/ No acres given since this prescription is to be used in Management Areas 7A and 7B where the slope is over 40 percent.

MANAGEMENT PRESCRIPTION 1A

(Provides for existing and proposed developed recreation sites)

299 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is for developed recreation in existing and proposed campgrounds, picnic grounds, trailheads, visitor information centers, summer home groups, and water-based support facilities. Proposed sites (sites scheduled for development in the plan) are managed to maintain the site attractiveness until they are developed.

Facilities such as roads, trails, toilets, signs, etc., may be dominant but harmonize and blend with the natural setting. Livestock grazing is generally excluded from developed sites. Existing and proposed sites are withdrawn from locatable mineral entry.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
VISUAL RESOURCE MANAGEMENT (A04)	1. EMPHASIZE VISUALLY APPEALING LANDSCAPES (VISTA OPENINGS, ROCK OUTCROPPINGS, DIVERSITY OF VEGETATION, ETC.)	a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE: -PARTIAL RETENTION IN DEVELOPMENT LEVEL 2 SITES. -MODIFICATION IN DEVELOPMENT LEVEL 3, 4 AND 5 SITES.
		b. SENSITIVITY LEVEL: DEVELOPMENT LEVEL 3, 4, AND 5 SITES ARE SENSITIVITY LEVEL ONE.
		c. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.
	2. FACILITIES MAY DOMINATE, BUT WILL HARMONIZE AND BLEND WITH THE NATURAL FOREGROUND AND MIDDLE-GROUND LANDSCAPE.	
RECREATION FACILITY AND SITE CONSTRUCTION AND RECONSTRUCTION (A05 AND 06)	1. DESIGN FACILITIES AND ACCESS TO PROVIDE SITE PROTECTION, EFFICIENT MAINTENANCE, AND USER CONVENIENCE. DESIGN AND DEVELOP SITES TO ENSURE THAT DEVELOPED CAPACITY DOES NOT EXCEED SEASON-LONG CARRYING CAPACITY.	a. CONSTRUCT AND RECONSTRUCT EXISTING AND NEW DEVELOPED SITES IN ACCORDANCE WITH THE GUIDELINES IN FSM 2331.
	2. PROVIDE AT LEAST 10 PERCENT OF THE UNITS IN LEVEL 3 AND 4 CAMP AND PICNIC SITES TO ACCOMMODATE TWO OR MORE FAMILY GROUPS.	
RECREATION FACILITY AND SITE MANAGEMENT (A08, 09, 11 & 13)	1. MAINTAIN ALL DEVELOPED SITES IN ACCORDANCE WITH FOREST'S ACCEPTABLE WORK STANDARDS (FSM 2330 FISHLAKE SUPPLEMENT)	
	2. MAINTAIN FACILITIES IN A SAFE CONDITION. REPLACE FACILITIES WHEN REHABILITATION COSTS 50 PERCENT OR MORE OF REPLACEMENT COSTS OR WHEN EXISTING FACILITIES ARE NO LONGER COMPATIBLE WITH SITE DESIGN OR ROS CLASSIFICATION.	a. SEE FSH 2309.11, SEC. 122.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
RANGE RESOURCE MANAGEMENT (D02)	1. MANAGE LIVESTOCK GRAZING TO ENHANCE RECREATION OPPORTUNITIES IN EXISTING AND PROPOSED RECREATION SITES.	a. CONSTRUCT FENCES OF MATER- IAL OTHER THAN BARBED WIRE AROUND DEVELOPED SITES.
	2. EXCLUDE GRAZING OF RECREATIONAL STOCK AND LIVESTOCK IN DEVELOPED RECREATION SITES DURING THE MANAGED RECREATION USE SEASON.	a. MAINTAIN VEGETATION IN FAIR OR BETTER RANGE CONDITION.
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	1. MANAGE TREE STANDS TO ENHANCE VISUAL QUALITY AND RECREATION OPPORTUNITIES ON EXISTING AND PROPOSED RECREATION SITES.	
	2. REMOVE UNSAFE AND/OR DEAD TREES IN DEVELOPED SITES. PLANT NEW TREES TO PROVIDE DESIRED TREE COVER WHEN NATURAL REGENERATION IS INSUFFICIENT.	

MANAGEMENT PRESCRIPTION 1D

(Provides for utility corridors)

71,084 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is for major oil and gas pipelines, major water transmission and slurry pipelines, electrical transmission lines, and transcontinental telephone lines. Management activities within these linear corridors strive to be compatible with the management goals of the management areas through which they pass.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
VISUAL RESOURCE MANAGEMENT (A04)	1. DESIGN AND CONSTRUCT UTILITIES TO HARMONIZE WITH THE LANDSCAPE.	a. USE _NATIONAL FOREST LANDSCAPE MANAGEMENT_, VOLUME 2-UTILITIES FOR PRINCIPLES AND CONCEPTS.
RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	1. MANAGE DISPERSED RECREATION OPPORTUNITIES IN A MANNER CONSISTENT OR COMPATIBLE WITH ADJACENT MANAGEMENT AREAS. 2. CONSTRUCTION, OPERATION, AND MAINTENANCE PLANS FOR UTILITIES WILL PROVIDE FOR CULTURAL RESOURCE MITIGATION MEASURES IN RESPONSE TO FEDERAL AGENCY COMMENTS.	
WILDLIFE HABITAT IMPROVEMENT AND MAINTENANCE (C02, 04, 05 AND 06)	1. MANAGE WILDLIFE AND FISH HABITAT IN A MANNER CONSISTENT OR COMPATIBLE WITH ADJACENT MANAGEMENT AREAS. 2. CONSTRUCTION, OPERATION, AND MAINTENANCE PLANS FOR UTILITIES WILL PROVIDE FOR WLDLIFE AND FISH MITIGATION MEASURES IN RESPONSE TO FEDERAL AND STATE AGENCY COMMENTS.	
RANGE RESOURCE MANAGEMENT (D02)	1. MANAGE THE RANGE RESOURCE IN A MANNER CONSISTENT OR COMPATIBLE WITH ADJACENT MANAGEMENT AREAS.	
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	1. MANAGE FOREST COVER TYPES IN A MANNER CONSISTENT OR COMPATIBLE WITH ADJACENT MANAGEMENT AREAS. PROVIDE REQUIRED ELECTRICAL CLEARANCES AND MINIMIZE THE VISUAL IMPACT OF THE UTILITY RIGHT-OF-WAY. 2. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS.	
SPECIAL USE MANAGEMENT (NON -RECREATION) (J01)	1. CONSTRUCTION, OPERATION, AND MAINTENANCE PLANS WILL BE SUBMITTED FOR ALL MAJOR UTILITY PROJECTS CROSSING NATIONAL FOREST LANDS.	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

RIGHTS-OF-WAY
AND LAND
ADJUSTMENTS
(J02, 13, 15,
16, 17, AND 18)

1. DESIGNATE EXISTING TRANSPORTATION AND UTILITY
USES, IF THEY ORIGINATE ON OR CROSS NATIONAL FOREST
SYSTEM LANDS, AS RIGHTS-OF-WAY CORRIDORS, CONSISTENT
WITH FOREST PLAN GOALS.

2. IDENTIFY AREAS WHERE DESIGNATION AS TRANSPORTA-
TION AND UTILITY CORRIDORS IN THE FUTURE ARE COMPAT-
IBLE WITH MANAGEMENT AREA GOALS. FOLLOW THE PROCESS
AND DEFINITIONS ESTABLISHED IN FSM 1922.51.

a. DESIGNATE AS UTILITY CORRI-
DORS:

1. ELECTRICAL TRANSMISSIONS -
69 KILOVOLTS OR LARGER.
2. PIPELINES - 10 INCHES IN
DIAMETER OR LARGER.
3. TELECOMMUNICATIONS - ALL
MICROWAVE PATHS AND FIXED
TELECOMMUNICATION ELECTRONIC
SITES.
4. RAILWAYS - 10 MILES IN
LENGTH OR LONGER.
5. HIGHWAYS - ALL INTERSTATE,
FEDERAL, OR STATE HIGHWAYS.
6. TELEPHONE LINES - MAJOR
TRANSCONTINENTAL SYSTEMS.

a. FUTURE TRANSPORTATION AND
UTILITY CORRIDORS ARE EXCLUDED
FROM RESEARCH NATURAL AREAS
(MANAGEMENT AREA 10A).

b. AVOID THE FOLLOWING MANAGE-
MENT AREAS UNLESS STUDIES IN-
DICATE THAT THE IMPACT OF THE
CORRIDOR CAN BE MITIGATED:

1. DEVELOPED RECREATION SITES
AND WINTER SPORTS SITES (MAN-
AGEMENT AREAS 1A AND 1B).
2. MANAGEMENT AREA 3B EMPHA-
SIZING SEMI-PRIMITIVE RECREATION.
3. RIPARIAN AREAS.
4. MUNICIPAL WATER SUPPLY AND
MUNICIPAL WATERSHEDS (MANAGE-
MENT AREA 10E).

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RIGHTS-OF-WAY
AND LAND
ADJUSTMENTS
(JO2, 13, 15,
16, 17, AND 18)

3. DESIGN, CONSTRUCT AND MAINTAIN ELECTRICAL TRANSMISSION LINES IN ACCORDANCE WITH THE RULES OF THE NATIONAL ELECTRICAL SAFETY CODE (ANSI). UNLESS OTHERWISE INDICATED ON THE PLAN AND PROFILE DRAWINGS, ALL CONSTRUCTION AND CLEARANCES OF THE TRANSMISSION LINE SHALL CONFORM TO THE LATEST EDITION OF THE NATIONAL ELECTRICAL SAFETY CODE (ANSI) ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE.

4. ALL DESIGN, MATERIALS AND CONSTRUCTION, OPERATION, MAINTENANCE AND TERMINATION PRACTICES EMPLOYED IN CONNECTION WITH OIL PIPELINES SHALL BE IN ACCORDANCE WITH SAFE AND PROVEN ENGINEERING PRACTICES AND SHALL MEET OR EXCEED THE FOLLOWING:

A. U.S.A. STANDARD CODE FOR PRESSURE PIPING, ANSI B 31.4, LIQUID PETROLEUM TRANSPORTATION SYSTEM.

B. DEPARTMENT OF TRANSPORTATION REGULATIONS, 49 CFR, PART 195, TRANSPORTATION OF LIQUIDS BY PIPELINE.

5. ALL DESIGN, MATERIALS AND CONSTRUCTION, OPERATION, MAINTENANCE AND TERMINATION PRACTICES EMPLOYED IN CONNECTION WITH GAS PIPELINES SHALL BE IN ACCORDANCE WITH SAFE AND PROVEN ENGINEERING PRACTICES AND SHALL MEET OR EXCEED THE FOLLOWING:

A. DEPARTMENT OF TRANSPORTATION REGULATIONS, ASME GAS PIPING STANDARDS COMMITTEE, GUIDE FOR GAS TRANSMISSION AND DISTRIBUTION PIPING SYSTEM (3RD EDITION, APRIL 1976).

B. 49 CFR, PART 192, TRANSPORTATION OF NATURAL AND OTHER GAS BY PIPELINES: MINIMUM FEDERAL SAFETY STANDARDS.

MANAGEMENT PRESCRIPTION 2A

(Emphasis is on semi-primitive motorized recreation opportunities)

6,626 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is for semi-primitive motorized recreation opportunities such as snowmobiling, four-wheel driving, and motorcycling both on and off roads and trails. Motorized travel may be restricted or seasonally prohibited to designated routes to protect physical and biological resources.

Visual resources are managed so that management activities are not evident or remain visually subordinate. Past management activities such as historical changes caused by early mining, logging, and ranching may be present which are not visually subordinate but appear to have evolved to their present state through natural process. Landscape rehabilitation is used to restore landscapes to a desirable visual quality. Enhancement aimed at increasing positive elements of the landscape to improve visual variety is also used.

The harvest method by forest cover type is clearcutting in aspen and shelterwood for all other forest cover types.

Mineral and energy resources activities are generally compatible with goals of this management area subject to appropriate stipulations provided in management activities G00-G07 in Forest direction.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
VISUAL RESOURCE MANAGEMENT (A04)	1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO PROVIDE A VISUALLY APPEALING LANDSCAPE. ENHANCE OR PROVIDE MORE VIEWING OPPORTUNITIES AND INCREASE VEGETATION DIVERSITY IN SELECTED AREAS.	a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE PARTIAL RETENTION b. FS SYSTEM TRAVEL ROUTES ARE SENSITIVITY LEVEL ONE. c. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET. d. MANAGE VISUAL RESOURCES USING THE ABOVE STANDARDS IN ACCORDANCE WITH FSM 2380.
RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	1. EMPHASIZE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES. INCREASE OPPORTUNITIES FOR PRIMITIVE ROAD AND MOTORIZED TRAIL USE. SPECIFIC LAND AREAS OR TRAVEL ROUTES MAY BE CLOSED SEASONALLY OR YEAR ROUND FOR COMPATIBILITY WITH ADJACENT AREA MANAGEMENT, TO PREVENT RESOURCE DAMAGE, FOR ECONOMIC REASONS, TO PREVENT CONFLICTS OF USE, AND FOR USER SAFETY. 2. MANAGE USE TO ALLOW LOW TO MODERATE CONTACT WITH OTHER GROUPS AND INDIVIDUALS.	a. SPECIFY OFF-ROAD VEHICLE RESTRICTIONS BASED ON ORV USE MANAGEMENT (FSM 2355). a. MAXIMUM USE AND CAPACITY LEVELS ARE: -TRAIL AND CAMP ENCOUNTERS DURING PEAK USE DAYS ARE LESS THAN 30 PARTIES PER DAY. -TRAIL AND AREA-WIDE USE CAPACITY: ----- ROS CLASS - SEMI-PRIMITIVE MOTORIZED ----- USE LEVEL VERY LOW LOW MODERATE HIGH ----- ON TRAILS PAOT/ MILE 2.0 3.0 9.0 11.0 ----- AREA-WIDE

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

PAOT/
ACRE .004 .008 .05 .08

REDUCE THE ABOVE USE LEVEL CO-
EFFICIENTS AS NECESSARY TO RE-
FLECT USABLE ACRES, PATTERNS OF
USE, AND GENERAL ATTRACTIVENESS
OF THE SPECIFIC MANAGEMENT AREA
TYPE AS DESCRIBED IN THE ROS
USERS GUIDE, CHAPTER 25.
REDUCE THE ABOVE USE LEVELS
WHERE UNACCEPTABLE CHANGES TO
THE BIOPHYSICAL RESOURCES WILL
OCCUR.

3. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM
ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON
SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR
SPECIAL WILDLIFE HABITAT.

4. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

a. CAMPSITE CONDITION CLASS BASED
UPON FRISSELL, S.S.; JOURNAL OF
FORESTRY, MAY, 1978.

5. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

6. FACILITIES PROVIDED INCLUDE DEVELOPMENT LEVEL
1 AND 2 CAMPGROUNDS, TRAILS SUITABLE FOR MOTORIZED
TRAILBIKE USE, LOCAL ROADS WITH PRIMITIVE SURFACE,
AND PARKING LOTS AT TRAIL HEADS. PROVIDE
SIGNING COMPATIBLE WITH INTENDED USE.

a. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

RECREATION
MANAGEMENT
(PRIVATE AND
OTHER PUBLIC
SECTOR)
(A16)

1. ENCOURAGE DEVELOPMENT OF PRIVATE SECTOR SERVICES
SUPPORTING RECREATION.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES												
RANGE RESOURCE MANAGEMENT (D02)	1. KEEP LIVESTOCK DISTRIBUTION AND STOCKING RATES COMPATIBLE WITH RECREATION USE. LOCATE STRUCTURAL IMPROVEMENTS TO MEET VISUAL QUALITY OBJECTIVES.													
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	1. MANAGE TREE STANDS USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS. ENHANCE VISUAL QUALITY, DIVERSITY, AND INSECT AND DISEASE CONTROL. 2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST METHODS: - CLEARCUT IN ASPEN. - SELECTION AND SHELTERWOOD CUTS IN PONDEROSA PINE, MIXED CONIFER AND ENGELMANN SPRUCE-SUBALPINE FIR.	a. APPLY HARVEST TREATMENTS TO FOREST COVER TYPES AS SPECIFIED BELOW ON AT LEAST 80 PERCENT OF THE FOREST COVER TYPE. UP TO 20 PERCENT OF THE TYPE MAY BE TREATED USING OTHER HARVEST METHODS SPECIFIED IN FOREST DIRECTION. b. SILVICULTURAL STANDARDS: (THESE STANDARDS MAY BE EXCEEDED ON AREAS MANAGED FOR OLD GROWTH) 1. CLEARCUT: > > > > > > > > > > > > > > > > > > FOREST COVER TYPE ----- <table> <tr> <th></th><th>ASPEN</th><th>OTHER FOREST COVER TYPES</th></tr> <tr> <td>ROTA- TION AGE</td><td>80-120 YRS</td><td>100 OR MORE YRS</td></tr> <tr> <td>GROW- ING STOCK LEVEL</td><td>N/A</td><td>60 TO 120</td></tr> <tr> <td>THINNING CYCLE</td><td>N/A</td><td>20 TO 30 YRS</td></tr> </table> 2. TWO-STEP SHELTERWOOD: > > > > > > > > > > > > > > > > > > FOREST COVER TYPE -----		ASPEN	OTHER FOREST COVER TYPES	ROTA- TION AGE	80-120 YRS	100 OR MORE YRS	GROW- ING STOCK LEVEL	N/A	60 TO 120	THINNING CYCLE	N/A	20 TO 30 YRS
	ASPEN	OTHER FOREST COVER TYPES												
ROTA- TION AGE	80-120 YRS	100 OR MORE YRS												
GROW- ING STOCK LEVEL	N/A	60 TO 120												
THINNING CYCLE	N/A	20 TO 30 YRS												

ENGELMANN	
SPRUCE-SUB-	OTHER
ALPINE FIR,	FOREST
PONDEROSA	COVER
PINE & MIXED	TYPES
CONIFER	

ROTATION AGE	100-180 YRS	100 OR MORE YRS
GROWING STOCK LEVEL	80-160	60-120
THINNING CYCLE	20-30 YRS	20-30 YRS
FIRST CUT (SEED CUT): REMOVE 40 TO 70 PERCENT OF THE BASAL AREA OR CUT TO: BA 25-60 BA 20-60		
SECOND CUT (REMOVAL CUT): REMOVE ALL OVERSTORY WHEN REGENERATED STAND MEETS MINIMUM STOCKING STANDARDS.		
3. THREE-STEP SHELTERWOOD:		
> > > > >	> > > > >	> > > > >
	FOREST COVER TYPE	
	ENGLEMANN SPRUCE-SUB- ALPINE FIR, PONDEROSA PINE & MIXED CONIFER	OTHER FOREST COVER TYPES
ROTATION AGE	100-180 YRS	100 OR MORE YRS
GROWING STOCK LEVEL	80-160	60-120

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

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- - - - -
THINNING      20-30 YRS      20-30 YRS
CYCLE
- - - - -
FIRST CUT (PREPARATORY CUT):
REMOVE 10 TO 40 PERCENT OF THE
BASAL AREA OR
CUT TO:  BA 60-80      BA 50-80
- - - - -
SECOND CUT (SEED CUT):
REMOVE 40 TO 50 PERCENT OF THE
REMAINING BASAL AREA OR
CUT TO:   BA 25-50      BA 20-50
          10-20 YRS    10-20 YRS
          AFTER PRE-   AFTER
          PARATORY CUT PREPARA-
                      TORY CUT
- - - - -
THIRD CUT (REMOVAL CUT):
REMOVE ALL OVERSTORY WHEN
REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.
> > > > > > > > > > > > > >

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3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

SPECIAL USE
MANAGEMENT (NON-
RECREATION)
(J01)

1. PERMIT SPECIAL USES WHICH ARE COMPLEMENTARY AND COMPAT-
IBLE WITH THE KIND AND DEVELOPMENT LEVEL OF THE ASSOCIATED
FOREST SERVICE FACILITIES WITHIN THE AREA.

a. REFERENCE THE ROS USERS GUIDE.

TRANSPORTATION
SYSTEM
MANAGEMENT
(L01 & 20)

1. ROADS WILL NOT EXCEED DESIGN GUIDES SPECIFIED IN FSM
7721.3 FOR LOCAL ROADS.
MAINTAIN OPEN LOCAL ROADS AT MAINTENANCE LEVEL 2.

a. DO NOT EXCEED AN AVERAGE
OPEN LOCAL ROAD DENSITY OF
2 MILES/SQUARE MILE IN FOURTH-
ORDER WATERSHEDS.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

TRAIL
SYSTEM
MANAGEMENT
(L23)

1. MAINTAIN EXISTING MOTORIZED ROUTES OR CONSTRUCT NEW ROUTES NEEDED AS PART OF THE TRANSPORTATION SYSTEM. PROVIDE LOOP ROUTES OF ONE-HALF TO ONE DAY'S TRAVEL TIME WITH AT LEAST ONE-HALF THE TOTAL ROUTE LOCATED WITHIN THE SEMI-PRIMITIVE MOTORIZED ROS CLASS AND UTILIZING PRIMITIVE LOCAL ROADS AND/OR TRAILS SUITABLE FOR MOTORIZED TRAIL BIKE TRAVEL.

a. DO NOT EXCEED AN AVERAGE MOTORIZED TRAIL DENSITY OF 4 MILES PER SQUARE MILE ON FOURTH-ORDER WATERSHEDS.

b. DO NOT EXCEED AN AVERAGE MOTORIZED TRAIL DENSITY OF 2 MILES PER SQUARE MILE IN NONFORESTED AREAS OF FOURTH-ORDER WATERSHEDS.

MANAGEMENT PRESCRIPTION 2B

(Emphasis is on rural and roaded-natural recreation opportunities)

27,855 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is for rural and roaded-natural recreation opportunities. Motorized and nonmotorized recreation activities such as driving for pleasure, viewing scenery, picnicking, fishing, snowmobiling, and cross-country skiing are possible. Conventional use of high-way-type vehicles is provided for in design and construction of facilities. Motorized travel may be prohibited or restricted to designated routes to protect physical and biological resources. Visual resources are managed so that management activities maintain or improve the quality of recreation opportunities. Management activities are not evident, remain visually subordinate, or may be dominant, but harmonize and blend with the natural setting.

Landscape rehabilitation is used to restore landscapes to a desirable visual quality. Enhancement aimed at increasing positive elements of the landscape to improve visual variety is also used.

The harvest method by forest cover type is clearcutting in aspen, shelterwood in ponderosa pine, mixed conifer, and Engelmann spruce-subalpine fir.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINESVISUAL RESOURCE
MANAGEMENT
(A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO PROVIDE A VISUALLY APPEALING LANDSCAPE. ENHANCE OR PROVIDE MORE VIEWING OPPORTUNITIES AND INCREASE VEGETATION DIVERSITY IN SELECTED AREAS.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE PARTIAL RETENTION

b. ARTERIAL AND COLLECTOR ROADS AND TRAILS ARE SENSITIVITY LEVEL 1.

c. MANAGE VISUAL RESOURCES USING THE ABOVE STANDARDS IN ACCORDANCE WITH FSM 2380.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. PROVIDE ROADED NATURAL OR RURAL RECREATION OPPORTUNITIES ALONG FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WHICH ARE OPEN TO PUBLIC MOTORIZED TRAVEL. MANAGE RECREATION USE TO ALLOW MODERATE TO HIGH INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS.

WHERE ARTERIAL, COLLECTOR OR LOCAL ROADS OR AREAS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION WITH A MODERATE TO HIGH INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS IN A ROADED NATURAL OR RURAL SETTING.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

-TRAIL AND CAMP ENCOUNTERS DURING PEAK USE DAYS MAY EXCEED 30 PARTIES PER DAY.

-TRAIL AND AREA-WIDE USE CAPACITY:

ROS CLASS - ROADED NATURAL

USE LEVEL	VERY LOW	MODER- LOW	ATE	HIGH
--------------	-------------	---------------	-----	------

ON TRAILS

PAOT/MILE	-	-	-	-
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AREA-WIDE

PAOT/ACRE	.04	.08	1.2	2.5
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ROS CLASS - RURAL

USE LEVEL	LOW	VERY LOW	MODER- ATE	HIGH
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ON TRAILS

PAOT/MILE	-	-	-	-
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AREA-WIDE

PAOT/ACRE	.5	.8	5.0	7.5
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REDUCE THE ABOVE USE LEVEL CO-

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

EFFICIENTS AS NECESSARY TO REFLECT
USABLE ACRES, PATTERNS OF USE,
AND GENERAL ATTRACTIVENESS OF THE
SPECIFIC MANAGEMENT AREA TYPE AS
DESCRIBED IN THE ROS USERS GUIDE,
CHAPTER 25.
REDUCE THE ABOVE USE LEVELS
WHERE UNACCEPTABLE CHANGES TO
THE BIOPHYSICAL RESOURCES WILL
OCCUR.

- b. CLOSE LOCAL ROADS TO
PUBLIC USE. DESIGNATE
ROUTES AND AREAS WHICH
CAN BE PERIODICALLY OPEN-
ED TO:
- GATHERING FIREWOOD.
- OPERATING OVERSNOW VEHICLES.

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

4. FACILITIES PROVIDED INCLUDE DEVELOPMENT LEVEL
1 AND 2 CAMPGROUNDS, TRAILS SUITABLE FOR MOTORIZED
TRAILBIKE USE, LOCAL ROADS WITH PRIMITIVE SURFACE,
AND PARKING LOTS AT TRAIL HEADS. PROVIDE
SIGNING COMPATIBLE WITH INTENDED USE.

a. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

b. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

5. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM
ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON
SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR
SPECIAL WILDLIFE HABITAT.

a. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

1. ENCOURAGE DEVELOPMENT OF PRIVATE SECTOR SERVICES SUPPORTING RECREATION.

1. KEEP LIVESTOCK DISTRIBUTION AND STOCKING RATES COMPATIBLE WITH RECREATION USE. LOCATE STRUCTURAL IMPROVEMENTS TO MEET VISUAL QUALITY OBJECTIVES.

1. MANAGE TREE STANDS USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS. ENHANCE VISUAL QUALITY, DIVERSITY, AND INSECT AND DISEASE CONTROL.

2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST METHODS:

- CLEARCUT IN ASPEN.
- SELECTION AND SHELTERWOOD CUTS IN PONDEROSA PINE, MIXED CONIFER AND ENGELMANN SPRUCE-SUBALPINE FIR.

a. APPLY HARVEST TREATMENTS TO FOREST COVER TYPES AS SPECIFIED BELOW ON AT LEAST 80 PERCENT OF THE FOREST COVER TYPE. UP TO 20 PERCENT OF THE TYPE MAY BE TREATED USING OTHER HARVEST METHODS SPECIFIED IN FOREST DIRECTION.

b. SILVICULTURAL STANDARDS:
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)

1. CLEARCUT:

FOREST COVER TYPE

ASPEN		OTHER FOREST COVER TYPES
ROTA- TION	80-120 YRS	100 OR MORE

CONTINUATION OF.
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

AGE		YRS
GROWING STOCK LEVEL	N/A	60 TO 120
THINNING CYCLE	N/A	20 TO 30 YRS
2. TWO-STEP SHELTERWOOD:		
> > > > > > > > > > > > > > > > > >	FOREST COVER TYPE	
	ENGELMANN SPRUCE-SUB-ALPINE FIR, PONDEROSA PINE & MIXED CONIFER	OTHER FOREST COVER TYPES
ROTATION AGE	100-180 YRS	100 OR MORE YRS
GROWING STOCK LEVEL	80-160	60-120
THINNING CYCLE	20-30 YRS	20-30 YRS
FIRST CUT (SEED CUT):		
REMOVE 40 TO 70 PERCENT OF THE BASAL AREA OR		
CUT TO:	BA 25-60	BA 20-60
SECOND CUT (REMOVAL CUT):		
REMOVE ALL OVERSTORY WHEN REGENERATED STAND MEETS MINIMUM STOCKING STANDARDS.		
3. THREE-STEP SHELTERWOOD:		
> > > > > > > > > > > > > > > > > >	FOREST COVER TYPE	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

ENGLEMANN
SPRUCE-SUB-
ALPINE FIR,
PONDEROSA
PINE & MIXED
CONIFER

OTHER
FOREST
COVER
TYPES

ROTA- TION AGE	100-180 YRS	100 OR MORE YRS
GROWING STOCK LEVEL	80-160	60-120
THINNING CYCLE	20-30 YRS	20-30 YRS
FIRST CUT (PREPARATORY CUT): REMOVE 10 TO 40 PERCENT OF THE BASAL AREA OR CUT TO: BA 60-80 BA 50-80		
SECOND CUT (SEED CUT): REMOVE 40 TO 50 PERCENT OF THE REMAINING BASAL AREA OR CUT TO: BA 25-50 BA 20-50 10-20 YRS 10-20 YRS AFTER PRE- AFTER PARATORY CUT PREPARA- TORY CUT		
THIRD CUT (REMOVAL CUT): REMOVE ALL OVERSTORY WHEN REGENERATED STAND MEETS MINIMUM STOCKING STANDARDS. > > > > > > > > > > > > > >		

3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

MANAGEMENT PRESCRIPTION 02B

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
SPECIAL USE MANAGEMENT (NON -RECREATION) (J01)	1. PERMIT SPECIAL USES WHICH ARE COMPLEMENTARY AND COMPAT- IBLE WITH THE KIND AND DEVELOPMENT LEVEL OF THE ASSOCIATED FOREST SERVICE FACILITIES WITHIN THE AREA.	a. REFERENCE THE ROS USERS GUIDE.
TRANSPORTATION SYSTEM MANAGEMENT (L01 & 20)	1. MANAGE PUBLIC USE OF ROADS WITH TECHNIQUES SUCH AS: SEASONAL CLOSURES, TIME OF DAY CLOSURES, ETC.	
TRAIL SYSTEM MANAGEMENT (L23)	1. MAINTAIN EXISTING MOTORIZED ROUTES OR CONSTRUCT NEW ROUTES NEEDED AS PART OF THE TRANSPORTATION SYSTEM. DEVELOP LOOP ROUTES AND COORDINATE THEM TO COMPLEMENT SEMI-PRIMITIVE MOTORIZED OPPORTUNITIES IN ADJACENT SEMI-PRIMITIVE MOTORIZED ROS CLASS AREAS.	a. DO NOT EXCEED MOTORIZED TRAIL AND LOCAL ROAD DENSITY OF 4 MILES PER SQUARE MILE ON NONFORESTED AREAS.

MANAGEMENT PRESCRIPTION 3A

(Emphasis is on providing nonmotorized recreation
with development of other resources)

69,237 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is for nonmotorized recreation outside of wilderness. Recreation opportunities such as hiking, horseback riding, hunting and cross-country skiing are available. Seasonal or permanent restrictions on human use may be applied to provide seclusion for wildlife such as nesting for raptorial birds, big game rearing areas, and mammals (mountain lion, elk) with large home ranges. Visual resources are managed so that management activities are not visually evident or remain visually subordinate.

Investments in compatible resource uses such as livestock grazing and mineral exploration and development occur; but roads are closed to public use. Commercial and noncommercial tree harvest occur. The harvest method by forest cover type is clearcutting in aspen, shelterwood in ponderosa pine, Engelmann spruce-subalpine fir, and mixed conifers.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE MANAGEMENT (A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO PROVIDE A VISUALLY APPEALING LANDSCAPE. ENHANCE OR PROVIDE MORE VIEWING OPPORTUNITIES AND INCREASE VEGETATION DIVERSITY IN SELECTED AREAS.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQQ) SHALL BE PARTIAL RETENTION

b. FS SYSTEM TRAVEL ROUTES ARE SENSITIVITY LEVEL ONE.

c. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.

d. MANAGE VISUAL RESOURCES USING THE ABOVE STANDARDS IN ACCORDANCE WITH FSM 2380.

RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)

1. EMPHASIZE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES. DO NOT ALLOW MOTORIZED RECREATION ACTIVITIES. MOTORIZED TRAVEL ALONG SPECIFIC TRAVEL ROUTES IS PERMITTED TO ACCOMPLISH RESOURCE MANAGEMENT ACTIVITIES.

2. MANAGE USE TO ALLOW LOW TO MODERATE CONTACT WITH OTHER GROUPS AND INDIVIDUALS.

a. PROHIBIT OR RESTRICT MOTORIZED VEHICLE USE (R2 FSH 2309.26).

a. MAXIMUM USE AND CAPACITY:
-TRAIL AND CAMP ENCOUNTERS DURING PEAK USE DAYS ARE LESS THAN 30 OTHER PARTIES PER DAY.
-TRAIL AND AREA-WIDE USE CAPACITY:

ROS CLASS - SEMI-PRIMITIVE
NONMOTORIZED

USE LEVEL	VERY LOW	MODER- LOW	HIGH ATE
ON TRAILS PAOT/ MILE	2.0	3.0	9.0 11.0
AREA-WIDE PAOT/			

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)		<p>ACRE .004 .008 .05 .08</p> <p>-----</p> <p>REDUCE THE ABOVE USE LEVEL CO-EFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25. REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIOPHYSICAL RESOURCES WILL OCCUR.</p>
	<p>3. PROVIDE FACILITIES SUCH AS FOOT AND HORSE TRAILS, SINGLE LANE LOCAL INTERMITTENT ROADS WITH PRIMITIVE SURFACE USED AS TRAILS, DEVELOPMENT LEVEL 1 AND 2 CAMPGROUNDS, AND NECESSARY SIGNING.</p>	<p>a. SEE FSM 2331, FSM 7732, FSH 7709.12 (TRAILS HANDBOOK), FSH 7109.11A AND 11B (SIGN HANDBOOK).</p>
	<p>4. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITHIN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND RESTORE CLASS 5 SITES.</p>	
RECREATION MANAGEMENT (PRIVATE AND OTHER PUBLIC SECTOR) (A16)	<p>1. ENCOURAGE DEVELOPMENT OF PRIVATE SECTOR SERVICES SUPPORTING RECREATION.</p>	
WILDLIFE HABITAT IMPROVEMENT AND MAINTENANCE (C02, 04, 05 AND 06)	<p>1. MAINTAIN WILDLIFE HABITAT EFFECTIVENESS. PERMANENT OPENINGS MAY BE EMPLOYED. REDUCE DISTURBANCE TO WILDLIFE SO THAT NO SIGNIFICANT LONG-TERM NEGATIVE WILDLIFE EFFECTS RESULT.</p> <p>2. PROVIDE DEER AND ELK COVER.</p>	

STANDARDS & GUIDELINES

RANGE RESOURCE
MANAGEMENT
(D02)

1. KEEP LIVESTOCK DISTRIBUTION AND STOCKING RATES COMPATIBLE WITH RECREATION USE. LOCATE STRUCTURAL IMPROVEMENTS TO MEET VISUAL QUALITY OBJECTIVES.

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. MANAGE TREE STANDS USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS. ENHANCE VISUAL QUALITY, DIVERSITY, AND INSECT AND DISEASE CONTROL.

2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST METHODS:

- CLEARCUT IN ASPEN.
- SELECTION AND SHELTERWOOD CUTS IN PONDEROSA PINE, MIXED CONIFER AND ENGELMANN SPRUCE-SUBALPINE FIR.

a. APPLY HARVEST TREATMENTS TO FOREST COVER TYPES AS SPECIFIED BELOW ON AT LEAST 80 PERCENT OF THE FOREST COVER TYPE. UP TO 20 PERCENT OF THE TYPE MAY BE TREATED USING OTHER HARVEST METHODS SPECIFIED IN FOREST DIRECTION..

b. SILVICULTURAL STANDARDS:
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)

1. CLEARCUT:

FOREST COVER TYPE

	ASPEN	OTHER FOREST COVER TYPES
ROTATION AGE	80-120 YRS	100 OR MORE YRS
GROWING STOCK LEVEL	N/A	60 TO 120
THINNING CYCLE	N/A	20 TO 30 YRS
2. TWO-STEP SHELTERWOOD:		
> > > > > > > > > > > > > >	FOREST COVER TYPE	

ENGELMANN	OTHER
SPRUCE-SUB-	FOREST
ALPINE FIR,	COVER
PONDEROSA	TYPES
PINE & MIXED	
CONIFER	

ENGLEMANN SPRUCE-SUB- ALPINE FIR, PONDEROSA PINE & MIXED CONIFER	OTHER FOREST COVER TYPES
1	1
2	2
3	3
4	4
5	5
6	6
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10	10
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89	89
90	90
91	91
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94	94
95	95
96	96
97	97
98	98
99	99
100	100

GROWING STOCK LEVEL	80-160	60-120
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MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

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- - - - -
THINNING    20-30 YRS    20-30 YRS
CYCLE
- - - - -
FIRST CUT (PREPARATORY CUT):
REMOVE 10 TO 40 PERCENT OF THE
BASAL AREA OR
CUT TO:  BA 60-80      BA 50-80
- - - - -
SECOND CUT (SEED CUT):
REMOVE 40 TO 50 PERCENT OF THE
REMAINING BASAL AREA OR
CUT TO:   BA 25-50      BA 20-50
          10-20 YRS    10-20 YRS
          AFTER PRE-    AFTER
          PARATORY CUT  PREPARA-
                              TORY CUT
- - - - -
THIRD CUT (REMOVAL CUT):
REMOVE ALL OVERSTORY WHEN
REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.
> > > > > > > > > > > > >

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3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS.

WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

1. PERMANENT OPENINGS MAY BE EMPLOYED TO ENHANCE WATER PRODUCTION.

SPECIAL USE
MANAGEMENT (NON-
RECREATION)
(J01)

1. PERMIT SPECIAL USES WHICH ARE COMPLEMENTARY AND COMPATIBLE WITH THE OBJECTIVES OF THE MANAGEMENT AREA AND WHICH DO NOT CHANGE THE ROS CLASSIFICATION.

2. PERMIT SPECIAL USES WHICH ARE COMPLEMENTARY AND COMPATIBLE WITH THE KIND AND DEVELOPMENT LEVEL OF THE ASSOCIATED FOREST SERVICE FACILITIES WITHIN THE AREA.

a. REFERENCE THE ROS USERS GUIDE.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

LOCAL ROAD
CONSTRUCTION AND
RECONSTRUCTION
(L11, 12, & 13)

1. ALLOW CONSTRUCTION OF LOCAL ROADS FOR NON-RECREATION PURPOSES.
CLOSE LOCAL ROADS TO PUBLIC MOTORIZED USE, AND PROHIBIT OFF-ROAD VEHICLE (ORV) USE.
MAINTAIN LOCAL ROADS TO LEVEL 1 DURING PERIODS WHEN ACCESS FOR RESOURCE UTILIZATION IS NOT REQUIRED.

MANAGEMENT PRESCRIPTION 3B

(Emphasis is on providing nonmotorized recreation
without development of other resources)

17,691 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is for semi-primitive nonmotorized recreation. Recreation opportunities such as hiking, horseback riding, hunting and cross-country skiing are available. Seasonal or permanent restrictions on human use may be applied to provide seclusion for wildlife such as nesting for raptorial birds, big game rearing areas, and mammals (mountain lion, elk) with large home ranges. Visual resources are managed so that management activities are not visually evident or remain visually subordinate.

Investments in locatable mineral exploration and development occur, but roads are closed to public use. Mineral leasing is allowed with stipulation of no surface occupancy. Prescribed fires are employed to manage vegetation. Timber Harvest is not permitted. Permitted and recreational livestock grazing occurs, but new permanent structures other than corrals, fences, and water developments are not allowed.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES SO THAT THE IMPACT OF MAN IS NOT APPARENT AND THE AREA APPEARS IN A CONDITION AFFECTED ONLY BY NATURAL BIOTIC SUCCESSION.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE RETENTION.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. EMPHASIZE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES. DO NOT ALLOW MOTORIZED RECREATION ACTIVITIES. MOTORIZED TRAVEL ALONG SPECIFIC TRAVEL ROUTES IS PERMITTED TO ACCOMPLISH RESOURCE MANAGEMENT ACTIVITIES.

a. PROHIBIT OR RESTRICT MOTORIZED VEHICLE USE (R2 FSH 2309.26).

2. MANAGE USE TO ALLOW LOW TO MODERATE CONTACT WITH OTHER GROUPS AND INDIVIDUALS.

a. MAXIMUM USE AND CAPACITY.
-TRAIL AND CAMP ENCOUNTERS DURING PEAK USE DAYS ARE LESS THAN 30 OTHER PARTIES PER DAY.
-TRAIL AND AREA-WIDE USE CAPACITY:

ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
USE LEVEL	VERY LOW	MODER- LOW	HIGH ATE	
ON TRAILS				
PAOT/ MILE	2.0	3.0	9.0	11.0
AREA-WIDE				
PAOT/ ACRE	.004	.008	.05	.08

REDUCE THE ABOVE USE LEVEL COEFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25.
REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIOPHYSICAL RESOURCES WILL OCCUR.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	<p>3. PROVIDE FACILITIES SUCH AS FOOT AND HORSE TRAILS, SINGLE LANE LOCAL INTERMITTENT ROADS WITH PRIMITIVE SURFACE USED AS TRAILS, DEVELOPMENT LEVEL 1 AND 2 CAMPGROUNDS, AND NECESSARY SIGNING.</p> <p>4. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.</p> <p>5. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITHIN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND RESTORE CLASS 5 SITES.</p>	a. SEE FSM 2331, FSM 7732, FSH 7709.12 (TRAILS HANDBOOK), FSH 7109.11A AND 11B (SIGN HANDBOOK).
RECREATION MANAGEMENT (PRIVATE AND OTHER PUBLIC SECTOR) (A16)	<p>1. MANAGE OUTFITTER-GUIDE OPERATIONS IN THE SAME MANNER AS OTHER VISITORS. PERMIT CAMPING ONLY IN SITES SPECIFIED IN OUTFITTER-GUIDE PERMITS. KEEP OUTFITTER-GUIDE ACTIVITIES HARMONIOUS WITH ACTIVITIES OF NON-GUIDED VISITORS. INCLUDE OUTFITTER-GUIDE OPERATIONS IN CALCULATIONS OF LEVEL-OF-USE CAPACITIES.</p> <p>2. PROHIBIT COMPETITIVE CONTEST EVENTS, GROUP DEMONSTRATIONS, CEREMONIES, AND OTHER SIMILAR EVENTS.</p>	
WILDLIFE AND FISH RESOURCE MANAGEMENT (C01)	<p>1. MANAGE HUMAN ACTIVITY SO THAT WILDLIFE AND PLANT SPECIES POPULATION AND DISTRIBUTION OCCURS NATURALLY.</p>	
RANGE RESOURCE MANAGEMENT (DQ2)	<p>1. FOLLOW FOREST DIRECTION FOR THIS MANAGEMENT ACTIVITY WITH THE FOLLOWING EXCEPTION: A. DO NOT PROVIDE FOR HEAVY-USE PASTURES.</p> <p>2. PROHIBIT NEW RANGE IMPROVEMENT STRUCTURES OTHER THAN CORRALS, FENCES OR WATER DEVELOPMENTS ESSENTIAL TO SUSTAIN CURRENT PERMITTED NUMBERS.</p> <p>3. PERMIT INCIDENTAL GRAZING BY RECREATION LIVESTOCK WITHIN ACCEPTABLE USE STANDARDS.</p>	a. LIMIT UTILIZATION OF FORAGE TO 40 PERCENT AND TRAMPLING OF ALL CURRENT ANNUAL HERBACEOUS VEGETATION GROWTH TO 50 PERCENT.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RANGE RESOURCE MANAGEMENT (D02) SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	4. PROHIBIT RECREATIONAL STOCK WITHIN 100 FEET OF LAKE SHORES AND STREAMBANKS EXCEPT FOR WATERING AND THROUGH-TRAVEL. 1. DO NOT IMPLEMENT SILVICULTURAL PRACTICES (OTHER THAN PRESCRIBED FIRE) TO MANAGE FORESTED VEGETATION.	
SPECIAL USE MANAGEMENT (NON -RECREATION) (J01)	1. PROHIBIT MAN-MADE STRUCTURES AND FACILITIES WITH THE EXCEPTION OF LOCATABLE MINERALS ACTIVITIES.	
SOIL RESOURCE MANAGEMENT (KA1)	1. RESTORE SOIL DISTURBANCES CAUSED BY HUMAN USE (PAST MINING, GRAZING, TRAIL CONSTRUCTION AND USE, CAMPING) TO SOIL LOSS TOLERANCE LEVELS COMMENSURATE WITH THE NATURAL ECOLOGICAL PROCESSES FOR THE TREATMENT AREA.	a. FOLLOW PROCEDURES SPECIFIED IN AGRICULTURAL HANDBOOK 537 FOR UTILIZING THE UNIVERSAL SOIL LOSS EQUATION. (CAUTIONS CONTAINED IN WO 2550 LETTER DATED 5/28/82 SHOULD BE NOTED.) THE GUIDANCE FOR K AND T FACTORS ARE IN THE NATIONAL SOILS HANDBOOK 407.1 (A)(3) (XVII). b. PROVIDE FRISSELL CONDITION CLASSES 1 AND 2 CAMPSITES ONLY.
TRANSPORTATION SYSTEM MANAGEMENT (L01 & 20)	1. CONVERT ROADS TO TRAILS OR, IF THEY ARE NOT NEEDED AS PART OF THE TRANSPORTATION SYSTEM, OBLITERATE THEM TO MEET THE VISUAL QUALITY OBJECTIVE OF RETENTION.	
FIRE PLANNING AND SUPPRESSION (P01)	1. MAINTAIN FIRE-DEPENDENT ECOSYSTEMS USING PRESCRIBED FIRES FROM PLANNED AND UNPLANNED IGNITIONS. RECLAIM AREAS DISTURBED AS PART OF FIRE CONTROL ACTIVITIES TO MEET THE VISUAL QUALITY OBJECTIVE OF RETENTION.	
PROTECTION (P40)	1. CONTROL PROBLEM PREDATORS ON A CASE-BY-CASE BASIS IN COOPERATION WITH OTHER AGENCIES (FSM 2610).	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
PROTECTION
(P40)

2. RECOMEND AGAINST OR DENY CONCENT TO BLM FOR ISSU-
ANCE OF LEASES OR PERMITS THAT ALLOW FOR SURFACE
OCCUPANCY.

IV-84

MANAGEMENT PRESCRIPTION 3C

(Provides management direction for Fish Lake Mountain)

19,044 Acres

A. Management Prescription Summary

1. General Description and Goals:

This prescription directs the management of Fish Lake Mountain. Emphasis is on a diversity of dispersed recreation experiences. These vary from motorized recreation on the designated route at the south end of the area to non-motorized recreation at the north end and in the glacial canyons. Recreation opportunities such as driving for pleasure, sightseeing, hiking, horseback riding, hunting, and snowmobiling are available. Visual resources are managed so that management activities are not visually evident or remain visually subordinate.

Investments in compatible resource uses such as livestock grazing, timber harvest, and mineral exploration and development may occur; but roads, other than the designated route to Tasha Spring are closed to public use.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO PROVIDE
A VISUALLY APPEALING LANDSCAPE. ENHANCE OR PROVIDE MORE
VIEWING OPPORTUNITIES.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE PARTIAL RETENTION

b. FS SYSTEM TRAVEL ROUTES ARE SENSITIVITY LEVEL ONE.

c. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.

d. MANAGE VISUAL RESOURCES USING THE ABOVE STANDARDS IN ACCORDANCE WITH FSM 2380.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. EMPHASIZE SEMI-PRIMITIVE NONMOTORIZED AND SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES. ALLOW MOTORIZED RECREATION ACTIVITIES ON DESIGNATED ROUTES AND SNOWMOBILING. MOTORIZED TRAVEL ALONG SPECIFIC TRAVEL ROUTES IS PERMITTED TO ACCOMPLISH RESOURCE MANAGEMENT ACTIVITIES.

a. MOTORIZED TRAVEL IS ALLOWED FOR WHEELED VEHICLES ALONG DESIGNATED ROUTE FROM THE VICINITY OF NA GAH FLAT TO TASHA SPRING. SNOWMOBILE USE IS PERMITTED ON ADEQUATE SNOW THROUGHOUT THE MANAGEMENT UNIT.

2. MANAGE USE TO ALLOW LOW TO MODERATE CONTACT WITH OTHER GROUPS AND INDIVIDUALS.

a. MAXIMUM USE AND CAPACITY:
-TRAIL AND CAMP ENCOUNTERS DURING PEAK USE DAYS ARE LESS THAN 30 OTHER PARTIES PER DAY.
-TRAIL AND AREA-WIDE USE CAPACITY:

ROS CLASS		SEMI-PRIMITIVE NONMOTORIZED			
USE LEVEL	VERY LOW	MODER- LOW	MODER- HIGH ATE		
ON TRAILS					
PAOT/ MILE					
	2.0	3.0	9.0	11.0	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

AREA-WIDE

PAOT/
ACRE .004 .008 .05 .08

REDUCE THE ABOVE USE LEVEL CO-
EFFICIENTS AS NECESSARY TO RE-
FLECT USABLE ACRES, PATTERNS OF
USE, AND GENERAL ATTRACTIVENESS
OF THE SPECIFIC MANAGEMENT AREA
TYPE AS DESCRIBED IN THE ROS
USERS GUIDE, CHAPTER 25.
REDUCE THE ABOVE USE LEVELS
WHERE UNACCEPTABLE CHANGES TO
THE BIOPHYSICAL RESOURCES WILL
OCCUR.

3. PROVIDE FACILITIES SUCH AS FOOT AND HORSE TRAILS, SINGLE
LANE LOCAL INTERMITTENT ROADS WITH PRIMITIVE SURFACE USED AS
TRAILS, DEVELOPMENT LEVEL 1 AND 2 CAMPGROUNDS, AND
NECESSARY SIGNING.

a. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

4. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

RECREATION
MANAGEMENT
(PRIVATE AND
OTHER PUBLIC
SECTOR)
(A16)

1. ENCOURAGE DEVELOPMENT OF PRIVATE SECTOR SERVICES
SUPPORTING DISPERSED RECREATION.

WILDLIFE
HABITAT
IMPROVEMENT AND
MAINTENANCE
(C02, 04, 05
AND 06)

1. MAINTAIN WILDLIFE HABITAT EFFECTIVENESS. PERMANENT
OPENINGS MAY BE EMPLOYED. REDUCE DISTURBANCE TO WILDLIFE
SO THAT NO SIGNIFICANT LONG-TERM NEGATIVE WILDLIFE EFFECTS
RESULT.

2. PROVIDE DEER AND ELK COVER.

RANGE RESOURCE
MANAGEMENT
(D02)

1. KEEP LIVESTOCK DISTRIBUTION AND STOCKING RATES
COMPATIBLE WITH RECREATION USE. LOCATE STRUCTURAL
IMPROVEMENTS TO MEET VISUAL QUALITY OBJECTIVES.

MANAGEMENT PRESCRIPTION 03C

Amend #1

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. MANAGE TREE STANDS USING BOTH COMMERCIAL AND
NONCOMMERCIAL METHODS. ENHANCE VISUAL QUALITY,
DIVERSITY, AND INSECT AND DISEASE CONTROL.

2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST
METHODS:
- SELECTION AND SHELTERWOOD CUTS MIXED CONIFER AND
ENGELMANN SPRUCE-SUBALPINE FIR.

a. APPLY HARVEST TREATMENTS TO
FOREST COVER TYPES AS SPECIFIED
BELOW ON AT LEAST 80 PERCENT OF
THE FOREST COVER TYPE. UP TO
20 PERCENT OF THE TYPE MAY BE
TREATED USING OTHER HARVEST
METHODS SPECIFIED IN FOREST
DIRECTION.

b. SILVICULTURAL STANDARDS:
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)
1. TWO-STEP SHELTERWOOD:
> > > > > > > > > > > > > >
FOREST COVER TYPE

ENGELMANN	OTHER
SPRUCE-SUB-	FOREST
ALPINE FIR	COVER
	TYPES
----	----
ROTATION	100-180 YRS
AGE	100 OR
	MORE YRS
----	----
GROWING	80-160
STOCK	
LEVEL	60-120
----	----
THINNING	20-30 YRS
CYCLE	20-30 YRS
----	----
FIRST CUT (SEED CUT):	
REMOVE 40 TO 70 PERCENT OF THE	
BASAL AREA OR	
CUT TO: BA 25-60	BA 20-60
----	----
SECOND CUT (REMOVAL CUT):	
REMOVE ALL OVERSTORY WHEN	
REGENERATED STAND MEETS	
MINIMUM STOCKING STANDARDS.	
----	----

Amend # 1.

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

3. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS.

WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

1. PERMANENT OPENINGS MAY BE EMPLOYED TO ENHANCE WATER PRODUCTION.

SPECIAL USE
MANAGEMENT (NON
-RECREATION)
(J01)

1. PERMIT SPECIAL USES WHICH ARE COMPLEMENTARY AND COMPATIBLE WITH THE OBJECTIVES OF THE MANAGEMENT AREA AND WHICH DO NOT CHANGE THE ROS CLASSIFICATION.

a. REFERENCE THE ROS USERS GUIDE.

LOCAL ROAD
CONSTRUCTION AND
RECONSTRUCTION
(L11, 12, & 13)

1. MAINTAIN THE ROAD TO TASHA SPRING TO LEVEL 2.

2. ALLOW CONSTRUCTION OF LOCAL ROADS FOR NON-RECREATION PURPOSES.

WITH THE EXCEPTION OF THE ROAD TO TASHA SPRING CLOSE LOCAL ROADS TO PUBLIC MOTORIZED USE, AND PROHIBIT OFF-ROAD VEHICLE (ORV) USE, EXCEPT SNOWMOBILING. MAINTAIN LOCAL ROADS TO LEVEL 1 DURING PERIODS WHEN ACCESS FOR RESOURCE UTILIZATION IS NOT REQUIRED.

Amended #1

MANAGEMENT PRESCRIPTION 4A

(Emphasis is on fish habitat improvement)

2,474 Acres

A. Management Prescription Summary

1. General Description and Goals:

Emphasis is on fish habitat improvement where aquatic habitat is below productive potential. Habitat enhancement techniques may be used on lake, reservoir, river or stream habitats and their adjacent riparian ecosystems.

The goals of management are to maintain or improve aquatic habitat condition for fish at or above a good habitat condition rating, maintain stable stream channels, meet water quality standards for cold water fisheries, provide healthy, self-perpetuating riparian plant communities and provide habitats for viable populations of wildlife.

Management techniques that may be used include fencing and planting in riparian ecosystems, drop structures, bank stabilization structures, boulder placement, pool blasting, removal of fish barriers, construction of fish barriers, selective tree removal, lake aeration, aquatic weed control, non-game fish control, dam rehabilitation and maintenance of instream flows and conservation pools.

Livestock grazing is at a level that will assure maintenance of the vigor and regenerative capacity of the riparian plant communities as well as maintaining shade and bank stability for streams. Vehicular travel is limited on roads and trails at times when excessive stream sedimentation would result. New road construction is restricted within riparian areas unless no feasible alternative exists. Developed recreation facility construction for overnight use is prohibited within the 100-year floodplain.

Forest riparian ecosystems are treated to improve wildlife and fish habitat diversity through specified silvicultural objectives.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES																																												
VISUAL RESOURCE MANAGEMENT (A04)	1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES WHICH SUSTAIN INHERENT VISUAL VALUES OF RIPARIAN AREAS AND BLEND WITH THE SURROUNDING NATURAL LANDSCAPES.	a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE PARTIAL RETENTION OR MODIFICATION.																																												
RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	1. SEMI-PRIMITIVE NONMOTORIZED, SEMI-PRIMITIVE MOTORIZED, ROADED NATURAL AND RURAL RECREATION OPPORTUNITIES CAN BE PROVIDED. 2. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA. PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL. PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNI- TIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE. WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVI- DUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS. PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OP- PORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.	a. MAXIMUM USE AND CAPACITY LEVELS ARE: RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE): TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL): <table><tr><th rowspan="2">USE LEVEL</th><th colspan="4">CAPACITY RANGE</th></tr><tr><th>VERY LOW</th><th>LOW</th><th>MODER- ATE</th><th>HIGH</th></tr><tr><td>ROS CLASS</td><td colspan="4">SEMI-PRIMITIVE NONMOTORIZED</td></tr><tr><td>ON TRAILS PAOT/MILE</td><td>2.0</td><td>3.0</td><td>9.0</td><td>11.0</td></tr><tr><td>AREA-WIDE PAOT/ACRE</td><td>.004</td><td>.008</td><td>.05</td><td>.08</td></tr><tr><td>ROS CLASS</td><td colspan="4">SEMI-PRIMITIVE MOTORIZED</td></tr><tr><td>ON TRAILS PAOT/MILE</td><td>2.0</td><td>3.0</td><td>9.0</td><td>11.0</td></tr><tr><td>AREA-WIDE PAOT/ACRE</td><td>.004</td><td>.008</td><td>.05</td><td>.08</td></tr><tr><td>ROS CLASS</td><td colspan="4">ROADED NATURAL</td></tr></table>	USE LEVEL	CAPACITY RANGE				VERY LOW	LOW	MODER- ATE	HIGH	ROS CLASS	SEMI-PRIMITIVE NONMOTORIZED				ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0	AREA-WIDE PAOT/ACRE	.004	.008	.05	.08	ROS CLASS	SEMI-PRIMITIVE MOTORIZED				ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0	AREA-WIDE PAOT/ACRE	.004	.008	.05	.08	ROS CLASS	ROADED NATURAL			
USE LEVEL	CAPACITY RANGE																																													
	VERY LOW	LOW	MODER- ATE	HIGH																																										
ROS CLASS	SEMI-PRIMITIVE NONMOTORIZED																																													
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0																																										
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08																																										
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AREA-WIDE PAOT/ACRE	.004	.008	.05	.08																																										
ROS CLASS	ROADED NATURAL																																													

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.04	.08	1.2	2.5
ROS CLASS	RURAL			
ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.5	.8	5.0	7.5
REDUCE THE ABOVE USE LEVEL COEFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25.				
REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIO-PHYSICAL RESOURCES WILL OCCUR.				

b. SPECIFY OFF-ROAD VEHICLE RESTRICTIONS BASED ON ORV USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732, FSH 7709.12 (TRAILS HANDBOOK), FSH 7109.11A AND 11B (SIGN HANDBOOK).

3. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

MANAGEMENT PRESCRIPTION 04A

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES																
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	4. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH- IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND RESTORE CLASS 5 SITES.																	
	5. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR SPECIAL WILDLIFE HABITAT.																	
WILDLIFE HABITAT IMPROVEMENT AND MAINTENANCE (C02, 04, 05 AND 06)	1. PROVIDE HABITAT DIVERSITY TO MEET OR EXCEED UTAH DWR POPULATION GOALS FOR ALL AQUATIC VERTEBRATE SPECIES.	a. MAINTAIN OR IMPROVE OVERALL STREAM HABITAT CONDITON AT OR ABOVE 70 PERCENT OF OPTIMUM (USE R-4 GAWS AQUATIC HABITAT SURVEYS HANDBOOK, OR R-1 COWFISH HABITAT CAPABILITY MODEL).																
	2. COORDINATE LAKE AND STREAM HABITAT IMPROVEMENT PROJECTS WITH THE UTAH DWR, WHERE AQUATIC HABITATS ARE BELOW PRODUCTIVE POTENTIAL.																	
	3. MAINTAIN A CURRENT FISH HABITAT INVENTORY IN CO- OPERATION WITH UTAH DWR.																	
	4. MAINTAIN INSTREAM FLOWS IN COOPERATION WITH UTAH DWR TO SUPPORT A SUSTAINED YIELD OF NATURAL FISHERIES RESOURCES.	a. INSTREAM FLOWS WILL BE DETER- MINED BY R-4 GAWS AQUATIC HABITAT SURVEYS PROCEDURES OR OTHER ACCEPTED METHODOLOGY.																
RANGE RESOURCE MANAGEMENT (D02)	1. MAINTAIN PROPER STOCKING AND LIVESTOCK DISTRIBUTION TO PROTECT RIPARIAN ECOSYSTEMS.	a. LIVESTOCK GRAZING IN RIPARIAN AREAS WILL BE CONTROLLED AT THE FOLLOWING LEVELS OF UTILIZATION:																
		<table> <tr> <th>GRAZING SYSTEM</th><th>VEGETATION CONDITION CLASS</th><th>TOTAL FORAGE UTILIZATION BY WEIGHT</th></tr> <tr> <td colspan="3">1. GRASS/GRASSLIKE FORB VEGETATIVE TYPE:</td></tr> <tr> <td rowspan="3">CONTINUOUS</td><td>GOOD</td><td>40%</td></tr> <tr> <td>FAIR</td><td>30%</td></tr> <tr> <td>POOR</td><td>20%</td></tr> <tr> <td>REST-</td><td>HEAVY USE</td><td></td></tr> </table>	GRAZING SYSTEM	VEGETATION CONDITION CLASS	TOTAL FORAGE UTILIZATION BY WEIGHT	1. GRASS/GRASSLIKE FORB VEGETATIVE TYPE:			CONTINUOUS	GOOD	40%	FAIR	30%	POOR	20%	REST-	HEAVY USE	
GRAZING SYSTEM	VEGETATION CONDITION CLASS	TOTAL FORAGE UTILIZATION BY WEIGHT																
1. GRASS/GRASSLIKE FORB VEGETATIVE TYPE:																		
CONTINUOUS	GOOD	40%																
	FAIR	30%																
	POOR	20%																
REST-	HEAVY USE																	

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF RANGE RESOURCE MANAGEMENT (D02)		ROTATION PASTURE (1) 60%
		LIGHT USE
		PASTURE 40%
	DEFERRED-	HEAVY USE
	ROTATION	PASTURE (2) 50%
		LIGHT USE
		PASTURE 35%
	2. WILLOW/GRASS/GRASSLIKE	
	VEGETATIVE TYPE:	
	CONTINUOUS	GOOD 55%
		FAIR 40%
		POOR 30%
	3. WILLOW-FOREST	
	VEGETATIVE TYPE:	
	REST-	HEAVY USE
	ROTATION	PASTURE (1) 70%
		LIGHT USE
		PASTURE 50%
	DEFERRED-	HEAVY USE
	ROTATION	PASTURE (2) 60%
		LIGHT USE
		PASTURE 40%

(1) TRAMPLED AREAS AND STREAMBANK DAMAGE CAUSED DURING HEAVY USE YEAR SHOULD BE HEALED OR STABILIZED WITHIN THE FOLLOWING REST YEAR.		
(2) BARE SOIL CAUSED BY DISTUR- BANCE IN A HEAVY USE PASTURE SHOULD BE STABILIZED OR HEALED PRIOR TO USE THE FOLLOWING YEAR.		
BROWSE UTILIZATION WITHIN THE RIPARIAN ECOSYSTEM WILL NOT EXCEED 50% OF NEW LEADER PRODUCTION.		
THE LIMITING FACTOR ON A GIVEN RIPARIAN AREA WILL BE WHICHEVER UTILIZATION STANDARD IS REACHED FIRST, EITHER TOTAL FORAGE OR BROWSE.		

MANAGEMENT PRESCRIPTION 04A

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RANGE RESOURCE MANAGEMENT (D02)	2. PROHIBIT TRAILING OF LIVESTOCK ALONG THE LENGTH OF RIPARIAN AREAS EXCEPT WHERE EXISTING STOCK DRIVEWAYS OCCUR. REHABILITATE EXISTING STOCK DRIVEWAYS WHERE DAMAGE IS OCCURRING IN RIPARIAN AREAS. RELOCATE THEM OUTSIDE RIPARIAN AREAS IF POSSIBLE, AND IF NECESSARY TO ACHIEVE RIPARIAN AREA GOALS.	
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	1. MANAGE FOREST COVER TYPES TO PERPETUATE TREE COVER AND PROVIDE HEALTHY STANDS, HIGH WATER QUALITY AND WILDLIFE AND FISH HABITAT. 2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST METHODS: - CLEARCUT IN ASPEN, AND - SELECTION CUTS, GROUP OR SINGLE TREE, IN ALL OTHER COVER TYPES.	a. SILVICULTURAL STANDARDS: (THESE STANDARDS MAY BE EXCEEDED ON AREAS MANAGED FOR OLD GROWTH) 1. CLEARCUT: FOREST COVER TYPE ASPEN ROTATION 80-120 AGE YRS. 2. SELECTION (GROUP OR SINGLE TREE): ALL OTHER FOREST COVER TYPES ROTATION 90-160 AGE CUTTING CYCLE 20-30 YRS FOR GROUP SELECTION, SIZE OF OPEN- INGS ARE LESS THAN THREE ACRES.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING STOCK LEVEL STANDARDS.
4. ADJUST STOCKING LEVELS BY SITE QUALITY. HIGHER STOCKING SHOULD OCCUR ON BETTER SITES.
5. ESTABLISH A SATISFACTORY STAND EITHER NATURALLY OR THROUGH ARTIFICIAL REGENERATION METHODS WITHIN A FIVE-YEAR PERIOD AFTER DISTURBANCE.
6. PROHIBIT LOG LANDING AND DECKING AREAS WITHIN THE RIPARIAN AREA.
7. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED STANDS OF ANY FOREST COVER TYPE.

WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

1. PROPOSED NEW LAND-USE FACILITIES (ROADS, CAMPGROUNDS, BUILDINGS) WILL NOT NORMALLY BE LOCATED WITHIN FLOODPLAIN BOUNDARIES FOR THE 100-YEAR FLOOD. PROTECT PRESENT AND ALL NECESSARY FUTURE FACILITIES THAT CANNOT BE LOCATED OUT OF THE 100-YEAR FLOODPLAIN BY STRUCTURAL MITIGATION (DEFLECTION STRUCTURES, RIPRAP, ETC.).
2. PREVENT STREAM CHANNEL INSTABILITY, LOSS OF CHANNEL CROSS-SECTIONAL AREAS, AND LOSS OF WATER QUALITY RESULTING FROM ACTIVITIES THAT ALTER VEGETATIVE COVER.
3. DETERMINE THE EFFECTS ON WATER QUALITY AND SEDIMENT YIELDS FROM VEGETATION MANIPULATION AND ROAD CONSTRUCTION PROJECTS THROUGH THE USE OF APPROPRIATE MODELING AND QUANTIFICATION PROCEDURES.

a. IMPLEMENT MITIGATION MEASURES WHEN PRESENT OR UNAVOIDABLE FUTURE FACILITIES ARE LOCATED IN THE ACTIVE FLOODPLAIN TO ENSURE THAT STATE WATER QUALITY STANDARDS, BANK STABILITY CRITERIA, FLOOD HAZARD REDUCTION, AND INSTREAM FLOW STANDARDS ARE MET DURING AND IMMEDIATELY AFTER CONSTRUCTION.

a. LIMIT CHANGES IN CHANNEL RATING OR CLASSIFICATION SCORES TO AN INCREASE OF 10 PERCENT OR LESS. USE CHANNEL STABILITY CRITERIA ESTABLISHED BY COOPER, 1978, AND PFANKUCH, 1975. USE CHANNEL CLASSIFICATION CRITERIA ESTABLISHED BY ROSGEN, 1980.

b. MAINTAIN AT LEAST 80 PERCENT OF POTENTIAL GROUND COVER WITHIN 100 FEET FROM THE

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

EDGES OF ALL PERENNIAL STREAMS,
LAKES AND OTHER WATERBODIES, OR
TO THE OUTER MARGIN OF THE RIP-
ARIAN ECOSYSTEM, WHERE WIDER
THAN 100 FEET.

4. AVOID CHANNELIZATION OF NATURAL STREAMS. WHERE CHANNELIZATION IS NECESSARY FOR FLOOD CONTROL OR OTHER PURPOSES, USE STREAM GEOMETRY RELATIONSHIPS TO RE-ESTABLISH MEANDERS, WIDTH/DEPTH RATIOS, ETC. CONSISTENT WITH EACH MAJOR STREAM TYPE.
5. TREAT AREAS DISTURBED BY MANAGEMENT ACTIVITIES TO REDUCE EROSION TO NATURAL RATES.
6. STABILIZE STREAMBANKS, WHICH ARE DAMAGED BY MANAGEMENT ACTIVITIES, WITH METHODS THAT EMPHASIZE REVEGETATION.
7. DESIGN AND LOCATE SETTLING PONDS TO REDUCE DOWN-STREAM SEDIMENT YIELD AND TO PREVENT WASHOUT DURING HIGH WATER. LOCATE SETTLING PONDS OUTSIDE OF THE ACTIVE CHANNEL. RESTORE ANY CHANNEL CHANGES TO HYDRAULIC GEOMETRY STANDARDS FOR EACH STREAM TYPE.
8. INCLUDE WILDLIFE AND FISH HABITAT, AESTHETIC, AND SAFETY GOALS WHEN PLANNING PROJECTS THAT RESULT IN VEGETATION TYPE CONVERSION.
9. REQUIRE CONCURRENT MONITORING TO ENSURE THAT MITIGATIVE MEASURES ARE EFFECTIVE AND IN COMPLIANCE WITH STATE WATER QUALITY STANDARDS.

SOIL RESOURCE
MANAGEMENT
(K01)

1. REHABILITATE DISTURBED SOILS AREAS WHERE ADVERSE IMPACTS WOULD OCCUR ACCORDING TO THE FOLLOWING PRIORITIES:
 - AQUATIC ECOSYSTEMS;
 - RIPARIAN ECOSYSTEMS; AND
 - RIPARIAN AREAS OUTSIDE OF AQUATIC AND RIPARIAN ECOSYSTEMS.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: SOIL RESOURCE MANAGEMENT (KA1)	<p>2. PREVENT SOIL SURFACE COMPACTION AND DISTURBANCE IN RIPARIAN ECOSYSTEMS. ALLOW USE OF HEAVY CONSTRUCTION EQUIPMENT FOR CONSTRUCTION, RESIDUE REMOVAL, ETC. ONLY DURING PERIODS WHEN THE SOIL IS LEAST SUSCEPTIBLE TO COMPACTION OR RUTTING.</p> <p>3. MAINTAIN OR ENHANCE THE LONG-TERM PRODUCTIVITY OF SOILS WITHIN THE RIPARIAN ECOSYSTEM.</p>	
MINING LAW COMPLIANCE AND ADMINISTRATION (LOCATABLES) (G01)	<p>1. MINIMIZE DETRIMENTAL DISTURBANCE TO THE RIPARIAN AREA BY MINERAL ACTIVITIES. INITIATE TIMELY AND EFFECTIVE REHABILITATION OF DISTURBED AREAS AND RESTORE RIPARIAN AREAS TO A STATE OF PRODUCTIVITY COMPARABLE TO THAT BEFORE DISTURBANCE.</p> <p>2. LOCATE MINERAL REMOVAL ACTIVITIES AWAY FROM THE WATER'S EDGE OR OUTSIDE THE RIPARIAN AREA.</p>	<p>a. PROHIBIT THE DEPOSITING OF SOIL MATERIAL FROM DRILLING, PROCESSING, OR SITE PREPARATION IN NATURAL DRAINAGEWAYS.</p> <p>b. LOCATE THE LOWER EDGE OF DISTURBED OR DEPOSITED SOIL BANKS OUTSIDE THE ACTIVE FLOODPLAIN.</p> <p>c. PROHIBIT STOCKPILING OF TOPSOIL OR ANY OTHER DISTURBED SOIL IN THE ACTIVE FLOODPLAIN.</p> <p>d. PROHIBIT MINERAL PROCESSING (MILLING) ACTIVITIES WITHIN THE ACTIVE FLOODPLAIN.</p> <p>e. DISCONTINUE HEAVY EQUIPMENT USE WHEN SOIL COMPACTION, RUTTING, AND PUDDLING IS PRESENT.</p> <p>a. LOCATE DRILLING MUD PITS OUTSIDE THE ACTIVE FLOODPLAIN UNLESS ALTERNATE LOCATIONS ARE MORE ENVIRONMENTALLY DAMAGING. IF LOCATION IS UNAVOIDABLE, SEAL AND DIKE ALL PITS TO PREVENT LEAKAGE.</p> <p>b. DRAIN AND RESTORE ROADS, PADS, AND DRILL SITES IMMEDIATELY AFTER</p>

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
MINING LAW
COMPLIANCE AND
ADMINISTRATION
(LOCATABLES)
(G01)

USE IS DISCONTINUED. REVEGETATE
TO 80 PERCENT GROUND COVER IN THE
FIRST YEAR. PROVIDE SURFACE
PROTECTION DURING STORMFLOW AND
SNOWMELT RUNOFF EVENTS.

3. DESIGN AND LOCATE PLACER MINE SETTLING PONDS TO
PREVENT WASHOUT DURING HIGH WATER. LOCATE SETTLING
PONDS OUTSIDE OF THE ACTIVE CHANNEL. RESTORE ANY
CHANNEL CHANGES TO HYDRAULIC GEOMETRY STANDARDS FOR
EACH STREAM TYPE.

a. PERMIT DIVERSION ACTIVITIES
WITHIN THE RIPARIAN ZONE WHERE
TECHNOLOGY IS AVAILABLE TO
MAINTAIN WATER QUALITY STANDARDS,
SEDIMENT THRESHOLD LIMITS, AND
INSTREAM FLOW STANDARDS.

4. CONFINE HEAVY EQUIPMENT USE TO AREAS NECESSARY FOR
MINERAL EXTRACTION.

5. LOCATE MINING CAMPS OUTSIDE THE ACTIVE FLOODPLAIN.

6. REQUIRE CONCURRENT MONITORING TO ENSURE THAT
MITIGATIVE MEASURES ARE EFFECTIVE AND IN COMPLIANCE WITH
STATE WATER QUALITY STANDARDS.

TRANSPORTATION
SYSTEM
MANAGEMENT
(L01 & 20)

1. LOCATE ROADS AND TRAILS OUTSIDE RIPARIAN AREAS
UNLESS ALTERNATIVE ROUTES HAVE BEEN REVIEWED AND RE-
JECTED AS BEING MORE ENVIRONMENTALLY DAMAGING.

a. DO NOT PARALLEL STREAMS WHEN
ROAD LOCATION MUST OCCUR IN RIPAR-
IAN AREAS EXCEPT WHERE ABSOLUTELY
NECESSARY. CROSS STREAMS AT RIGHT
ANGLES. LOCATE CROSSINGS AT
POINTS OF LOW BANK SLOPE AND
FIRM SURFACES.

2. CREATE ARTIFICIAL SEDIMENT TRAPS WITH BARRIERS
WHERE NATURAL VEGETATION IS INADEQUATE TO PROTECT
WATERWAYS OR LAKES FROM SIGNIFICANT ACCELERATED
SEDIMENTATION.

3. MINIMIZE DETRIMENTAL DISTURBANCE TO THE RIPARIAN
AREA BY CONSTRUCTION ACTIVITIES. INITIATE TIMELY AND
EFFECTIVE REHABILITATION OF DISTURBED AREAS AND RESTORE
RIPARIAN AREAS SO THAT A VEGETATIVE GROUND COVER OR
SUITABLE SUBSTITUTE PROTECTS THE SOIL FROM EROSION
AND PREVENTS INCREASED SEDIMENT YIELD.

MANAGEMENT PRESCRIPTION 4B

(Emphasis is on habitat for management indicator species)

354,732 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is on the habitat needs of one or more management indicator species. Species with compatible habitat needs are selected for an area. The prescription can be applied to emphasize groups of species, such as early succession dependent or late succession dependent, in order to increase species richness or diversity.

Vegetation characteristics and human activities are managed to provide optimum habitat for the selected species, or to meet population goals jointly agreed to with the Utah Division of Wildlife Resources. Tree stands are managed for specific size, shape, interspersion, crown closure, age, structure, and edge contrast. Grass, forb, and browse vegetation characteristics are regulated. Rangeland vegetation is managed to provide needed vegetation species composition and interspersed grass, forb, and shrub sites or variety in age of browse plants. Fish habitat improvement treatments are applied to lakes and streams to enhance habitats and increase fish populations. Recreation and other human activities are regulated to favor the needs of the designated species. Roaded-natural recreation opportunities are provided along forest arterial and collector roads. Local roads and trails are either open or closed to public motorized travel. Semi-primitive motorized recreation opportunities are provided on those local roads and trails that remain open. Semi-primitive nonmotorized opportunities are provided on those that are closed. A full range of tree harvest methods and rangeland vegetation treatment methods are available. Investments in other compatible resource uses may occur but will be secondary to habitat requirements. Management activities may dominate in foreground and middleground, but harmonize and blend with the natural setting.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO
BLEND WITH THE NATURAL LANDSCAPE.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE MODIFICATION.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. MANAGE HUMAN RECREATIONAL ACTIVITIES SO THEY
DO NOT CONFLICT WITH HABITAT NEEDS OF SELECTED INDICATOR
SPECIES.

2. SEMI-PRIMITIVE NONMOTORIZED, SEMI-PRIMITIVE
MOTORIZED, ROADED NATURAL AND RURAL RECREATION
OPPORTUNITIES CAN BE PROVIDED.

a. MAXIMUM USE AND CAPACITY
LEVELS ARE:

RECREATION USE AND CAPACITY
RANGE DURING THE SNOW-FREE
PERIOD (PAOT/ACRE):

TRAIL USE AND CAPACITY RANGE
(PAOT/MILE OF TRAIL):

USE LEVEL	CAPACITY RANGE			
	VERY LOW	LOW	MODER- ATE	HIGH
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - ROADED NATURAL				

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.04	.08	1.2	2.5
ROS CLASS	-	RURAL		
ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.5	.8	5.0	7.5
REDUCE THE ABOVE USE LEVEL CO- EFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25. REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIO- PHYSICAL RESOURCES WILL OCCUR.				

b. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

3. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

4. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

MANAGEMENT PRESCRIPTION 04B

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	5. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR SPECIAL WILDLIFE HABITAT.	
WILDLIFE AND FISH RESOURCE MANAGEMENT (C01)	1. MANAGE FOR HABITAT NEEDS OF MANAGEMENT INDICATOR SPECIES.	a. MAINTAIN AT LEAST 80% OF THE HABITAT REQUIREMENTS FOR THESE SPECIES.
	2. EMPHASIS ON SPECIES COMMONLY HUNTED, FISHED, OR TRAPPED WILL FOLLOW SPECIES PRIORITIES ESTABLISHED BY UDWR.	a. MAINTAIN AT LEAST 90 PERCENT OF THE HABITAT NEEDED TO SUPPORT POPULATION GOALS FOR EACH SPECIES.
	3. MAINTAIN HIDING COVER FOR ELK AND DEER, WHERE PRESENT.	a. MAINTAIN, ALONG 75 PER- CENT OF ALL ARTERIAL AND COLLECTOR ROAD EDGES, COVER THAT HIDES 90 PERCENT OF AN ADULT STANDING DEER OR ELK FROM HUMAN VIEW AT A DISTANCE OF 200 FEET FROM THE ROAD. b. IN MANAGEMENT AREAS DOMINATED BY FORESTED ECOSYSTEMS, MAINTAIN A MINIMUM OF 50 PERCENT OF THE AREA IN DEER OR ELK HIDING COVER. THIS HIDING COVER SHOULD BE WELL DISTRIBUTED OVER THE UNIT. MAINTAIN 30 PERCENT OF THE MANGEMENT AREA IN THERMAL COVER (WINTER OR SPRING-SUMMER). HIDING COVER CAN BE USED TO MEET THERMAL COVER REQUIREMENTS IF THEY INDEED COINCIDE BIOLOG- ICALLY.
RANGE RESOURCE MANAGEMENT (D02)	1. IMPLEMENT ROTATION GRAZING SYSTEMS.	

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES																
CONTINUATION OF RANGE RESOURCE MANAGEMENT (D02)	<p>2. APPLY WILDLIFE AND LIVESTOCK FORAGE ALLOWABLE USE GUIDES SPECIFIED IN FOREST DIRECTION. MODIFY SPLIT BETWEEN WILDLIFE AND LIVESTOCK SO NEEDS OF MANAGEMENT INDICATOR SPECIES ARE MET.</p> <p>3. STRUCTURAL RANGE IMPROVEMENT SHOULD BE DESIGNED TO BENEFIT WILDLIFE AND LIVESTOCK.</p>	<p>a. STRUCTURAL IMPROVEMENTS WILL NOT ADVERSLY AFFECT BIG GAME MOVEMENT (FSH 2209.22).</p> <p>b. WATER DEVELOPMENTS WILL BE MODIFIED OR CONSTRUCTED TO ALLOW SAFE ACCESS FOR WILDLIFE.</p>																
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	<p>1. MANAGE FOREST COVER TYPES TO PROVIDE VARIETY IN STAND SIZES, SHAPE, CROWN CLOSURE, EDGE CONTRAST, AGE STRUCTURE AND INTERSPERSION.</p> <p>2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST METHODS:</p> <ul style="list-style-type: none">- CLEARCUT IN ASPEN,- SHELTERWOOD CUT IN PONDEROSA PINE AND MIXED CONIFER, AND- SELECTION CUT ,GROUP OR SINGLE TREE, IN ENGELMANN SPRUCE-SUBALPINE FIR.	<p>a. APPLY HARVEST TREATMENTS TO FOREST COVER TYPES AS SPECIFIED BELOW ON AT LEAST 80 PERCENT OF THE FOREST COVER TYPE. UP TO 20 PERCENT OF THE TYPE MAY BE TREATED USING OTHER HARVEST METHODS SPECIFIED IN FOREST DIRECTION.</p> <p>b. SILVICULTURAL STANDARDS: (THESE STANDARDS MAY BE EXCEEDED ON AREAS MANAGED FOR OLD GROWTH)</p> <p>1. CLEARCUT:</p> <table><tr><td>> > > > > > > > > > > > > ></td><td>FOREST COVER TYPE</td></tr><tr><td colspan="2">-----</td></tr><tr><td></td><td>OTHER FOREST COVER TYPES</td></tr><tr><td colspan="2">-----</td></tr><tr><td></td><td>ASPEN</td></tr><tr><td colspan="2">-----</td></tr><tr><td>ROTA- TION AGE</td><td>80-120 YRS 100 OR MORE YRS</td></tr><tr><td colspan="2">-----</td></tr></table>	> > > > > > > > > > > > > >	FOREST COVER TYPE	-----			OTHER FOREST COVER TYPES	-----			ASPEN	-----		ROTA- TION AGE	80-120 YRS 100 OR MORE YRS	-----	
> > > > > > > > > > > > > >	FOREST COVER TYPE																	

	OTHER FOREST COVER TYPES																	

	ASPEN																	

ROTA- TION AGE	80-120 YRS 100 OR MORE YRS																	

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

ROTA- TION AGE	100-160 YRS	100 OR MORE YRS
GROWING STOCK LEVEL	80-120	60-120
THINNING CYCLE	20-30 YRS	20-30 YRS
FIRST CUT (PREPARATORY CUT): REMOVE 10 TO 40 PERCENT OF THE BASAL AREA OR CUT TO: BA 60-80 BA 50-80		
SECOND CUT (SEED CUT): REMOVE 40 TO 50 PERCENT OF THE REMAINING BASAL AREA OR CUT TO: BA 25-50 BA 20-50 10-20 YRS 10-20 YRS AFTER PRE- AFTER PARATORY CUT PREPARA- TORY CUT		
THIRD CUT (REMOVAL CUT): REMOVE ALL OVERSTORY WHEN REGENERATED STAND MEETS MINIMUM STOCKING STANDARDS.		
4. SELECTION: > > > > > > > > > > > > > > FOREST COVER TYPE		
ENGELMANN OTHER SPRUCE- FOREST SUBALPINE COVER FIR TYPES		
> > > > > > > > > > > > > >		
RESIDUAL BA	80-120	80-120
CUTTING CYCLE 20-30 YRS. 20-40 YRS.		
> > > > > > > > > > > > > >		

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

TRANSPORTATION
SYSTEM
MANAGEMENT
(L01 & 20)

1. MANAGE ROAD USE TO PROVIDE FOR HABITAT NEEDS OF
MANAGEMENT INDICATOR SPECIES, INCLUDING ROAD CLOSURES
AND AREA CLOSURES, AND TO MAINTAIN HABITAT EFFECTIVENESS.

FUEL TREATMENT
(P11 THRU 14)

1. MAINTAIN FUEL CONDITIONS WHICH PERMIT FIRE
SUPPRESSION AND PRESCRIBED FIRE TO MAINTAIN HABITAT NEEDED
FOR SELECTED SPECIES OR SPECIES POPULATION LEVELS.

IV-102

MANAGEMENT PRESCRIPTION 5A

(Emphasis is on big game winter range in nonforested areas)

66,720 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is on winter range for deer, elk, and bighorn sheep if introduced. Treatments are applied to increase forage production of existing grass, forb, and browse species or to alter plant species composition. Prescribed burning, seeding, spraying, planting, and mechanical treatments may occur. Browse stands are regenerated to maintain a variety of age classes and species.

Investments in compatible resource activities occur. With the exception of bighorn sheep range, livestock grazing is compatible but is managed to favor wildlife habitat.

Structural range improvements benefit wildlife. Management activities are not evident, remain visually subordinate, or are dominant in the foreground or middleground but harmonize or blend with the natural setting.

New roads other than short-term (temporary) roads are located outside of the management area. Short term roads are obliterated within one season after intended use. Selected local roads are closed and motorized recreation use is managed to prevent unacceptable stress on big game animals during the primary big game use season.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
VISUAL RESOURCE MANAGEMENT (A04)	1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO BLEND WITH THE NATURAL LANDSCAPE.	a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE MODIFICATION.
RECREATION FACILITY AND SITE MANAGEMENT (A08, 09, 11 & 13)	1. DESIGN, CONSTRUCT AND OPERATE ONLY THOSE DEVELOPED SITES WHICH ARE NEEDED TO MEET SUMMER SEASON MANAGEMENT OBJECTIVES, AND ARE APPROPRIATE FOR THE ESTABLISHED ROS DESIGNATION. CLOSE ALL DEVELOPED SITES DURING THE WINTER MANAGEMENT SEASON.	
RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	1. MANAGE SUMMER USE SEASON FOR APPROPRIATE ROS OP- PORTUNITIES. PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITH- IN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC MOTORIZED TRAVEL. PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPOR- TUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE. WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS. PROVIDE SEMI-PRIMITIVE NON-MOTORIZED RECREATION OPPOR- TUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.	a. MAXIMUM USE AND CAPACITY LEVELS ARE: RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE): TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL): CAPACITY RANGE USE VERY MODER- LEVEL LOW LOW ATE HIGH ROS CLASS - PRIMITIVE ON TRAILS 0.5 1.0 2.0 3.0 PAOT/MILE AREA WIDE PAOT/ACRE .001 .002 .007 .025 ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED ON TRAILS PAOT/MILE 2.0 3.0 9.0 11.0 AREA-WIDE PAOT/ACRE .004 .008 .05 .08 ROS CLASS - SEMI-PRIMITIVE MOTORIZED ON TRAILS

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE				
PAOT/ACRE	.004	.008	.05	.08
ROS CLASS -	ROADED	NATURAL		
ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.04	.08	1.2	2.5
REDUCE THE ABOVE USE LEVEL CO- EFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25. REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIO- PHYSICAL RESOURCES WILL OCCUR.				

b. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

d. PROHIBIT OPEN FIRES WHEN THE
OCCURRANCE OF FIRE RINGS EXCEEDS
FRISSELL CLASS 1 SITE CONDITIONS
ON 10 PERCENT OR MORE OF THE
KNOWN CAMPSITES.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	2. MANAGE WINTER USE FOR VERY LOW OR LOW DENSITIES. CLOSE AREAS TO HUMAN USE TO THE DEGREE NECESSARY IN WINTER TO PREVENT DISTURBANCE OF WILDLIFE.	a. CLOSE MANAGEMENT AREA TO CROSS-COUNTRY SKI TRAIL DE- VELOPMENT AND TO SNOWMOBILE USE. b. DO NOT PROVIDE PARKING OR TRAIL HEAD FACILITIES DURING WINTER.
WILDLIFE AND FISH RESOURCE MANAGEMENT (C01)	1. PROVIDE BIG GAME FORAGE, COVER, AND HABITAT.	a. MAINTAIN AT LEAST 30 PERCENT OF SHRUB PLANTS IN MATURE STAGE, AND AT LEAST 10 PERCENT IN YOUNG STAGE. b. MAINTAIN AT LEAST TWO SHRUB SPECIES ON SHRUB LANDS CAPABLE OF GROWING TWO OR MORE SHRUB SPECIES. c. MAINTAIN HABITAT EFFECTIVENESS DURING WINTER OF AT LEAST 90 PERCENT. d. MAINTAIN HABITAT CAPABILITY AT A LEVEL AT LEAST 80 PERCENT OF POTENTIAL FOR BIG GAME.
RANGE RESOURCE MANAGEMENT (D02)	1. MANAGE GRAZING TO FAVOR BIG GAME AND TO ACHIEVE THE WILDLIFE POPULATIONS IDENTIFIED IN STATE-WIDE COMPREHENSIVE WILDLIFE PLANS.	a. MAINTAIN VEGETATION IN FAIR OR BETTER RANGE CON- DITION.
SPECIAL USE MANAGEMENT (NON -RECREATION) (J01)	1. ELIMINATE SPECIAL USES THAT CONFLICT WITH WINTERING ANIMALS.	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

RIGHTS-OF-WAY
AND LAND
ADJUSTMENTS
(J02, 13, 15,
16, 17, AND 18)

1. ACQUIRE PRIVATE LANDS NEEDED FOR BIG GAME
WINTER RANGE.

TRANSPORTATION
SYSTEM
MANAGEMENT
(L01 & 20)

1. DO NOT ALLOW ROAD TRAFFIC OR ROAD CUT AND FILL
SLOPES TO BLOCK BIG GAME MOVEMENT IN DELINEATED
MIGRATION ROUTES.

2. ALLOW NEW ROADS IN THE MANAGEMENT AREA ONLY IF
NEEDED TO MEET PRIORITY GOALS OUTSIDE THE MANAGEMENT
AREA OR TO MEET BIG GAME GOALS ON THE MANAGEMENT
AREA. OBLITERATE TEMPORARY ROADS WITHIN ONE SEASON
AFTER PLANNED USE ENDS.

a. NEW PERMANENT OR TEMPORARY
ROADS CONSTRUCTED IN THE MANAGE-
MENT AREA MUST MEET THE FOLLOW-
ING CRITERIA:

1) NO FEASIBLE LOCATION
EXISTS FOR THE ROAD OUTSIDE
THE AREA. THE ROAD IS
ESSENTIAL TO ACHIEVE GOALS
AND OBJECTIVES OF CONTIGUOUS
MANAGEMENT AREAS, OR TO PROVIDE
ACCESS TO LAND ADMINISTERED
BY OTHER GOVERNMENT AGENCIES
OR CONTIGUOUS PRIVATE LAND.

2) THE UDWR IS FULLY INVOLVED
IN THE ROAD LOCATION, PLANNING
AND ALTERNATIVE EVALUATION.

3) PLANNED MANAGEMENT OF ROAD
USE DURING WINTER WILL PREVENT
OR MINIMIZE DISTURBANCE OF
WINTERING BIG GAME ANIMALS, OR
WILL ALLOW HUNTING AND OTHER
MANAGEMENT ACTIVITIES NEEDED TO
MEET WILDLIFE MANAGEMENT OBJEC-
TIVES.

4) ROADS ARE CONSTRUCTED TO THE
MINIMUM STANDARDS NECESSARY TO
PROVIDE SAFETY FOR THE ROAD USE
PURPOSE.

5) ROADS CROSS THE WINTER RANGE
IN THE MINIMUM DISTANCE FEASIBLE
TO FACILITATE THE NECESSARY
USE.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
TRANSPORTATION
SYSTEM
MANAGEMENT
(LO1 & 20)

3. CLOSE SELECTED EXISTING ROADS, PROHIBIT OFF-ROAD
VEHICLE USE AND MANAGE NON-MOTORIZED USE TO PREVENT
STRESS ON BIG GAME ANIMALS.

a. OPENING OF EXISTING ROADS
DURING WINTER CAN BE APPROVED
IF THE FOLLOWING CRITERIA ARE
MET:
1) NO REASONABLE ALTERNATIVE
EXISTS FOR OWNERS OR MANAGERS
TO REACH CONTIGUOUS PRIVATE OR
PUBLIC LAND DURING WINTER.
2) ROAD USE, OFF-ROAD VEHICLE
USE, OR NON-MOTORIZED USE OF
THE AREA IS ESSENTIAL AND IS
THE MINIMUM NECESSARY TO MEET
PRIORITY RESOURCE MANAGE-
MENT GOALS AND OBJECTIVES.
3) THE UDWR IS INVOLVED
IN PLANNING HUMAN USE OF AREA
DURING WINTER.

4. WHEN ROAD CONSTRUCTION IS ALLOWED, LOST WILDLIFE
HABITAT WILL BE MITIGATED.

IV-108

MANAGEMENT PRESCRIPTION 6B

(Emphasis is on livestock grazing)

658,704 Acres

A. Management Prescription Summary

1. General Description and Goals:

Range resource management level D (intensive management) is applied. This involves use of structural and non-structural improvements with associated maintenance. Any grazing system can be applied which is consistent with maintaining the environment and providing for multiple use of the range. Condition is improved through use of vegetation and soil restoration practices, improved livestock management, and regulation of other resource activities. Investment in structural and non-structural improvements is moderate to high. Structural improvements benefit or at least do not adversely affect wildlife. Nonstructural restoration and forage improvement practices available are seeding, planting, burning, fertilizing, pitting, furrowing, spraying, crushing, plowing, and chaining.

Investments are made in compatible resource activities. Dispersed recreational opportunities vary between semi-primitive nonmotorized and roaded natural. Management activities are evident but harmonize and blend with the natural setting.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES TO
BLEND WITH THE NATURAL LANDSCAPE.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE MODIFICATION.

b. WHEN PROJECTS REQUIRE CLEARING OF VEGETATION AND (OR) SOIL DISTURBANCE, USE IRREGULAR CLEARING EDGES AND SHAPES TO BLEND WITH THE NATURAL LANDSCAPES.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA.

PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL.

PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE.

WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS.

PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE):

TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL):

USE LEVEL	CAPACITY RANGE			
	VERY LOW	LOW	MODER- ATE	HIGH
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS - ROADED NATURAL

ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.04	.08	1.2	2.5
ROS CLASS - RURAL				
ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.5	.8	5.0	7.5

REDUCE THE ABOVE USE LEVEL CO-
EFFICIENTS AS NECESSARY TO REFLECT
USABLE ACRES, PATTERNS OF USE, AND
GENERAL ATTRACTIVENESS OF THE
SPECIFIC MANAGEMENT AREA TYPE AS
DESCRIBED IN THE ROS USERS GUIDE,
CHAPTER 25.
REDUCE THE ABOVE USE LEVELS WHERE
UNACCEPTABLE CHANGES TO THE BIO-
PHYSICAL RESOURCES WILL OCCUR.

b. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH- IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND RESTORE CLASS 5 SITES.	
	4. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR SPECIAL WILDLIFE HABITAT.	
WILDLIFE AND FISH RESOURCE MANAGEMENT (C01)	1. MAINTAIN HABITAT CAPABILITY FOR MANAGEMENT INDICATOR SPECIES.	a. MAINTAIN 60 PERCENT OR MORE OF ECOSYSTEMS REQUIRED FOR THESE SPECIES.
	2. PROVIDE ADEQUATE FORAGE TO SUSTAIN BIG GAME POPULATION LEVELS AGREED TO IN THE STATEWIDE COMPREHENSIVE WILDLIFE MANAGEMENT PLAN ON NFS LANDS.	a. ALLOCATE 90 PERCENT OF AVAILABLE FORAGE TO LIVESTOCK.
RANGE RESOURCE MANAGEMENT (D02)	1. USE ONLY INTENSIVE MANAGEMENT STRATEGIES OR ADJUST LIVESTOCK NUMBERS TO INDICATED CAPACITY WHEN RECOVERY OF RANGE CONDITION CANNOT BE ACCOMPLISHED BY SUCH MANAGEMENT.	a. BASE RANGE CONDITION ON THE STANDARDS IN RANGE ANALYSIS HANDBOOK (FSH 2209.21).
	2. INVEST IN COST-EFFECTIVE GRAZING MANAGEMENT AND RANGELAND PRODUCTIVITY IMPROVEMENTS. WHERE IMPROVE- MENTS INCLUDE WATER DEVELOPMENTS, A WATER RIGHT IN THE NAME OF THE UNITED STATES MUST BE OBTAINED.	a. STRUCTURAL IMPROVEMENTS WILL BE CONSTRUCTED TO STANDARDS IN FSH 2209.22.
		b. BASE ECONOMIC ANALYSIS ON PROJECT EFFECTIVENESS ANALYSIS HANDBOOK (FSH 2209.11).
	3. MANAGE UNDER LEVEL D, INTENSIVE (FSH 1909.11A), AND COMPLETE NON-STRUCTURAL IMPROVEMENTS WHERE NECESSARY.	
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	1. MAINTAIN AND MANAGE FORESTED INCLUSIONS TO PROVIDE A HIGH LEVEL OF FORAGE PRODUCTION, WILDLIFE HABITAT, AND DIVERSITY.	

a. APPLY HARVEST TREATMENTS TO FOREST COVER TYPES AS SPECIFIED BELOW ON AT LEAST 80 PERCENT OF THE FOREST COVER TYPE. UP TO 20 PERCENT OF THE TYPE MAY BE TREATED USING OTHER HARVEST METHODS SPECIFIED IN FOREST DIRECTION.

FOREST	REGENERA-	
COVER	TION	
TYPE	CUTTING	ROTATION
	METHOD	AGE

ENGELMANN SPRUCE- SUBALPINE FIR	SELECTION	N/A
PONDEROSA PINE	SHELTER- WOOD	100-180 YRS.
MIXED CONIFER	SELECTION	N/A
ASPEN	CLEARCUT	80-120 YRS.

APPLY RELEASE AND WEEDING AS
NEEDED TO IMPROVE VISUAL QUALITY.

3. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS.

MANAGEMENT PRESCRIPTION 7A

(Emphasis is on wood-fiber production and utilization)

44,104 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is on wood-fiber production and utilization of large roundwood of a size and quality suitable for sawtimber. The harvest method by forest cover type is clearcutting in aspen and Engelmann spruce-subalpine fir and shelterwood in ponderosa pine and mixed conifers.

The area generally will have a mosaic of fully stocked stands that follow natural patterns and avoid straight lines and geometric shapes. Management activities are not evident or remain visually subordinate along forest arterial and collector roads and primary trails. In other portions of the area, management activities may dominate in foreground and middleground but harmonize and blend with the natural setting.

Roaded-natural recreation opportunities are provided along forest arterial and collector roads. Semi-primitive motorized recreation opportunities are provided on those local roads and trails that remain open. Semi-primitive nonmotorized opportunities are provided on those that are closed.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. MEET STATED VISUAL QUALITY OBJECTIVE.

a. MINIMUM VISUAL QUALITY OBJECTIVES (VQO) SHALL BE:
PARTIAL RETENTION WITHIN THE FOREGROUND OF ARTERIAL/COLLECTOR ROADS AND PRIMARY TRAILS.
MODIFICATION ON ALL OTHER AREAS.

b. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA.

PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL.

PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE.

WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS.

PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE):

TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL):

CAPACITY RANGE				
USE LEVEL	VERY LOW	MODER- LOW	ATE	HIGH
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS	-	ROADED	NATURAL	-	-	-	-	-	-
ON TRAILS	-	-	-	-	-	-	-	-	-
PAOT/MILE	-	-	-	-	-	-	-	-	-
AREA-WIDE	-	-	-	-	-	-	-	-	-
PAOT/ACRE	.04	.08	1.2	2.5	-	-	-	-	-
ROS CLASS	-	RURAL	-	-	-	-	-	-	-
ON TRAILS	-	-	-	-	-	-	-	-	-
PAOT/MILE	-	-	-	-	-	-	-	-	-
AREA-WIDE	-	-	-	-	-	-	-	-	-
PAOT/ACRE	.5	.8	5.0	7.5	-	-	-	-	-
REDUCE THE ABOVE USE LEVEL CO- EFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25. REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIO- PHYSICAL RESOURCES WILL OCCUR.									

b. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

4. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM
ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON
SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR
SPECIAL WILDLIFE HABITAT.

RANGE
IMPROVEMENT AND
MAINTENANCE
(D03, 04, 05
AND 06)

1. UTILIZE TRANSITORY FORAGE THAT IS AVAILABLE
WHERE DEMAND EXISTS AND WHERE INVESTMENTS IN REGENERATION
CAN BE PROTECTED.

a. VARY UTILIZATION STANDARDS
WITH GRAZING SYSTEM AND ECOLOGICAL
CONDITION. SPECIFY STANDARDS IN
THE ALLOTMENT MANAGEMENT PLAN.

b. MAXIMUM GRAZING USE ALLOWED ON
TRANSITORY RANGES RESULTING FROM
CLEARCUTS:

- KEY SHRUBS-20 PERCENT OF
CURRENT GROWTH.
- GRASSES-50 PERCENT OF
CURRENT GROWTH.
- FORBS-20 PERCENT OF TOTAL
PRODUCTION.

2. PROTECT REGENERATION FROM LIVESTOCK DAMAGE.

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. MANAGE FOREST COVER TYPES USING THE FOLLOWING
HARVEST METHODS:
- CLEARCUT IN ASPEN AND ENGELMANN SPRUCE-SUBALPINE
FIR.
- SHELTERWOOD CUT IN PONDEROSA PINE AND MIXED CONIFER.

a. APPLY HARVEST TREATMENTS TO
FOREST COVER TYPES AS SPECIFIED
BELOW ON AT LEAST 80 PERCENT OF
THE FOREST COVER TYPE. UP TO
20 PERCENT OF THE TYPE MAY BE
TREATED USING OTHER HARVEST
METHODS SPECIFIED IN FOREST
DIRECTION.

b. SILVICULTURAL STANDARDS-
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)
1. CLEARCUT:

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

FOREST COVER TYPE			
	ENGELMANN SPRUCE- SUBALPINE FIR	ASPEN	OTHER FOREST COVER TYPES
ROTA- TION AGE	90-180 YRS	80-120 YRS	80 OR MORE YRS
GROW- ING STOCK LEVEL	80-120	N/A	60 TO 120
THINNING CYCLE	20-50 YRS	N/A	10 TO 40 YRS
2. TWO-STEP SHELTERWOOD:			
FOREST COVER TYPE			
	PONDEROSA PINE & ENGELMANN SPRUCE & MIXED CONIFER		OTHER FOREST COVER TYPES
ROTA- TION AGE	50-180 YRS		80 OR MORE YRS
GROWING STOCK LEVEL	80-160		60-120
THINNING CYCLE	20-50 YRS		20-40 YRS
FIRST CUT (SEED CUT), REMOVE 40 TO 70 PERCENT OF THE BASAL AREA OR CUT TO: BA 25-60			
SECOND CUT (REMOVAL CUT).			

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

REMOVE ALL OVERSTORY WHEN
REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.

3. THREE-STEP SHELTERWOOD:

	FOREST COVER TYPE	
	PONDEROSA PINE, ENGELMANN SPRUCE & MIXED CONIFER	OTHER FOREST COVER TYPES
ROTA- TION AGE	50-180 YRS	80 OR MORE YRS
GROWING STOCK LEVEL	80-160	60-120
THINNING CYCLE	20-50 YRS	20-40 YR
FIRST CUT (PREPARATORY CUT), REMOVE 10 TO 40 PERCENT OF THE BASAL AREA OR CUT TO: BA 60-80 BA 50-80		
SECOND CUT (SEED CUT), REMOVE 40 TO 50 PERCENT OF THE REMAINING BASAL AREA OR CUT TO: BA 25-50 10-20 YRS AFTER PRE- PARATORY CUT		
THIRD CUT (REMOVAL CUT): REMOVE ALL OVERSTORY WHEN REGENERATED STAND MEETS MINIMUM STOCKING STANDARDS.		

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

2. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED
STANDS OF ANY FOREST COVER TYPE.

3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

IV-120

MANAGEMENT PRESCRIPTION 7B

(Emphasis is on wood-fiber production and utilization
through selected planting stock)

6,061 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is on wood-fiber production and utilization of large roundwood of a size and quality suitable for sawtimber. Artificial regeneration methods using selected planting stock rather than natural regeneration is used to achieve increased wood fiber production. The harvest method by forest cover type is clearcutting in Engelmann spruce-subalpine fir and shelterwood in ponderosa pine and mixed conifers. Rapid restocking will permit rotations to be 5 to 8 percent shorter than rotations in other wood fiber emphasis prescriptions.

The area generally will have a mosaic of fully stocked stands that follow natural patterns and avoid straight lines and geometric shapes. Management activities are not evident or remain visually subordinate along forest arterial and collector roads and primary trails. In other portions of the area, management activities may dominate in foreground and middleground but harmonize and blend with the natural setting.

Roaded-natural recreation opportunities are provided along forest arterial and collector roads. Semi-primitive motorized recreation opportunities are provided on those local roads and trails that remain open. Semi-primitive nonmotorized opportunities are provided on those that are closed.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. MEET STATED VISUAL QUALITY OBJECTIVE.

a. MINIMUM VISUAL QUALITY OBJECTIVES (VQO) SHALL BE:
PARTIAL RETENTION WITHIN THE FOREGROUND OF ARTERIAL/COLLECTOR ROADS AND PRIMARY TRAILS.
MODIFICATION ON ALL OTHER AREAS.

b. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA.

PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL.

PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE.

WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS.

PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE).

TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL):

CAPACITY RANGE				
USE	VERY	MODER-		
LEVEL	LOW	ATE	HIGH	
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS				
PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE				
PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS				
PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE				
PAOT/ACRE	.004	.008	.05	.08

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS - ROADED NATURAL

ON TRAILS
PAOT/MILE

AREA-WIDE
PAOT/ACRE .04 .08 1.2 2.5

ROS CLASS - RURAL

ON TRAILS
PAOT/MILE

AREA-WIDE
PAOT/ACRE .5 .8 5.0 7.5

REDUCE THE ABOVE USE LEVEL CO-
EFFICIENTS AS NECESSARY TO REFLECT
USABLE ACRES, PATTERNS OF USE, AND
GENERAL ATTRACTIVENESS OF THE
SPECIFIC MANAGEMENT AREA TYPE AS
DESCRIBED IN THE ROS USERS GUIDE,
CHAPTER 25.

REDUCE THE ABOVE USE LEVELS WHERE
UNACCEPTABLE CHANGES TO THE BIO-
PHYSICAL RESOURCES WILL OCCUR.

b. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

MANAGEMENT PRESCRIPTION 07B

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

4. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM
ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON
SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR
SPECIAL WILDLIFE HABITAT.

RANGE
IMPROVEMENT AND
MAINTENANCE
(D03, 04, 05
AND 06)

1. UTILIZE TRANSITORY FORAGE THAT IS AVAILABLE
WHERE DEMAND EXISTS AND WHERE INVESTMENTS IN REGENERATION
CAN BE PROTECTED.

a. VARY UTILIZATION STANDARDS
WITH GRAZING SYSTEM AND ECOLOGICAL
CONDITION. SPECIFY STANDARDS IN
THE ALLOTMENT MANAGEMENT PLAN.

b. MAXIMUM GRAZING USE ALLOWED ON
TRANSITORY RANGES RESULTING FROM
CLEARCUTS:

- KEY SHRUBS-20 PERCENT OF
CURRENT GROWTH.
- GRASSES-50 PERCENT OF
CURRENT GROWTH.
- FORBS-20 PERCENT OF TOTAL
PRODUCTION.

2. PROTECT REGENERATION FROM LIVESTOCK DAMAGE.

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. MANAGE FOREST COVER TYPES USING THE FOLLOWING
HARVEST METHODS:
- CLEARCUT IN ENGELMANN SPRUCE-SUBALPINE FIR.
- SHELTERWOOD CUT IN PONDEROSA PINE AND MIXED CONIFER.

a. APPLY HARVEST TREATMENTS TO
FOREST COVER TYPES AS SPECIFIED
BELOW ON AT LEAST 80 PERCENT OF
THE FOREST COVER TYPE. UP TO
20 PERCENT OF THE TYPE MAY BE
TREATED USING OTHER HARVEST
METHODS SPECIFIED IN FOREST
DIRECTION.

b. SILVICULTURAL STANDARDS.
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)
1. CLEARCUT:

IV-124

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

FOREST COVER TYPE		
	ENGELMANN SPRUCE- SUBALPINE FIR	OTHER FOREST COVER TYPES
ROTA- TION AGE	90-180 YRS	80 OR MORE YRS
GROW- ING STOCK LEVEL	80-120	60 TO 120
THINNING CYCLE	20-50 YRS	10 TO 40 YRS
2. TWO-STEP SHELTERWOOD:		
FOREST COVER TYPE		
	PONDEROSA PINE & MIXED CONIFER	OTHER FOREST COVER TYPES
ROTA- TION AGE	100-160 YRS	80 OR MORE YRS
GROWING STOCK LEVEL	80-160	60-120
THINNING CYCLE	20-50 YRS	20-40 YRS
FIRST CUT (SEED CUT), REMOVE 40 TO 70 PERCENT OF THE BASAL AREA OR CUT TO: BA 25-50 BA 20-60		
SECOND CUT (REMOVAL CUT). REMOVE ALL OVERSTORY WHEN		

MANAGEMENT PRESCRIPTION 07B

REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.

FOREST COVER TYPE

FOREST COVER TYPE

PONDEROSA	OTHER
PINE &	FOREST
MIXED	COVER
CONIFER	TYPES

ROTA- TION AGE	100-160 YRS	80 OR MORE YRS
----------------------	-------------	-------------------

GROWING STOCK LEVEL	80-160	60-120
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THINNING	20-50 YRS	20-40 YR
CYCLE		

FIRST CUT (PREPARATORY CUT),
REMOVE 10 TO 40 PERCENT OF THE
BASAL AREA OR
CUT TO: BA 60-80

SECOND CUT (SEED CUT),
REMOVE 40 TO 50 PERCENT OF THE
REMAINING BASAL AREA OR
CUT TO: BA 25-50
10-20 YRS
AFTER PRE-
PARATORY CUT

THIRD CUT (REMOVAL CUT):
REMOVE ALL OVERSTORY WHEN
REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

2. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED
STANDS OF ANY FOREST COVER TYPE.

3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

RAPID
ARTIFICIAL
REGENERATION
(E09)

1. PLANT TREES THAT ARE OF SELECTED PLANTING STOCK.

MANAGEMENT PRESCRIPTION 7C

(Emphasis is on management of forested areas on steep slopes)

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is to develop and maintain healthy tree cover on forested slopes greater than 40 percent. The harvest method by forest cover type is clearcut for ponderosa pine and mixed conifer; group or strip clearcut for aspen and spruce-fir; or group selection in spruce-fir; or shelterwood for ponderosa-pine and mixed conifer. Management activities, although visually dominant, harmonize and blend with the natural setting.

Roaded-natural recreation opportunities are provided along forest arterial and collector roads. Semi-primitive motorized recreation opportunities are provided on those local roads and trails that remain open. Semiprimitive nonmotorized opportunities are provided on those that are closed.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(AO4)

1. MEET STATED VISUAL QUALITY OBJECTIVE.

a. MINIMUM VISUAL QUALITY OBJECTIVES (VQO) SHALL BE:
PARTIAL RETENTION WITHIN THE FOREGROUND OF ARTERIAL/COLLECTOR ROADS AND PRIMARY TRAILS.
MODIFICATION ON ALL OTHER AREAS.

b. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA.
PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL.
PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE.
WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS.
PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE):				
TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL):				
CAPACITY RANGE				
USE LEVEL	VERY LOW	MODERATE	HIGH	
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS - ROADED NATURAL

ON TRAILS
PAOT/MILE

AREA-WIDE
PAOT/ACRE .04 .08 1.2 2.5

ROS CLASS - RURAL

ON TRAILS
PAOT/MILE

AREA-WIDE
PAOT/ACRE .5 .8 5.0 7.5

REDUCE THE ABOVE USE LEVEL CO-
EFFICIENTS AS NECESSARY TO REFLECT
USABLE ACRES, PATTERNS OF USE, AND
GENERAL ATTRACTIVENESS OF THE
SPECIFIC MANAGEMENT AREA TYPE AS
DESCRIBED IN THE ROS USERS GUIDE,
CHAPTER 25.

REDUCE THE ABOVE USE LEVELS WHERE
UNACCEPTABLE CHANGES TO THE BIO-
PHYSICAL RESOURCES WILL OCCUR.

b. SPECIFY OFF-ROAD VEHICLE
RESTRICTIONS BASED ON ORV
USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732,
FSH 7709.12 (TRAILS
HANDBOOK), FSH 7109.11A
AND 11B (SIGN HANDBOOK).

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION
CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

4. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM
ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON
SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR
SPECIAL WILDLIFE HABITAT.

RANGE
IMPROVEMENT AND
MAINTENANCE
(D03, 04, 05
AND 06)

1. UTILIZE TRANSITORY FORAGE THAT IS AVAILABLE
WHERE DEMAND EXISTS AND WHERE INVESTMENTS IN REGENERATION
CAN BE PROTECTED.

a. VARY UTILIZATION STANDARDS
WITH GRAZING SYSTEM AND ECOLOGICAL
CONDITION. SPECIFY STANDARDS IN
THE ALLOTMENT MANAGEMENT PLAN.

b. MAXIMUM GRAZING USE ALLOWED ON
TRANSITORY RANGES RESULTING FROM
CLEARCUTS:

- KEY SHRUBS-20 PERCENT OF
CURRENT GROWTH.
- GRASSES-50 PERCENT OF
CURRENT GROWTH.
- FORBS-20 PERCENT OF TOTAL
PRODUCTION.

2. PROTECT REGENERATION FROM LIVESTOCK DAMAGE.

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. MANAGE FOREST COVER TYPES USING THE FOLLOWING
HARVEST METHODS:
- CLEARCUT IN PONDEROSA PINE AND MIXED CONIFER,
- GROUP AND STRIP CLEARCUT IN ASPEN AND SPRUCE-FIR,
- GROUP SELECTION CUT IN ENGELMANN SPRUCE-SUBALPINE
FIR, AND
- SHELTERWOOD CUT IN PONDEROSA PINE AND MIXED CONIFER.

a. APPLY HARVEST TREATMENTS TO
FOREST COVER TYPES AS SPECIFIED
BELOW ON AT LEAST 80 PERCENT OF
THE FOREST COVER TYPE. UP TO
20 PERCENT OF THE TYPE MAY BE
TREATED USING OTHER HARVEST
METHODS SPECIFIED IN FOREST
DIRECTION.

b. SILVICULTURAL STANDARDS:
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)

1. CLEARCUT (GROUP OR STRIP ONLY)

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

IN ASPEN AND SPRUCE-FIR):

FOREST COVER TYPES			
ENGELMANN SPRUCE SUB- ALPINE FIR, PONDEROSA PINE, AND MIXED CONIFER			OTHER FOREST COVER TYPES
	ASPEN		
ROTA- TION AGE	90-180 YRS	80-120 YRS	80 OR MORE YRS
GROW- ING STOCK LEVEL	80-120	N/A	60 TO 120
THINNING CYCLE	20-50 YRS.	N/A	10 TO 40 YRS.

2. GROUP SELECTION:

FOREST COVER TYPES	
ENGELMANN SPRUCE AND SUBALPINE FIR	
RESIDUAL BA	80-120
CUTTING CYCLE	20-40 YRS.

3. TWO STEP SHELTERWOOD

FOREST COVER TYPES	
PONDEROSA PINE AND MIXED CONIFER	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

ROTA- TION AGE	50-180 YRS.

GROW- ING STOCK LEVEL	80-160

THINNING CYCLE	50 YRS.

2. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED STANDS OF ANY FOREST COVER TYPE.
3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING STOCK LEVEL STANDARDS.
4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS.

MANAGEMENT PRESCRIPTION 7D

(Emphasis is on wood fiber production and utilization for products other than sawtimber)

8,564 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is on production and utilization of small roundwood of a size and quality suitable for products such as fuelwood, posts, poles and props. The harvest method by forest cover type is clearcutting in aspen and selection and shelterwood in all other forest cover types.

Management activities, although they may be visually dominant, harmonize and blend with the natural setting.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. MEET STATED VISUAL QUALITY OBJECTIVE.

a. MINIMUM VISUAL QUALITY OBJECTIVES (VQO) SHALL BE:
PARTIAL RETENTION WITHIN THE FOREGROUND OF ARTERIAL/COLLECTOR ROADS AND PRIMARY TRAILS.
MODIFICATION ON ALL OTHER AREAS.

b. APPLY REHABILITATION PRACTICES WHERE THE ABOVE OBJECTIVES ARE NOT CURRENTLY BEING MET.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA.

PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL.

PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE.

WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS.

PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE):

TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL):

USE LEVEL	CAPACITY RANGE			
	VERY LOW	LOW	MODER- ATE	HIGH
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08

MANAGEMENT PRESCRIPTION 07D

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS - ROADED NATURAL				
ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.04	.08	1.2	2.5
ROS CLASS - RURAL				
ON TRAILS				
PAOT/MILE	-	-	-	-
AREA-WIDE				
PAOT/ACRE	.5	.8	5.0	7.5

REDUCE THE ABOVE USE LEVEL COEFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25.

REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIO-PHYSICAL RESOURCES WILL OCCUR.

b. SPECIFY OFF-ROAD VEHICLE RESTRICTIONS BASED ON ORV USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732, FSH 7709.12 (TRAILS HANDBOOK), FSH 7109.11A AND 11B (SIGN HANDBOOK).

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH-
IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR
DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND
RESTORE CLASS 5 SITES.

4. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM
ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON
SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR
SPECIAL WILDLIFE HABITAT.

RANGE
IMPROVEMENT AND
MAINTENANCE
(D03, 04, 05
AND 06)

1. UTILIZE TRANSITORY FORAGE THAT IS AVAILABLE
WHERE DEMAND EXISTS AND WHERE INVESTMENTS IN REGENERATION
CAN BE PROTECTED.

a. VARY UTILIZATION STANDARDS
WITH GRAZING SYSTEM AND ECOLOGICAL
CONDITION. SPECIFY STANDARDS IN
THE ALLOTMENT MANAGEMENT PLAN.

b. MAXIMUM GRAZING USE ALLOWED ON
TRANSITORY RANGES RESULTING FROM
CLEARCUTS.

- KEY SHRUBS-20 PERCENT OF
CURRENT GROWTH.
- GRASSES-50 PERCENT OF
CURRENT GROWTH.
- FORBS-20 PERCENT OF TOTAL
PRODUCTION.

2. PROTECT REGENERATION FROM LIVESTOCK DAMAGE.

SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

1. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST
METHODS:
- CLEARCUT IN ASPEN.
- SELECTION AND SHELTERWOOD CUTS IN PONDEROSA PINE, MIXED
CONIFER AND ENGELMANN SPRUCE-SUBALPINE FIR.

a. APPLY HARVEST TREATMENTS TO
FOREST COVER TYPES AS SPECIFIED
BELOW ON AT LEAST 80 PERCENT OF
THE FOREST COVER TYPE. UP TO
20 PERCENT OF THE TYPE MAY BE
TREATED USING OTHER HARVEST
METHODS SPECIFIED IN FOREST
DIRECTION.

b. SILVICULTURAL STANDARDS:
(THESE STANDARDS MAY BE EXCEEDED
ON AREAS MANAGED FOR OLD GROWTH)

1. CLEARCUT.

MANAGEMENT PRESCRIPTION 07D

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

FOREST COVER TYPE	
ASPEN	
ROTA- TION AGE	60-80 YRS
GROW- ING STOCK LEVEL	N/A
THINNING CYCLE	N/A
2. TWO-STEP SHELTERWOOD:	
FOREST COVER TYPE	
ENGELMANN SPRUCE- SUBALPINE FIR, PONDEROSA PINE & MIXED CONIFER	
ROTA- TION AGE	50-90 YRS
GROWING STOCK LEVEL	80-160
THINNING CYCLE	10-40 YRS
FIRST CUT (SEED CUT): REMOVE 40 TO 70 PERCENT OF THE BASAL AREA OR CUT TO: BA 25-60	
SECOND CUT (REMOVAL CUT): REMOVE ALL OVERSTORY WHEN	

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.

3. THREE-STEP SHELTERWOOD:

FOREST COVER TYPE

ENGELMANN
SPRUCE-
SUBALPINE
FIR,
PONDEROSA
PINE &
MIXED
CONIFER

ROTA- 50-90 YRS
TION
AGE

GROWING 80-160
STOCK
LEVEL

THINNING 10-40 YRS
CYCLE

FIRST CUT (PREPARATORY CUT):
REMOVE 10 TO 40 PERCENT OF THE
BASAL AREA OR CUT TO: BA 60-80.

SECOND CUT (SEED CUT),
REMOVE 40 TO 50 PERCENT OF THE
REMAINING BASAL AREA OR
CUT TO: BA 25-50
10-20 YRS
AFTER PRE-
PARATORY CUT

THIRD CUT (REMOVAL CUT):
REMOVE ALL OVERSTORY WHEN
REGENERATED STAND MEETS
MINIMUM STOCKING STANDARDS.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

2. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED
STANDS OF ANY FOREST COVER TYPE.

3. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

4. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

REFORESTATION
(E04)

1. DO NOT APPLY FINAL SHELTERWOOD REMOVAL CUT UNTIL THE
DESIRED NUMBER (AS SPECIFIED IN MINIMUM STOCKING STANDARDS)
OF WELL-ESTABLISHED SEEDLINGS PER ACRE ARE EXPECTED TO
REMAIN FOLLOWING OVERWOOD REMOVAL.

IV-140

MANAGEMENT PRESCRIPTION 9A

(Emphasis is on riparian area management)

1,038 Acres

A. Management Prescription Summary

1. General Description and Goals:

Emphasis is on the management of all component ecosystems of riparian areas. These components include the aquatic ecosystem, the riparian ecosystem (characterized by distinctive vegetation), and adjacent ecosystems that are within 100 ft. measured horizontally from the edges of perennial streams or from shores of lakes and other still water bodies. All of the components are managed together as a land unit comprising an integrated riparian area and not as separate components.

The goals of management are to provide healthy, self-perpetuating plant communities, meet water quality standards, provide habitats for viable populations of wildlife and fish, and provide stable stream channels and still water-body shorelines. The aquatic ecosystem may contain fisheries habitat improvement and channel stabilizing facilities that harmonize with the visual setting and maintain or improve wildlife or fish habitat requirements. The linear nature of streamside riparian areas permits programming of management activities which are not visually evident or are visually subordinate.

Forested riparian ecosystems are treated to improve wildlife and fish habitat diversity through specified silvicultural objectives. Both commercial and noncommercial vegetation treatments are used to achieve multi-resource benefits. Clearcutting is used to regenerate aspen clones. Other forest cover types are treated with either small-group or single-tree selection methods.

Livestock grazing will be managed to assure maintenance of the vigor and regenerative capacity of the riparian plant communities. Vehicular travel is limited on roads and trails at times when the ecosystems would be unacceptably damaged. Developed recreation facility construction for overnight use is prohibited within the 100-year floodplain.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES

GENERAL DIRECTION

STANDARDS & GUIDELINES

VISUAL RESOURCE
MANAGEMENT
(A04)

1. DESIGN AND IMPLEMENT MANAGEMENT ACTIVITIES WHICH
SUSTAIN INHERENT VISUAL VALUES OF RIPARIAN AREAS
AND BLEND WITH THE SURROUNDING NATURAL LANDSCAPES.

a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE PARTIAL RETENTION.

RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

1. RECREATION OPPORTUNITY SPECTRUM CLASSES FROM RURAL TO SEMI-PRIMITIVE NONMOTORIZED MAY BE PROVIDED IN THIS MANAGEMENT AREA.
PROVIDE ROADED NATURAL RECREATION OPPORTUNITIES WITHIN 1/2 MILE OF FOREST ARTERIAL, COLLECTOR AND LOCAL ROADS WITH BETTER THAN PRIMITIVE SURFACES WHICH ARE OPEN TO PUBLIC TRAVEL.
PROVIDE SEMI-PRIMITIVE MOTORIZED RECREATION OPPORTUNITIES WITH A LOW TO MODERATE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS WITHIN 1/2 MILE OF DESIGNATED LOCAL ROADS WITH PRIMITIVE SURFACES AND TRAILS OPEN TO MOTORIZED RECREATION USE.
WHERE LOCAL ROADS ARE CLOSED TO PUBLIC MOTORIZED RECREATION TRAVEL, PROVIDE FOR DISPERSED NON-MOTORIZED RECREATION OPPORTUNITIES. MANAGE RECREATION USE TO PROVIDE FOR THE INCIDENCE OF CONTACT WITH OTHER GROUPS AND INDIVIDUALS APPROPRIATE FOR THE ESTABLISHED ROS CLASS.
PROVIDE SEMI-PRIMITIVE NONMOTORIZED RECREATION OPPORTUNITIES IN ALL AREAS MORE THAN 1/2 MILE AWAY FROM ROADS AND TRAILS OPEN TO MOTORIZED RECREATION USE.

a. MAXIMUM USE AND CAPACITY LEVELS ARE:

RECREATION USE AND CAPACITY RANGE DURING THE SNOW-FREE PERIOD (PAOT/ACRE):

TRAIL USE AND CAPACITY RANGE (PAOT/MILE OF TRAIL):

USE LEVEL	CAPACITY RANGE			
	VERY LOW	MODER- LOW	ATE	HIGH
ROS CLASS - SEMI-PRIMITIVE NONMOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - SEMI-PRIMITIVE MOTORIZED				
ON TRAILS PAOT/MILE	2.0	3.0	9.0	11.0
AREA-WIDE PAOT/ACRE	.004	.008	.05	.08
ROS CLASS - ROADED NATURAL				
ON TRAILS PAOT/MILE	-	-	-	-
AREA-WIDE PAOT/ACRE	.04	.08	1.2	2.5

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

CONTINUATION OF:
RECREATION
OPPORTUNITIES
AND USE
ADMINISTRATION
(A14 AND 15)

ROS CLASS	RURAL				
ON TRAILS					
PAOT/MILE	-	-	-	-	-
AREA-WIDE					
PAOT/ACRE	.5	.8	5.0	7.5	

REDUCE THE ABOVE USE LEVEL CO-EFFICIENTS AS NECESSARY TO REFLECT USABLE ACRES, PATTERNS OF USE, AND GENERAL ATTRACTIVENESS OF THE SPECIFIC MANAGEMENT AREA TYPE AS DESCRIBED IN THE ROS USERS GUIDE, CHAPTER 25.

REDUCE THE ABOVE USE LEVELS WHERE UNACCEPTABLE CHANGES TO THE BIO-PHYSICAL RESOURCES WILL OCCUR.

b. SPECIFY OFF-ROAD VEHICLE RESTRICTIONS BASED ON ORV USE MANAGEMENT (FSM 2355).

c. SEE FSM 2331, FSM 7732, FSH 7709.12 (TRAILS HANDBOOK), FSH 7109.11A AND 11B (SIGN HANDBOOK).

2. MAINTAIN UNDESIGNATED SITES IN FRISSELL CONDITION CLASS 1 THROUGH 3 WHERE UNRESTRICTED CAMPING IS ALLOWED.

3. MANAGE SITE USE AND OCCUPANCY TO MAINTAIN SITES WITH- IN FRISSELL CONDITION CLASSES 1 THROUGH 3 EXCEPT FOR DESIGNATED SITES WHICH MAY BE CLASS 4. CLOSE AND RESTORE CLASS 5 SITES.

4. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR SPECIAL WILDLIFE HABITAT.

MANAGEMENT PRESCRIPTION 09A

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

WILDLIFE
HABITAT
IMPROVEMENT AND
MAINTENANCE
(C02, 04, 05
AND 06)

1. PROVIDE HABITAT DIVERSITY TO MEET OR EXCEED UTAH
DWR POPULATION GOALS FOR ALL AQUATIC VERTEBRATE
SPECIES.

a. MAINTAIN OR IMPROVE OVERALL
STREAM HABITAT CONDITION AT OR
ABOVE 50 PERCENT OF OPTIMUM.
USE R-4 GAWS AQUATIC HABITAT
SURVEY HANDBOOK, OR R-1 COWFISH
HABITAT CAPABILITY MODEL

2. PROVIDE HABITAT FOR VIABLE POPULATIONS OF ALL
NATIVE VERTEBRATE SPECIES OF FISH AND WILDLIFE.

3. COORDINATE LAKE AND STREAM HABITAT IMPROVEMENT
PROJECTS WITH THE UTAH DWR, WHERE AQUATIC HABITATS
ARE BELOW PRODUCTIVE POTENTIAL.

4. MAINTAIN INSTREAM FLOWS IN COOPERATION WITH UTAH
DWR TO SUPPORT A SUSTAINED YIELD OF NATURAL FISHERIES
RESOURCES.

RANGE RESOURCE
MANAGEMENT
(D02)

1. MAINTAIN PROPER STOCKING AND LIVESTOCK DISTRIBUTION
TO PROTECT RIPARIAN ECOSYSTEMS.

a. LIVESTOCK GRAZING IN RIPARIAN
AREAS WILL BE CONTROLLED AT THE
FOLLOWING LEVELS OF UTILIZATION:

GRAZING SYSTEM	VEGETATION CONDITION CLASS	TOTAL FORAGE UTILIZATION BY WEIGHT
-------------------	----------------------------------	------------------------------------------

1. GRASS/GRASSLIKE FORB

VEGETATIVE TYPE:		
CONTINUOUS	GOOD	40%
	FAIR	30%
	POOR	20%

REST- ROTATION	HEAVY USE	
	PASTURE (1)	60%
	LIGHT USE	

DEFERRED- ROTATION	PASTURE	40%
	HEAVY USE	
	PASTURE (2)	50%

2. WILLOW/GRASS/GRASSLIKE

VEGETATIVE TYPE:		
CONTINUOUS	GOOD	55%
	FAIR	40%
	POOR	30%

3. WILLOW-FOREST
VEGETATIVE TYPE.

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MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES	
CONTINUATION OF: RANGE RESOURCE MANAGEMENT (D02)		REST- ROTATION	HEAVY USE PASTURE (1) 70% LIGHT USE PASTURE 50%
		DEFERRED- ROTATION	HEAVY USE PASTURE (2) 60% LIGHT USE PASTURE 40%
		<p>(1) TRAMPLED AREAS AND STREAMBANK DAMAGE CAUSED DURING HEAVY USE YEAR SHOULD BE HEALED OR STABILIZED WITHIN THE FOLLOWING REST YEAR.</p> <p>(2) BARE SOIL CAUSED BY DISTUR- BANCE IN A HEAVY USE PASTURE SHOULD BE STABILIZED OR HEALED PRIOR TO USE THE FOLLOWING YEAR.</p> <p>BROWSE UTILIZATION WITHIN THE RIPARIAN ECOSYSTEM WILL NOT EXCEED 50% OF NEW LEADER PRODUCTION.</p> <p>THE LIMITING FACTOR ON A GIVEN RIPARIAN AREA WILL BE WHICHEVER UTILIZATION STANDARD IS REACHED FIRST, EITHER TOTAL FORAGE OR BROWSE.</p>	
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	2. PROHIBIT TRAILING OF LIVESTOCK ALONG THE LENGTH OF RIPARIAN AREAS EXCEPT WHERE EXISTING STOCK DRIVEWAYS OCCUR. REHABILITATE EXISTING STOCK DRIVEWAYS WHERE DAMAGE IS OCCURRING IN RIPARIAN AREAS. RELOCATE THEM OUTSIDE RIPARIAN AREAS IF POSSIBLE, AND IF NECESSARY TO ACHIEVE RIPARIAN AREA GOALS.		
	1. MANAGE FOREST COVER TYPES TO PERPETUATE TREE COVER AND PROVIDE HEALTHY STANDS, HIGH WATER QUALITY AND WILDLIFE AND FISH HABITAT.		

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	2. MANAGE FOREST COVER TYPES USING THE FOLLOWING HARVEST METHODS: - CLEARCUT IN ASPEN, AND - SELECTION CUTS, GROUP OR SINGLE TREE, IN ALL OTHER COVER TYPES.	a. SILVICULTURAL STANDARDS: (THESE STANDARDS MAY BE EXCEEDED ON AREAS MANAGED FOR OLD GROWTH)
		1. CLEARCUT:
		FOREST COVER TYPE
		ASPEN
		ROTATION AGE 80-120 YRS.
		2. SELECTION (GROUP OR SINGLE TREE):
		ALL OTHER FOREST COVER TYPES
		ROTATION AGE 90-160
		CUTTING CYCLE 20-30 YRS
		FOR GROUP SELECTION, SIZE OF OPEN- INGS ARE LESS THAN THREE ACRES.
	3. CLEARCUTS MAY BE APPLIED TO DWARF MISTLETOE INFECTED STANDS OF ANY FOREST COVER TYPE.	
	4. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING STOCK LEVEL STANDARDS.	
	5. ADJUST STOCKING LEVELS BY SITE QUALITY. HIGHER STOCKING SHOULD OCCUR ON BETTER SITES.	
	6. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL AND NONCOMMERCIAL METHODS.	

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(EO3, 06 & 07)

7. ESTABLISH A SATISFACTORY STAND EITHER NATURALLY OR THROUGH ARTIFICIAL REGENERATION METHODS WITHIN A FIVE-YEAR PERIOD AFTER DISTURBANCE.
8. PROHIBIT LOG LANDING AND DECKING AREAS WITHIN THE RIPARIAN AREA.

WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

1. PROPOSED NEW LAND-USE FACILITIES (ROADS, CAMPGROUNDS, BUILDINGS) WILL NOT NORMALLY BE LOCATED WITHIN FLOOD-PLAIN BOUNDARIES FOR THE 100-YEAR FLOOD. PROTECT PRESENT AND ALL NECESSARY FUTURE FACILITIES THAT CANNOT BE LOCATED OUT OF THE 100-YEAR FLOODPLAIN BY STRUCTURAL MITIGATION (DEFLECTION STRUCTURES, RIPRAP, ETC.).

- a. IMPLEMENT MITIGATION MEASURES WHEN PRESENT OR UNAVOIDABLE FUTURE FACILITIES ARE LOCATED IN THE ACTIVE FLOODPLAIN TO ENSURE THAT STATE WATER QUALITY STANDARDS, BANK STABILITY CRITERIA, FLOOD HAZARD REDUCTION, AND INSTREAM FLOW STANDARDS ARE MET DURING AND IMMEDIATELY AFTER CONSTRUCTION.

2. PREVENT STREAM CHANNEL INSTABILITY, LOSS OF CHANNEL CROSS-SECTIONAL AREAS, AND LOSS OF WATER QUALITY RESULTING FROM ACTIVITIES THAT ALTER VEGETATIVE COVER.

3. DETERMINE THE EFFECTS ON WATER QUALITY AND SEDIMENT YIELDS FROM VEGETATION MANIPULATION AND ROAD CONSTRUCTION PROJECTS THROUGH THE USE OF APPROPRIATE MODELING AND QUANTIFICATION PROCEDURES.

- a. LIMIT CHANGES IN CHANNEL RATING OR CLASSIFICATION SCORES TO AN INCREASE OF 10 PERCENT OR LESS. USE CHANNEL STABILITY CRITERIA ESTABLISHED BY COOPER, 1978, AND PFANKUCH, 1975. USE CHANNEL CLASSIFICATION CRITERIA ESTABLISHED BY ROSGEN, 1980.

- b. MAINTAIN AT LEAST 80 PERCENT OF POTENTIAL GROUND COVER WITHIN 100 FEET FROM THE EDGES OF ALL PERENNIAL STREAMS, LAKES AND OTHER WATERBODIES, OR TO THE OUTER MARGIN OF THE RIPARIAN ECOSYSTEM, WHERE WIDER THAN 100 FEET.

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

4. AVOID CHANNELIZATION OF NATURAL STREAMS. WHERE CHANNELIZATION IS NECESSARY FOR FLOOD CONTROL OR OTHER PURPOSES, USE STREAM GEOMETRY RELATIONSHIPS TO RE-ESTABLISH MEANDERS, WIDTH/DEPTH RATIOS, ETC. CONSISTENT WITH EACH MAJOR STREAM TYPE.

5. TREAT AREAS DISTURBED BY MANAGEMENT ACTIVITIES TO REDUCE EROSION TO NATURAL RATES.

6. STABILIZE STREAMBANKS, WHICH ARE DAMAGED BY MANAGEMENT ACTIVITIES, WITH METHODS THAT EMPHASIZE REVEGETATION.

7. DESIGN AND LOCATE SETTLING PONDS TO REDUCE DOWN-STREAM SEDIMENT YIELD AND TO PREVENT WASHOUT DURING HIGH WATER. LOCATE SETTLING PONDS OUTSIDE OF THE ACTIVE CHANNEL. RESTORE ANY CHANNEL CHANGES TO HYDRAULIC GEOMETRY STANDARDS FOR EACH STREAM TYPE.

8. INCLUDE WILDLIFE AND FISH HABITAT, AESTHETIC, AND SAFETY GOALS WHEN PLANNING PROJECTS THAT RESULT IN VEGETATION TYPE CONVERSION.

9. REQUIRE CONCURRENT MONITORING TO ENSURE THAT MITIGATIVE MEASURES ARE EFFECTIVE AND IN COMPLIANCE WITH STATE WATER QUALITY STANDARDS.

SOIL RESOURCE
MANAGEMENT
(KA1)

1. REHABILITATE DISTURBED SOILS AREAS WHERE ADVERSE IMPACTS WOULD OCCUR ACCORDING TO THE FOLLOWING PRIORITIES:

- AQUATIC ECOSYSTEMS;
- RIPARIAN ECOSYSTEMS; AND
- RIPARIAN AREAS OUTSIDE OF AQUATIC AND RIPARIAN ECOSYSTEMS.

2. PREVENT SOIL SURFACE COMPACTION AND DISTURBANCE IN RIPARIAN ECOSYSTEMS. ALLOW USE OF HEAVY CONSTRUCTION EQUIPMENT FOR CONSTRUCTION, RESIDUE REMOVAL, ETC. ONLY DURING PERIODS WHEN THE SOIL IS LEAST SUSCEPTIBLE TO COMPACTION OR RUTTING.

3. MAINTAIN OR ENHANCE THE LONG-TERM PRODUCTIVITY OF SOILS WITHIN THE RIPARIAN ECOSYSTEM.

MANAGEMENT
ACTIVITIESGENERAL
DIRECTIONSTANDARDS &
GUIDELINES

MINING LAW
COMPLIANCE AND
ADMINISTRATION
(LOCATABLES)
(G01)

1. MINIMIZE DETRIMENTAL DISTURBANCE TO THE RIPARIAN AREA BY MINERAL ACTIVITIES. INITIATE TIMELY AND EFFECTIVE REHABILITATION OF DISTURBED AREAS AND RESTORE RIPARIAN AREAS TO A STATE OF PRODUCTIVITY COMPARABLE TO THAT BEFORE DISTURBANCE.

- a. PROHIBIT THE DEPOSITING OF SOIL MATERIAL FROM DRILLING, PROCESSING, OR SITE PREPARATION IN NATURAL DRAINAGEWAYS.
- b. LOCATE THE LOWER EDGE OF DISTURBED OR DEPOSITED SOIL BANKS OUTSIDE THE ACTIVE FLOODPLAIN.
- c. PROHIBIT STOCKPILING OF TOPSOIL OR ANY OTHER DISTURBED SOIL IN THE ACTIVE FLOODPLAIN.
- d. PROHIBIT MINERAL PROCESSING (MILLING) ACTIVITIES WITHIN THE ACTIVE FLOODPLAIN.
- e. DISCONTINUE HEAVY EQUIPMENT USE WHEN SOIL COMPACTION, RUTTING, AND PUDDLING IS PRESENT.
- a. LOCATE DRILLING MUD PITS OUTSIDE THE ACTIVE FLOODPLAIN UNLESS ALTERNATE LOCATIONS ARE MORE ENVIRONMENTALLY DAMAGING. IF LOCATION IS UNAVOIDABLE, SEAL AND DIKE ALL PITS TO PREVENT LEAKAGE.
- b. DRAIN AND RESTORE ROADS, PADS, AND DRILL SITES IMMEDIATELY AFTER USE IS DISCONTINUED. REVEGETATE TO 80 PERCENT GROUND COVER IN THE FIRST YEAR. PROVIDE SURFACE PROTECTION DURING STORMFLOW AND SNOWMELT RUNOFF EVENTS.

2. LOCATE MINERAL REMOVAL ACTIVITIES AWAY FROM THE WATER'S EDGE OR OUTSIDE THE RIPARIAN AREA.

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: MINING LAW COMPLIANCE AND ADMINISTRATION (LOCATABLES) (GO1)	<p>3. DESIGN AND LOCATE PLACER MINE SETTLING PONDS TO PREVENT WASHOUT DURING HIGH WATER. LOCATE SETTLING PONDS OUTSIDE OF THE ACTIVE CHANNEL. RESTORE ANY CHANNEL CHANGES TO HYDRAULIC GEOMETRY STANDARDS FOR EACH STREAM TYPE.</p> <p>4. CONFINE HEAVY EQUIPMENT USE TO AREAS NECESSARY FOR MINERAL EXTRACTION.</p> <p>5. LOCATE MINING CAMPS OUTSIDE THE ACTIVE FLOODPLAIN.</p> <p>6. REQUIRE CONCURRENT MONITORING TO ENSURE THAT MITIGATIVE MEASURES ARE EFFECTIVE AND IN COMPLIANCE WITH STATE WATER QUALITY STANDARDS.</p>	<p>a. PERMIT DIVERSION ACTIVITIES WITHIN THE RIPARIAN ZONE WHERE TECHNOLOGY IS AVAILABLE TO MAINTAIN WATER QUALITY STANDARDS, SEDIMENT THRESHOLD LIMITS, AND INSTREAM FLOW STANDARDS.</p>
TRANSPORTATION SYSTEM MANAGEMENT (LO1 & 20)	<p>1. LOCATE ROADS AND TRAILS OUTSIDE RIPARIAN AREAS UNLESS ALTERNATIVE ROUTES HAVE BEEN REVIEWED AND REJECTED AS BEING MORE ENVIRONMENTALLY DAMAGING.</p> <p>2. CREATE ARTIFICIAL SEDIMENT TRAPS WITH BARRIERS WHERE NATURAL VEGETATION IS INADEQUATE TO PROTECT WATERWAYS OR LAKES FROM SIGNIFICANT ACCELERATED SEDIMENTATION.</p> <p>3. MINIMIZE DETRIMENTAL DISTURBANCE TO THE RIPARIAN AREA BY CONSTRUCTION ACTIVITIES. INITIATE TIMELY AND EFFECTIVE REHABILITATION OF DISTURBED AREAS AND RESTORE RIPARIAN AREAS SO THAT A VEGETATIVE GROUND COVER OR SUITABLE SUBSTITUTE PROTECTS THE SOIL FROM EROSION AND PREVENTS INCREASED SEDIMENT YIELD.</p>	<p>a. DO NOT PARALLEL STREAMS WHEN ROAD LOCATION MUST OCCUR IN RIPARIAN AREAS EXCEPT WHERE ABSOLUTELY NECESSARY. CROSS STREAMS AT RIGHT ANGLES. LOCATE CROSSINGS AT POINTS OF LOW BANK SLOPE AND FIRM SURFACES.</p>

MANAGEMENT PRESCRIPTION 9F

(Emphasis is on improved watershed condition)

135,842 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is on improving watershed condition and thus eliminating the watershed improvement needs backlog. Emphasis is also on maintenance of projects already completed. This will be achieved by protection, seeding, cultural treatment or any combination of other methods that will accomplish the objectives. Management activities in the foreground, middleground, and background may dominate, but should be designed to harmonize and blend with the natural setting to the extent possible.

Livestock grazing on the treated areas is eliminated until the area can be grazed without causing decreased watershed condition or damage to cultural treatments. Motorized travel is prohibited except for over-snow machines and for designated routes.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	<ol style="list-style-type: none"> 1. SEMI-PRIMITIVE NONMOTORIZED OPPORTUNITIES CAN BE PROVIDED. 2. PROHIBIT MOTORIZED VEHICLE USE OFF FOREST SYSTEM ROADS AND TRAILS (EXCEPT SNOWMOBILES OPERATING ON SNOW) WHERE NEEDED TO PROTECT SOILS, VEGETATION, OR SPECIAL WILDLIFE HABITAT. 	
WILDLIFE AND FISH RESOURCE MANAGEMENT (C01)	<ol style="list-style-type: none"> 1. MAINTAIN HABITAT CAPABILITY FOR MANAGEMENT INDICATOR SPECIES. 2. PROVIDE ADEQUATE FORAGE TO SUSTAIN BIG GAME POPULATION LEVELS AGREED TO IN THE STATEWIDE COMPREHENSIVE WILDLIFE MANAGEMENT PLAN ON NFS LANDS. 	<ol style="list-style-type: none"> a. MAINTAIN HABITAT NEEDED TO SUPPORT STATE POPULATION GOALS FOR BIG GAME AND EXCEED HABITAT REQUIREMENTS FOR MINIMUM VIABLE POPULATION LEVELS FOR OTHER MANAGEMENT INDICATOR SPECIES.
RANGE RESOURCE MANAGEMENT (D02)	<ol style="list-style-type: none"> 1. STABILIZE AND/OR REGENERATE SUITABLE AREAS THAT ARE IN LESS THAN GOOD RANGE OR WATERSHED CONDITION. 2. EXCLUDE GRAZING OF ALL LIVESTOCK UNTIL RECOVERY ON AREAS TREATED FOR RESTORATION OF WATERSHED CONDITION. 3. USE ONLY INTENSIVE GRAZING SYSTEMS OR REMOVE LIVESTOCK WHEN RECOVERY OF RANGE CONDITIONS CAN NOT BE ACCOMPLISHED BY INTENSIVE GRAZING SYSTEMS. 4. INVEST IN COST-EFFECTIVE ALLOTMENT MANAGEMENT AND ASSOCIATED RANGE IMPROVEMENTS. 	<ol style="list-style-type: none"> a. BASE RANGE AND WATERSHED CONDITION ON STANDARDS IN RANGE ANALYSIS HANDBOOK (FSH 2209.21). a. REFER TO FOREST SUPPLEMENT ON OPENING OF CLOSED AREAS TO GRAZING. a. BASE ECONOMIC ANALYSIS ON PROJECT EFFECTIVENESS ANALYSIS HANDBOOK (FSH 2209.11).

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
CONTINUATION OF: RANGE RESOURCE MANAGEMENT (D02)	5. INVEST IN COST-EFFECTIVE GRAZING MANAGEMENT AND RANGELAND PRODUCTIVITY IMPROVEMENTS. WHERE IMPROVEMENTS INCLUDE WATER DEVELOPMENTS, A WATER RIGHT IN THE NAME OF THE UNITED STATES MUST BE OBTAINED.	a. STRUCTURAL IMPROVEMENTS WILL NOT ADVERSELY AFFECT BIG GAME MOVEMENT.
SOIL RESOURCE MANAGEMENT (KA1)	1. RESTORE SOIL DISTURBANCES CAUSED BY HUMAN USE (PAST MINING, GRAZING, TRAIL CONSTRUCTION AND USE, CAMPING) TO SOIL LOSS TOLERANCE LEVELS COMMENSURATE WITH THE NATURAL ECOLOGICAL PROCESSES FOR THE TREATMENT AREA.	a. FOLLOW PRELIMINARY THRESHOLD RATES ESTABLISHED FOR THE FOREST, CONTAINED IN THE SOIL MONITORING PLAN.
TRANSPORTATION SYSTEM MANAGEMENT (L01 & 20)	1. MANAGE ROAD USE BY SEASONAL OR PERMANENT CLOSURE IF: A. USE CAUSES UNACCEPTABLE DAMAGE TO SOIL AND WATER RESOURCES DUE TO WEATHER OR SEASONAL CONDITIONS B. USE CONFLICTS WITH THE ROS CLASS ESTABLISHED FOR THE AREA; C. USE CAUSES UNACCEPTABLE WILDLIFE CONFLICT OR HABITAT DEGRADATION; D. USE RESULTS IN UNSAFE CONDITIONS. E. THE ROAD DOES NOT SERVE AN IDENTIFIED PUBLIC OR ADMINISTRATIVE NEED; F. AREA ACCESSED HAS SEASONAL NEED FOR PROTECTION OR NONUSE; OR G. FINANCING IS NOT AVAILABLE TO MAINTAIN THE FACILITY OR MANAGE THE ASSOCIATED USE OF ADJACENT LANDS.	
LAW ENFORCEMENT (P24 THRU 27)	1. USE SPECIAL CLOSURES WHEN NECESSARY TO PROTECT FROM ACTUAL OR POTENTIAL DAMAGE FROM PUBLIC USE.	a. ISSUE CLOSURE ORDER UNDER PROVISIONS OF 36 CRF 261.50 (FSM 4063.3).

MANAGEMENT PRESCRIPTION 10A

(Provides for research natural areas)

4,300 Acres

A. Management Prescription Summary

1. General Description and Goals:

Emphasis is on research, study, observations, monitoring, and educational activities that are nondestructive, nonmanipulative, and that maintain unmodified conditions.

B. MANAGEMENT REQUIREMENTS

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
VISUAL RESOURCE MANAGEMENT (A04)	1. MEET STATED VISUAL QUALITY OBJECTIVE.	a. MINIMUM VISUAL QUALITY OBJECTIVE (VQO) SHALL BE RETENTION.
RECREATION FACILITY AND SITE CONSTRUCTION AND RECONSTRUCTION (A05 AND 06)	1. PROHIBIT CONSTRUCTION OF DEVELOPED RECREATION SITES.	
RECREATION OPPORTUNITIES AND USE ADMINISTRATION (A14 AND 15)	1. DISCOURAGE OR PROHIBIT ANY PUBLIC USE WHICH CONTRIBUTES TO IMPAIRMENT OF RESEARCH OR EDUCATIONAL VALUES. 2. PERMIT AND ENCOURAGE USE BY SCIENTISTS AND EDUCATORS.	a. REFERENCE FSM 4063.36.
WILDLIFE HABITAT IMPROVEMENT AND MAINTENANCE (C02, 04, 05 AND 06)	1. PROHIBIT ANY DIRECT HABITAT MANIPULATION. 2. PROHIBIT INTRODUCTION OR SPREAD OF EXOTIC OR NON-NATIVE PLANT OR ANIMAL SPECIES.	
RANGE RESOURCE MANAGEMENT (D02)	1. RESTRICT GRAZING BY LIVESTOCK TO THAT ESSENTIAL FOR THE MAINTENANCE OF A SPECIFIC VEGETATION TYPE. 2. PROHIBIT RANGE IMPROVEMENTS.	
SILVICULTURAL PRESCRIPTIONS (E03, 06 & 07)	1. PROHIBIT ANY LOGGING ACTIVITY. 2. CLOSE TO FIREWOOD OR CHRISTMAS TREE GATHERING.	

MANAGEMENT PRESCRIPTION 10A

MANAGEMENT ACTIVITIES	GENERAL DIRECTION	STANDARDS & GUIDELINES
SPECIAL USE MANAGEMENT (NON -RECREATION) (J01)	1. USE SPECIAL USE PERMITS OR COOPERATIVE AGREEMENTS TO AUTHORIZE AND DOCUMENT SCIENTIFIC ACTIVITY.	a. REFERENCE FSM 4063.37.
WITHDRAWALS, MODIFICATIONS AND REVOCATIONS (J04)	1. WITHDRAW FROM MINERAL ENTRY IN CONFORMANCE WITH SECTION 204 OF FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (PL 94-579). 2. UNTIL THE AREA IS WITHDRAWN, USE NO SURFACE OCCUPANCY STIPULATIONS IN ANY NEW LEASES COVERING THE RNA'S.	
PROPERTY BOUNDARY LOCATION (J06)	1. MONUMENT ALL CORNERS OR TURNING POINTS AND DOCUMENT AND RECORD THE MONUMENTATION IN THE ESTABLISHMENT REPORT. MARK BOUNDARIES IN THE FIELD WHEN APPROPRIATE TO ENSURE INTEGRITY OF THE AREA.	
TRANSPORTATION SYSTEM MANAGEMENT (L01 & 20)	1. IN GENERAL DO NOT PERMIT IMPROVEMENTS SUCH AS ROADS.	
TRAIL SYSTEM MANAGEMENT (L23)	1. LIMIT TRAILS TO THOSE NEEDED FOR ACCESS TO CONDUCT RESEARCH AND FOR EDUCATIONAL PURPOSES.	
FIRE PLANNING AND SUPPRESSION (P01)	1. EXTINGUISH WILDFIRES ENDANGERING RESEARCH NATURAL AREAS (RNA'S). ALLOW FIRES WITHIN THE RNA'S TO BURN UNDISTURBED UNLESS THEY THREATEN PEOPLE OR PROPERTY OUTSIDE THE AREA, OR THE UNIQUENESS OF THE RNA. 2. DO NOT REDUCE FIRE HAZARD WITHIN THE RNA.	a. LEAVE FIRE-CAUSED DEBRIS FOR NATURAL DECAY.
LAW ENFORCEMENT (P24 THRU 27)	1. CLOSE RNA'S WHEN NECESSARY TO PROTECT THEM FROM ACTUAL OR POTENTIAL DAMAGE FROM PUBLIC USE.	a. ISSUE CLOSURE ORDER UNDER PROVISIONS OF 36 CRF 261.50 (FSM 4063.3).
PROTECTION (P40)	1. TAKE NO ACTION AGAINST ENDEMIC INSECTS, DISEASES OR WILD ANIMALS.	

MANAGEMENT PRESCRIPTION 10E

(Provides for municipal watershed and municipal
water supply watershed)

1,179 Acres

A. Management Prescription Summary

1. General Description and Goals:

Management emphasis is to protect or improve the quality and quantity of municipal water supplies. Management practices vary from use restrictions to water resource improvement practices, with the primary objective of meeting water quality standards established for the individual watershed. A secondary objective is to manage the watersheds to improve the yield and timing of water flows, consistent with water quality requirements.

* Note: This prescription applies to existing and proposed Research Natural Areas. If all or a part of a proposed area is rejected, it shall be managed according to the Prescription assigned to the adjacent management area.

B. MANAGEMENT REQUIREMENTS

[illegible]

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
SILVICULTURAL
PRESCRIPTIONS
(E03, 06 & 07)

ROTATION
AGE
90-180
YRS.
80-120
YRS.
100
OR
MORE
YRS.

GROWING
STOCK
LEVEL
80-160
N/A
60-120

THINNING
CYCLE
20-30
YRS.
N/A
20-40
YRS.

THE LARGEST INCREASE IN WATER
AVAILABLE FOR STREAM FLOW RESULTS
WHEN 30 TO 40 PERCENT OF A DRAIN-
AGE IS HARVESTED IN CLEARCUT
PATCHES (3 TO 10 ACRES) DISPERSED
THROUGHOUT THE AREA OF A WATER-
SHED (LEAF AND ALEXANDER FS RES.
PAP. RM 133).

2. APPLY INTERMEDIATE TREATMENTS TO MAINTAIN GROWING
STOCK LEVEL STANDARDS.

3. UTILIZE FIREWOOD MATERIAL USING BOTH COMMERCIAL
AND NONCOMMERCIAL METHODS.

REFORESTATION
(E04)

1. PLANT TREES OF KNOWN GENETIC QUALITIES TO ESTABLISH
NEW STANDS.

WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

1. PREVENT OR REDUCE DEBRIS ACCUMULATIONS IN RIPARIAN
AREAS THAT REDUCE STREAM CHANNEL STABILITY AND CAPACITY.

2. PREVENT SOIL SURFACE COMPACTION AND DISTURBANCE IN
RIPARIAN ECOSYSTEMS. ALLOW USE OF HEAVY CONSTRUCTION
EQUIPMENT FOR CONSTRUCTION, RESIDUE REMOVAL, ETC. ONLY
DURING PERIODS WHEN THE SOIL IS LEAST SUSCEPTIBLE TO
COMPACTION OR RUTTING.

a. PROPOSED LAND-USE FACILITIES
(ROADS, CAMPGROUNDS, BUILDINGS)
SHOULD NOT BE LOCATED WITHIN
FLOODPLAIN BOUNDARIES FOR THE 100-
YEAR FLOOD. PROTECT PRESENT AND
FUTURE FACILITIES THAT CANNOT
BE LOCATED OUT OF THE 100-YEAR
FLOODPLAIN BY STRUCTURAL MITI-
GATION (DEFLECTION STRUCTURES,

MANAGEMENT
ACTIVITIES

GENERAL
DIRECTION

STANDARDS &
GUIDELINES

CONTINUATION OF:
WATER RESOURCE
IMPROVEMENT AND
MAINTENANCE
(F05 AND 06)

RIPRAP, ETC.)

3. PREVENT STREAM CHANNEL INSTABILITY, LOSS OF CHANNEL
CROSS-SECTIONAL AREAS, AND LOSS OF WATER QUALITY
RESULTING FROM ACTIVITIES THAT ALTER VEGETATIVE COVER.

a. LIMIT CHANGES IN CHANNEL RATING
OR CLASSIFICATION SCORES TO AN
INCREASE OF 10 PERCENT OR LESS.
USE CHANNEL STABILITY CRITERIA
ESTABLISHED BY COOPER, 1978, AND
PFANKUCH, 1975. USE CHANNEL
CLASSIFICATION CRITERIA ESTAB-
LISHED BY ROSGEN, 1980.

4. MANAGE NON-FORESTED AREAS TO IMPROVE STREAMFLOW
THROUGH INCREASED ON-SITE WATER YIELDS AND TO MEET STATE
WATER QUALITY STANDARDS. USE AVAILABLE SNOWDRIFT
TECHNOLOGY, SUCH AS SNOW FENCES, WINDROWED BRUSH PILES,
LINEAR CONVERSION OF UNBROKEN BRUSH TO GRASS, LOW EARTHEN
RIDGES, ETC., TO CAPTURE AND STABILIZE BLOWING SNOW.

a. STRUCTURES ARE DESIGNED IN
TERMS OF THE SIZE OF AND SNOW
VOLUMES AVAILABLE FROM THE UP-
WIND SOURCE AREAS, LOCAL AND
DOWNWIND TERRAIN FEATURES, PRE-
VAILING WINDS, AND DEPOSITION
AREA CONDITIONS, ETC., AS RE-
FERENCED IN 'STUDYING SNOW-
DRIFTING PROBLEMS WITH SMALL-
SCALE MODELS OUTDOORS' BY TABLER,
R. D. AND JAIVELL, R. S.,
PROCEEDINGS WESTERN SNOW CON-
FERENCE, APRIL 15-17, 1980.

SOIL RESOURCE
MANAGEMENT
(KA1)

1. IMMEDIATELY REHABILITATE MAN-CAUSED DISTURBANCES AND
RESTORE BURNED AREAS. INSPECT REHABILITATED AREAS
ANNUALLY AND PROVIDE MAINTENANCE NECESSARY TO PROTECT
THE WATERSHED.

CHAPTER V

IMPLEMENTATION OF THE FOREST PLAN

A. Implementation Direction

During implementation of this Forest Plan, the Fishlake will be guided by existing and future laws, regulations, policies, and guidelines. The Forest Plan is designed to supplement, not replace, direction from these sources.

As soon as practicable after the Plan is approved, the Forest Supervisor will ensure that, subject to valid existing rights, all outstanding and future permits and other occupancy and use documents which affect National Forest System lands are consistent with the Plan. The management direction contained in the Forest Plan is used in analyzing proposals by prospective Forest users. All permits, contracts, and other instruments for occupancy and use of the National Forest System lands covered by this Plan must be consistent with the Management Requirements in both the Forest and Management Area Direction sections. This is required by 16 USC 1604(i) and 36 CFR 219.10(e).

Subsequent administrative activities affecting National Forest System lands, including budget proposals, shall be based on the Plan. The Forest Plan is implemented through the program development, budgeting, and annual work planning processes. These processes reflect current priorities within the overall management direction contained in the Plan.

The Forest Plan guides development of multi-year implementation programs for each Ranger District. The Plan's management area direction, objectives, and management requirements are translated into these multi-year program budget proposals which specifically identify the activities and expenditures necessary to achieve the direction provided by the Forest Plan. These implementation programs form the basis for the Forest's annual program budget.

Upon approval of the final budget appropriation for the Forest, the annual program of work is completed and implemented on the ground. The annual work plan provides the detail to the program budget proposals necessary to guide the land managers and their staffs in responding to the direction of the Forest Plan. The activity files in the data base and the Program Accounting and Management Attainment Reporting System provide information on monitoring the accomplishment of the annual Forest program.

Environmental assessments and environmental impact statements, when needed, will supplement the Forest Plan Environmental Impact Statement. Future environmental analyses will be guided by the Forest Plan. Additional detail will be included in the environmental documents for future project level decisions.

Future environmental analysis associated with the above processes will usually be tiered to the Forest Plan and EIS. Information appropriate for project-related decisions, rather than land use decisions, will normally be utilized in such environmental analysis.

Projects and activities permitted within the Forest Plan will be subjected to environmental analysis as they are planned for implementation (Forest Service Manual FSM 1952). If the environmental analysis for a project shows that: (1) the management area prescription and standards can be complied with and (2) little or no environmental effects are expected beyond those identified and documented in the Forest Plan final EIS; the analysis will probably result in a categorical exclusion (see FSM 1952.2). A Decision Notice may be used to document the decision (FSM 1951). An analysis file and/or a project file will be available for public review, but this will not necessarily be documented in the form of an Environmental Assessment of Environmental Impact Statement.

B. Monitoring and Evaluation Program

This monitoring and evaluation plan is designed to provide feedback to planners and the Forest Supervisor. It will provide Forest Managers with information primarily on plan implementation.

More specifically this plan will determine:

- If the Forest is achieving the goals and objectives of the plan as predicted.
- If the standards and guidelines are being applied as specified in the plan.
- If the effects of implementation are as predicted.
- If the Forest's program and management are resolving the planning issues.
- If the cost of implementation of the plan and work force needed is as predicted.

The monitoring plan that follows is comprised of the following components.

1. Activity, practice of effect - a specific statement of what will be monitored.
2. MIH Code - the numerical identifier of the item to be monitored.
3. Monitoring techniques - a description of the techniques and sources of information to be employed. To the extent possible, existing reporting systems and standard methods will be used.
4. Annual Costs - estimated costs to complete monitoring requirements.
5. Expected precision - the accuracy with which data is collected. Precision is qualitatively rated as high, moderate, or low.

Expected reliability - a measure of how accurately the monitoring reflects the situation. A qualitative and class system is used to rate reliability (high, moderate, low).

6. Measurement frequency - the schedules of samples stated in years or parts of years. It includes some measure of sample size or number.

7. Reporting period - the reoccurring interval between reports summarizing monitoring results for a particular activity or practice. The sampling period should be long enough for specialists to capture significant information.
8. Standards - Acceptable limits indicating no need for further planning action - a statement describing the tolerance limits within which actual performance can vary from predicted performance. When these limits are exceeded, further evaluation is triggered.

At least once a year the Forest Management and Interdisciplinary Teams will meet to review the results of monitoring. This meeting should be in conjunction with the annual budgeting cycle. For those items or areas that do not appear to be meeting standards, plans for remedial action will be formulated.

TABLE V-1
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>RECREATION</u>							
Developed Sites; Actual Use	A07	Recreation Information Management (RIM) System; estimates samples, 20% of sites/ yr. RIM Use Source Documents	3.0	Moderate/ Moderate	Various Continuing in accordance with random sampling pro- cedures	Annual	Less than 10% planned use or more than 50% planned use a site annually over a three year period.
Developed Sites; Condition	334	RIM facility condition and routine inspections	3.0	Low/Moderate	Continuously	Annual	Facility condition below RIM condition class 2.
Dispersed Actual Use	A08	RIM Source Documents RIM System estimates; statistical samples; trails & roads traffic counts; trail registers estimates	4.0	Low/Low	Various Continuing in accordance with random sampling procedures	Annual	When use is more than 10% ± of the Recreation Opportunity Spectrum (ROS) social setting criteria for the ROS class annually over a three year period.
Dispersed campsite condition	A08	Frissell site inspection	4.0	High/Moderate	Sample selected heavy use areas.	Annual	Sites in facility condition class 5 will be rehabilitated.
Off-road vehicle damage	A08	Area reviews	3.0	Moderate/ Moderate	Continuous	Annual	ORV use routes stable. Road and trail density stable not more than 2% increase/yr. Use not conflicting with management goals.
Trail condition	A12	Project trail inspec- tions	6.0	High/High	20%/yr.	Annual	Rate of soil erosion accep- table. Varies one mainte- nance level class from that prescribed in local trail management plan.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>CULTURAL RESOURCES</u>							
Acres Surveyed/ Sites Evaluated	A02 A03	Actual acres by class of survey. Annual report. Project work records	.5	High/High	Periodic	Annual	Applicable surveys completed prior to disturbance - each project. Meet assigned targets.
Sites located and Protected,	A04	Sample 25% of significant or unevaluated sites at completion of project. Revisit 5 significant or unevaluated sites previ- ously recorded, on an annual basis.	1.0	High/High	Periodic	Annual	Cultural resource surveys com- pleted prior to ground-distur- bance projects. Known cultural resources not disturbed without appropriate adverse effect mitigation.
<u>VISUALS</u>							
Monitor compliance of visual quality ob- jective on project or activity basis	A14	10% of District work plans, 100% of Environ- mental Impact Statements, 10% of Special Use Appli- cations	1.0	High/High	Annual	Annual	Failure to meet intended visual quality objectives of the management area. 10% of project.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>FISH AND WILDLIFE</u> - Coordinate Monitoring With State and Other Federal Agencies.							
Wildlife Habitat Diversity		Vegetation inventories	2.5	Low/Moderate	5 years	5 years	Meets standards in Forest Direction
Modification of Ecosystem		Acres treated or modified	0.5	High/High	Annual	Annual	Meets standards in Forest Direction
Big game habitat condition		Trend analysis	15.0	Moderate/ moderate	20 percent per year	5 years	Stable or Upward trend
Management Indicator Species Population Trends							
a. Fish Bonne- ville Cutthroat Trout		Electro shocking & gill netting	1.0	Moderate/ Moderate	1 stream per year	Annual	No decrease attributed to management activities
b. Threatened Plant Species		Vegetation Surveys	2.0	Moderate/ Moderate	Annual	Annual	No change attributed to management activities
c. Nongame Species		Plot census	2.5	Moderate/ Moderate	Annual	Annual	Maintain stable trend
d. Macroinvertebrate		Stream sampling/ laboratory counts	5.0	Moderate/ Moderate	5 streams per year	Annual	BCI above 75. Moderate
T&E and Sensitive Animals		Visual reconnaissance	1.5	Moderate/ Moderate	Annual	Annual	No decrease attributed to management activities.
Habitat Condition Inventory		Stream Survey	2.0	Moderate/High	Annual	Annual	Meets prescribed standard.
Snag Management		Condition Survey	1.0	Moderate/ Moderate	Annual	Annual	Meets prescribed standard.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMIT INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>RANGE</u>							
Permitted AUM		Annual Range Report	2.0	High/High	Annual	Annual	Permitted AUM's meet assigned targets. Average increases as projected meet planned outputs, $\pm 10\%$.
Forage Utilization		Vegetation Analysis	15.0	Moderate/ Moderate	Each Allot- ment every 4 yr.	Annual	Meet utilization standards on 90% of allotments.
Check compliance Suitability		on site reviews	25.0	high/high	annual	As action is needed	Compliance with conditions in grazing permits.
Range Trend		Frequency analysis	10.0	Moderate/ Moderate	5 years	5 years	Stable or upward trend on 90% of allotments.
<u>TIMBER</u>							
Sales	E06	Forest sales records	3.0	High/High	Quarterly	Annual	Meet assigned sales targets in timber sales offered. Meet Forest Plan objectives.
Assure restocking of treated areas within 5 years following final harvest, except when a longer regen- eration period is allowed by the man- agement prescription	E03	District Stand Files; regeneration exams and plantation survival surveys; silvicultural prescriptions	2.5	High/High	100% Sample	5 year Reports	Meet assigned reforestation targets. Treated acres restocked within required time periods.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
TIMBER Cont.							
Assure that timber manipulation will not favor an increase in forest pests (insects, diseases, etc.).	P39	Stand exams, ground & aerial pest surveys post sale reviews, prescriptions	2.0	Moderate/ Moderate	20% Sample	Annual	Destructive insect and disease organisms to not increase following management activities
Assure that treatment objectives (area in acres) by forest type and stand size, class are being met during plan implementation	E03	District Stand File Activity Reporting (S2K)	No Increase	High/High	100% Summary	Annual	Not more than 20% deviation from forestwide area targets by type and stand size.
Assure that cutting methods prescribed in the management area prescriptions are being utilized for project implementation	E03	District Stand File Activity Reporting (S2K); Administrative and ID Team Reviews	8.0	Moderate/ Moderate	25% Sample Annually	Annual	Not more than 20% deviation from management area prescriptions (Tree Stand Management Activities on a forestwide basis).
Assure lands classified as not suitable for timber production are reviewed every ten years	E06	Silvicultural Exams, Stage I Inventory, FORPLAN	3.0	High/High	Each 10 year Period.	10 years	Date indicates unsuitable lands may be suitable.
Assure that timber sold does not exceed the allowable sale quantity established for the 10 year period	E06	10-year & 5-year sale Programs; Cut & Sold Reports; District Stand File activity reporting	1.0	High/High	100% Sample	Annual	Allowable quantity not exceeded.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>TIMBER</u> cont.							
a) Regulated timber offered	E06	Accomplishment Reports	.5	High/High	100% Sample	Annual	Allowable quantity not exceeded.
b) Unregulated timber offered	E06	Accomplishment Reports	.5	High/High	100% Sample	Annual	Allowable quantity not exceeded.
<u>WATER:</u>							
Water Quality		Establish baseline stations. Establish short term data sta- tions. Utilize STORET Data System. Forest- wide Monitoring Plan	5.0	Moderate/ Moderate	Annual	Annual	Meet state water quality stan- dards and project plan objec- tives.
Potable Water Compliance to Pro- tect Public Health and Safety		Bacteriological Sampling	6.0	Moderate/Low	Monthly dur- ing use season	Annual	State water quality standards.
Changes in riparian Areas Due to Manage- ment		Vegetative and cover Analysis	4.0	Moderate/ Moderate	Annual	Annual	10% decrease from ground cover, forage utilization & bank cover standards.
Best Management practices effectiveness and compliance on land disturbing projects		Project evaluations by disciplinary Team members	4.0	Moderate/ moderate	Annually until land stabilization is completed	Annual	Meet projected Plan objectives.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
MINERALS							
Onsite Inspection for Compliance with Operating Plans.		Onsite Review	60.0	High/High	Routinely	Routinely	Compliance with Operating Plans
HUMAN AND COMMUNITY DEVELOPMENT							
Human Resource Manpower Programs	Y-27&36 Y-29&38 Y-31&40 Y-32&41	Enrollee Counts Management Attainment Report	1.0	High/High	Quarterly	Annually	Meet targets.
Community Stabil- ity & Productive Harmony		Citizen Involvement (SRM); issues & concerns analysis	10.0	Moderate/ Moderate	Annual	Annual & 5 yr. (prior to plan update)	Positive trends.
Equal Employment Opportunity	Z01,Z08 Z15,Z36	Enrollee Counts Management Attain- ment Report	1.0	High/High	Quarterly	Annual	Meet targets.
SOILS							
Soil & Water Resource Improvements		Acres treated Man- agement Attainment Report	0.5	High/High	Every 4 Months	Annual	Meet assigned targets.
Accelerated Soil Loss Forestwide		Project Analysis Universal soil loss equation, see Appendix Q	2.5	Low/Low	Routinely	Routinely	Average soil loss not to exceed 1 to 5 tons per acre, depending on soil depth and natural erosion rate.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
FACILITIES							
Transportation System Management	L01	Traffic counts. Road Condition Surveys of selected roads	5.0	Moderate/ Moderate	Periodic	Annual	Road design and maintenance classes and conditions meet Forest Plan & project needs.
Roads-Construction and Reconstruction	L01 thru L18	Project analysis	10.0	High/High	Annual	Annual	Meet assigned targets, answer project needs.
Road Maintenance	C-19 &	Road Maintenance Plan Condition surveys	5.0	Moderate/ Moderate	Annual	Annual	Meet targets, meet Maintenance-manage- ment System Benchmarks.
Telecommunications	L33 thru L44	Telecommunication Plan Maintenance Cost Records Use Charges	75.0	High/High	Semi-Annual	Annual	Cost effective. Meets Forest Tele- communication Plan.
Administrative Sites		Project Inspections Analysis Adminis- trative Site Plan	3.0	Moderate/ Moderate	Annual	Annual	Meets health, safety and sanitation requirements, maintenance standards. Cost Effective.
Special Uses Except Recreation	J01 L28	Permit Clauses Operat- ing & Construction Plans	50.0	Moderate/ Moderate	Periodic	Annual	Meets applicable laws, regulations and permit requirements.
Rights-of-Way	J02	Right-of-Way Acquisi- tion Plan Assigned Targets	2.0	High/High	Annual	Annual	Meets targets. Adequate Forest Access.
Land Adjustment	J13,15 16 & 17	Land adjustment plan Assigned target	1.0	Moderate/ Moderate	Annual	Annual	Meets targets & objectives
Property Boundary Location	Y52	Boundary Location Plan targets	1.0	Moderate/ Moderate	Semi-Annual	Annual	Meet targets. No encroachments. Follows Plan.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>PROTECTION</u>							
Fuel Treatment	P-11	Project analysis, Acres treated Management Attainment Report	2.0	Moderate/ Moderate	Semi-Annual	Annual	Meets targets & management area standards for activity fuels loading (Tons/Area).
Air Quality		Analysis of projects with indicated potential for pollution	1.0	Low/Low	Current	Annual	Meet applicable Federal & State Ambient Air Quality Standards.
Insect & Disease		Project analysis detec- tion surveys, acres treated	4.0	Low/Low	Annual	Annual	Meet targets or control objectives.
Law Enforcement	P-24	Compliance patrols issuing posting & enforce- ing orders, investiga- tions, numbers & types of incidents. Incidents reported by others	6.0	Moderate/	Annual	Annual	No loss of human life.
<u>ECONOMICS</u>							
Capital Investments		Forest Reports	No Increase	High/High	Annual	Annual	Meet Forest Plan objectives & assigned targets.
Returns to U.S. Treasury		Forest Reports	No Increase	High/High	Current	Annual	No targets assigned. Monitor for effect.
Receipt Shares to Counties		Forest Reports	No Increase	High/High	Annual	Annual	No targets assigned. Monitor for effect.

TABLE V-I (Continued)
MONITORING REQUIREMENTS

ACTIVITY, PRACTICE OR EFFECT	MIH	MONITORING TECHNIQUES OR DATA SOURCES	ANNUAL COSTS M \$	PRECISION/ RELIABILITY	MEASUREMENT FREQUENCY	REPORTING PERIOD	STANDARDS-ACCEPTABLE LIMITS INDICATING NO NEED FOR FURTHER PLANNING ACTION
<u>ECONOMICS</u> cont.							
Efficiency Analysis		Cost & benefit values updated as better information becomes available. PNV analysis completed	3.0	High/High	Annual	Annual	No targets assigned. Monitor for effects & information updates. Use FORPLAN, MTVEST, etc.
Impact		Outputs confirmed and Impact Analysis completed after Management Attainment Reporting	1.5	High/High	Annual	Annual	No targets assigned. Monitor for effects and information updates. Use IMPLAN.
Unit Costs for Planning Activities		Forest Reports	.1	High/High	Annual	Annual	Not more than 20% deviation from estimated costs on a forestwide basis.

C. REVISION AND AMENDMENT

The Forest Supervisor may change proposed Forest action schedules to reflect differences between proposed annual budgets and appropriated funds. Such scheduled changes shall be considered an amendment to the Forest Plan, but shall not be considered a significant amendment, or require the preparation of an Environmental Impact Statement, unless the changes significantly alter the long-term relationship between levels of multiple-use goods and services projected under planned budget proposals as compared to those projected under actual appropriations.

The Forest Supervisor may amend the Forest Plan. Based on an analysis of the objectives, guidelines, and other contents of the Forest Plan, the Forest Supervisor shall determine whether a proposed amendment would result in a significant change in the Plan. If the change resulting from the proposed amendment is determined to be significant, the Forest Supervisor shall follow the same procedure as that required for development and approval of a Forest Plan. If the change resulting from the amendment is determined not to be significant for the purposes of the planning process the Forest Supervisor may implement the amendment following appropriate public notification and satisfactory completion of NEPA procedures.

A Forest Plan shall ordinarily be revised on a 10-year cycle or at least every 15 years. It also may be revised whenever the Forest Supervisor determines that conditions or demands in the area covered by the Plan have changed significantly or when changes in RPA policies, goals, or objectives would have a significant effect on Forest level programs. In the monitoring and evaluation process, the interdisciplinary team may recommend a revision of the Forest Plan at any time. Revisions are not effective until considered and approved in accordance with the requirements for the development and approval of a Forest Plan. The Forest Supervisor shall review the conditions on the land covered by the Plan at least every 5 years to determine whether conditions or demands of the public have changed significantly.

This Forest Plan will be revised when necessary but no later than October 1, 2000.

CHAPTER VI

GLOSSARY

Access - See Public access.

Acre equivalent - The index of acres affected by wildlife habitat improvements in contrast to actual acres treated.

Acre-foot - A measure of water or sediment volume equal to the amount which would cover an area of 1 acre to a depth of 1 foot (325,851 gallons).

Activity - Work processes or management practices.

Activity fuels - Debris fuels generated by such activity as timber harvesting.

Activity outputs - The quantifiable goods or services resulting from management actions.

Administrative headquarters site - A site which exists primarily for general administrative purposes.

Administrative unit - All the National Forest System lands for which one Forest Supervisor has responsibility.

Affected environment - The natural and physical environment under the administration of one line officer, such as District Ranger or Forest Supervisor.

Age class - An interval, usually 10 to 20 years, into which the age ranges of vegetation are divided for classification or use.

Agricultural base - Economy in which the base industry of a community is agriculture.

Airshed - A geographic area that, because of topography, meteorology, and climate, shares the same air.

Alignment - The specific surveyed location or route.

Allocation - The assignment of management prescriptions or combination of management practices to a particular land area to achieve the goals and objectives of the alternative.

Allocation model - See Resources allocation model.

Allotment - See Range allotment.

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

Alternative - One of several policies, plans, or projects proposed.

Anadromous fish - Those species of fish that mature in the sea and migrate into streams to spawn; i.e., salmon, steelhead.

Analysis area - One or more capability areas grouped for purposes of analysis.

Analysis of the Management Situation (AMS) - A determination of the ability of the planning area to supply goods and services in response to society's demand for those goods and services.

Animal Unit Month (AUM) - The amount of feed or forage required by an animal unit for 1 month. Animal unit months are calculated by multiplying given animal months by the appropriate animal unit conversion factor. Not synonymous with animal month. Abbreviation: AUM.

Annual Forest Program - The summary or aggregation of all projects that make up an integrated (multifunctional) course of action.

Annual work planning process - The process used to translate the objectives from the Regional Guide into specific activities.

Appropriate costs - The sum of operational and capital investment costs.

Aquatic ecosystems - The physical environment of or pertaining to water--stream channel, lake or pond bed, wetland, water itself--and biotic communities that occur therein.

Arterial roads - See "Forest arterial road".

Assessment - The Forest and Rangeland Renewable Resource Assessment required by the Resources Planning Act (RPA).

Available, capable, and suitable - See "Available forest lands," "Capable lands," and "Suitable lands."

Available forest land - Land which has not been legislatively withdrawn or administratively withdrawn by the Secretary of Agriculture or Forest Service Chief from timber production.

Average annual cut - The volume of timber harvested in a decade divided by 10.

Avoidance areas - Areas having one or more physical, environmental, institutional, or statutory impediments to corridor designation.

Background - The visible terrain beyond the foreground and middleground where individual trees are not visible but are blended into the total fabric of the stand.

Basal area - The area of the cross-section of a tree stem near the base, generally at breast height and including bark.

Base area - The public or private land used to support a recreation operation that depends on use of National Forest System land. A ski area is an example.

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 and harvest for the preceding decade, and this planned sale and harvest for any decade is not greater than the long-term sustained yield capacity. (This definition expresses the principle of nondeclining flow.)

Baseline - With respect to soils, the amount of erosion and sedimentation due to natural sources in the absence of human activity.

Benefit - The total value of an output or other effect.

Best Management Practices (BMP) - A practice or combination of practices that are the most effective and practical.

Big game - Those large mammals normally managed for sport hunting.

Big game winter range - The area used by big game in winter.

Biological capacity - The average net growth of wood attainable under intensive management.

Biological control - Control of insect populations or tree diseases through applied technology.

Biological growth-potential - The average net growth attainable in a fully stocked natural forest stand.

Biological potential - The max & its inherent physical and biological characteristics.

Board feet - One board foot is a piece of wood one foot by one foot by one inch thick.

Broadcut Burn - Allowing a prescribed fire to burn over a designated area.

British Thermal Unit - The amount of heat required to raise the temperature of one pound of water one degree Fahrenheit.

Browse - The part of shrubs, woody vines and trees available for animal consumption.

BTU - An abbreviation of British Thermal Unit.

Canopy - The more-or-less continuous cover of tree branches and foliage.

Capable lands - Those portions of the Forest that have an inherent ability to support trees for timber harvest and produce at least 20 cubic feet/acre/year of wood fiber.

Capability - The productive potential of land.

Capital investment costs - Those associated with construction or development of improvements.

Carrying capacity - The number of organisms of a given species and quality that can thrive in a given ecosystem.

Catastrophic Condition - A significant change in forest conditions that affects management objectives.

Cavity - A tree hollow of the sort used by birds and mammals.

CEQ - See "Council on Environmental Quality."

CFR - Code of Federal Regulations.

Chemical control - Use of chemicals to control insects or tree diseases.

Clearcutting - The cutting method that clears a considerable area at one time.

Climax - The culminating stage in plant succession for a given site where the vegetation has reached a highly stable condition.

Closure - The administrative order restricting use of a specific area.

Coliform bacteria - Any of several bacteria found in the large intestine of man and animals.

Collector roads - See "Forest collector road".

Commercial Forest Land (CPL) - See "Timber classification."

Community lifestyles - The routine conduct of residents associated with the National Forest.

Commodities - Outputs such as wood, livestock forage, minerals.

Concern - See "Management concern."

Confinement - To hold a fire within prescribed boundaries.

Congressionally classified and designated areas - See "Wilderness."

Conifer - Cone-bearing trees.

Consumptive use - A use of resources that reduces the supply, such as logging and mining.

Containment - To surround a fire, and any spot fires therefrom, with control line which can reasonably be expected to check the fire's spread under prevailing and predicted conditions.

Control - To complete control line around a fire.

Corridor - A linear strip of land identified for the present or future location of transportation or utility rights-of-way.

Cost effectiveness - Achieving specified outputs or objectives under given conditions for the least cost.

Cost-efficiency - The usefulness of specified inputs (costs) to produce specified outputs (benefits).

Council on Environmental Quality - An advisory council to the President established by the National Environmental Policy Act of 1969.

Cover/forage ratio - The ratio of cover (usually conifer types) to open foraging areas.

Created opening - See "Tree opening."

Critical habitat - Key land areas used by wildlife for forage and reproduction.

Critical minerals - Minerals essential to the National defense.

Crown closure - Percent of area occupied by crowns of all trees which can be estimated ocularly from aerial photographs to the nearest ten percent.

Crown height - Of a standing tree, the vertical distance from ground level to the base of the crown.

Cubic foot - The amount of timber equivalent to a piece of wood one foot by one foot by one foot.

Cubic yard - A measure of soil or sediment volume which would cover a square yard of area one yard deep (3 feet x 3 feet x 3 feet).

Culmination of mean annual increment - The point where the mean annual growth increment (the basal area of a stand of trees divided by their age) ceases to increase prior to decline.

Cultural resource - The remains of sites, structures, or objects used by humans in the past--historical or archaeological.

Cultural sensitivity - Refers to the likelihood of encountering significant cultural items.

Cutting cycle - The planned lapse of time between successive cuttings in a stand.

d.b.h. - Diameter at breast height. The diameter of a tree measured 4 feet 6 inches above the ground.

d.i.b. - Diameter inside bark.

Deficit timber sale - A timber sale where the costs associated with producing the primary product(s) plus profit margin are greater than the selling value of the same product(s).

Decking areas - Sites that are intermediate between stump and landing, used to collect logs.

Decision criteria - Essentially the rules or standards used to evaluate alternatives.

Demand - The quantity of goods or services called for at various prices, holding other factors constant.

Departure - The temporary deviation from the non-declining even-flow policy.

Dependent communities - Communities whose welfare is involved with the National Forests.

Design capacity - The maximum use a developed recreation site was built to accommodate.

Design standard - Approved design and construction specifications.

Designated corridor - A linear area of land with boundaries identified and designated by legal public notice.

Destination resort - A recreation resort designed for multi-day use.

Determinate stand - A group of trees of similar age and species that are clearly a separate group from surrounding stands.

Developed recreation - Recreation that requires facilities that, in result in concentrated use of an area.

Developed recreation site - A defined area where facilities are provided for concentrated public use.

Direct outputs - Resource outputs that are caused by the action and occur at the same time and place.

Direction - See "Management direction."

Discount rate - An interest rate that represents the cost or time value of money in determining the present value of future costs and benefits.

Discounting - An adjustment, using a discount rate, for the value of money over time so that costs and benefits occurring in the future are reduced to a common time, usually the present, for comparison.

Dispersed recreation - Recreation use outside the developed recreation site.

Distance zone - One of three categories used in the Visual Management System to divide a view into near and far components. The three categories are: (1) foreground, (2) middle ground, and (3) background.

District - See "Ranger District."

Diversity - The distribution and abundance of different plant and animal communities.

Draft Environmental Impact Statement - The statement of environmental effects required for major Federal actions under Section 102 of the National Environmental Policy Act, and released to the public and other agencies for comment and review.

Early forest succession - The biotic community that develops immediately following the removal or destruction of the vegetation in an area.

Economic efficiency analysis - An analytical method in which incremental market and nonmarket benefits are compared with incremental economic costs.

Economic growth - Increased economic output in real terms over time.

Ecosystems - An interacting system of organisms considered together with their environment.

Edge - Where plant communities meet or where successional stages or vegetation conditions within the plant communities come together.

Edge contrast - A qualitative measure of the difference in structure of two adjacent vegetative areas.

Effects - Environmental consequences of a proposed action.

Electronic sites - Areas designated for equipment related to radio and other electronic devices.

Endangered species - Any species of animal or plant that is in danger of extinction.

Endemic plant - A plant with a comparatively restricted geographic distribution.

Environmental analysis - An analysis of alternative actions and their predictable environmental effects.

Environmental Assessment - The concise public document needed to meet the procedural requirements of NEPA (40 CFR 1508.9).

Environmental documents - A set of documents to include, as applicable, the Environmental Assessment, Environmental Impact Statement, Finding of No Significant Impact, or Notice of Intent.

Environmental Impact Statement (EIS) - A statement of the environmental effects of a proposed action and alternatives to it.

Escape areas - A place for deer, for example, to get away from danger.

Evaluation criteria - Standards developed for appraising alternatives.

Even-aged management - Actions that produce trees of essentially the same age.

Clearcutting - The removal, in a single cut, of all trees in stands larger than seedlings.

Seed tree cutting - Similar to clearcutting, except that a few of the better trees of the desired species are left scattered over the area to provide seed for regeneration.

Shelterwood cutting - The removal of all trees in a series of two or more cuts over a period of not more than 30 years.

Even-aged systems - Product stands in which all trees are of about the same age. (A spread of 10 to 20 years is generally considered one age class).

Even-flow - Maintaining a relatively constant supply of timber from decade to decade.

Exclusion areas - Areas ruled out for corridor allocation or facility siting.

Expanded suppression - The control or containment of wildfires at increased acreage within allowable limits.

Experience levels - The range of opportunities for satisfying basic recreation needs of people. A scale of five experience levels ranging from "primitive" to "modern" is planned for the National Forest System.

Extensive grazing - Management seeks full utilization of forage allocated to livestock.

Facilities - For example, administrative buildings, water and sanitation systems, sanitary landfills, dams, bridges, and communication systems.

Facility condition class - The rating system used in the Recreation Information Management System to classify the condition of repair of a specific facility.

Family unit - A developed site or picnic spot with table, fireplace, tent pad, and parking spot designed to handle a group of people.

Fee ownership - The maximum possible ownership in real estate under the system of property rights founded on English common law.

Fee purchase - Acquisition of fee ownership of property.

Fee site - A Forest Service recreation area where users must pay a fee.

Final cut - Removal of the last seed bearers or shelter trees after regeneration is considered to be established under a shelterwood system.

Fire hazard - The fuel in which a fire can ignite and burn.

Fire management - All activities required for protection of resources from fire and the use of fire to meet land management goals and objectives.

Fire risk - The potential cause of a fire.

Firewood - See "Fuelwood."

Fisheries habitat - Streams, lakes, and reservoirs that support fish.

Flood plains - The lowland and relatively flat area adjoining inland waters, including, at a minimum, that area subject to a one percent or greater chance of flooding in any given year.

Forage - All browse and nonwoody plants available to grazing animals or harvested for feeding.

Forest and Rangeland Renewable Resources Planning Act of 1974 - An Act of Congress requiring the preparation of a program for the management of the National Forests' renewable resources and of land and resource management plans for units of the National Forest System. It also requires a continuing inventory of all National Forest System lands and renewable resources.

Foreground - A term used in visual management to describe the stand of trees immediately adjacent to the high-value scenic area, recreation facility, or forest highway.

Forest arterial road - Provides service to large land areas and usually connects with public highways or other Forest arterial roads to form an integrated network of primary travel routes.

Forest collector road - Serves smaller land areas than a Forest arterial road and is usually connected to a Forest arterial or public highway. Collects traffic from Forest local roads and/or terminal facilities.

Forest development roads and trails - A legal term for Forest Service roads or trails.

Forest land - See "Timber classification."

Forest local road - Connects terminal facilities with Forest collector or Forest arterial roads, or public highways.

Forest Supervisor - The official responsible for administering the National Forest System lands in a Forest Service administrative unit, which may consist of two or more National Forests or all the Forests within a state. He reports to the Regional Forester.

Forest system roads - Roads that are part of the Forest development transportation system.

Forest-wide standard - A performance criterion indicating acceptable norms, specifications, or quality.

FORPLAN - A linear programming system used for developing and analyzing Forest planning alternatives.

FSH - Forest Service Handbook.

FSM - Forest Service Manual.

FSM - Full Service Management is achieved in recreation when signing, cleanup, and other activities are accomplished according to standards and objectives established in approved management plans.

Fuel break - A zone in which fuel quantity has been reduced or altered to provide a position for suppression forces to make a stand against wild-fire. Fuel breaks are designated or constructed before the outbreak of a fire.

Fuel model - A simulated fuel complex for which all the fuel descriptions required by the mathematical fire spread model have been specified.

Fuel treatment - The rearrangement or disposal of natural or activity fuels to reduce the fire hazard.

Fuels - Include both living and dead trees and vegetative materials which will burn.

Fuels management - The practice of planning and executing treatment or control of fuels to meet management goals and objectives.

Fuelwood - Wood--round, split, or sawed, and generally otherwise refuse material--cut into short lengths for burning.

Full-service management - Management of developed recreation facilities to provide optimum maintenance.

Future scenarios - A word picture of a fixed sequence of future events in a defined environment.

Game species - Any species of wildlife or fish for which seasons and bag limits have been prescribed and which are normally harvested by hunters, trappers, and fishermen.

Goal - A concise statement that describes a desired future condition.

Goods and services - The various outputs, including on-site uses, produced from forest and rangeland resources.

Grass/forb - An early Forest successional stage where grasses and forbs are the dominant vegetation.

Grazing allotment - See "Range allotment."

Group selection cutting - The cutting method in which trees are removed periodically in small groups, resulting in openings that do not exceed an acre or two in size.

Growing season - The months of the year during which a species of vegetation grows.

Growing stock level - The number or volume of trees growing in a Forest or in a specified part of it.

Guideline - An indication of policy.

Habitat - The place where a plant or animal or normally lives or grows.

Habitat diversity - See "Wildlife habitat diversity."

Habitat diversity index - A measure of habitat diversity improvement expressed as a percentage of optimum size class distribution that is achieved over time.

Habitat effectiveness - See "Wildlife habitat effectiveness."

Habitat grouping - Grouping of habitat types in logical categories to facilitate resource planning.

Habitat type - The aggregate of all areas that support or can support the same primary vegetation at climax.

Hiding cover - Vegetation that will hide 90 percent of an elk from human view at a distance of 200 feet or less.

Horizontal diversity - The distribution and abundance of different plant and animal communities or successional stages across an area of land.

Implementation - Those activities necessary to respond to the approved Land and Resource Management Plan.

Incidental grazing - Grazing use that occurs on lands not normally managed for the production of domestic livestock.

Indeterminate stands - A group of trees of similar age and species composition that has been invaded by other tree species to the point where the original group has lost its identity as a distinct unit.

Indirect outputs - Outputs caused by the action but which are later in time or farther removed in distance.

Individual (single) tree selection - Trees are removed individually, here and there, each year over an entire forest or stand.

Induced outputs - Outputs in the private sector induced by the Forest's direct outputs.

Inherent edge - Naturally occurring breaks between two or more elements of the environment.

Improvement cutting - Removing trees of undesirable species, form, or condition.

Indicator species - A plant or animal species adapted to a particular kind of environment. Its presence is sufficient indication that specific habitat conditions are also present.

Individual tree selection cutting - Involves the removal of selected trees.

Input/output analysis - A quantitative study of the interdependence of a group of activities based on the relationship between inputs and outputs.

Insecticide - An agent used to control insect populations.

Instream flows - Those nonconsumptive in situ quantities of water necessary to meet seasonal stream flow requirements to accomplish the purposes of the National Forests, including, but not limited to, maintenance of favorable conditions of water flow, fisheries, visual quality, and recreational opportunities at acceptable levels.

Integrated pest management - A process for selecting strategies to regulate forest pests in which all aspects of a pest-host system are studied and weighed.

Intensive grazing - Grazing management that controls distribution of cattle and duration of use on the range, usually by fences, so parts of the range are rested during the growing season.

Intensive management - A high investment level of timber management that includes use of precommercial thinnings, commercial thinnings, genetically improved stock, and control of competing vegetation.

Interdisciplinary approach - The utilization of individuals representing two or more areas of knowledge and skills focusing on the same task, problem, or subject.

Intermediate cutting - Any removal of trees from a stand between the time of its formation and the regeneration cut.

Intermittent streams - A stream which flows only at certain times of the year.

Intermountain Region - That part of the National Forest System which encompasses National Forests within the Intermountain Region (Utah, southern and central Idaho, western Wyoming, and Nevada).

Interpretive services - Visitor information services designed to enhance the visitors understanding, appreciation, and enjoyment of the Forest.

Inventory data and information collection - The process of obtaining, storing, and using current inventory data appropriate for planning and managing the Forest.

Irretrievable - Applies to losses of production, harvest, or commitment of renewable natural resources.

Irreversible - Applies primarily to the use of nonrenewable resources such as minerals.

Issue - A point, matter, or question of public discussion or interest to be addressed or decided through the planning process.

Kuchler vegetation types - Potential natural vegetation as classified by Kuchler.

Key winter range - The portion of the year-long range where big game find food and/or cover during severe winter weather.

Land class - The topographic relief of a unit of land. Land classes are separated by slope, which coincides with the timber inventory process.

Land exchange - The conveyance of non-Federal land or interests in the United States in exchange for National Forest System land or interests in land.

Landing - Any place where round timber is assembled for further transport, commonly with a change of method.

Landline - For Forest Plan purposes, National Forest property boundaries.

Landline location - Legal identification and accurate location of National Forest property boundaries.

Late Forest succession - A stage of Forest succession where the majority of trees are mature or overmature.

Landownership pattern - The National Forest System resource land base in relation to other landownerships within given boundaries.

Linear programming - A mathematical method used to determine the cost-effective allocation of limited resources between competing demands when both the objective (profit or cost) and the restrictions on its attainment are expressible as a system of linear equalities or inequalities; e.g., $y = x + bx$.

Local dependent industries - Industries relying on National Forest outputs for economic activity.

Local road - See "Forest local road".

Logging residues - The unused portions of pole timber and saw timber trees remaining after logging.

Long-term sustained yield timber capacity - The highest uniform wood yield from lands being managed for timber production that may be sustained under a specified management intensity consistent with multiple-use objectives.

M - Thousand

Management action - Any activity undertaken as part of the administration of the Forest.

Management area - An area of land with similar management goals and a common management prescription.

Management concern - An issue, problem, or a condition which constrains the range of management practices identified by the Forest Service in the planning process.

Management direction - A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

Management intensity - A management practice or combination of management practices and associated costs designed to obtain different levels of goods and services.

Management indicator species - A species selected because its population changes indicate effects of management activities on the plant and animal community.

Management opportunity - A statement of general actions, measures, or treatments that address a public issue or management concern in a favorable way.

Management practice - A specific activity, measure, course of action, or treatment.

Management prescription - Management practices and intensity selected and scheduled for application on a specific area to attain multiple-use and other goals and objectives.

Management program - A set of activities designed to achieve a specific outcome.

Management standards and guidelines - See standards and guidelines.

Mature timber - Trees that have attained full development, particularly height, and are in full seed production.

Market-value outputs - Goods and services valued in terms of what people are willing to pay for them, as evidenced by market transactions.

Maximum modification - See "Visual quality objectives."

MAUM's - A symbol to indicate 1,000 animal unit months of range forage.

MBF - Thousand board feet, a measure of wood volume.

MCF - Thousand cubic feet, a measure of wood volume.

Mean annual increment of growth - The total increase in girth, diameter, basal area, height, or volume of individual trees, or a stand up to a given age divided by that age.

Middleground - The visible terrain beyond the foreground where individual trees are still visible but do not stand out distinctly from the stand.

Mineral development - The preparation of a proven deposit for mining.

Mineral entry - The filing of a mining claim for public land to obtain the right to any minerals it may contain.

Mineral entry withdrawal - The exclusion of the right of exclusive possession by the locator of locatable mineral deposits and mineral development work on areas required for administrative sites by the Forest Service and other areas highly valued by the public. Public lands withdrawn from entry under the general mining laws and/or the mineral leasing laws.

Mineral exploration - The search for valuable minerals on lands open to mineral entry.

Mineral fractions - Small, irregularly shaped parcels of National Forest lands created by the presence of a number of mining patents haphazardly located.

Mineral production - Extraction of mineral deposits.

Mineral soil - Weathered rock materials without any vegetative cover.

Minerals, common variety - Such deposits as sand, stone, gravel, pumicite, cinders, pumice, clay, and petrified wood.

Minerals, leasable - Coal, oil, gas, phosphate, sodium, potassium, oil shale, sulphur, and geothermal steam.

Minerals, locatable - Generally, those hardrock minerals which are mined and processed for the recovery of metals.

Minimum streamflows - A specified level of flow through a channel that must be maintained by the users of streams for biological, physical, or other purposes.

Mining claims - That portion of the public estate held for mining purposes in which the right of exclusive possession of locatable mineral deposits is vested in the locator of a deposit.

Mitigation - Actions to avoid, minimize, reduce, eliminate, or rectify the impact of a management practice.

MM - Million.

MMBF - Million board feet.

MMCF - Million cubic feet.

Modification - See "Visual quality objectives."

Monitoring and evaluation - The periodic evaluation on a sample basis of Forest Plan management practices to determine how well objectives have been met and how closely management standards have been applied.

Mortality - Trees of commercial species, standing or down, that have died during a specified period and were not cull trees at the time of death.

Mosaic of forest and openings - Areas with trees and areas without trees occurring in interrupted sequence.

Mountain Pine Beetle - A tiny black insect, ranging in size from 1/8 to 3/4 inch, that bores into the tree's cambium and cuts off its supply of food, thus killing the tree.

Multiple Use - The management of all the various renewable surface resources of the National Forest System so that they are utilized in the combination that will best meet public needs.

National Environmental Policy Act (NEPA) - An Act to declare a National policy which will encourage productive and enjoyable harmony between man and his environment, to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man, to enrich the understanding of the ecological systems and natural resources important to the Nation and to establish a Council on Environmental Quality.

National Forest Land and Resource Management Plan - A Plan developed to meet the requirements of the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management.

National Forest landscape management system - The planning and design of the visual aspects of multiple-use land management.

National Forest Management Act (NFMA) - A law passed in 1976 as an amendment to the Forest and Rangeland Renewable Resources Planning Act requiring the preparation of Regional Guides and Forest Plans and the preparation of regulations to guide that development.

National Forest System (NFS) lands - National Forests, National Grasslands, or purchase units, and other lands under the management of the Forest Service, including experimental areas and Bankhead-Jones Title III lands.

National Recreation Trails - Trails designated by the Secretary of the Interior or the Secretary of Agriculture as part of the National system of trails authorized by the National Trails System Act.

National Register of Historic Places - A listing (maintained by the U.S. National Park Service) of areas which have been designated as being of historical significance.

National Wilderness Preservation System - All lands covered by the Wilderness Act and subsequent Wilderness designations.

Natural barrier - A natural feature that will restrict livestock movements.

Natural catastrophic condition - A significant change in Forest conditions on the area that affects Forest Plan resource management objectives and their projected and scheduled outputs, uses, costs, and impacts on local communities.

Net public benefits - An expression used to signify the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated inputs and negative effects (costs) whether they can be quantitatively valued or not.

NFRS - Inventoried National Forest Recreation Sites.

No-action alternative - The most likely future condition if current management direction were to continue unchanged.

Noncommercial vegetative treatment - The removal of trees that cannot be bought and sold.

Nonconsumptive use - That use of a resource that does not reduce the supply. Fishing, for example, is a nonconsumptive use of water.

Nondeclining flow - The principle expressed by the definition of the base sale schedule.

Nonforest land - See "Timber classification."

Nongame - Species of animals which are not managed for sport hunting.

Nonpoint source pollution - Sources of pollution that are diffuse in origin.

Nonmarket valued outputs - Goods and services not generally traded in the marketplace, but valued in terms of what reasonable people would be willing to pay for them rather than go without.

Notice of Intent - Written notice of proposed activities.

Noxious weeds - A troublesome plant species of no known benefit to man.

Occupancy trespass - The illegal occupation or possession of National Forest land or property.

Off-road vehicle (ORV) - Such as motorcycles, all-terrain vehicles, four-wheel drives, and snowmobiles.

Old growth - A stand of trees that is past full maturity and showing decadence.

Old growth habitat - Habitat for certain wildlife that is characterized by overmature coniferous forest stands with large snags and decaying logs.

Oligotrophic - Lakes having low nutrient supplies which are poor producers of organic matter.

Operational Plan - A written document approved by the Forest Supervisor which provides specifically, at the project level, for implementation of the management direction established in the Forest Plan.

Opportunity - See management opportunity.

Optimum - A level of production that is consistent with other resource requirements as constrained by environmental, social, and economically sound conditions.

ORV - An abbreviation for off-road vehicles.

Outputs - Describing any result, product, or service that a process or activity actually produces.

Overflow camping - Developed site camping that exceeds site capacity.

Overmature timber - Trees that have attained full development, particularly in height, and are declining in vigor, and soundness.

Overstory - That portion of the trees, in a Forest or more than one story, forming the uppermost canopy.

PAOT - See Persons-at-one-time.

PAOT Days - A measurement term indicating capacity (PAOT) multiplied by the number of days (24 hour period) which an area or sites are managed.

PARS - The burned acreage and fire occurrence guidelines which represent the annual average long-term fire loss.

Partial retention - See "Visual quality objectives."

Particulates - Small particles suspended in the air and generally considered pollutants.

Patented mining claim - A patent is a document which conveys title to land.

Payment in lieu of taxes - Payments to local or state governments based on ownership of Federal land and not directly dependent on production of outputs or receipt sharing.

Personal use - Normally used to describe the type of permit issued for removal of wood products (firewood, post, poles, and Christmas trees) from National Forest land when the product is for home use and not to be resold for profit.

Persons-at-one-time (PAOT) - A recreation capacity measurement term indicating the number of people who can use a facility or area at one time.

Person-year - Approximately 2,080 working hours. May be filled by one person working year long or several people filling seasonal positions.

Physiographic surface - A land surface created by geological processes.

Planned ignitions - A fire started by a deliberate management action.

Planning area - The area of National Forest land covered by a Regional Guide or Forest Plan.

Planning corridor - A general broad linear area of land used to evaluate where a specific right-of-way could be placed.

Planning criteria - Standards, tests, rules, and guidelines by which the planning process is conducted and upon which judgments and decisions are based.

Planning period - The 50-year time frame (1980-2030) for which goods, services, and effects were projected in the development of the Forest Plan.

Planning questions - A major policy question of long-range significance, derived from the public issues and management concerns, to be decided when selecting among alternative Forest Plans.

Planning records - A system that records decisions and activities which result from the process of developing a Forest Plan, revision, or significant amendment.

Pole/sapling - A Forest successional stage in which trees between 5- and 7-inch diameter are the dominant vegetation.

Pole timber - Line trees at least 5 inches in diameter at breast height but smaller than the minimum utilization standard for sawtimber.

Policy - A guiding principle.

PNV - An abbreviation of present net value.

Practices - Those management activities that are proposed or expected to occur.

Precommercial thinning - The practice of removing some of the trees less than merchantable size from a stand so that the remaining trees will grow faster.

Predator - One that preys, destroys, or devours--usually an animal that lives by preying on other animals.

Preparatory cut - The removal of trees near the end of a rotation, which permanently opens the canopy and enables the crowns of seed bearers to enlarge and improve conditions for seed production and natural regeneration. Typically done in the shelterwood system.

Prescribed fire - A wildland fire burning under specified conditions which will accomplish certain planned objectives.

Prescription - A predesignated set of criteria established for the use of prescribed fire to accomplish specific land and resource management objectives.

Preservation - A visual quality objective that allows for only ecological changes.

Presuppression - Activities organized in advance of fire occurrence to assure effective suppression action.

Primitive recreation - Those recreation activities which occur in a natural environment of fairly large size.

Primitive roads - Roads constructed with no regard for grade control or designed drainage, sometimes by merely repeatedly driving over an area.

Productive Forest lands - Forest lands that are capable of producing crops of industrial wood and have not been reserved or deferred.

Production potential - The capability of the land or water to produce a given resource.

Program - When capitalized, the Renewable Resource Program required by the RPA. Generally, sets of activities or projects with specific objectives.

Program Budget - The fiscal planning document for estimating short- and long-range dollar needs by program area.

Program development and budgeting - The process by which activities for the Forest are proposed and funded.

Programed harvest - The part of the potential yield that is scheduled for harvesting. It is based on current demand, funding, and multiple use considerations.

Project administrative site - A site with facilities such as guard stations, project work cabins, and other facilities primarily existing for project purposes.

Project design - The process of developing specific information related to location, timing, activities, accountability, and control that result in the achievement of an objective or desired future condition.

Projects - Work schedule prescribed for a project area to accomplish management prescriptions.

Proponent interest - An individual or organization desiring to develop and operate a winter sports site.

Public access - Usually refers to a road or trail route over which a public agency claims a right-of-way for public use.

Proposed action - In terms of the National Environmental Policy Act, the project, activity, or decision that a Federal agency intends to undertake.

Public issue - A subject or question of widespread public interest relating to management of the National Forest System.

Public participation - Meetings, conferences, seminars, workshops, tours, written comments, responses to survey questionnaires, and similar activities designed and held to obtain comments from the public about Forest Service planning.

QRD - A decision aiding tool comprised of three separate parts: (1) Question analysis "Q," (2) rules "R," and (3) Data "D." Question analysis is the process of breaking a question into more detailed specific questions. Rules means the knowledge and assumptions whereby raw data is changed into information relating to the question. Once the question and rules are analyzed, then a determination (D) can be made of the data needed to answer the question.

Quad maps - Standard U.S. Geological Survey quadrangle maps.

Quality management (range) - Management of the range ecosystem where vegetation production is being maximized, soils disturbance is minimal, and animal production is high. Impacts to the environment are low.

Range - Land producing native forage for animal consumption and lands that are revegetated naturally or artificially to provide forage cover that is managed like native vegetation.

Range allotment - An area designated for use of a prescribed number and kind of livestock under one management plan.

Range condition - The state of health of the range based on what it is naturally capable of producing.

Ranger District - Administrative subdivisions of the Forest supervised by a District Ranger who reports to the Forest Supervisor.

Raptors - Bird of prey with a strong notched beak and sharp talons, such as the eagle, hawk, owl.

RARE II - See Roadless Area Review and Evaluation II.

Real dollar value - A monetary value that compensates for the effects of inflation.

Record of Decision - A document separate from but associated with an Environmental Impact Statement that publicly and officially discloses the responsible official's decision on which alternative assessed in the Environmental Impact Statement to implement.

Recreation capacity - The number of people that can take advantage of the

recreation opportunity at any one time without substantially diminishing the quality of the experience.

Recreation experience level - A classification (using a 1 to 5 scale) of the level of development in camp and picnic sites.

Recreation Information Management (RIM) - The Forest Service system for recording recreation facility condition and use.

Recreation management area - An area of several thousand acres where the management emphasis is on recreation and where there is direction given to establish a Recreation Area Management Plan.

Recreation opportunity - Availability of a real choice for a user to participate in a preferred activity within a preferred setting.

Recreation Opportunity Spectrum (ROS) - A method of measuring the ability of the Forest land to meet the various recreation demands.

Recreation (PAOT) - Refers to people at one time that occupy a given campground, picnic area, or any other developed recreation area.

Recreation residences - Houses or cabins on National Forest land that are not the primary residence of the owner.

Recreation types - A term used to indicate the type of recreation experience sought by Forest users.

Recreation visitor day (RVD) - Twelve visitor hours, which may be aggregated continuously, intermittently, or simultaneously by one or more persons.

Recreational livestock - Animals used primarily in conjunction with recreation such as horses, mules, etc.

Reduced service management - Management of developed recreation facilities below optimum maintenance standards.

Reforestation - The natural or artificial restocking of an area with forest trees.

Regeneration - The renewal of a tree crop, whether by natural or artificial means. Also, the young crop itself.

Region - For Regional planning purposes, the standard administrative Region of the Forest Service administered by the official responsible for preparing a Regional Guide.

Regional analysis areas - Geographic areas within the Region that encompass several Forests or Grasslands.

Regional Forester - The official responsible for administering a single Region.

Regional Guide - The guide developed to meet the requirements of the Forest

and Rangeland Renewable Resources Planning Act of 1974, as amended, that guides all natural resource management activities and establishes management standards and guidelines for the National Forest System lands of a given Region.

Regulations - Generally refers to the Code of Federal Regulations, Title 36, Chapter II, which covers management of the Forest Service.

Removal cut (final cut) - The removal of the last seed bearers or shelter trees after regeneration is established under a shelterwood method.

Research Natural Areas - An area in a natural condition which exemplifies typical or unique vegetation and associated biotic, soil, geologic, and aquatic features. The area is set aside to preserve a representative sample of an ecological community primarily for scientific and educational purposes.

Residual stand - The trees remaining standing after some event such as.

Residual utilization - Removal and use of forest residue such as slash for home heating or wood products.

Resource allocation model - A mathematical model using linear programming which will allocate land to prescriptions and schedule implementation of those prescriptions simultaneously.

Resource element - A major Forest Service mission-oriented endeavor which fulfills statutory or executive requirements and comprises a collection of activities from the various operating programs required to accomplish the mission. The eight resource elements are: Recreation, wilderness, wildlife and fish, range, timber, water, minerals, and human and community development.

Resource Management Plan - A Plan developed prior to the Forest Plan that outlines the activities and projects for a particular resource element independently of considerations for other resources. Such Plans are superseded by the Forest Plan.

Resource use and development opportunities - A possible action, measure, or treatment and corresponding goods and services identified and introduced during the scoping process which subsequently may be incorporated into and addressed by the Land and Resource Management Plan in terms of a management prescription.

Responsible official - The Forest Service employee who has been delegated the authority to carry out a specific planning action.

Retention - See "Visual quality objectives."

Retrogressive vegetative succession - A reversal of the usual ecological trend toward more complex and stable plant communities.

Right-of-way - An accurately located strip of land with defined width, point of beginning, and point of ending. It is the area within which the user

has authority to conduct operations approved or granted by the landowner in an authorizing document, such as a permit, easement, lease, license, or Memorandum of Understanding (MOU).

Riparian - Areas of land directly influenced by water. Examples are stream sides, lake borders, or marshes.

Riparian ecosystems - A transition between the aquatic ecosystem and the adjacent upland terrestrial ecosystem.

Road - A general term denoting a travel route for vehicles greater than 40 inches in width.

Forest arterial road. Provides service to large land areas and usually connects with public highways or other Forest arterial roads to form an integrated network of primary travel routes.

Forest collector road. Serves smaller land areas than a Forest arterial road and is usually connected to a Forest arterial or public highway. Collects traffic from Forest local roads and/or terminal facilities.

Forest local road. Connects terminal facilities with Forest collector or Forest arterial roads, or public highways.

Road maintenance levels - Levels are described as follows:

Level 1. Road normally closed to vehicle traffic.

Level 2. Road open for limited passage of traffic but not normally suitable for passenger cars.

Level 3. Road open for public traffic including passenger cars, but may not be smooth or comfortable.

Level 4. Road suitable for all types of vehicles, generally smooth to travel, and dust may be controlled.

Level 5. Road is smooth and dust free, and the surface is skid resistant if paved.

Roaded natural - A classification of the recreation opportunity spectrum that characterizes a predominately natural environment with evidence of moderate permanent alternate resources and resource utilization.

Roadless Area Review and Evaluation II (RARE II) - The national inventory of roadless and undeveloped areas within the National Forest and Grasslands. This refers to the second such assessment, which was documented in the Final Environmental Impact Statement of the Roadless Area Review and Evaluation, January 1979.

Rotation - The planned number of years between the formation of a regeneration of trees and its final cutting at a specified stage of maturity.

Roundwood - Timber and fuelwood prepared in the round state--from felled trees to material trimmed, barked, and crosscut.

RPA Program - The Forest and Rangeland Renewable Resources Planning Act of

1974. Also refers to the National Assessment and Recommended Program developed to fulfill the requirements of the Act. The most recent recommended program was done in 1980.

RSM - Reduced service management; refers to recreation administration, operation, and maintenance at a level below established standards and management objectives (due to inadequate funding).

Rural - A recreation opportunity spectrum classification for areas characterized by a substantially modified natural environment.

RVD's - An abbreviation of recreation visitor days.

Sale schedule - The quantity of timber planned for sale by time period from an area of suitable land covered by a Forest Plan.

Saleables - See "Minerals, common variety."

Salvage cutting - The exploitation of trees that are dead, dying, or deteriorating before their timber becomes worthless.

Sanitation cutting - The removal of dead, damaged, or susceptible trees, done primarily to prevent the spread of pests or pathogens

Sawtimber - Live trees that equal or exceed the minimum utilization standard for sawtimber.

Scenic areas - Places of outstanding or matchless beauty which require special management to preserve these qualities.

Scenic easement - An interest in the land of another which allows the easement holder specified uses or rights without actual ownership of the land.

Scoping process - The public land management activities used to determine the range of actions, alternatives, and impacts to be considered in an Environmental Impact Statement.

Second growth - Forest growth that has become established after some interference with the previous Forest crop.

Seed tree cutting - Removal in one cut of the mature timber crop from an area, except for a small number of seed bearers left singly or in small groups.

Seedlings and saplings - Live trees less than 5 inches in diameter at breast height.

Selected alternative - The alternative recommended for implementation as the Forest Plan based on the evaluation completed in the planning process.

Selection - See "Group selection" and "Individual (single) tree selection."

Semiprimitive motorized - A classification of the recreation opportunity which present at least moderate challenge, risk, and a high degree of skill testing.

Semiprimitive nonmotorized - A classification of the recreation opportunity spectrum characterized by a predominately unmodified natural environment of a size and location that provides a good to moderate opportunity for isolation from sights and sounds of man.

Sensitive species - Plant or animal species which are susceptible or vulnerable to activity impacts or habitat alternations.

Sensitivity level - A particular degree of measure of viewer interest in scenic qualities of the landscape.

Shade-intolerant plants - Plant species that do not germinate or grow well in the shade.

Shade-tolerant plants - Plants that grow well in shade.

Shelterwood - The cutting method that describes the silvicultural system in which, in order to provide a source of seed and/or protection for regeneration, the old crop (the shelterwood) is removed in two or more successive shelterwood cuttings.

Seral condition - The unique characteristics of a biotic community which is a developmental, transitory stage in an orderly ecologic succession involving changes in species, structure, and community processes with time.

Shrub/seedling - A Forest successional stage in which shrubs and seedling trees are the dominant vegetation.

Sight distance - The distance at which 90 percent or more of a deer or elk is hidden from an observer.

Silvicultural examination - The process used to gather the detailed in-place field data needed to determine management opportunities and direction for the timber resource within a small subdivision of a Forest area such as a stand.

Silvicultural system - A management process whereby Forests are tended, harvested, and replaced, resulting in a Forest of distinctive form.

Single-tree selection - See "Individual (single) tree selection."

Site index - A numerical evaluation of the quality of land for plant productivity.

Site preparation - A general term for removing unwanted vegetation, slash, roots and stones from a site before reforestation.

Site productivity - Production capability of specific areas of land.

Size class - For the purposes of Forest planning, size class refers to the three intervals of tree stem diameter used for classification of timber in the Forest Plan data base.

- less than 5-inch diameter = seedling/sapling
- 5- to 7-inch diameter = pole timber
- greater than 7-inch diameter = sawtimber

Skidding - Moving logs by sliding from stump to roadside, deck, skidway, or other landing.

Skier day - Measure of downhill skiing use equivalent to one person skiing for 8 hours.

Slash - The residue left on the ground after timber cutting and/or accumulating there as a result of storm, fire, or other damage.

Slope slump - A slide or earthflow of a soil mass.

Small game - Birds and small mammals normally hunted or trapped.

Snag - A nonliving standing tree.

Social disruption - The disruption or breaking up of people's lives.

Society of American Foresters (SAF) forest and cover types - A forest type is a descriptive term used to group stands of similar character in regards to composition and development due to given ecological factors, by which they may be differentiated from other groups of stands.

Soil productivity - The capacity of a soil to produce a specific crop such as fiber or forage under defined levels of management.

Soil surveys - Systematic examinations of soils in the field and in laboratories.

Sound wood - Timber free from defect.

Special Use Permit - A permit issued under established laws and regulations to an individual, organization, or company for occupancy or use of National Forest land for some special purpose.

Spring break-up - The time of year when roads break up due to melting frost and ice.

Stand (tree stand) - An aggregation of trees or other vegetation occupying a specific area and sufficiently uniform in composition to be distinguishable.

Stand examination surveys - Procedures consisting of seven types of surveys used to collect data on Forest stands.

Stand size class - A classification of forest land based on the predominant size of trees present.

Standard and Guideline - A principle requiring a specific level of attainment.

State Air Quality Regulations - The legal base for control of air pollution sources in that state.

State Implementation Plan - A State Plan that covers implementation, maintenance, and enforcement of primary and secondary standards in each air quality control region, pursuant to Section 110 of the Clean Air Act.

Strategic minerals - Those minerals of which the U.S. imports 50 percent or more from foreign sources (based on 1978 U.S. Bureau of Mines figures).

Stream - A water course having a distinct natural bed and banks which provides water at least periodically.

Successional stage - A stage or recognizable condition of a plant community that occurs during its development from bare ground to climax.

Suitability - The appropriateness of applying certain resource management practices to a particular area.

Suitability analysis - Process of identifying lands to be managed for timber production.

Suitable Forest land - Lands allocated to timber management as a result of suitability analysis.

Supply - A schedule of the quantity of a product or Forest output that will be produced at various prices.

Supply potential - The output production possible from the available resources.

Suppression - An act extinguishing or confining fire.

Surface resources - Renewable resources located on the earth's surface in contrast to ground water and mineral resources located below the earth's surface.

Sustained yield of products and services - The achievement of maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forest without impairment of the productivity of the land.

Targets - A quantifiable output. Assignments made to the Forest by the Regional Forester.

Technically suitable Forest land - Land for which technology is available that will ensure timber production without irreversible resource damage to soils, productivity, or watershed conditions.

Temporary road - A road that will be physically obliterated and seeded after its primary use is completed.

Thermal cover - Cover used by animals to ameliorate effects of weather.

Thinning - A felling made in an immature stand primarily to maintain or accelerate diameter increment and also to improve the average form of the remaining trees without permanently breaking the canopy.

Threatened species - Those plant or animal species likely to become endangered species throughout all or a significant portion of their range within the foreseeable future.

Tiering - Refers to additional coverage of general matters in broader Environmental Impact Statements.

Timber base - The lands within the Forest capable, available, and suitable for timber production.

Timber classification - Forested land is classified under each of the land management alternatives according to how it relates to the management of the timber resource.

1. Forest land - Land at least 10 percent occupied by forest trees of any size or formerly having had such tree cover and not currently developed for nonforest use.
2. Suitable forest land - Land that is managed for timber production on a regulated basis.
3. Unsuitable forest land (not suited) - Forest land that for various reasons is not managed for timber production.
4. Tentatively suitable (commercial forest land) - Forest land which is producing or is capable of producing crops of industrial wood.

Timber harvest schedule - See "Sale schedule."

Timber production - The purposeful growing, tending, harvesting, and regeneration of regulated crops of trees to be cut into logs, bolts, or other round sections for industrial or consumer use.

Timber stand improvement (TSI) - Measures such as thinning, pruning, release cutting, prescribed fire, girdling, weeding, or poisoning of unwanted trees aimed at improving growing condition of the remaining trees.

Tractor logging - Any logging method which uses a tractor as the motive power for transporting logs from the stumps to a collecting point--whether by dragging or carrying the logs.

Tradeoff Evaluation Process (TEP) - A process whereby factors, issues, elements, etc., are evaluated with regard to the tradeoffs that would occur.

- Trail maintenance level - One of the categories outlined in the Management Information Handbook describing the type and intensity of maintenance for trails.
- Transitory range - Land that is suitable for grazing use of a nonenduring nature over a period of time.
- Travel management - The administrative decisions on the location and timing of road and trail closures.
- Treatment area - The site-specific location of a resource improvement activity.
- Tree opening - An opening in the forest cover created by the application of even-aged silvicultural practices.
- Type conversion - The conversion of the dominant vegetation in an area from forested to nonforested or from one tree species to another.
- Understory - The trees and other woody species growing under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.
- Uneven-aged management - The application of a combination of actions needed to simultaneously maintain continuous high-forest cover, recurring regeneration of desirable species, and the orderly growth and development of trees through a range of diameter or age classes to provide a sustained yield of forest products.
- Uneven-aged silviculture systems - The combination of action that results in the creation of forests or stands of trees, in which trees of several or many ages grow together.
- Individual tree selection cutting. The removal of selected trees of all size classes on an individual basis.
- Group selection cutting. The removal of selected trees of all size classes in groups of a fraction or an acre up to two or three acres in size.
- Unpatented mining claim - See "Mining claim."
- Unplanned ignition - A fire started at random by either natural or human causes, or a deliberate incendiary fire.
- Unregulated harvest - This harvest is not charged against the allowable sale quantity, and includes occasional volumes removed that were not recognized in calculations of the allowable sale quantity, such as cull or dead material and noncommercial species and products. It also includes all volume removed from nonsuitable areas. Harvests from nonsuitable areas will be programmed as needed for objectives such as research on experimental Forests, to meet multiple use objectives other than timber production, and for improvement of administrative sites.

Unsuitable lands - See "Timber classification."

Utilization standards - Standards guiding the projection of timber yields and the use and removal of timber. The standards are described in terms of minimum diameter at breast height, minimum length, and percent soundness of the wood, as appropriate.

Variety class - A classification system for establishing three visual landscape categories according to the relative importance of the visual features. This classification system is based on the premise that all landscapes have some visual values, but those with the most variety or diversity of visual features have the greatest potential for high scenic value.

Vegetative management - Activities designed primarily to promote the health of the Forest cover for multiple-use purposes.

Vertical diversity - The diversity in a stand that results from the complexity of the above-ground structure of the vegetation; the more tiers of vegetation.

Visual absorption capability - The ability of the landscape to conceal evidence of human modifications. Rated as high, moderate, and low.

Viable populations - A number of individuals of a species sufficient to ensure the long-term existence of the species in natural self-sustaining populations adequately distributed throughout their region.

Visitor Information Service (VIS) - Activities which interpret for visitors, in layman's language, Forest management, protection, utilization, and research.

Visual quality objective (VQO) - Categories of acceptable landscape alteration measured in degrees of deviation from the natural appearing landscape.

Preservation (P) - Ecological change only here.

Retention (R) - Human activities should not be evident to the casual Forest visitor.

Partial Retention (PR) - Human activities may be evident but must remain subordinate to the characteristic landscape.

Modification (M) - Human activity may dominate the characteristic landscape but must, at the same time, utilize naturally established form, line, color, and texture. It should appear as a natural occurrence when viewed in foreground or middleground.

Maximum Modification (MM) - Human activity may dominate the characteristic landscape, but should appear as a natural occurrence when viewed as background.

Enhancement - A short-term management alternative which is done with the express purpose of increasing positive visual variety where little variety now exists.

Visual resource - The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have for visitors.

VQO - An abbreviation of visual quality objective.

Water rights - Rights to divert and use water or to use it in place.

Water yield - The measured output of the Forest's streams.

Water yield increase - Additional water released to the Forest streams as a result of Forest management activities.

Watershed - The entire area that contributes water to a drainage system or stream.

Wetlands - Areas that are inundated by surface or ground water with a frequency sufficient to support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction.

Wilderness - Areas designated by congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped Federal land retaining its primeval character and influence without permanent improvements or human habitation.

Wildfire - Any wildland fire that is not a prescribed fire.

Wildlife habitat diversity - The distribution and abundance of different plant and animal communities and species within a specific area.

Wildlife habitat effectiveness - The character of locations where wildlife are not disturbed by human activities.

Window - A critical segment of terrain through which right-of-way could pass in traversing from point of origin to destination.

Winter range - See "Big game winter range."

Withdrawal - An order removing specific land areas from availability for certain uses.

Wood fiber production - The growing, tending, harvesting, and regeneration of harvestable trees.

Work center - A facility where crews assemble and are direct toward their various work assignments.

Year-round economies - Economies based on employees working year-round as opposed to seasonal employment.

Zone of influence (ZOI) - The area influenced by Forest Service management activities.

APPENDIX A
TEN YEAR TIMBER SALE SCHEDULE

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES		
					MCF	MMBF		C	R	
1985	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1985	Loa	Neff's #1	7A T27S, R4E	100	110	.55	Spruce/fir: Group Selec- tion	1.0	0	
1985	Loa	Small Sales	District Wide	40	60	.3	Varied	0	0	1/
1985	Beaver	Circleville #2	7A T30S, R5W	75	120	.6	Spruce/fir: Group Selec- tion	.5	0	
1985	Beaver	Kent's Lake	7A T29S, R5W	75	80	.4	Aspen Clear- cut	.5	0	
1985	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1985	Richfield	Forshea Aspen	4B T30S, R2-1/2W	200	130	.65	Aspen Clear- cut	0	0	
1985	Richfield	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1986	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1986	Loa	Neff's #2	7A T27S, R4E	100	130	.65	Spruce/fir: Group Selec- tion	1.0	0	
1986	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1986	Beaver	Betenson Flat	7A T30S, R5W	125	120	.6	Spruce/fir: Group Selec- tion	0	0	

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES		
					MCF	MMBF		C	R	
1986	Beaver	Anderson Meadow	7A	75	80	.4	Spruce/fir: Group Selec- tion	0	0	
1986	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1986	Richfield	Whooten Spring	7B T25S, R2W	100	100	.5	Spruce/fir: Progressive strip Selec- tion	1.0	0	
1986	Richfield	Small Sales	District Wide	70	70	.35	Varied	0	0	1/
1987	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1987	Loa	Wiff's Pasture	7A T27S, R1E	120	130	.65	Spruce/fir: Two Step Shelterwood	.3	0	
1987	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1987	Beaver	High Hunt	7A T30S, R5W	125	300	1.5	Spruce/fir: CC Strips	1.5	0	2/
1987	Beaver	Circleville #3	7A T30S, R5W	50	140	.7	Spruce/fir: Group Selec- tion	0	0	
1987	Beaver	Long Flat Aspen	7A T29S, R4W	100	60	.3	Aspen Clear- cut	.5	0	
1987	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES		
					MCF	MMBF		C	R	
1987	Richfield	Clover Flat	7B T22S, R2W	150	90	.45	Spruce/fir: Group Selec- tion	1.0	0	
1987	Richfield	Small Sales	District Wide		80	.4	Varied	0	0	1/
1988	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1988	Loa	Hancock	7A T26S, R1E	120	130	.65	Spruce/fir: Two Step Shelterwood & Group Sel- ection	1.0	1.0	
1988	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1988	Beaver	Sawmill Bench	6B, 4B T27S, R6W	35	50	.25	Ponderosa Pine, Doug- las fir: Shelterwood	0	0	
1988	Beaver	Lake Peak	7A T28S, R4W	60	80	.5	Spruce/fir: Group Selec- tion	.5	0	
1988	Beaver	Small Sales	7A District Wide	60	70	.35	Varied	0	0	1/
1988	Richfield	Whiteledge Aspen	4B T27S, R2-1/2W	100	120	.6	Aspen Clear- cut	1.0	0	
1988	Richfield	Small Sales	District Wide	60	50	.25	Varied	0	0	1/
1988	Richfield	Convulsion	6B T22S, R4E	75	80	.25	Ponderosa Pine Shelterwood	0	0	
1989	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES		
					MCF	MMBF		C	R	
1989	Loa	Daniels	6B, 4B T24S, R2E	120	130	.65	Aspen Clear- cut	0	0	
1989	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1989	Beaver	Lousy Jim	6B, 7A T29S, R5W	75	160	.8	Spruce/fir: Strip CC	.5	2	2/
1989	Beaver	Forked Flat Aspen	7A T29S, R5W	100	80	.4	Aspen Clear- cut	0	0	
1989	Beaver	Round Flat	7A T29S, R5W	125	120	.6	Spruce/fir: Group Selec- tion	0	0	
1989	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1989	Richfield	Doe Flat	7B T25S, R1W	150	100	.5	Spruce/fir: Progressive Strip Selec- tion	.5	0	
1989	Richfield	Small Sales	District Wide	70	70	.35	Varied	0	0	1/
1990	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1990	Loa	Neff's #3	7A T27S, R4E	100	100	.5	Spruce/fir: Group Selec- tion	1.0	0	
1990	Loa	Small Sales	District Wide	50	70	.35	Varied	0	0	1/
1990	Beaver	Anderson #2	7A T30S, R5W	75	80	.4	Spruce/fir: Group Selec- tion	0	0	

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES	
					MCF	MMBF		C	R
1990	Beaver	Kent's Lake #2	7A T30S, R5W	150	80	.4	Aspen Clear- cut	0	0
1990	Beaver	Small Sales	7A	50	90	.45	Varied	0	0 1/
1990	Richfield	Farnsworth Aspen	4B T23S, R2E	120	120	.6	Aspen Clear- cut	.5	0
1990	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0 1/
1991	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0 1/
1991	Loa	Deep Creek	7A T27S, R4E	120	130	.65	Spruce/fir: Two Step Shelterwood	1.0	0
1991	Loa	Small Sales	District Wide	40	40	.2		0	0
1991	Beaver	Labaron #2	7A T30S, R5W	120	100	.5	Spruce/fir: Group Selec- tion	0	0
1991	Beaver	Anderson Meadow Resale	7A T30S, R5W	120	100	.5	Spruce/fir: Group Selec- tion	0	0
1991	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0 1/
1991	Richfield	Annebella	7B T25S, R2W	140	120	.6	Spruce/fir: Group Selec- tion	1.0	0
1991	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0 1/
1992	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0 1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES		
					MCF	MMBF		C	R	
1992	Loa	Snow Bench	7A T27S, R4E	80	100	.5	Spruce/fir: Two Step Shelterwood	.5	0	
1992	Loa	Small Sales	District Wide	50	70	.35	Varied	0	0	1/
1992	Beaver	Fat Chance	2B, 7A T29S, R5W	100	100	.5	Spruce/fir: Shelterwood	1	1.5	
1992	Beaver	Peterson Flat Resale	7A T30S, R5W	196	100	.5	Spruce/fir Group Selec- tion	0	0	
1992	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1992	Richfield	Barney Lake	4B T27S, R2-1/2W	80	100	.5	Spruce/fir: Two Step Shelterwood	.5	0	
1992	Richfield	Small Sales	District Wide	70	70	.35	Varied	0	0	1/
1993	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1993	Loa	Neal's Flat	3A T24S, R2W	140	130	.65	Spruce/fir: Two Step Shelterwood	1.0	.5	
1993	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1993	Beaver	Straight Creek Aspen	7A	144	60	.3	Aspen Clear- cut	0	0	
1993	Beaver	Grindstone Salvage	7A T29S, R4W	150	60	.3	Spruce/fir Clear cut	0	0	

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES	
					MCF	MMBF		C	R
1993	Beaver	Oak Basin	4B, 6B T30S, R4W	139	60	.3	Ponderosa Pine, Doug- las fir, White-fir, Shelterwood	0	0
1993	Beaver	Small Sales	7A District Wide	70	50	.35	Varied	0	0 1/
1993	Richfield	Indian Peak	4B T26S, R2W	100	120	.6	Spruce/fir: Group Selec- tion	.5	0
1993	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0 1/
1994	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0 1/
1994	Loa	Willies Flat	6B, 4B T25S, R3E		130	.65	Spruce/fir: Two Step Shelterwood	1.0	0
1994	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0 1/
1994	Beaver	Indian Creek	4B, 6B T27S, R6W	274	100	.5	Ponderosa Pine, Doug- las fir Shelterwood	0	0
1994	Beaver	Grindstone Aspen	7A T29S, R4W	200	60	.3	Aspen Clear- cut	0	0
1994	Beaver	Burnt Flat Aspen	7A	150	60	.3	Aspen Clear- cut	0	0
1994	Beaver	Small Sales	7A District Wide	50	40	.20	Varied	0	0 1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME		PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES	
					MCF	MMBF		C	R
1994	Richfield	Nielsen Canyon	4B T26S, R2W	140	120	.6	Spruce/fir Group Selec- tion	1.0	0
1994	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0 1/

1/ Small sales are unnamed timber sales sold under the District Rangers authority. Such sales are designed to respond to resource needs and demands on short notice. As such, they cannot be located at this time, but may occur anywhere on the Forest that is available for timber management.

2/ Dependent upon Regional financing for demonstration cable sale.

APPENDIX B

DETERMINATION OF LAND CLASSIFICATION

1. Non-Forest land (includes water)

Meadow	17,530 acres
Sagebrush	267,680 acres
Mountain brush	331,910 acres
Barren (includes water)	<u>29,580 acres</u>
Total Non-Forest land	646,700 acres

2. Forest Land:

Total National Forest	1,424,479 acres
Minus Non-Forest land (1)	<u>- 646,700 acres</u>
Total Forest Land	777,779 acres

3. Forest land withdrawn from timber production:

Partridge Mountain Research Natural Area (RNA)	162 acres
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4. Forest land not capable of producing crops of industrial wood:

Pinyon juniper	371,560 acres
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Not expected to be utilized for timber within the next ten years.

5. Forest land physically unsuitable:
 - a. Irreversible damage likely to occur-14,448 acres.
 Criteria: soil - shallow (less than one foot),
 errodiable, arid (4,546 acres)
 landslide - landslide areas which are
 (1) on slopes over 40 percent
 (2) on North Horn formation
 (3) either almost 40 percent and on slide
 prone formations (e.g. Lousy Jim) or on
 known active unstable areas (9,902 acres)

 - b. Not restockable within 5 years-8,143 acres.
 Criteria: Conifer stands with excessive surface rock where
 regeneration can not be established artificially or
 naturally. Aspen stands with similar rock content
 are excluded as they can be regenerated through coppice
 sprouting.

6. Forest land - inadequate information:

Non-commercial aspen*	853 acres
Non-commercial conifer*	<u>13,978 acres</u>
Total	14,831 acres

7. Tentatively suitable forest land:

	386,635 acres
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8. Forest land not appropriate for timber production:	
Acres by management emphasis	
a. Existing and proposed developed recreation sites	120 acres
b. Semi-primitive non-motorized with timber harvest not allowed	14,783 acres
c. Improved watershed	3,779 acres
d. Proposed Research Natural Areas	1,751 acres
e. Economically less suitable land (not utilized to meet timber objectives)	268,230 acres
Total	288,663 acres
9. Unsuitable forest land:	697,807 acres
10. Suitable forest land:	
a. Softwood	67,972 acres
b. Hardwood	12,000 acres
c. Total	79,972 acres
11. Total national forest land:	1,424,479 acres

*Based on 20 cubic feet criteria in previous timber plans.

Summary of Changes in Timber Resource Inventory
and Management Direction from The Previous Timber
Management Plan

Area	Previous Plan Acres		This Plan Acres	% of Change
Net National Forest	1,415,700		1,424,479	+1
Forested Land	668,400		777,779	+14
Productive Deferred	18,800		0	-100
Productive Reserved	0		162	+100
Commercial Forest	332,600	Suitable	79,972	
Standard	65,200			
Special	20,300			
Marginal	246,100			
Unproductive Forest	318,000	Unsuitable	697,807	

APPENDIX C
RECREATION CONSTRUCTION
AND
RECONSTRUCTION

The following projects are listed in order of priority. Only the Johnson Valley project represents new construction. All other projects are reconstruction to restore worn out facilities. Funds for these projects are not included in the Forest constrained budget for recreation.

PRIORITY	DISTRICT	DESCRIPTION	LOCATION TOWNSHIP- RANGE MANAGEMENT AREA	UNITS (PAOT)	REMARKS
1.	All	Camp & picnic site water systems. Reconstruction	Forest Wide 1A		Upgrade systems not corrected with Jobs Bill funds. Meet State standards
2.	Fillmore	Oak Creek Campground Reconstruction \$396M	Sec. 11, T27S, R4W 1A	395	Work partially completed.
3.	Loa	Johnson Valley Camp- ground New Construction \$734 M	Sec. 24, T25S, R2E 1A	280	40 unit CG to be built in coordination with Fremont River Road Re- construction & paving
4.	Beaver	Kent's Lake Camp- ground Reconstruction \$246M	Sec. 31, T29S, R5W 1A	212	Improve layout to accommodate higher lake level.

PRIORITY	DISTRICT	DESCRIPTION	LOCATION TOWNSHIP- RANGE MANAGEMENT AREA	UNITS (PAOT)	REMARKS
5.	Fillmore	Maple Grove Camp- ground Reconstruction \$160M	Sec. 1, T21S, R2-1/2W 1A	185	Replace facil- ities-popular group & single unit facility.
6.	Richfield	Monrovia Picnic Area Reconstruction \$200M	Sec. 25, T25S, R3W 1A	200	Replace old facilities-Pop- ular site near communities.
7.	Beaver	Little Reservoir Campground Reconstruction \$206M	Sec. 25, T29S, R6W 1A	67	Replace facil- ities to accom- modate in- creased use due to dam recon- struction.

FISHLAKE NATIONAL FOREST

LAND MANAGEMENT PLAN

APPENDIX D

WILDLIFE AND FISH

Habitat improvement projects for wildlife; fish; and threatened, endangered, and sensitive species (T&E species) have been prioritized by District for each fiscal year based on budget levels identified in the preferred alternative. Fisheries projects are emphasized. Nonstructural wildlife projects are coordinated with range improvement projects.

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST (\$)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1985							
Fillmore	Sam Stowe Crk.	Rock structures	4 str	1,000	T25S, R4W	4B	Bonn. CTT (T&E)
Fillmore	North Walker	Seed	300 ac	1,500	T17S, R3E	4B	Big game
Beaver	Pine Creek	Log & brush bank structures	6 str	2,000	T26S, R6W	4A	Bonn. CTT (T&E)
Richfield	Table Mtn.	Burn	500 ac	5,600	T17S, R3W	4B	Big game
FISCAL YEAR 1986							
Fillmore	Corn Creek	Reshape banks & revegetate	0.5 mi	50,000	T24S, R4-1/2W	4A	Also T23S, R5W
Fillmore	Corn Creek	Rock riprap	0.8 mi	50,000	T24S, R4-1/2W	4A	DWR coop project
Loa	Doctor Creek	Prairie dog exclosure	5 ac/1 str	7,500	T26S, R1E	7A	Prairie dog (T&E)
Richfield	Mud Springs	Chaining	400 ac	16,100	T27S, R1E	9F	Big game
FISCAL YEAR 1987							
Fillmore	Corn Creek	Reshape banks & revegetate	0.5 mi	50,000	T23S, R5W	4A	Also T24S, R4-1/2W
Fillmore	Corn Creek	Revegetation	30 ac	70,000	T23S, R5W	6B	DWR coop project
Fillmore	Dameron Canyon	Chaining	595 ac	23,800	T24S, R5W	5A	Big game
Loa	Frying Pan	Prairie dog exclosure	5 ac/1 str	7,500	T25S, R2E	2B	Prairie dog (T&E)
Beaver	N. Fk North Crk	Barrier dam	1 str	2,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	N. Fk North Crk	Reshape banks & revegetate	25 ac	17,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	N. Fk North Crk	Plant willows	25 ac	7,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Richfield	Hamilton Res.	Dam reconstruction	1 str	30,000	T23S, R2E	4A	Resident fish
Richfield	Gooseberry	Chaining	100 ac	4,000	T22S, R2E	5A	Range - 1000 ac
Richfield	Lost Creek	Burn	120 ac	2,200	T23S, R1E	4B	Range - 1160 ac
FISCAL YEAR 1988							
Fillmore	Mud Springs	Fence spring	0.25 mi	2,000	T18S, R3W	6B	Game and nongame
Fillmore	Buck Hollow	Fence spring	0.1 mi	500	T16S, R3W	4B	Game and nongame
Fillmore	North Walker	Fence spring	0.2 mi	1,000	T16S, R3W	4B	Game and nongame
Fillmore	Robins Valley	Fence spring	0.1 mi	500	T20S, R2W	6B	Game and nongame
Fillmore	Rockwood	Pothole & fence	1 str	1,000	T25S, R4W	4B	Waterfowl & other
Fillmore	Little Valley	Guzzler & fence	.1 mi/1 str	2,500	T23S, R3W	4B	Game and nongame
Fillmore	Sam Stowe Crk.	Rock structures	100 str	10,000	T25S, R4W	4B	Bonn. CTT (T&E)
Fillmore	Butler Spring	Fence spring	0.2 mi	1,000	T25S, R4-1/2W	6B	Game and nongame
Fillmore	Bridge Canyon	Raptor perches	5 str	750	T16S, R4W	5A/6B	Bald eagle, other
Fillmore	Mahogany Hollow	Raptor perches	5 str	750	T16S, R4W	5A/6B	Bald eagle, other
Fillmore	Corn Creek	Rock riprap	0.8 mi	50,000	T23S, R5W	4A	DWR coop project
Fillmore	Corn Creek	Reshape banks & revegetate	0.5 mi	50,000	T21S, R4W	4A	DWR coop project
Fillmore	Red Canyon	Chaining	100 ac	4,000	T22S, R2W	4B/6B	Range - 1000 ac.
Fillmore	Dameron Canyon	Chaining	595 ac	23,800	T24S, R5W	5A	Big game

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST (\$)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1988 (CONT.)							
Loa	Lake Creek	Water development	1 str	1,000	T26S, R4E	9F	Game and nongame
Loa	Forsyth	Raptor perch	5 str	1,000	T26S, R3E	6B	Bald eagle, other
Loa	Sevenmile Crk.	Fence riparian area	4 mi	20,000	T24&25S, R2E	2B/6B	Riparian protec.
Loa	Sevenmile Crk.	Rock bank structures	100 str	30,000	T24&25S, R2E	2B/6B	Bank stab.
Loa	Mud Springs	Pond	1 str	1,000	T27S, R4E	7A	Waterfowl & other
Loa	Fish Lake	Waterfowl potholes	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Twin Creeks	Spawning channel	5 ac	5,000	T26S, R2E	2B	Fish Lake spawn.
Loa	Hilgaard Mtn	Ponds	2 str	2,000	T24S, R3E	6B	Waterfowl & other
Loa	Fish Lake	Waterfowl potholes	3 str	3,000	T25S, R2E	2B	Waterfowl & other
Loa	Johnson Valley	Raptor perches	5 str	1,000	T25S, R2E	2B	Osprey and others
Loa	Pelican Point	Prairie dog enclosure	5 ac/1 str	7,500	T26S, R2E	2B	Prairie dog (T&E)
Beaver	Beaver River	Reshape banks & revegetate	68 ac	31,300	T29S, R6W	2B	Flood rehab.
Beaver	Beaver River	Rock bank structures	60 str	18,700	T29S, R6W	2B	Flood rehab.
Beaver	Indian Creek	Reshape banks & revegetate	30 ac	10,000	T27&28S, R6W	4A	Flood rehab.
Beaver	Indian Creek	Rock & log bank structures	33 str	9,500	T27&28S, R6W	4A	Flood rehab.
Beaver	Pine Creek	Ponds	2 str	1,000	T30S, R5W	6B	Game and nongame
Beaver	Thompson Hollow	Pond	1 str	1,000	T30S, R6W	4B	Game and nongame
Beaver	N. Fk North Crk	Reshape banks & revegetate	15 ac	22,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	N. Fk North Crk	Log & rock bank structures	95 str	28,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	Oak Basin/ Belly Ache	Water development modification	7 str	2,500	T29S, R4W	6B	Game and nongame
Beaver	Sargent Lake	Burn or rail and seed	50 ac	1,250	T26S, R4-1/2W	6B	Prairie dog (T&E)
Beaver	Sargent Lake	Gully plugs and seed	5 str	2,500	T26S, R4-1/2W	6B	Prairie dog (T&E)
Beaver	Briggs Hollow	Chaining	300 ac	11,800	T27S, R6W	6B	Big game
Beaver	Pine Creek	Chaining	100 ac	4,000	T26S, R6W	6B	Range - 975 ac.
Beaver	North Cedar	Burn	30 ac	600	T26S, R5W	6B	Range - 300 ac.
Beaver	North Indian	Burn	50 ac	1,100	T27S, R6W	6B	Range - 500 ac.
Beaver	Baker Canyon	Burn	50 ac	1,300	T29S, R6W	6B	Range - 520 ac.
Beaver	Pine Creek	Logworm fence	2 mi	10,000	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Pine Creek	Plant willows	5 ac	1,500	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Bullion Past.	Wildlife pond	1 str	1,000	T28S, R5W	3A	Game and nongame
Beaver	Kane Canyon	Wildlife fence modification	1 mi	1,500	T30S, R6W	5A/6B	Big game
Richfield	Monroe Mtn	Water development	1 str	2,000	T27S, R2W	4B	Game and nongame
Richfield	Forshea Mtn	Raptor perch	5 str	1,000	T28S, R2W	4B	Raptors
Richfield	Notche	Water development	1 str	1,000	T23S, R2E	4B	Game and nongame
Richfield	Farnsworth Res.	Dam reconstruction	1 str	80,000	T23S, R2E	4A	Resident fish
Richfield	Triangle Mtn.	Chaining	120 ac	3,300	T22S, R1E	9F	Range - 1200 ac
Richfield	Musinea	Elk wallow construction	1 str	1,000	T20S, R3E	9F	Big game (elk)
Richfield	Browns Hole	Water development	1 str	1,000	T22S, R2E	4B	Game and nongame
Richfield	Old Woman	Raptor snag management	5 str	1,000	T23S, R4E	6B	Raptors
Richfield	Cold Spr. Res.	Dam reconstruction	1 str	20,000	T23S, R2E	4A	Resident fish

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST (\$)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1989							
Fillmore	First Spring	Fence spring	0.1 mi	500	T17S, R4W	9F	Game and nongame
Fillmore	Little Oak Spr	Fence spring	0.2 mi	1,500	T17S, R4W	9F	Game and nongame
Fillmore	Cummings Spr.	Fence spring	0.1 mi	1,000	T20S, R3W	6B	Game and nongame
Fillmore	Corn Creek	Log bank structures	50 str	25,000	T24S, R4-1/2W	4A	DWR coop project
Fillmore	Corn Creek	Plant seedlings	30 ac	20,000	T24S, R4-1/2W	4A	DWR coop project
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T21S, R4W	4A	Flood rehab.
Loa	Sevenmile Crk.	Fence riparian area	3 mi	15,000	T24&25S, R2E	2B/6B	Riparian protec.
Loa	Sevenmile Crk.	Log & rock bank structures	150 str	45,000	T24&25S, R2E	2B/6B	Adfluvial fish
Loa	Sevenmile Crk.	Plant willows	15 ac	5,000	T24&25S, R2E	2B/6B	Adfluvial fish
Loa	Sevenmile Crk.	Snag & perch management	5 str	1,000	T24S, R2E	2B/6B	Raptors
Loa	Fish Lake	Waterfowl potholes	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Beaver	N. Fk South Crk	Pothole development	4 str	2,500	T30S, R5W	4B	Waterfowl & other
Beaver	Beaver River	Rock & log bank structures	67 str	20,000	T29S, R6W	2B	Resident fish
Beaver	Indian Creek	Log drop structures	67 str	20,000	T27&28S, R6W	4A	Resident fish
Beaver	Wades Canyon	Chaining	320 ac	12,800	T30S, R4W	6B	Big game
Beaver	N. Fk North Crk	Log & rock bank structures	67 str	20,000	T28S, R5&6W	4A	Bonn. CTT (T&E)
Richfield	Abes Reservoir	Dam reconstruction	1 str	35,000	T23S, R2E	4A	Resident fish
Richfield	Twin Ponds	Dam reconstruction	1 str	15,000	T23S, R2E	4A	Resident fish
Richfield	Forshea	Prairie dog enclosure	5 ac/1 str	7,500	T29S, R2W	4B	Prairie dog (T&E)
Richfield	Lost Creek	Chaining	40 ac	16,000	T23S, R1E	4B	Big game
Richfield	White Mtn.	Elk wallow management	1 str	1,000	T23S, R2E	4B	Big game (elk)
Richfield	Gooseberry	Snag management	5 str	1,000	T23S, R2E	2B	Raptors
FISCAL YEAR 1990							
Fillmore	Clear Spot Spr.	Fence spring	0.1 mi	2,500	T17S, R3W	4B	Game and nongame
Fillmore	Leamington Pass	Wildlife guzzler	1 str	2,500	T15S, R3W	6B	Game and nongame
Fillmore	Corn Creek	Log bank & drop structures	120 str	60,000	T24S, R4-1/2W	4A	DWR coop project
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T21S, R4W	4A	Flood rehab.
Fillmore	Oak Creek	Reshape banks & revegetate	0.5 mi	50,000	T17S, R4W	4A/9F	Flood rehab.
Loa	Fremont River	Boulder placement	1000 str	35,000	T25&26S, R3E	2B	Resident fish
Loa	Fish Lake	Waterfowl potholes	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Mamotts Spring	Fence spring	0.15 mi	1,500	T25S, R2E	2B	Game and nongame
Beaver	Beaver River	Log & rock bank structures	67 str	20,000	T29S, R6W	2B	Resident fish
Beaver	Black Hollow	Modify fence for deer	1 mi	1,500	T24S, R6W	5A/6B	Big game (deer)
Beaver	Beaver Front	Raptor perches	8 st.	1,600	Varied	6B	Bald eagle, other
Beaver	Pine Creek	Log & rock bank structures	100 str	30,000	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Sargent Lake	Prairie dog enclosure	5 ac/1 str	7,500	T26S, R4-1/2W	6B	Prairie dog (T&E)
Beaver	S. Fk North Crk	Log bank structures	77 str	23,000	T28S, R5&6W	3A	Resident fish
Beaver	Clear Creek	Reshape banks & revegetate	0.1 mi	10,000	T25S, R5W	4A	Resident fish

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST (\$)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1990 (CONT.)							
Richfield	Salina Creek	Fence riparian area	5 mi	25,000	T22S, R1,2&3W	2B/9F	Riparian protec.
Richfield	Willow Creek	Chaining	400 ac	16,000	T21S, R2E	5A/9F	Big game
Richfield	Soloman Basin	Chaining	230 ac	9,000	T25S, R3E	6B	Big game
Richfield	Gooseberry	Snag management	5 str	1,000	T23S, R2E	2B	Raptors
Richfield	Yogo Creek	Big game water development	1 str	1,000	T23S, R2E	2B	Big game & others
FISCAL YEAR 1991							
Fillmore	Cedar Ridge	Chaining	400 ac	16,000	T22S, R3W	6B	Big game
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T21S, R4-1/2W	4A	Flood rehab.
Fillmore	Oak Creek	Reshape banks & revegetate	25 ac	25,000	T17S, R4W	4A	Flood rehab.
Fillmore	Oak Creek	Rock bank structures	83 str	25,000	T17S, R4W	4A	Flood rehab.
Loa	Soloman Basin	Chaining	300 ac	12,000	T25S, R3E	6B	Big game
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T24S, R2E	6B	Waterfowl & other
Loa	Sheep Valley	Elk wallow	1 str	1,000	T24S, R2E	4B	Big game (elk)
Beaver	Upper City Crk.	Ponds	3 str	2,500	T29S, R4W	4B	Waterfowl & other
Beaver	Pine Creek	Log drop structures	100 str	30,000	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Birch Creek	Barrier removal	10 str	3,000	T30S, R6W	4B	Bonn. CTT (T&E)
Beaver	Birch Creek	Logworm fence	1 mi	10,000	T30S, R6W	4B	Bonn. CTT (T&E)
Beaver	Clear Creek	Reshape banks & revegetate	20 ac	20,000	T25S, R5W	4A	Resident fish
Richfield	Salina Creek	Fence riparian area	5 mi	25,000	T21S, R3E	2B/9F	Riparian protec.
Richfield	Salina Creek	Plant willows	20 ac	6,000	T22S, R1,2&3E	2B/9F	Also T21S, R3E
Richfield	Monroe Mtn.	Elk wallow	4 str	1,000	T27S, R2W	4B	Big game (elk)
Richfield	Box Creek	Raptor snag management	5 str	1,000	T27S, R2W	4B	Raptors
FISCAL YEAR 1992							
Fillmore	Black Cedar	Chaining	50 ac	2,000	T22S, R3W	4B	Range - 500 ac.
Fillmore	Rockwood	Elk wallow & fence	.1 mi/1 str	1,000	T24S, R4-1/2W	4B	Big game & others
Fillmore	Bear Hollow	Fence spring	0.1 mi	750	T21S, R3W	4B	Game and nongame
Fillmore	Turner Timber	Fence spring	0.1 mi	750	T21S, R3W	4B	Game and nongame
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T22S, R3W	4A	Flood rehab.
Fillmore	Oak Creek	Log drop structures	100 str	30,000	T17S, R4W	4A	Resident fish
Loa	Round Spr. Draw	Chaining	400 ac	16,000	T24S, R4E	6B	Big game
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Geyser Peak	Elk wallow	1 str	1,000	T26S, R4E	7A	Big game (elk)
Loa	UM Creek	Log drop structures	100 str	30,000	T25&26S, R3E	6B	Adfluvial fish
Loa	UM Creek	Plant willows	5 ac	1,500	T25&26S, R3E	6B	Adfluvial fish
Loa	UM Creek	Boulder placement	100 str	3,500	T25&26S, R3E	6B	Adfluvial fish
Beaver	Birch Creek	Log drop structures	100 str	30,000	T30S, R6W	4B	Bonn. CTT (T&E)
Beaver	Clear Creek	Log bank & drop structures	100 str	30,000	T25S, R5W	4A	Resident fish

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST (\$)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1992 (CONT.)							
Beaver	South Creek	Ponds	4 str	3,000	T30S, R6W	4B	Waterfowl & other
Richfield	Salina Creek	Log bank & drop structures	100 str	30,000	T22S, R2&3W	2B/9F	Resident fish
Richfield	Langdon Mtn.	Snag management	5 str	1,000	T28S, R2W	4B	Raptors
Richfield	Monroe Meadows	Wildlife water development	1 str	1,000	T26S, R2W	4B	Game and nongame
FISCAL YEAR 1993							
Fillmore	Elsinore	Burn and seed	450 ac	14,000	T24S, R4W	4B	Big game (elk)
Fillmore	Robins Valley	Pothole & fence	.1 ml/1 str	1,000	T20S, R3W	6B	Game and nongame
Fillmore	East Eight Mile	Raptor perches	5 str	500	T18S, R3W	6B	Raptors
Fillmore	Crazy Hollow	Fence spring	0.1 ml	1,000	T23S, R4W	6B	Game and nongame
Fillmore	Meadow Creek	Chaining	400 ac	16,000	T22S, R4W	6B	Big game
Fillmore	Chalk Creek	Reshape banks & revegetate	0.7 ml	70,000	T21S, R4W	4A	Flood rehab.
Fillmore	Meadow Creek	Reshape banks & revegetate	0.5 ml	50,000	T22S, R4+1/2W	6B	Flood rehab.
Fillmore	Pioneer Creek	Reshape banks & revegetate	0.2 ml	20,000	T20S, R3W	4A	Flood rehab.
Fillmore	Robins Vly Lake	Pipeline	1 str	10,000	T20S, R3W	6B	Resident fish
Fillmore	Robins Vly Lake	Fence	1 ml	10,000	T20S, R3W	6B	Resident fish
Fillmore	Robins Vly Lake	Aerator	1 str	2,500	T20S, R3W	6B	Resident fish
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T26S, R2E	2B	Waterfowl & other
Loa	Daniels Canyon	Big game water development	1 str	1,000	T26S, R2E	3A	Big game & others
Beaver	Bull Spring	Wildlife fence modification	0.2 ml	2,500	T27S, R7W	6B	Big game (deer)
Beaver	Mumford Res.	Dam reconstruction	1 str	20,000	T30S, R5W	4B	Resident fish
Beaver	Lower Kents Lake	Dam reconstruction	1 str	55,000	T29S, R5W	7A	Resident fish
Beaver	Fish Crk Meadow	Burn or rail and seed	50 ac	1,250	T27S, R5W	6B	Prairie dog (T&E)
Beaver	Fish Crk Meadow	Gully plugs and seed	5 str	2,500	T27S, R5W	6B	Prairie dog (T&E)
Beaver	Fish Crk Meadow	Prairie dog enclosure	1 str	7,500	T27S, R5W	6B	Prairie dog (T&E)
Richfield	Lost Creek	Log bank & drop structures	100 str	30,000	T23S, R1E	5A	Resident fish
Richfield	Magleby Pass	Snag development	5 str	1,000	T25S, R2W	7B	Raptors
Richfield	Old Woman	Fence modification	2 ml	1,500	T21S, R3E	6B	Big game

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST (\$)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1994							
Fillmore	Wildhorse	Guzzler	1 str	2,500	T15S, R4W	6B	Game and nongame
Fillmore	Meadow Creek	Reshape banks & revegetate	0.5 mi	50,000	T22S, R4-1/2W	6B	Flood rehab.
Fillmore	Pioneer Creek	Reshape banks & revegetate	0.2 mi	20,000	T20S, R3W	4A	Flood rehab.
Loa	Deep Crk. Lake	Dam reconstruction	1 str	35,000	T27S, R4E	7A	Resident fish
Loa	Crater Lakes	Prairie dog exclosure	1 str	7,500	T26S, R2E	4B	Prairie dog (T&E)
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Mill Meadow	Snag development	5 str	1,000	T26S, R3E	2B	Raptors
Beaver	Kents Lake	Snag development	5 str	1,000	T30S, R5W	7A	Raptors
Beaver	Little Res.	Snag development	5 str	1,000	T29S, R6W	2B	Bald eagle, other
Beaver	E Birch/Gold Crk	Chaining	450 ac	18,000	T30S, R4W	6B	Big game
Beaver	Twin Lakes	Dam reconstruction	1 str	50,000	T28S, R5W	3A	Resident fish
Beaver	Little Pine Crk	Fence and seed	0.5 mi	5,000	T30S, R5W	4B	Prairie dog (T&E)
Beaver	Little Pine Crk	Gully plugs and seed	5 str	2,500	T30S, R5W	4B	Prairie dog (T&E)
Richfield	Lost Creek	Fence modification	5 mi	2,500	T23S, R1E	5A	Big game
Richfield	Manning Creek	Fence riparian area	2 mi	10,000	T27S, R2-1/2E	4B/6B	Riparian protec.
Richfield	Manning Creek	Log drop structures	100 str	30,000	T27S, R2-1/2E	4B/6B	Resident fish
Richfield	Koosharem	Chaining	400 ac	16,000	T26S, R1W	4B/5A	Big game

APPENDIX E
RANGE MANAGEMENT

A list of range projects for the next 10 years is given by District and allotment. These projects will be done on a priority basis established on availability of funds and the need to maintain a good mix of structural and nonstructural improvements. Some work will be accomplished on priority allotments on each District.

In addition to the new improvements, some reconstruction/retreatment will be accomplished. This is necessary to maintain previous investments.

Projects for the allotments within the Oak Creek Coordinated Management Area are listed separately. This area has had special funding to accomplish coordinated range management on a demonstration basis.

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Fillmore	Watt's Mtn	Unit Fences	6 m1	30,000	T25S.R4-1/2W	4B/6B	
Fillmore	Watt's Mtn	Trail Construction	2 m1	2,000	T25S.R4-1/2W	4B/6B	Driftways
Fillmore	Watt's Mtn	Revegetation	625 ac	25,000	T25S.R4-1/2W	6B	
Fillmore	Watt's Mtn	Water Developments	8str	12,000	T24S. R3W	6B/4B	
Fillmore	Watt's Mtn	Fencing	5 m1	25,000	T25S.R4-1/2W	6B/4B	Also R3W
Fillmore	Watt's Mtn	Revegetation	575 ac	23,000	T24S. R3W	6B/9F	
Fillmore	Cedar Ridge	Water Development	3str	3,900	T22S. R2W	3A/4B	
Fillmore	Cedar Ridge	Ponds	6str	5,760	T22S. R2W	3A/4B	
Fillmore	Cedar Ridge	Fencing	3 m1	15,000	T22S, R3W	6B	
Fillmore	Cedar Ridge	Revegetation	835 ac	33,450	T21S, R2W	6B	
Fillmore	Cedar Ridge	Fencing	3 m1	15,000	T21S, R2W	4B/6B	
Fillmore	Cedar Ridge	Water Developments	3str	5,200	T22S, R2W	4B/6B	
Fillmore	Cedar Ridge	Revegetation	525 ac	21,000	T22S, R2W	4B/6B	
Fillmore	Cedar Ridge	Revegetation	1,000 ac	40,000	T22S, R3W	6B	
Fillmore	Meadow Creek	Revegetation	825 ac	33,000	T22S, R4W	6B	
Fillmore	Meadow Creek	Reconstruct/Retreat					
Fillmore	Meadow Creek	Water Development	3str	2,500	T22S, R4W	6B	
Fillmore	Meadow Creek	Revegetation Retreat	275 ac	11,000	T22S, R4W	6B	
Fillmore	Center Fork Chalk Creek	Fencing	7 m1	35,000	T21S, R3W	4B	
Fillmore	Center Fork Chalk Creek	Water Development	1str	1,500	T21S, R3W	4B	
Fillmore	Center Fork Chalk Creek	Revegetation	500 ac	20,000	T21S, R4W	4B/6B	
Fillmore	Corn Creek	Fencing	4 m1	21,000	T23S, R3W	6B/9F	
Fillmore	Corn Creek	Trail Construction	3 m1	5,000	T24S,R4-1/2W	9F	Driftways
Fillmore	Corn Creek	Water Developments	12str	20,000	T23S,R4&3W	6B/9F	
Fillmore	Cottonwood	Water Development Reconstruct	6str	6,000	T23S, R3W	4B/6B	
Fillmore	Elsinore	Water Development Reconst.	3str	3,000	T24S, R4W	4B	
Fillmore	N Fk Chalk Cr	Water Development Reconst.	1str	1,000	T21S, R3W	4B	
Fillmore	N Fk Chalk Cr	Fence Reconstruction	2 m1	11,000	T21S, R3W	4B	
Fillmore	N Fk Chalk Cr	Revegetation Retreatment	275 ac	11,000	T21S, R3W	4B	
Fillmore	S Fk Chalk Cr	Water Development Reconst.	3str	2,200	T22S, R4W	6B	
Fillmore	S Fk Chalk Cr	Fences	2 m1	10,400	T22S, R3W	4B/6B	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Fillmore	Wildgoose	Revegetation Retreatment	280 ac	11,200	T19S, R3W	6B	
Fillmore	Wildgoose/Ebbs	Revegetation Retreatment	165 ac	6,600	T19S, R3W	6B	
Fillmore	Grass Creek	Water Development Reconst.	5str	4,400	T25S, R5W	6B	
Fillmore	Grass Creek	Pond Reconstruction	3str	3,000	T25S, R5W	6B	
Fillmore	Grass Creek	Fence Reconstruction	2 mi	11,000	T24S, R5W	6B	
Fillmore	Grass Creek	Revegetation Retreatment	275 ac	11,000	T25S, R6W	6B	
Loa	UM Common	Spray/Chain/Seed	1,900 ac	76,000	T26S, R3E	6B	
Loa	Um Common	Fencing	2 mi	14,000	T24S, R3E	6B	
Loa	UM Common	Mytoge/UM Boy Fence	3 mi	15,000	T26S, R2&3E	6B	
Loa	Um Common	Reconstruction/Retreatment					
Loa	UM Common	Rewire Fence	2 mi	7,000	T26S, R2E	6B	
Loa	UM Common	Spring/Trough Reconstruction	2str	1,000	T26S, R3E	6B	
Loa	UM Common	Clean/Treat Reservoirs	4str	3,000	T26S, R2&3E	6B	
Loa	UM Common	Rewire Pole Canyon Fence	1.5 mi	5,200	T26S, R2E	6B	
Loa	UM Common	Log Worm Boundary Fence	1 mi	7,000	T24S, R3E	6B	
Loa	UM Common	Log Worm Fence	1.5 mi	10,000	T25S, R3E	6B	
Loa	UM Common	Wire Fencing	1 mi	5,000	T24S, R3E	6B	
Loa	UM Common	Black Flat Fence & Corral	1mi/1str	7,000	T24S, R3E	6B	
Loa	Seven Mile	Sagebrush Spray	1,965 ac	50,000	T24S, R2E	6B	
Loa	Seven Mile	Fencing	2 mi	10,500	T24S, R2E	6B	
Loa	Seven Mile	Reconstruction/Retreatment					
Loa	Seven Mile	Spring/Trough Reconstruction	2str	1,100	T26S, R2E	6B	
Loa	Seven Mile	Corral & Fence	1str/1mi	7,000	T25S, R2E	2B/6B	
Loa	Thousand Lake	Sagebrush Spray	1,600 ac	40,000	T27S, R3&4E	6B/7A	
Loa	Thousand lake	Spray & Retreat	795 ac	15,000	T27S, R3&4E	6B/7A	
Loa	Thousand Lake	Reconstruction/Retreatment					
Loa	Thousand Lake	Fencing	1 mi	3,000	T28S, R4E	6B/7D	
Loa	Thousand Lake	Rehabilitate Spring/Trough	1str	1,000	T28S, R3E	6B	
Loa	Thousand Lake	Rehabilitate Stock Reservoir	3str	1,800	T27S, R3&4E	7A	
Loa	Thousand Lake	Log Worm Fence	1/2mi	3,000	T26S, R4E	6B	
Loa	Thousand Lake	Spring/Pipe	2str	1,000	T27S, R4E	6B/7A	
Loa	Thousand Lake	Reconstruct Pine Spring	1str	700	T27S, R5E	6B	
Loa	Thousand Lake	Wire Fence	1 mi	3,400	T27S, R3E	6B	
Loa	Solomon	Chain/Seed	1,495 ac	60,000	T26S, R4E	9F	
Loa	Solomon	Fencing/Springs	4mi/2str	22,000	T26S, R4E	9F	
Loa	Solomon	Reconstruction					

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Loa	Solomon	Wire Fencing	1 mi	4,000	T27S, R4E	9F	
Beaver	Pine Creek/ Sulpherbed	Chain & Seed	1,225 ac	49,000	T27S, R7W	6B	
Beaver	Pine Creek/ Sulpherbed	Fencing	6 mi	31,000	T27S, R7W	6B	
Beaver	Pine Creek Sulpherbed	Sulpherbeds Fencing	4-1/2mi	23,000	T26S, R7W	6B	
Beaver	Pine Creek Sulpherbed	Fencing	4 mi	20,000	T26S, R6W	6B	
Beaver	Pine Creek Sulpherbed	Water Developments	10str	17,800	T26S, R6W	6B	
Beaver	Pine Creek Sulpherbed	Fencing	3 mi	14,500	T27S, R6W	4B/6B	
Beaver	Pine Creek Sulpherbed	Trough	1str	1,000	T27S, R6W	4B	
Beaver	Pine Creek Sulpherbed	Reconstruction/Retreatment					
Beaver	Pine Creek	Cove Creek Burn	350 ac	6,500	T26S, R6W	6B	
Beaver	Clear Creek	Sevier Canyon Water Develop	7str	15,000	T26S, R5W	6B	Driftways
Beaver	Clear Creek	Stock Trails	1.5 mi	5,000	T26S, R5W	6B	
Beaver	Clear Creek	Aspen Spring Development	5str	8,000	T26S, R5W	6B	
Beaver	Clear Creek	Fencing	4 mi	21,000	T26S, R5W	6B	
Beaver	Clear Creek	Reconstruction/Retreatment					
Beaver	Clear Creek	N. Cedars Burn or Spray	350 ac	6,500	T26S, R4-1/2W	6B	
Beaver	North Indian	Indian Creek Fence	1 mi	5,000	T29S, R6W	6B	
Beaver	North Indian	Fencing	9.5 mi	47,000	T28S, R6W	3A/6B	
Beaver	North Indian	Spring Development	4str	4,000	T28S, R6W	3A/6B	
Beaver	North Indian	Pond/Trough	4str	6,000	T28S, R6W	3A/6B	
Beaver	North Indian	Herbicide Treatment or Burn	500 ac	11,000	T28S, R6W	3A/6B	
Beaver	North Beaver	Baker Canyon Spray	520 ac	13,000	T29S, R6W	6B	
Beaver	North Beaver	Unit Fence Reconstruction	1-1/2mi	6,500	T29S, R6W	6B	
Beaver	North Beaver	Black Ridge Water Recons.	3str	2,000	T29S, R6W	6B	
Beaver		Additional Reconstruction/ Retreatment					
Beaver	Marysvale	Water System	5str	6,500	T28S, R4W	4B/6B	
Beaver	Marysvale	Allunite Water System	4str	4,500	T28S, R4W	4B/6B	
Beaver	Marysvale	Water System	3str	3,000	T28S, R4W	4B/6B	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Beaver	South Beaver	Big Twist Water System	6str	6,500	T30S, R6W	6B	
Beaver	South Beaver	Birch Lake Water System	3str	3,500	T29S, R6W	4B/6B	
Beaver	Ten Mile	Unit Fences	1-1/2mi	6,500	T29S, R4W	4B/6B	
Beaver	Circleville	Boundary Fence	1-1/2mi	6,500	T29S, R5W	3A/7A	
Beaver	Circleville	Oak Basin Water System	2str	2,500	T29S, R4W	6B	
Richfield	Brown's Hole	Triangle/Black Mtn Pipeline	2 mi	9,000	T22S, R1E	9F	
Richfield	Brown's Hole	Mud Spring Chain	1,500 ac	60,000	T22S, R1E	9F	
Richfield	Brown's Hole	Gooseberry Chain	1,000 ac	40,000	T22S, R2E	5A	
Richfield	Brown's Hole	Gooseberry/Brown Fence	4 mi	18,000	T22S, R2E	5A	
Richfield	Brown's Hole	Fencing/Gates	1.5 mi	12,000	T22S, R2E	5A	
Richfield	Brown's Hole	Brush Trail Reseeding	1,400 ac	56,000	T23S, R1E	4B	
Richfield	Brown's Hole	Triangle Mtn Chain Maintenance	1,200 ac	32,000	T22S, R1E	9F	
Richfield	Brown's Hole	Spring Range Fencing	6 mi	27,000	T22S, R1E	9F/5A	
Richfield	Brown's Hole	Devils Kitchen Fence	1 mi	5,500	T22S, R1E	4B	
Richfield	Lost Creek	Chaining Maintenance	2,200 ac	41,800	T23S, R1E	4B	
Richfield	Lost Creek	Kasov Chain Maintenance	1,700 ac	32,300	T23S, R1E	4B	
Richfield	Lost Creek	Niotche Fence	3 mi	27,000	T23S, R2E	4B	
Richfield	Lost Creek	Cold Spring Fence	1/2 mi	4,500	T23S, R2E	4B	
Richfield	Lost Creek	Humphry Fence	1 mi	9,000	T23S, R2E	4B	
Richfield	Lost Creek	Boobe Hole Fence	2 mi	18,000	T23S, R1E	4B	
Richfield	Lost Creek	Shoap Spring Pipe	1 mi	4,000	T23S, R1E	4B	
Richfield	Water hollow	Turner Pipeline	11 mi	40,000	T21S, R2E	9F	
Richfield	Water Hollow	Lower Cottonwood Pond	1str	1,000	T22S, R2E	9F	
Richfield	Water Hollow	Upper Mud Spring Pond	1str	1,000	T21S, R2E	9F	
Richfield	Water Hollow	Dry Hollow Trough	1str	1,500	T21S, R2E	9F	
Richfield	Water Hollow	Upper Bull Valley Fence	2 mi	18,000	T22S, R2E	9F	
Richfield	Water Hollow	North Steve's Pass Reveg.	1,000 ac	19,000	T21S, R2E	9F	
Richfield	Water Hollow	Wyethia Spray	200 ac	4,000	T21S, R2E	9F	
Richfield	Water Hollow	Tuner Pipeline (Addition)	11 mi	40,000	T21S, R2E	9F	
Richfield	Water Hollow	Beaver Cr Troughs Recons.	6str	6,000	T21S, R3E	9F	
Richfield	Water Hollow	Livestock Access Trail	10 mi	4,000	T22S, R2E	9F	Driftway
Richfield	Water Hollow	Mud Spring Pipeline	2 mi	9,000	T21S, R2E	9F	
Richfield	Water Hollow	Ridge Fence Reconstruction	4 mi	12,000	T21S, R2E	9F	
Richfield	Willow Creek	Dead Horse Fence	3.5 mi	31,500	T21S, R2E	9F	
Richfield	Willow Creek	Flat Top Trough	1str	1,000	T21S, R2E	9F	
Richfield	Willow Creek	Buck Flat Pond	1str	500	T21S, R2E	9F	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Richfield	Willow Creek	Mill Creek Pipeline	3 mi	13,500	T21S, R2E	9F	
Richfield	Willow Creek	Elbow Spray	700 ac	14,000	T21S, R2E	9F	
Richfield	Willow Creek	E. Flat Top Spray	1,000 ac	19,000	T21S, R2E	9F	
Richfield	S Water Hollow Moroni Peak	Sheep Valley Spray	600 ac	11,400	T24S, R3E	4B	
Richfield	S Water Hollow Moroni Peak	Moroni Peak Spray	600 ac	11,400	T23S, R3E	4B	
Richfield	S Water Hollow Moroni Peak	S Water Hollow Spray	1,000 ac	19,000	T22S, R4E	6B	
Richfield	S Water Hollow Moroni Peak	S Water Hollow Drill Maint.	1,000 ac	19,000	T22S, R4E	6B	
Richfield	Koosharem	Indian Flat Pipeline	4 mi	18,000	T26S, R1W	4B	
Richfield	Koosharem	Indian Flat Spray and Seed	2,000 ac	80,000	T26S, R1W	4B	
Richfield	Koosharem	Big Flat Fence Reconstruction	3 mi	8,000	T26S, R1W	4B	
Richfield	Koosharem	Robison P. Fence Reconst.	1-1/2mi	12,000	T26S, R1W	4B	
Richfield	Koosharem	Rough Section Fence Reconst.	1 mi	8,000	T26S, R1W	4B	
Richfield	Koosharem	Ledge Rock Pipe Reconstr. Additional Reconstruction/ Retreatment	1 mi	7,000	T26S, R1W	4B	
Richfield	Salina Creek	Gunnison Valley Fence	2 mi	16,000	T21S, R3E	4B	
Richfield	Calina Creek	Bull Pasture Pond/Pipe	1str/1-1/2mi	8,000	T21S, R3E	4B	
Richfield	Quitchoompah	Salina/Beaver Fence	4 mi	8,000	T21S, R4E	4B	
Richfield	Quitchoompah	Snow Corral Fence	3 mi	24,000	T21S, R4E	9F	
Richfield	Glenwood	Christensen Spring Pipeline	6 mi	7,000	T25S, R2W	7B	
Richfield	Glenwood	Porter Pasture Fence	1/2 mi	4,000	T24S, R1W	4B	
Richfield	Glenwood	Bell Rock Ponds	3str	5,000	T24S, R1W	4B	
Richfield	Monument/Glen- wood	Signal Peak Spring	1 mi	8,000	T25S, R2W	4B	
Richfield	Monument/Glen- wood	Indian Ranch Pond	1str	2,000	T24S, R2W	9F	
Richfield	Monument/Glen- wood	Dry Canyon Spring	1str	2,000	T24S, R2W	9F	
Richfield	Manning Creek	Little Table Pipe	3 mi	12,000	T28S, R2-1/2W	4B	
Richfield	Manning Creek	Dry Creek Fence	1-1/2mi	8,000	T28S, R2-1/2W	6B	
Richfield	Manning Creek	Big Table Fence	2 mi	6,000	T28S, R2-1/2W	4B	
Richfield	Manning Creek	Big Table Pond	1str	2,000	T28S, R2-1/2W	4B	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Richfield	Kingston	Kingston Pasture Spring	1str	1,000	T29S, R2-1/2W	4B	
Richfield	Kingston	Kingston Ponds	8str	8,000	T29S, R2-1/2W	4B	
*****OAK CREEK COORDINATED RESOURCE MANAGEMENT AREA*****							
Fillmore	Dry Creek	Long Canyon Chain	700 ac	25,000	T17S, R3W	6B	
Fillmore	Dry Creek	Unit Fence	1 mi	4,000	T17S, R3W	6B	
Fillmore	Dry Creek	Scipio West Pipeline	1 mi	5,000	T17S, R3W	6B	
Fillmore	Dry Creek	Whiskey/Dry Division Fence	2 mi	10,000	T17S, R3W	6B	
Fillmore	Dry Creek	Radford Canyon Spring	1str	2,000	T16S, R3W	6B	
Fillmore	Dry Creek	Hardscrab Fence Remove Reconstruction	1-1/2mi	1,500	T17S, R3W	6B	
Fillmore	Dry Creek	Dry Creek Fence	8 mi	40,000	T17S, R3W	6B	
Fillmore	Dry Creek	Dry/Wild Horse Fence	1 mi	5,000	T16S, R3W	6B	
Fillmore	Dry Creek	Oak Creek Drift Fence	1/4mi	1,000	T16S, R3W	6B	
Fillmore	Fool Creek	Wood Canyon Dixie Harrow	300 ac	11,000	T15S, R3W	6B	
Fillmore	Fool Creek	Wild Horse Burn and Seed Reconstruction	100 ac	2,000	T16S, R3W	6B	
Fillmore	Fool Creek	Fool Cr/W. Horse Fence	1 mi	6,000	T16S, R3W	4B	
Fillmore	Fool Creek	Fool Cr. Pass Canyon Fence	1-1/2mi	7,500	T15S, R3W	6B	
Fillmore	Oak Creek	Oak Creek Dixie Harrow	300 ac	11,000	T17S, R4W	2/6B	
Fillmore	Oak Creek	Dry Creek Dixie Harrow	100 ac	4,000	T17S, R4W	6B	
Fillmore	Oak Creek	S Walker Spring Development Reconstruction	1str	3,000	T17S, R3W	4B	
Fillmore	Oak Creek	L. Aspen Drift Fence	1 mi	6,000	T17S, R4W	6B	
Fillmore	Wildhorse	Williams Spring Development Retreatment	1str	2,000	T16S, R3W	6B	
Fillmore	Wildhorse	Wide Canyon Burn	800 ac	12,000	T16S, R3W	6B	
Fillmore	Whiskey Creek	L. Whiskey Pipe & Pond	2 mi	8,000	T18S, R4W	6B	
Fillmore	Whiskey Creek	Cedar Ridge Spring Development	1str	2,000	T18S, R4W	6B	
Fillmore	Whiskey Creek	Upper Whiskey Spring Develop.	1str	2,000	T18S, R4W	6B	
Fillmore	Whiskey Creek	Scipio Pass Fence Remove Retreatment	2 mi	2,000	T18S, R3W	6B	
Fillmore	Whiskey Creek	Eightmile Burn	500 ac	8,000	T18S, R4W	6B	
Fillmore	Pass Canyon	Pass/Wringer Fence reconst.	1/2mi	2,000	T15S, R3W	6B	
Fillmore	Wringer Canyon	Boundary Fence Removal	4 mi	4,000	T15S, R3W	6B	

APPENDIX F

TRAIL CONSTRUCTION AND RECONSTRUCTION

The following trail projects are listed in order of priority. Some of the larger projects are planned for completion over a period of several years. Funds for completing the work are included in the Forest constrained budget for Alternative 11.

YEAR	DISTRICT	DESCRIPTION	LOCATION, TOWNSHIP & RANGE	UNITS	REMARKS
1986	Beaver	Skyline NRT #175. Spot Reconstruction \$5 M	T29S, R4W	5.0	Bring trail up to National Standards.
1986	Fillmore	North Fork Chalk Creek #018 New Construction \$10 M	T21S, R3W	2.0	Complete cen- ter portion of trail. Both ends completed by contract several years ago.
1987	Loa	Pelican #125 Reconstruction \$9 M	T26S, R2E	3.5	Trail adjacent to Fish Lake Recreation Complex.
1987	Loa	Doctor Creek #124 Reconstruction \$7.5 M	T26S, R1E	3.0	Trail adjacent to Fish Lake recreation complex.
1988	Loa	Tasha Creek #126 Reconstruction \$20.0 M	T25S, R2E	8.0	Trail adjacent to Fish Lake recreation complex.
1989	Beaver	Skyline NRT #175 New Construction \$13.5 M	T28S, R5W	2.7	Complete trail across Tushar Range.

<u>YEAR</u>	<u>DISTRICT</u>	<u>DESCRIPTION</u>	<u>LOCATION, TOWNSHIP & RANGE</u>	<u>UNITS</u>	<u>REMARKS</u>
1990	Beaver	Skyline NRT #175 New Construction \$13.5 M	T28S, R5W	2.7	Complete trail across Tushar Range.
1991	Beaver	Skyline NRT #175 New Construction \$13.5 M	T28S, R5W	2.6	Complete trail across Tushar Range.
1992	Richfield	Monrovia Trail Head Facility New Construction \$23.5 M	T25S, R2-1/2W	36 (PAOT)	Serve 5 system trails origin- ating in Mon- roe Canyon.
1993	Loa	Lake Shore NRT #162 New Construction \$51.0 M	T26S, R2E	1.5	Complete paved trail.
1994	Richfield	Gooseberry Trails New Construction \$30.0 M	T23S, R2E	6.0	Construct trails to con- nect walk-in fisheries.

APPENDIX G
ENERGY TRANSPORTATION AND UTILITY
CORRIDOR EVALUATION

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FISHLAKE NATIONAL FOREST
ENERGY TRANSPORTATION AND UTILITY
CORRIDOR EVALUATION

INTRODUCTION

There is an increased concern at the national, state and local levels for meeting future rights-of way needs while protecting the environment. The concern is founded upon a real demand for more utility and energy transportation facilities - especially pipelines, electric transmission lines, and railroads - to transport energy from the resource areas to the centers of consumption. The concern has led to legislation authorizing the Forest Service and other Federal land management agencies to designate utility and energy transportation corridors on Federal lands. Selecting routes for linear facilities is complicated by mixed ownership land patterns, conflicting land uses, and environmental and engineering constraints.

The Fishlake National Forest has evaluated and selected corridors by application of FSM and Regional Plan direction for energy transportation and utility corridor planning. Such direction has been written to assist National Forests in addressing the complications encountered in corridor evaluation and designation.

DEFINITIONS OF UTILITY DESIGNATION TERMS

1. Corridor - A linear strip of land which has ecological, technical, economic, social or similar advantages over other areas for the present or future locations of energy transportation or utility rights-of-way within the boundaries.
2. Rights-of-Way - Land authorized to be used or occupied for the construction operation, maintenance and terminous of a project facility passing over, upon, under or through such land.
3. Window - A critical segment of terrain through which rights-of-way could pass in traversing from points of origin to destination.
4. Exclusion area - An area where linear facilities would not be legally permitted to cross.
5. Avoidance area - An area that poses particular environmental impacts which would be difficult or impossible to mitigate or has characteristics which impose unusual engineering constraints.

OBJECTIVES

The objectives in applying the Servicewide and Regional direction for energy transportation and utility corridor/window planning are to: (listed in a planning sequence).

1. Inventory and field check existing pipelines, electric transmission lines, and major transportation routes which are located on the Forest; (Transportation routes are inventoried as potential corridors for electrical transmission and pipeline facilities; not for expansion of or addition to the State/Interstate Road/Highway System).
2. Identify criteria which will be used to evaluate potential corridors/windows;
3. Analyze suitability of routes or areas to handle new or additional facilities and the suitability of the routes or areas for overhead vs. underground vs. surface linear right-of-way facilities;
4. Evaluate and designate areas suitable for corridors/windows on the Fishlake National forest within the land management planning process;
5. Consolidate right-of-way alignments into designated corridors/windows to avoid the proliferation of separate linear rights-of-way.

MANAGEMENT DIRECTION FOR ACHIEVING OBJECTIVES

General Direction -

Generally where the purpose of the transportation, transmission, or pipeline route is to accommodate or service a particular end use on the Forest, the route they followed is not considered as a potential corridor. Where existing rights-of-way pass into or through Forest lands, within an identifiable strip of land, and where the probability exists that other energy transportation systems may be located within, the strip is considered for designation as a corridor.

Before new corridors/windows or widening of existing corridors/windows are approved, consideration will be given to wheeling, uprating or multiple circuiting of transmission lines; increasing pipeline capacity by addition of compressors or looping; or utilizing existing highway transportation rights-of-way.

Specific Direction -

Specific direction is related to utility sizes, existing rights-of-way, and restrictions on future corridor locations.

1. The description of general utility sizes, and rights-of-way to be used in the evaluation process are:
 - a. Electric transmission lines 66 kv and above; 1/
 - b. Oil, gas or slurry pipelines 10 inches in diameter or larger; 1/ and
 - c. Federal, State, and Interstate Highways. 2/

- 1/ *Inclusion of lower rated transmission lines or smaller pipelines within designated corridors/windows would be permitted.
- 2/ Federal, State, and Interstate Highway routes are considered as potential corridors for energy transportation facilities.
2. Identification and designation of existing energy transportation rights-of-way as corridors that:
- a. Comply with evaluation criteria for determination of corridor/window suitability; and
 - b. Are desirable for retention, but not capable of further widening; or
 - c. Are desirable to retain and have widening potential for future uses; and
 - d. Agree with the potential corridor/window designations on public or state lands and the corridor/window designations of adjacent National Forest.
3. Based on the most current planning information from utility and power administrations, the Fishlake National Forest has directed planning for future energy/transportation rights-of-way and associated corridors by:
- a. Designating planning windows; 3/ or
 - b. Identifying constrained areas where future energy transportation rights-of-way will be discouraged or denied - such areas are identified as:
 - 1) Avoidance areas or; 4/
 - 2) Exclusion areas 5/
- 3/ Windows and avoidance areas are to be evaluated and designated upon application of evaluation criteria for determining corridor suitability.
- 4/ Application for linear rights-of-way within avoidance areas would be processed by the Forest if, after project evaluation, it was determined that proposed mitigation measures would meet the management standards and guidelines for the various resources within the areas.
- 5/ Applications for linear rights-of-way within exclusion areas would not be processed, due to the statutory prohibitions applicable to the area in question.

APPROACHES FOR CORRIDORS, EVALUATIONS, AND SELECTION

Three approaches for evaluating and designating corridors will be followed in this corridor evaluation report. These are:

1. Direct (where facilities can be placed)
 - Identification/evaluation of land areas for designation as long linear corridors or windows.
2. Indirect (where facilities can not be placed)
 - Identification/evaluation of land areas where facilities may not or will not be placed, by classifying the areas as avoidance areas or exclusion areas.
3. Direct and Indirect Combined
 - Combination of the above to: a) identify, evaluate, and designate important right-of-way areas; and b) identify, evaluate, and designate areas exhibiting important natural, cultural, and social values.

(Refer to Attachments, Exhibit 1, page G-43, for a detailed discussion on these three approaches.)

INVENTORY OF EXISTING RIGHTS-OF-WAY THAT MEET STANDARDS FOR POTENTIAL CORRIDOR DESIGNATION (See Energy Transportation and Utility Corridor Map.)

Electrical transmission lines and Federal, State, and Interstate highway rights-of-way currently existing on the Fishlake National Forest are displayed in Tables A and B, respectively.

(No rights-of-way exist on the Forest for oil, gas or coal slurry pipelines or for railroads.)

TABLE A
EXISTING ELECTRICAL TRANSMISSION LINES

NAME	LOCATION BEGINNING-ENDING	SIZE	R/W WIDTH (FEET)	LENGTH (MILES)	ACRES
Sigurd - Cedar City (UP&L)	From Sigurd sub- station to Cedar City via Clear Cr. Canyon Area.	128-kv	75	15.14	137.62
Sigurd - Nevada State Line	From Sigurd sub- station to Ely, Nevada via Round Valley and Scipio Pass	230-kv	120	7.83	113.89
Sigurd - Cedar City	From Sigurd sub- station to Cedar via Sevier Valley/Circleville	230 kv	110	8.34	111.18
Huntington Sigurd (UP&L)	From Huntington Power Plant at Huntington, Utah to Sigurd sub- station via Salina Canyon/Gooseberry Valley	345 kv	130	23.45	369.53
Hunter- Sigurd (UP&L)	From Hunter Power Plant at Castle Dale, Utah to Sigurd sub- station via Salina Canyon/Gooseberry Valley	345 kv	130	23.45	369.40
Lynndyl- Mona Lines 1 and 2	From IPP Power Plant at Lynndyl, Utah to Mona sub- station via Leam- ington Pass	345 kv 345 kv	200 200	3.5 3.5	84.84 84.84

SOURCE: 2720 Case File Folders

TABLE B
EXISTING FEDERAL, STATE, AND INTERSTATE HIGHWAYS

NAME	LOCATION BEGINNING-ENDING	R/W WIDTH (FEET)	LENGTH (MILES)	ACRES
Interstate 70 (I-70)	Salina Canyon	550	23*	1,533*
Interstate 70 (I-70) (Approximately 10.0 miles still under construction)	Clear Creek Canyon	550	13*	867*
State Highway (U-13)	Clear Creek Canyon	200	7*	170*
Interstate 15 (I-15)	Within one mile of National Forest for approximately 6 miles at Scipio Pass	---	---	---
State Highway (U-72)	I-70 (Salina Canyon) to U-24 at Loa, Utah	132*	15.4*	246*
State Highway (U-132)	Leamington, Utah to Nephi, Utah	132	0.34	5.45
State Highway (U-24)	Torrey, Utah to Fruita, Utah	132	0.7	11.2
State Highway (U-25)	Fishlake	400	6*	290*
State Highway (U-153)	Beaver, Utah to Junction, Utah	132	26.10	417.6

*Approximate figures

SOURCE: Forest Land Status and Road Atlas Records

INVENTORY OF PLANNING WINDOWS THAT WERE EVALUATED FOR POTENTIAL WINDOW DESIGNATION

An inventory of planning windows resulted in the following areas being identified for potential window designation: (These areas are shown on the Energy Transportation and Utility Corridor Map.)

1. Trough Hollow
2. Gooseberry Valley
3. Clear Creek Canyon
4. Scipio Pass
5. Salina Canyon

EXCLUSION AREAS

There are no areas on the Fishlake National Forest with legislation prohibiting transmission facilities. Thus, there are no exclusion areas on the Forest.

AREAS EVALUATED AS POTENTIAL AVOIDANCE AREAS

Seven general geographical areas have been identified as potential avoidance areas. These areas are as follows: (Refer to the Energy Transportation and Utility Corridor Map for location.)

1. Canyon Range
2. Pahvant Range
3. Tushar Mountains
4. Monroe Mountain
5. Gooseberry-Fishlake-Hilgard Areas
6. Old Woman-Willow Creek Areas
7. Thousand Lake Mountain Area
8. Research Natural Areas

EVALUATION CRITERIA

Factors used by the Forest to determine suitability of the inventoried rights-of-way, and planning windows as designated corridors/windows are as follow: (The same factors were also used to establish avoidance area designations.)

1. Compliance with Federal, State and local land-use plans and applicable Federal and State Laws.
2. Reasonable mitigation would prevent unacceptable impacts to natural resources, including soil, water, fish, wildlife, vegetation, cultural resources, and visual quality.
3. Few or no physical restrictions on corridor placement or rights-of-way placed therein would exist due to geology, hydrology, soil or land forms.
4. Existing and future right-of-way uses would be engineeringly and technologically compatible.
5. Reasonable mitigation would prevent unacceptable social and economic impacts to adjacent landowners and other groups or individuals.

6. Few if any potential health and safety hazards to National Forest users and the general public would result due to materials or activities within the right-of-way corridors.
7. Off-road-vehicle administrative costs for right-of-way corridors would not exceed Forest budget constraints for alternative management programs.
8. Economic efficiency would be achieved by placing a right-of-way within a corridor/window. Consideration would be given to costs of construction, operation and maintenance, and costs of modifying or relocating existing facilities in a proposed corridor/window.
9. National Security risks would be minimized by location of proposed corridors/windows.
10. Potential adverse impacts to threatened or endangered species or their habitats would occur.
11. Acceptable mitigation should be formulated for disturbances to wetlands, flood plains, and all riparian areas.
12. Maximum use of existing electric transmission, pipeline and transportation routes would occur.

EVALUATION PROCESS

Each right-of-way route (the right-of-way and terrain immediately adjacent to the right-of-way) and each planning window area was evaluated by analyzing how each of the 12 criteria would be met or affected under a corridor or window designation and eventual right-of-way use. This analysis is shown on Tables C through E. The listed Avoidance Areas were also evaluated by applying the 12 criteria.

EVALUATION PROCESS

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

	a.	b.	c.	d.	d.	e.
	Sigurd-Cedar City 138 kv	Sigurd-Scipio 230 kv	Sigurd-Circleville 230 kv	Huntington-Sigurd 345 kv	Hunter-Sigurd 345 kv	Lynndyl-Mona Lines 1 and 2 345 kv
<u>Evaluation Criteria</u>						
1. Land-Use Plan and Laws	NO KNOWN CONFLICT					
2. Effect to Resource Values (Discussion on resource areas/values where considered critical or sensitive)	<p>Sigurd to Clear Cr. Canyon is located off NF land. Adjacent NF land is characterized by shallow soils, high erosion and important visuals. Mitigation of impacts would be difficult.</p> <p>Clear Cr. Canyon to Pine Cr. within NF land; impacts could be mitigated. Adjacent canyon slopes and bottom exhibits shallow soils, high erosion, high density cultural resources, & important visuals; impacts would be difficult to mitigate.</p>	<p>Sigurd to Scipio Lake is located off NF land. Adjacent NF land is characterized by shallow soil, high erosion, and important visuals. Mitigation of impacts would be difficult.</p> <p>Scipio Lake to tip of Pavant is located partly on NF land. Impacts could be mitigated. Adjacent NF land exhibits shallow soils, high erosion and important visuals; impacts would be difficult to mitigate.</p>	<p>Sigurd to Piute Res. located off NF land. Adjacent NF land is characterized by unstable shallow soils; impacts would be difficult to mitigate.</p> <p>Piute Res. to I-15 located partly on NF land; impacts could be mitigated. Adjacent NF land to the north exhibits important visual resources.</p>	<p>Plant site to Trough Hollow located off of NF land. Trough Hollow to Sigurd located mostly on NF land; impacts could be mitigated except for resources associated with two critical areas-Trough Hollow and Gooseberry Valley; these two areas are characterized by shallow soils or unstable landforms. Impacts could be mitigated in these critical areas by careful location of facilities. Adjacent NF land exhibits high density cultural resources and important visual quality.</p>	<p>No major problems. Impacts could be mitigated.</p>	

TABLE C
RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

Evaluation Criteria	a. Sigurd-Cedar City 138 kv	b. Sigurd-Scipio 230 kv	c. Sigurd-Circleville 230 kv	d. Huntington-Sigurd 345 kv	d. Hunter-Sigurd 345 kv	e. Lynndyl-Mona Lines 1 and 2 345 kv
3. Geology, Hydrology, Soil and Landform Restrictions	<p>Sigud to Clear Cr. Canyon-adjacent NF land is characterized by steep slopes and incised canyons.</p> <p>Clear Cr. Canyon to Pine Cr. - the canyon area and areas north of canyon also characterized by steep slopes and numerous rock outcrops. Areas south of ROW route are on steep slopes; the route itself is located on gentle to moderately steep slopes.</p>	<p>Steep slopes and numerous rock outcrops exist on adjacent NF land from Sigurd to Scipio Lake.</p> <p>Some steep slopes exist on the Scipio Lake to Tip of Pavant route adjacent to route exhibits very steep rocky slopes.</p>	<p>Very steep slopes exist from Sigurd to Piute Res. on adjacent NF land.</p> <p>Actual route from Piute Res. to I-15 located on gentle slopes; NF land adjacent to route exhibits steep and rocky slopes and numerous rock outcrops.</p>	<p>Trough Hollow exists as a narrow V-shaped box canyon; adjacent NF land exhibits very steep slopes with numerous rock outcrops.</p> <p>Gooseberry Valley is characterized by soil slides and slumps, i.e. the valley area is geologically unstable with a history of severe sliding and slumping.</p>		No major problems.

Most of actual route is located on gently sloping terrain.

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

Evaluation Criteria	a. Sigurd-Cedar City 138 kv	b. Sigurd-Scipio 230 kv	c. Sigurd-Circleville 230 kv	d. Huntington-Sigurd 345 kv	d. Hunter-Sigurd 345 kv	e. Lynndyl-Mona Lines 1 and 2 345 kv
4. New and Existing Uses Would be Engineeringly & Technologically Compatible	For the Sigurd to Clear Cr. Canyon portion, construc- tion on adjacent NF land would cause problems with com- patibility of new uses.	Uses would exper- ience compatabil- ity problem if located on NF land adjacent to existing ROW route --this applies to Sigurd to tip of Pavant route. Restrictive ter- rain would be the cause of incompati- bility.	Same as for Route No. 2--applies to route from Sigurd to I-15 via Circleville.	Same as for Route No. 2--applies to route from Plant Site to Sigurd.		No major problems.
	No problems with com- patibility with terrain route loca- tion from Clear Cr. Canyon to Pine Cr. There would be prob- lems outside of route due to restric- tive terrain features.					
5. Socioeconomic Impacts to Adjacent Landowners and other Groups or Individuals	Decisions to expand ROW's to private lands instead of on to ad- jacent NF land would affect private farm and ranch operations and some community developments.				No major problems.	
6. Health and Safety Hazards to National Forest Users and General Public.	Few hazards would exist beyond construction area associated with right-of-way facilities.					

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

	a.	b.	c.	d.	d.	e.
	Sigurd-Cedar City 138 kv	Sigurd-Scipio 230 kv	Sigurd-Circleville 230 kv	Huntington-Sigurd 345 kv	Hunter-Sigurd 345 kv	Lynndyl-Mona Lines 1 and 2 345 kv
Evaluation Criteria						
7. Off-Road Vehicle Administrative Costs.	Costs would exceed Forest budget for all alternatives, if routes were expanded on to NF land characterized by steep rocky slopes and shallow soils or highly incised canyons.			No major changes would result in present off-road vehicle use.		
8. Economic Efficiency of Constructing, Operating and Maintaining ROW and Costs of Relocating Existing Facilities.	Questionable efficiency if ROW's were expanded to adjacent NF land which is characterized by steep rocky slopes and erosive soils. No major problems with economic efficiency or modifying or relocating facilities within existing route areas.			Poor economic efficiency and high costs of modifying or relocating existing facilities outside of Trough Hollow and the Gooseberry Valley areas. Existing slides and slumps in the Gooseberry Valley area would require careful location within the existing route.		No major problems.
9. National Security Risks	Existing routes would pose no major problems to energy security.					
10. Threatened or Endangered Species	No known major problems within existing routes or on areas of possible expansion.					
11. Wetlands, Flood Plains and Riparian Areas.	Clear Cr. Canyon area has important and critical riparian areas, i.e., important and critical wildlife and fish habitat. Mitigation would be difficult.	No major problems within routes or on NF lands immediately adjacent to routes.		Crosses flood plains and riparian areas in the Gooseberry Valley Area. Mitigation of impacts could be acceptable.		No major problems.
12. Maximum Use of Existing Linear Rights-of-Way	Approximately 1/2 percent of route is located along transportation ROW's.	Approximately 75 percent of route is located adjacent to existing transportation ROW's.	Approximately 50 percent of route is located adjacent to existing transportation ROW's.	Less than 33 percent of route is located adjacent to other linear ROW's.		Most of route is located adjacent to transportation ROW's.

EVALUATION PROCESS
TABLE D
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)

EVALUATION CRITERIA

1. Land Use Plans and Laws

- | | |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. Interstate 70 (I-70)
Salina Canyon | Approval and coordination would be required by State Department of Transportation (DOT) and Federal Highway Administration (FHA) during planning, design, construction and maintenance work for utilities and other transportation facilities within highway ROW. |
| b. Interstate 70 (I-70)
Clear Creek | |
| c. State Highway (U-13)
Clear Creek Canyon | Approval and coordination would be required from State Department of Transportation during planning, design, construction and maintenance work for utilities and other transportation facilities within highway ROW. |
| d. Interstate 15 (I-15)
Scipio Pass | Same as for I-70 |
| e. State Highway (U-72)
Fremont Junction - Loa | Same as for U-13. |
| f. State Highway (U-132)
Leamington | Same as for U-13 |
| g. State Highway (U-24)
Torrey | Would conflict with management of Capitol Reef National Park. |
| h. State Highway (U-25)
Fishlake | Would conflict with management of Fishlake Recreation Area. (Exclusion Areas). |
| i. State Highway (U-153)
Beaver | Would conflict with Avoidance Area designation for the area being crossed. |

2. Effects to Resource Values
(Discussion on resource areas/
values where considered critical
or sensitive)

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
a. Interstate 70 (I-70) Salina Canyon	Critical wildlife, soil, and visual resources exist along most of route. Site specific mitigation could prevent unacceptable impacts to these routes.
b. Interstate 70 (I-70) Clear Creek	Adjacent slopes exhibit shallow soils with high erosion potentials. High density cultural resources exist in the area. Visual resources are important. Impact to the above resources within the ROW could be mitigated; mitigation would be difficult outside of ROW.
c. State Highway (U-13) Clear Creek Canyon	Critical soil, water, visual, fish, and cultural resources exist along ROW length and on adjacent canyon slopes. Impacts would be difficult to mitigate.
d. Interstate 15 (I-15) Scipio Pass	Same as for I-70
e. State Highway (U-72) Salina - Loa	Important cultural resources, visuals and wildlife habitat along ROW route; impacts could be mitigated. Adjacent slopes are characterized by erosive soils and critical visual resources.
f. State Highway (U-132) Leamington	No major impacts to resources within ROW; impacts to resources adjacent to ROW could be mitigated.
g. State Highway (U-24) Torrey	Impacts to critical soil and visual resources within and adjacent to ROW would be difficult to mitigate.
h. State Highway (U-25) Fishlake	Impacts to critical soil, water, wildlife, fish and visual resources within and adjacent to ROW would be difficult to mitigate.
i. State Highway (U-153) Beaver	
3. Geology, Hydrology, Soil and Landform Restrictions	
a. Interstate 70 (I-70) Salina Canyon	Canyon bottom very narrow in places; adjacent slopes steep with numerous rocky outcrops. Major streams along most of route.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
b. Interstate 70 (I-70) Clear Creek	Slopes adjacent to most of ROW are moderately steep. Several large drainages are crossed. Route is located within drainage bottoms on steep side slopes.
c. State Highway (U-13) Clear Creek Canyon	Canyon bottom, characterized by narrow widths and steep rocky side slopes, major stream along most of route. Slides evident on adjacent slopes.
d. Interstate 15 (I-15) Scipio Pass	Route crosses through narrow saddle with steep side slopes on east side and moderately steep to very steep side slopes on west side. Slopes are rocky with shallow soils.
e. State Highway (U-72) Salina-Loa	Route traverses area of gently rolling slopes. Adjacent terrain is steep with shallow soils.
f. State Highway (U-132) Leamington	Route confined to limited area between the Sevier River and steep slopes.
g. State Highway (U-24) Torrey	Adjacent terrain varies from gentle to steep slopes.
h. State Highway (U-25) Fishlake	Adjacent terrain varies from gentle to steep slopes.
i. State Highway (U-153) Beaver	Route traverses area of steep to very steep slopes and numerous springs and streams. A variety of terrain features exist, i.e., from valleys to canyons & side slopes.
4. New and Existing Uses would be Engineeringly and Technologically Compatible.	
a. Interstate 70 (I-70) Salina Canyon	Uses and areas of use would be limited due to confined area and restrictive terrain features. Vehicle transportation flows would be disrupted for substantial periods of time during construction of utilities and transportation facilities.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
b. Interstate 70 (I-70) Clear Creek	No problem with compatibility within ROW location. There would be problems outside of route due to restrictive terrain features. Some disruption to vehicle transportation flow patterns would result during construction of utilities and transportation facilities.
c. State Highway (U-13) Clear Creek Canyon	Areas traversed would limit size, type and number of uses due to very restrictive terrain. Compatibility between uses would be a problem. Substantial disruption to vehicle transportation flows would result during construction of utilities and transportation facilities.
d. Interstate 15 (I-15) Scipio Pass	Same as for Clear Creek, I-70
e. State Highway (U-72) Salina-Loa	No problem with compatibility within area of gently rolling slopes. On adjacent slopes, compatibility problems would exist. Minor disruption to vehicle transportation flows would result during construction of utilities and transportation facilities.
f. State Highway (U-132) Leamington	Uses and areas of use would be limited due to confined area. Substantial disruption to vehicle transportation flow patterns would result during construction of utilities and transportation facilities.
g. State Highway (U-24) Torrey	Same as for Clear Creek U-13.
h. State Highway (U-25) Fishlake	Same as for Clear Creek U-13
i. State Highway (U-153) Beaver	Same as for Clear Creek U-13

5. Socioeconomic Impacts to Adjacent

Landowners Other Groups or Individuals

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
a. Interstate 70 (I-70) Salina Canyon	No major problems other than the traffic delays that would result during construction of utilities--such delays could be substantial.
b. Interstate 70 (I-70) Clear Creek	No major problems. Some traffic delays would result during construction of utilities.
c. State Highway (U-13) Clear Creek Canyon	Adjacent private landowners would be adversely affected due to proximity of ROW to private dwellings. Traffic could be disrupted for long periods of time.
d. Interstate 15 (I-15) Scipio Pass	Same as for Clear Creek, I-70.
e. State Highway (U-72) Salina-Loa	No major problems. Minor delays to road traffic during construction of facilities.
f. State Highway (U-132) Leamington	Same as for Clear Creek U-13
g. State Highway (U-24) Torrey	Recreation users and general public would be adversely impacted during construction of utilities. Adjacent private land owners would be adversely affected due to proximity of ROW to private facilities.
h. State Highway (U-25) Fishlake	
i. State Highway (U-153) Beaver	Recreation users and general public would be adversely affected during construction of utilities.
6. Health and Safety Hazards to National Forest Users and General Public.	
a. Interstate 70 (I-70) Salina Canyon	Hazards would exist during utility construction period.
b. Interstate 70 (I-70) Clear Creek	Hazards would exist during utility construction period.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
c. State Highway (U-13) Clear Creek Canyon	Hazards would exist during utility construction period.
d. Interstate 15 (I-15) Scipio Pass	Hazards would exist during utility construction period.
e. State Highway (U-72) Salina-Loa	Hazards would exist during utility construction period.
f. State Highway (U-132) Leamington	Hazards would exist during utility construction period.
g. State Highway (U-24) Torrey	Hazards would exist during utility construction period.
h. State Highway (U-25) Fishlake	Hazards would exist during utility construction period.
i. State Highway (U-153) Beaver	Hazards would exist during utility construction period.
7. Off-Road Vehicle Administrative Costs	
a. Interstate 70 (I-70) Salina Canyon	No major changes would result in present off-road vehicle use.
b. Interstate 70 (I-70) Clear Creek	No major changes would result in present off-road vehicle use.
c. Interstate 70 (I-70) Clear Creek Canyon	No major changes would result in present off-road vehicle use.
d. Interstate 15 (I-15) Scipio Pass	No major changes would result in present off-road vehicle use.
e. State Highway (U-72) Salina-Loa	Increased off-road vehicle use could result due to non-restrictive terrain immediately adjacent to ROW.
f. State Highway (U-132) Leamington	No major changes would result in present off-road vehicle use.
g. State Highway (U-24) Torrey	Same as for Salina-Loa U-72.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
h. State Highway (U-25) Fishlake	Same as for Salina-Loa, U-72. Administrative costs could be substantial.
i. State Highway (U-153) Beaver	Same as for Salina-Loa, U-72. Administrative costs could be substantial.
8. Economic Efficiency of Constructing, Operating, and Maintaining ROW and Costs of Modifying or Relocating Existing Facilities	
a. Interstate 70 (I-70) Salina Canyon	Poor economic efficiency could result without careful planning and design of utilities. There would be a high cost of modifying existing highway facilities.
b. Interstate 70 (I-70) Clear Creek	
c. State Highway (U-13) Clear Creek Canyon	
d. Interstate 15 (I-15) Scipio Pass	Poor economic efficiency and high costs of modifying or relocating existing ROW facilities and adjacent facilities on private land.
e. State Highway (U-72) Salina-Loa	No major problems within existing ROW.
f. State Highway (U-132) Leamington	No major problems.
g. State Highway (U-24) Torrey	Same as for Clear Creek, U-13.
h. State Highway (U-25) Fishlake	Same as for Clear Creek, U-13.
i. State Highway (U-153) Beaver	Same as for Clear Creek, U-13.
	No major problems.
9. National Security Risks.	
a. Interstate 70 (I-70) Salina Canyon	Existing routes would pose no major problems to energy security.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
b. Interstate 70 (I-70) Clear Creek	Existing routes would pose no major problems to energy security.
c. State Highway (U-13) Clear Creek Canyon	Existing routes would pose no major problems to energy security.
d. Interstate 15 (I-15) Scipio Pass	Existing routes would pose no major problems to energy security.
e. State Highway (U-72) Salina-Loa	Existing routes would pose no major problems to energy security.
f. State Highway (U-132) Leamington	Existing routes would pose no major problems to energy security.
g. State Highway (U-24) Torrey	Existing routes would pose no major problems to energy security.
h. State Highway (U-25) Fishlake	Existing routes would pose no major problems to energy security.
i. State Highway (U-153) Beaver	Existing routes would pose no major problems to energy security.
10. Threatened or Endangered Species and Habitats	
a. Interstate 70 (I-70) Salina Canyon	No known major problems within existing routes or on areas of possible expansion.
b. Interstate 70 (I-70) Clear Creek	No known major problems within existing routes or on areas of possible expansion.
c. State Highway (U-13) Clear Creek Canyon	No known major problems within existing routes or on areas of possible expansion.
d. Interstate 15 (I-15) Scipio Pass	No known major problems within existing routes or on areas of possible expansion.
e. State Highway (U-72) Salina-Loa	No known major problems within existing routes or on areas of possible expansion.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
f. State Highway (U-132) Leamington	No known major problems within existing routes or on areas of possible expansion.
g. State Highway (U-24) Torrey	No known major problems within existing routes or on areas of possible expansion.
h. State Highway (U-25) Fishlake	No known major problems within existing routes or on areas of possible expansion.
i. State Highway (U-153) Beaver	No known major problems within existing routes or on areas of possible expansion.
11. Wetlands, Flood Plains and Riparian Areas.	
a. Interstate 70 (I-70) Salina Canyon	Important riparian areas exist along ROW --areas are important as wildlife and fish habitat. Mitigation would be difficult.
b. Interstate 70 (I-70) Clear Creek	Important riparian areas exists along a portion of the ROW--areas are important wildlife and fish habitat. Mitigation would be difficult.
c. State highway (U-13) Clear Creek Canyon	Same as for Salina Canyon, I-70.
d. Interstate 15- (I-15) Scipio Pass	No major problems within ROW or on National Forest lands immediately adjacent to route.
e. State Highway (U-72) Salina-Loa	Same as for Scipio Pass, I-15
f. State Highway (U-132) Leamington	Riparian area adjacent to ROW. Impacts could be mitigated.
g. State Highway (U-24) Torrey	Same as for Scipio, I-15.
h. State Highway (U-25) Fishlake	Same as for Scipio, I-15.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

<u>RIGHTS-OF-WAY (HIGHWAYS)</u>	<u>EVALUATION CRITERIA</u>
i. State Highway (U-153) Beaver	Same as for Clear Creek, I-70.
12. Maximum Use of Existing Linear Rights-of-Way.	
a. Interstate 70 (I-70) Salina Canyon	Meets criterion since actual transportation ROW would be fully or partially utilized.
b. Interstate 70 (I-70) Clear Creek	Meets criterion since actual transportation ROW would be fully or partially utilized.
c. State Highway (U-13) Clear Creek Canyon	Meets criterion since actual transportation ROW would be fully or partially utilized.
d. Interstate 15 (I-15) Scipio Pass	Meets criterion since actual transportation ROW would be fully or partially utilized.
e. State Highway (U-72) Salina-Loa	Meets criterion since actual transportation ROW would be fully or partially utilized.
f. State Highway (U-132) Leamington	Meets criterion since actual transportation ROW would be fully or partially utilized.
g. State Highway (U-24) Torrey	Meets criterion since actual transportation ROW would be fully or partially utilized.
h. State Highway (U-25) Fishlake	Meets criterion since actual transportation ROW would be fully or partially utilized.
i. State Highway (U-153) Beaver	Meets criterion since actual transportation ROW would be fully or partially utilized.

EVALUATION PROCESS
TABLE E
WINDOW AREAS

<u>WINDOW AREAS</u>	<u>EVALUATION CRITERIA</u>
	1. Land-Use Plans and Laws
Trough Hollow	No Known Conflict
Gooseberry Valley	No Known Conflict
Clear Creek, I-70 Scipio Pass Salina Canyon	Approval and coordination would be required from State Department of Transportation and Federal Highway Administration during planning design, construction, and maintenance work for utilities and other transportation facilities that affected highway ROW's.
	2. Effects to Resources Values
	(Discussion on resource values/areas where considered critical or sensitive).
Trough Hollow Gooseberry Valley	See Table C, Hunter/Huntington-Sigurd 345 kv electric transmission lines.
Clear Creek, I-70	Analyzed as part of electric transmission and highway ROW's--see Table C, Sigurd-Cedar City, 138 kv and Table D, Clear Creek, I-70.
Scipio Pass	Analyzed as part of electrical transmission and highway ROW's--See Table C, Sigurd-Scipio 230 kv and Table D, Scipio I-15.
Salina Canyon	Analyzed as part of highway ROS; see Table D, Salina Canyon I-70.
	3. Geology, Hydrology, Soil and Landform Restrictions.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

EVALUATION PROCESS
TABLE E (cont)
WINDOW AREAS

WINDOW AREAS

EVALUATION CRITERIA

4. New and Existing Uses Would Be Engineeringly and technologically compatible.
5. Socioeconomic Impacts to Adjacent Landowners and Other Groups or Individuals.

Trough Hollow
Gooseberry Valley
Clear Creek, I-70
Scipio Pass
Salina Canyon

Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.

6. Health and Safety Hazards to National Forest Users and General Public.

Trough Hollow
Gooseberry Valley
Clear Creek, I-70
Scipio Pass
Salina Canyon

Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.

7. Off-Road Vehicle Administrative Costs.

Trough Hollow
Gooseberry Valley
Clear Creek, I-70
Scipio Pass
Salina Canyon

Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.

8. Economic Efficiency of Constructing, Operating and Maintaining ROW Costs or Relocating Existing Facilities.

Trough Hollow
Gooseberry Valley
Clear Creek, I-70
Scipio Pass
Salina Canyon

Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.
Same as for Criterion 2.

EVALUATION PROCESS
TABLE E (cont)
WINDOW AREAS

WINDOW AREAS

EVALUATION CRITERIA

9. National Security Risks.

Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

10. Threatened or Endangered Species

Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

11. Wetlands, Flood Plains and Riparian Area.

Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

12. Maximum Use of Existing Linear Rights-of-Way.

Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

EVALUATION RESULTS - PROCEDURES AND RECOMMENDED DESIGNATIONS

- Procedures

The analysis information from the EVALUATION PROCESS was used to:

1. Designate routes and areas as corridors, windows, or avoidance areas;
2. Establish widths of corridors and windows; and
3. Establish type of permitted energy right-of-way facility, i.e., underground, overhead, over-the-surface, or a combination of the three.

-Recommended Designations for Existing Linear Right-of-Way Routes and Planning Windows

A Summary of the recommendations is presented in Table F: Summary of Management Direction for Existing Electrical Transmission Line and Highway Routes and Planning Windows. The Summary is found on pages G-29 to G-32.

The narratives on corridor and window designations, including widths and type of right-of-way, are found on pages G-33 to G-42. These pages address the recommended designations for existing electrical transmission lines, Federal, State and Interstate Highway Routes, and Planning Windows.

TABLE F

SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION		TYPE OF FACILITY	WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION
1. ELECTRICAL TRANSMISSION LINE ROUTES					
a. Sigurd-Cedar City 138 kv					
	Sigurd to Clear Creek Segment	Yes	Overhead and underground	Areas between pri- vate residential developments and NF boundary.	Canyon Range Avoid- ance Area.
	Clear Creek to Pine Cr. Segment	Yes	Overhead and underground	One to three miles	Canyon Range and Tushars-Beaver Mtn. Avoidance Areas.
b. Sigurd-Scipio 230 kv					
	Sigurd to Scipio Lake Segment	Yes	Overhead and underground	Areas between pri- vate residential developments and NF boundary.	Canyon Range Avoid- ance Area.
	Scipio Lake to Pavant Mountains Segment	Yes	Overhead and underground	0.1 to 3.0 miles	Canyon Range and Avoidance Areas.
c. Sigurd-Circleville 230 kv					
	Sigurd to Piute Reservoir Segment	Yes	Overhead and underground	Areas between existing line and National Forest boundary for por- tion north of Monroe, Ut.; Valley and foothills adja- cent to NF boundary south of Monroe, Ut.	Monroe Mountain Avoidance Area.

TABLE F (Cont.)
SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILITY	WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION	
	Piute Reservoir to I-15 Segment	Yes	Overhead and underground	0.25 to 3.0 miles	Tushars-Beaver Mtn. Avoidance Area.
d.	Huntington/Hunter-Sigurd 345 kv				
	Plant Site to Trough Hollow Segment	Yes	Overhead and underground	500 to 1000 feet (controlled by Trough Hollow area)	Old Woman-Willow Creek Avoidance Area.
	Trough Hollow to Sigurd Segment	Yes	Overhead only	Lateral distance of Trough Hollow or lateral distance of most stable landforms in Goose- berry Valley, which- ever is the least distance.	Gooseberry-Fishlake- Hilgard and Old Woman-Willow Creek Avoidance Area.
e.	Lynndyl-Mona 345 kv				
	Lines 1 and 2	Yes	Overhead and underground	1.5 to 2.0 miles	Canyon Range Avoid- ance Area.
2.	HIGHWAY ROUTES				
a.	I-70 Salina Canyon	Yes	Highway	Canyon bottom area	Gooseberry-Fishlake- Hilgard and Old Woman-Willow Creek Avoidance Areas.
b.	I-70 Clear Creek	Yes	Highway	One to three miles	Canyon Range and Tushars-Beaver Mtn. Avoidance Areas.

TABLE F (Cont.)
SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILITY	WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION	
c.	U-13 Clear Creek Canyon	Yes	Highway	Eastern 3.0 miles Areas between private residential developments and NF boundary	Remaining length (7.0 miles) located within Canyon Range Avoidance Area
d.	I-15 Scipio Pass	Yes	Highway	0.1 to 3.0 miles	Canyon Range and Pavant Avoidance Areas.
e.	U-72 Salina - Loa	Yes	Highway	1.0 mile average.	Gooseberry-Fishlake- Hilgard and Tousand Lakes Avoidance Areas
f.	U-132 Leamington	Yes	Highway	0.1 to 0.5 miles	Canyon Range Avoid- ance Area.
g.	U-24 Torrey Would also conflict	No			Within Thousand Lakes Avoidance Area. with Management of Capitol Reef National Park.
h.	U-25 Fishlake	No			Within Gooseberry- Fishlake-Hilgard Avoidance Area. Would also conflict with management of Fishlake Recreation Area Exclusion Area.
i.	U-153 Beaver-Junction	No			Within Tushars-Beaver Mountain Avoidance Area.

TABLE F (Cont.)

SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILITY	*WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION	
3. PLANNING WINDOWS					
	Trough Hollow	Yes	Overhead only	500 to 1000 feet	Old Woman-Willow Creek Avoidance Area
	Gooseberry Valley	Yes	Overhead only	Lateral distance of most stable landform.	Gooseberry-Fishlake- Hilgard Avoidance Area.
	Clear Creek Canyon-I-70 Route	Yes	Overhead and underground	1.0 to 3.0 miles	Canyon Range and Tushars-Beaver Mtn. Avoidance areas.
	Scipio Pass	Yes	Overhead and underground	3.0 miles average underground	Canyon Range and Pavant Avoidance Areas
	Salina Canyon	Yes	Underground and Surface	Canyon bottom area	Gooseberry-Fishlake- Hilgard and Old Woman-Willow Creek Avoidance Areas.

- See Transportation and Utilities Management Map of the Land Management Plan for boundaries of these areas.

EVALUATION RESULTS FOR AVOIDANCE AREAS

- Recommended Designation for Avoidance Areas

Application of the 12 Evaluation Criteria to the 7 geographical areas listed on page G-9 led to the following general statements concerning corridor and window designations:

Most (and in some cases all) locations within these areas would conflict with or not meet the goals and objectives for any one criterion; and reasonable mitigation would (for the most part) not prevent unacceptable impacts to natural, physical, or social resources and values located within and adjacent to the areas.

NOTE: There are presently no linear rights-of-way within these areas that meet the standards and guidelines for potential transportation and utility corridor designation.

The narratives on avoidance area designations are also found on pages G-32 to G-41.

In addition, Management Areas 3B and 10A within the general avoidance areas are designated for no surface occupancy. (See the Transportation and Utilities Management Map of the Land Management Plan for the location of these areas).

MANAGEMENT DIRECTION FOR EXISTING ELECTRICAL TRANSMISSION, FEDERAL, STATE, AND INTERSTATE HIGHWAYS, PLANNING WINDOWS AND AVOIDANCE AREAS

(The following serves as narrative backup to recommended Management Direction shown on table F.)

1. General Assumptions

- a. The concerned counties and communities would support Fishlake National Forest corridor designations; such counties and communities might not agree on corridor widths as specified on National Forest lands and might, through negotiation and applicable authorizing actions, set different corridor widths on county property or within community boundaries.
- b. State Department of Transportation and/or the Federal Highway Administration would approve of highway right-of-way encroachments proposed by project proponents.
- c. Most of the Forest Service System Roads would be part of Avoidance Area designations.
- d. Where applicable, Fishlake national Forest corridor and window designations would agree with such designations on adjacent BLM land.

2. Electrical Transmission Line Routes. (Assumptions, Recommendations, Mitigation, and Adjacent Lands)

a. Sigurd - Cedar City, 138 kv

Sigurd to Clear Creek Canyon

Assumption - Existing route would be within a designated corridor on BLM administered lands. (Existing line presently located on land administered by the BLM and on private lands.)

Recommendations

- Support corridor designation.
- Corridor suitable for both overhead and underground facilities.
- Expansion or widening should be limited to areas located between private residential developments and the National Forest boundary.

Adjacent Lands

Adjacent National forest lands are located in a designated Avoidance Area (Canyon Range), if overhead utility corridor proposals involve expansion onto National Forest land, helicopter construction would be required to protect critical natural resources. Underground pipeline proposals would be discouraged due to steep and highly dissected terrain and erosive soils.

Clear Creek Canyon to Pine Creek

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located both east and west of National Forest land.

Recommendations

- Designate as a corridor. 6/
- Corridor suitable for overhead and underground facilities. 7/
- Width of corridor to vary from one to three miles. (see Energy Transportation Corridor Map for corridor boundaries.)

General Mitigation Measures

- Helicopter construction would be required for overhead utilities on portions of the corridor.

Adjacent Lands

Adjacent National Forest lands are located in designated avoidance Areas (Canyon Range on the north and Tushars-Beaver Mountain on the south). Overhead and underground facility proposals would be discouraged due to very steep and highly dissected terrain, erosive soils, important visual resources and key wildlife habitat.

- 6/ Corridor area fits definition of a Window area due to the restrictive terrain located on both sides (north and south) of the corridor.
- 7/ Although there are presently no pipelines located within the corridor window area, terrain features within the one to three mile width could permit planning, design, and construction of pipelines.
- b. Sigurd - Scipio, 230 kv

Sigurd to Scipio Lake

Assumption - Existing route would be within a designated corridor on BLM and State of Utah administered lands. (Existing line presently located on lands administered by the BLM and State and on private lands.)

Recommendations

- Support corridor designations.
- Corridor suitable for overhead and underground facilities. 8/
- Expansion or widening should be limited to areas located between private residential developments and the National Forest boundary

Adjacent Lands

Adjacent National Forest land is located in a designated Avoidance Area (Canyon Range); if overhead utility corridor proposals involved expansion onto National Forest land, helicopter construction would be required to protect critical natural resources. Underground pipeline proposals would be discouraged due to steep and highly dissected terrain and associated erosive soils.

Scipio Lake to Tip of Pahvant

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM and State lands located on both ends of this route segment.

Recommendations

- Support corridor designation on non-National Forest land and designate a corridor on National Forest land. 9/
- Corridor suitable for overhead and underground facilities. 10/
- Width of corridor to vary from 0.1 to 3.0 miles on National Forest land. 11/ (see Energy Transportation Corridor Map for corridor boundaries.)

- 8/ Terrain features east of the National Forest boundary would permit planning, design and construction of pipelines, i.e., the corridor is located on flat to gently rolling valley and foothill areas.

- 9/ Northern end of corridor area (Scipio Pass) fits definition of a Window area due to restrictive terrain features located on north and south sides of the Pass.
- 10/ Although there are presently no pipelines within the Corridor area terrain features (flat to gently rolling valley and foothill area) could permit planning design and construction of north/south running pipelines systems.

Adjacent Lands

National Forest lands adjacent to the corridor boundary are part of designated Avoidance Areas (Canyon Range and); if overhead utility corridor proposals involved expansion onto these areas, helicopter construction would be required to protect critical natural resources. Underground pipeline proposals in the Avoidance Areas would be discouraged due to steep and highly dissected terrain and associated erosive soils.

- c. Sigurd - Circleville, 230 kv

Sigurd to Piute Reservoir

Assumption - Existing route would be within designated BLM and State of Utah corridors. (Existing line presently located on lands administered by the BLM and State and on private lands.)

Recommendations

- Support corridor designations.
- Corridor suitable for overhead and underground facilities. 12/
- Expansion or widening along the Sigurd to Monroe portion of the route should be limited to areas located east of the existing line and west of the National Forest boundary. For the Monroe to Piute Reservoir route portion expansion or widening should be limited to valley and foothill areas located adjacent to the National Forest boundary.

Adjacent Lands

Adjacent National Forest lands are located in a designated Avoidance Area (Monroe Mountain). If overhead utility corridor proposals involved expansion onto National Forest land, helicopter construction would be required to protect critical soil resources. Underground pipeline proposals would be discouraged due to steep and highly dissected terrain and associated erosive soils.

- 11/ The southern end of the National Forest corridor portion could be part of a BLM corridor designation for the areas presently occupied by the 230 kv line. The corridor width on the National Forest portion is approximately 0.1 to 0.5 miles, becoming wider (1.0 to 3.0 miles) in the Scipio Pass area.

- 12/ There are presently no pipelines located within or adjacent to the route location.

Piute Reservoir to I-15

Assumptions - Fishlake National Forest corridor designatuon would agree with corridor designations of BLM and State lands located both east and west of National Forest land.

Recommendations

- Designate as a corridor.
- Corridor suitable for overhead and underground facilities. 13/
- Width of corridor to vary from 0.25 to 3.0 miles. (see Energy Transportation Corridor Map for corridor boundaries.) 14/

Adjacent Lands

National Forest land north of the corridor width is designated as an Avoidance Area, (Tushars-Beaver Mountain). If overhead utility corridor proposals involved expansion into this area, helicopter construction would be required to protect critical resource values. Underground pipeline proposals would be discouraged due to steep rocky and visually sensitive terrain.

- d. Huntington/Hunter - Sigurd, 345 kv

Plant Site to Trough Hollow

Assumptions - Existing route would be within a designated BLM corridor. (Existing lines presently located on lands administered by the BLM; some State of Utah and private lands are also crossed.)

Recommendations

- Support corridor designations.
- Underground pipelines could utilize portions of this corridor, i.e., portions north of Trough Hollow, otherwise overhead utilities only.
- Expansion or widening of corridor would be controlled by design and construction limitations associated with Trough Hollow.

- 13/ There are presently no pipelines located within or adjacent to the route.

- 14/ The existing line is located on BLM, National Forest and State of Utah lands; expansion of the right-of-way on National Forest land would be acceptable; the width of the corridor on National Forest land would vary from 0.25 to 3.0 miles.

Adjacent Lands

Trough Hollow is a Window Area, located on National Forest land. Due to topographic constraints, this area could be the limiting factor for the width of the total corridor.

National Forest lands north of Trough Hollow are located approximately 3 to 8 miles from the existing transmission line route; expansion or widening of the corridor would not affect these lands.

Trough Hollow to Sigurd

Assumptions - Fishlake National forest corridor designation would agree with corridor designations on BLM lands located on both ends of this route segment.

Project proponents would consider the topographic constraints of Trough Hollow and the unstable landforms of Gooseberry Valley as limiting engineering factors for placement of overhead utilities.

Recommendations

- Support corridor designation on BLM lands and designate a corridor on National Forest land.
- Overhead utilities only.
- The width of the total corridor route would be limited to that lateral distance found within the Trough Hollow area or the lateral distance of most stable landforms in the Gooseberry Valley area, whichever is the least distance. (Lateral distance within the Trough Hollow area - from one side of the canyon to the other side - varies from 500 to 1000 feet. The lateral distance of most stable landforms along the Gooseberry Valley corridor route is subject to periodic geologic evaluation.

Adjacent Lands

National Forest lands north and south of the corridor windows, i.e., Trough Hollow and Gooseberry Valleys, are designated as Avoidance Areas, (Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek). The areas are characterized by steep sloped canyons with narrow canyon bottoms (Trough Hollow area) or by extremely unstable landforms (Gooseberry Valley area). Soils and visuals are the primary management concerns in the Avoidance Areas immediately adjacent to these Windows. Soils exhibit high erosion hazard ratings and low revegetation potential; visual quality objective is partial retention and visual absorption capability is low.

e. Lynndyl to Mona, 345 kv

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located on both ends of the Forest segment.

Recommendations

- Support corridor designations on BLM lands and designate a corridor on National Forest land.
 - Corridor on National Forest land suitable for overhead and underground facilities. 15/
- Width of corridor to vary from 1.5 to 2.0 miles (see Transportation Corridor map for corridor boundaries.)

Adjacent Lands

National Forest lands north and south of the corridor width are designated as an Avoidance Area, (Canyon Range). If overhead utility corridor proposals involved expansion into this area, helicopter construction would be required to protect soil resources. Underground pipeline proposals would be discouraged due to steep and moderately dissected terrain.

2. Federal, State, and Interstate Highways

a. Interstate 70 (I-70) - Salina Canyon

Assumptions - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located east and west of National Forest boundaries. Project proponents would consider the steep canyon slopes as topographic constraints to economic efficiency and engineering feasibility in regards to both overhead and underground construction proposals.

Recommendations

- Support corridor designations on BLM lands and designate a corridor on National Forest land. 16/
- Underground and surface facilities. 17/
- Width of corridor limited to canyon bottom only.

15/ Although there are presently no pipelines located within or adjacent to the corridor, the existing flat to gently rolling terrain would facilitate planning, design, and construction of east-west running pipeline systems.

16/ Corridor area on National Forest land fits definition of a Window area due to adjacent steep, rocky and highly dissected canyon slopes along approximately 80 percent of the route.

- 17/ There are presently no pipelines or railroads located within the Salina Canyon area. Terrain features within the canyon bottom area could permit planning, design, and construction of east-west running pipeline or rail systems, i.e., width is sufficient.

Adjacent Lands

Adjacent National Forest lands are located in designated Avoidance Areas, (Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek). The Avoidance Area terrain immediately adjacent to the corridor exhibits critical soil erosion problems, critical wildlife habitat, unstable landforms, and important visual qualities; encroachment on this terrain would be strongly opposed by the Forest.

- b. Interstate 70 (I-70) - Clear Creek Canyon

Refer to writeup for EVALUATION RESULTS of Electrical Transmission Line Routes, item 1.a., Clear Creek Canyon to Pine Creek; the highway route is located within the designated corridor as described. The Assumptions and Recommendations for that corridor would also apply to this highway route.

- c. State Highway (U-13) - Clear Creek Canyon

Eastern end of highway route is located within the Sigurd to Clear Creek Canyon Corridor as discussed under EVALUATION RESULTS for Electrical Transmission Line Routes, item 1.a. The Recommendations for that corridor would also apply to this highway segment. (The length of the highway segment within the designated corridor is 3.0 miles.)

The remaining highway length is located within a designated Avoidance Area, (Canyon Range). Proposals for overhead and underground facilities along the highway route would be discouraged. (See EVALUATION PROCESS, Table D for discussions on potential impacts from right-of-way proposals.)

- d. Interstate 15 (I-15) - Scipio Pass

Refer to writeup for EVALUATION RESULTS of Electrical Transmission Line Routes, item 1.b., Scipio Lake to Tip of; the highway route is located within a portion of the designated corridor as described. The Assumptions and Recommendations for that corridor would also apply to this highway route.

- e. State Highway (U-72) - Salina to Loa

Assumptions - Fishlake National Forest corridor designation would agree with corridor designations and uses on BLM lands located both north and south of highway segment on National Forest land.

Recommendations

- Designate as a corridor.
- Corridor suitable for overhead, underground and surface facilities. 18/
- Width to average one mile; one half mile on either side off highway right-of-way. (See Transportation and Utilities Management Map for boundaries of these areas).

Adjacent Land

National Forest lands adjacent to the corridor boundaries are part of designated Avoidance Areas, (Gooseberry-Fishlake-Hilgard and Thousand Lakes). Both overhead and underground facility proposals in these areas would be discouraged due to the existence of important cultural and visual resources, erosive soils and key wildlife habitats.

f. State Highway (U-132) - Leamington

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located on both ends of the Forest segment.

Recommendations

- Support corridor designations on BLM lands and designate a corridor on National Forest land.
- Corridor on National Forest land suitable for overhead, underground and surface facilities.
- Width of corridor to vary from 0.1 to 0.5 miles (See Transportation Corridor Map for corridor boundaries.)

Adjacent Lands

National Forest lands south of the corridor width are designated as an Avoidance Area, (Canyon Range). If overhead utility corridor proposals involved expansion into this area, helicopter construction would be required to protect soil resources. Underground pipeline proposals would be discouraged due to steep and moderately dissected terrain.

g. State Highway (U-24) - Torrey

The highway portion on the Fishlake National Forest is located within a designated Avoidance Area (Thousand Lakes). Proposals for overhead and underground facilities would not be permitted due to proximity of Capitol Reef National Park. (See EVALUATION PROCESS, Table D for discussions on potential impacts from right-of-way proposals.)

h. State Highway (U-25) - Fishlake
The Fishlake National Forest highway portion is located within a designated Avoidance Area (Gooseberry-Fishlake-Hilgard Areas.) Proposals for overhead and underground facilities would conflict with important recreation and visual resources; the proposals would also conflict with management of adjacent designated Exclusion Area (Fishlake Recreation Area).

i. State Highway (U-153) - Beaver to Junction

The Fishlake National Forest highway portion is located within a designated Avoidance Area (Tushars-Beaver Mountain). Proposals for overhead and underground facilities would be discouraged, due to critical natural resources and potential engineering and administrative difficulties. (See EVALUATION PROCESS, Table D for discussions on potential impacts from right-of-way proposals.)

18/ The variation in terrain features within the corridor, i.e., north-south running ridges and flat to gently sloping terrain, would facilitate planning, design, and construction of overhead and underground and surface facilities.

3. Window Area

a. Trough Hollow

The Assumptions, Recommendations, and Adjacent land discussions for the Huntington/Hunter - Sigurd, 345 kv transmission line apply to this planning window.

b. Gooseberry Valley

Same as above

c. Clear Creek Canyon

The Assumptions, Recommendations and Adjacent Land discussions for the Sigurd-Cedar City 138 kv transmission line apply to this planning window.

d. Scipio Pass

The Assumptions, Recommendations, and Adjacent Land discussions for the Scipio Lake to Tip of , 230 kv transmission line apply to this planning window.

e. Salina Canyon

The Assumptions, Recommendations, and Adjacent Land discussions for the Intestate 70 (I-70) - Salina Canyon apply to this planning window.

ATTACHMENTS

EXHIBIT NO. 1

APPROACHES FOR CORRIDOR/WINDOW SELECTION

Three approaches for designating corridor/window -

the direct (where facilities could go),
the indirect (where facilities could not go), and
the combination (mixture of direct and indirect) will be followed in
the corridor/window evaluation report.

The direct and indirect approach both identify two categories of land: where facilities could go and where facilities could not go. The combination approach involves a mixture of the above two land categories.

In the following item presentations, each approach is evaluated according to the flexibility of the process.

1. Direct Designation (where to place facilities)

a. Identification of land areas for designation as corridors

1) Long linear, or

2) Windows

b. Positive and negative aspects of long linear corridor designations

Positive

1) Needed, to address existing utility and transportation rights-of-way located in constrained or physically restrictive land areas.

2) Controls right-of-way proliferation.

Negative

1) Reduces planning flexibility for location length, origin, and destination of proposed facilities.

2) Could require a lengthy amendment process if right of way needs change, requiring use of land areas outside the corridor.

3) Directly affects property values of adjacent state and private land.

4) Shifts planning responsibilities for facilities from industry to the Forest Service.

c. Positive and negative aspects of window designations

The concept of a "window" is valid only where there are geographical constraints to siting facilities. These constraints can be caused by designation of adjoining sensitive areas.

Positive

- 1) More planning flexibility in response to origin, destination, source, and market differences -- giving industry more freedom in selecting alternative routes and releasing Forest Service from the responsibility to have engineering expertise or familiarity with industry standards and design requirements.

Negative

- 1) Does not fit all physical land categories, where widths are constrained by environmental features.
- 2) Does not recognize patterns of land ownership.
- 3) Does not prevent right-of-way proliferation.

2. Indirect Designation (where not to place facilities)

a. Identification of land areas where facilities could not or should not be placed, by classifying the areas as:

- 1) Avoidance Areas, or
- 2) Exclusion Areas.

Avoidance areas could be crossed under strict conditions, although by definition, facilities should avoid these areas to the greatest extent possible.

Construction linear facilities would be prohibited in exclusion areas.

b. Positive and negative aspects of indirect corridor designations

Positive

- 1) Retain flexibility for planning, concentrating agency efforts on the protection of important natural, cultural, and social values. Eliminates premature application of right-of-way needs or assumption of industry's role in facility planning.

Negative

- 2) Critical right-of-way needs might not be preserved, if a comprehensive framework for corridor planning was not developed.

3. Combination of Direct and Indirect Designations

- a. Identification of existing linear rights-of-way and windows to protect critical right-of-way areas, and identification of avoidance and exclusion areas to protect important natural, cultural, and social values.
- b. Aspects of a combination approach
 - 1) Should help to limit proliferation of rights-of-way and allow the Forest Service some flexibility in the planning process.
 - 2) Recognizes the importance of existing linear rights-of-way and provides an opportunity to address expansion potentials.
 - 3) Industry could continue to design its own routes to meet source-to-market needs.
 - 4) Routing decisions would be speeded up because avoidance and exclusion areas would be identified prior to route selection process.
 - 5) Window designations would better incorporate multiple use factors and would be less presumptive concerning uses of adjoining non-Forest lands.
 - 6) Unavoidable adverse effects might be minimized by eliminating sensitive areas from further study at an early stage.

EXHIBIT NO. 2

TRANSPORTATION AND UTILITIES MANAGEMENT MAP - LOCATED IN MAP PACKET OF THE LAND MANAGEMENT PLAN.

APPENDIX H

STIPULATIONS FOR MINERAL ACTIVITIES

Provision for general protection of surface resources and prevention of conflict with other activities, plans, and programs of the Forest Service and other users is included in existing laws and regulations. More specific provision is contained in the form of standard stipulations, which the forest imposes or recommends be imposed upon mineral and energy resources activities. Such stipulations include the following: (Copies of documents at end of this appendix)

A. Oil and Gas Leases

1. Bureau of Land Management form 3109-3 - Stipulations for Lands Under Jurisdiction of Department of Agriculture.
2. Forest Service (Intermountain Region) Supplement A to form 3109-3 - Surface Disturbance Stipulation.

B. Common Variety Materials (Salable)

1. Forest Service form 2800-76 - Standard Terms and Conditions (Preference Right Lease or Mineral Materials Permit).

In addition, special stipulations are formulated and recommendations/consent/approval conditioned to cover those concerns, identified in the environmental analysis process, which are not covered by the standard stipulations or where protection is not otherwise provided. Examples of special stipulations the Forest uses are shown below:

1. All of the land in this lease is included in (recreation or special area, etc.). Therefore, no occupancy or disturbance of the surface of the land described in this lease is authorized. The lessee, however, may exploit the oil and gas resources in this lease by directional drilling from sites outside this lease. If a proposed drilling site lies on land administered by the Bureau of Land Management, or by the Forest Service, a permit for use of the site must be obtained from the BLM District Manager or the Forest Service District Ranger, before drilling or other development begins.
2. No access or work trail or road, earth cut or fill, structure or other improvement, other than an active drilling rig, will be permitted if it can be viewed from the (road, lake, river, etc.).
3. No occupancy or other activity on the surface of (legal subdivision) is allowed under this lease.

4. No occupancy or other surface disturbance will be allowed within feet of the (road, trail, river, creek, canal, etc.). This distance may be modified when specifically approved in writing by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.
5. No drilling or storage facilities will be allowed within feet of (live water, the reservoir, the archaeological site, the histrocial site, the paleontological site, etc) located in (legal subdivision). This distance may be modified when specifically approved in writing by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.
6. No occupancy or other surface disturbance will be allowed on slopes in excess of _____ percent, without written permission from the appropriate District Manager of the BLM, with the concurrenc of the authorized officer of the Federal surface management agency.
7. In order to (minimize watershed damage, protect important seasonal wildlife habitat, etc) exploration, drilling, and other development activity will be allowed only (during the period from to _____, during dry soil period, over a snow cover, on frozen ground). This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.
8. In order to minimize watershed damage, during muddy and/or wet periods, the authorized officer of the Federal surface management agency, through the appropriate District Manager of the BLM, may prohibit exploration, drilling, or other development. This limitation does not apply to maintenance and operation of producing wells.
9. The _____ (Trail/Road) will not be used as an access road for activities on this lease, except as follows: (No exceptions, weekdays during recreation season, etc.).
10. To maintain esthetic values, all semi-permanent and permanent facilities may require painting or camouflage to blend with the natural surroundings. The paint selection or method of camouflage will be subject to approval by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.
11. Controlled or Limited Surface Use Stipulation. This stipulation may be modified when specifically approved in writing by the appropriate District Manager, BLM, with concurrence of the Federal surface management agency. Distances and/or time periods may be made less restrictive depending on the actual on-ground conditions.

The lessee/operator is given notice that all or portions of the lease area may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Any surface use or occupancy within such special areas will be strictly controlled or, if necessary, excluded. Use or occupancy will be authorized only when the lessee/operator demonstrates that the special area is essential for operations in accordance with a surface use and operations plan which is satisfactory to the Geological Survey and the Federal surface management agency for the protection of such special areas and existing or planned uses. Appropriate modifications to imposed restrictions will be made for the maintenance and operation of producing oil and gas wells; however, in extremely critical situations, occupancy may only be allowed in emergencies.

After the Federal surface management agency has been advised of specific proposed surface use or occupancy on these lands, and on request of the lessee/operator, the agency will furnish more specific locations and additional information on such special areas which now include:

(Legal land description to lot and/or quarter, quarter section.)

Reason for Restriction:

Duration of Restriction: (year-round, month(s))

12. Activity Coordination Stipulation. This lease includes lands within * _____ which has resource values sensitive to high levels of activity. In order to minimize impacts to these resources, special conditions, such as unitization prior to approval of operations, and/or other limitations to spread surface disturbance activities over time and space may be required prior to approval and commencement of any operations on the lease.

*Wilderness Areas, Further Planning Areas, Areas of Threatened and Endangered Species.

13. Protection of Endangered or Threatened Species. The Federal surface management agency is responsible for assuring that the area to be disturbed is examined, prior to undertaking any surface-disturbing activities on lands covered by this lease, to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened species, some restrictions to the operator's plans or even disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be disturbed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface management agency. An acceptable report must be provided to the surface management agency identifying the anticipated effects of the proposed action on endangered or threatened species or their habitat.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STIPULATION FOR LANDS UNDER JURISDICTION OF DEPARTMENT OF AGRICULTURE *

The lands embraced in this lease or permit being under the jurisdiction of the Secretary of Agriculture, the lessee or permittee hereby agrees

(1) To conduct all operations authorized by this lease or permit with due regard for good land management, not to cut or destroy timber without first obtaining permission from the authorized representative of the Secretary of Agriculture, and to pay for all such timber cut or destroyed at the rates prescribed by such representative, to avoid unnecessary damage to improvements, timber, crops, or other cover, unless otherwise authorized by the Secretary of Agriculture, not to drill any well, carry on operations, make excavations, construct tunnels, drill, or otherwise disturb the surface of the lands within 200 feet of any building standing on the lands and whenever required, in writing, by the authorized representative of the Secretary of Agriculture to fence or fill all sump holes, ditches, and other excavations, remove or cover all debris, and so far as reasonably possible, restore the surface of the lands to their former condition, including the removal of structures as and if required, and when required by such representative to bury all pipelines below plow depth

(2) To do all in his power to prevent and suppress forest, brush, or grass fires on the lands and in their vicinity, and to require his employees, contractors, subcontractors, and employees of contractors or subcontractors to do likewise Unless prevented by circumstances over which he has no control, the lessee or permittee shall place his employees, contractors, subcontractors, and employees of contractors and subcontractors employed on the lands at the disposal of any authorized officer of the Department of Agriculture for the purpose of fighting forest, brush, or grass fires on or originating on the lands or on adjacent areas or caused by the negligence of the lessee or permittee or his employees, contractors, subcontractors and employees of contractors and subcontractors, with the understanding that payment for such services shall be made at rates to be determined by the authorized representative of the Secretary of

Agriculture, which rates shall not be less than the current rates of pay prevailing in the vicinity for services of a similar character *Provided*, that if the lessee or permittee, his employees, contractors, subcontractors, or employees of contractors or subcontractors, caused or could have prevented the origin or spread of said fire or fires, no payment shall be made for services so rendered

During periods of serious fire danger to forest, brush, or grass, as may be specified by the authorized representative of the Secretary of Agriculture, the lessee or permittee shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, subcontractors, and employees of contractors or subcontractors within the area involved except at established camps, and shall enforce this prohibition by all means within his power *Provided*, that the authorized representative of the Secretary of Agriculture may designate safe places where, after all inflammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee or permittee, smoking may be permitted

The lessee or permittee shall not burn rubbish, trash, or other inflammable materials *except* with the consent of the authorized representative of the Secretary of Agriculture and shall not use explosives in such a manner as to scatter inflammable materials on the surface of the lands during the forest, brush, or grass fire season, *except* as authorized to do so or on areas approved by such representative

The lessee or permittee shall build or construct such fire lines or do such clearing on the lands as the authorized representative of the Secretary of Agriculture decides is essential for forest, brush, and grass fire prevention which is or may be necessitated by the

* This form of stipulation may be used in connection with leases and permits issued under the Acts of February 25, 1920, as amended (30 U S C 181 *et seq.*), August 7, 1947 (30 U S C 351 *et seq.*), February 7, 1927, as amended (30 U S C 281 *et seq.*), April 17, 1926, as

amended (30 U S C 271 *et seq.*), June 28 1944 (58 Stat 483-485), September 1 1949 (30 U S C 192c), June 30 1950 (16 U S C 508b), or under the authority of any of the Acts cited in Section 402 of the President's Reorganization Plan No 3 of 1946 (5 U S C 133y-16, Note)

exercise of the privileges authorized by this lease or permit, and shall maintain such fire tools at his headquarters or at the appropriate location on the lands as are deemed necessary by such representative.

(3) In the location, design, construction, and maintenance of all authorized works, buildings, plants, waterways, roads, telegraph or telephone lines, pipelines, reservoirs, tanks, pumping stations, or other structures or clearance, the lessee or permittee shall do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the lands, pollution of the water resources and any damage to the watershed. Where construction, operation, or maintenance of any of the facilities on or connected with this lease or permit causes damage to the watershed or pollution of the water resources, the lessee or permittee agrees to repair such damage and to take such corrective measures to prevent further pollution or damage to the watershed as are deemed necessary by the authorized representative of the Secretary of Agriculture

(4) If in the opinion of the authorized representative of the Secretary of Agriculture, the lands are valuable for watershed protection, the lessee or permittee shall provide for control of surface runoff and return the affected area to as productive condition as practicable.

(5) To pay the lessor or permitter or his tenant or the surface owner or his tenant, as the case may be, for any and all damage to or destruction of property caused by the lessee's or permittee's operations hereunder; to save and hold the lessor or permitter or the surface owner or their tenants harmless from all damage or claims for damage to persons or property resulting from the lessee's or permittee's operations under this lease or permit.

(6) To recognize existing uses and commitments, in the form of Department of Agriculture grazing, timber cutting, and special use permits, water developments, ditch, road, trail, pipeline, telephone line, and fence rights-of-way and other similar improvements, and to conduct his operations so as to interfere as little as possible with the rights and privileges granted by these permits or with other existing uses

(7) To install and maintain cattle guards to prevent the passage of livestock in any openings made in fences by the lessee or permittee or his contractors to provide access to the lands covered by this lease or permit for automotive and other equipment

(8) If lessee or permittee shall construct any camp on the lands, such camp shall be located at a place approved by the authorized representative of the Secretary of Agriculture, and such representative shall have authority to require that such camp be kept in a neat and sanitary condition.

(9) To comply with all federally-approved rules and regulations of the Secretary of Health, Education, and Welfare governing the emission of pollutants into the air from activities which are embraced in this lease or permit.

(10) To comply with all the rules and regulations of the Secretary of Agriculture governing the national forests or other lands under his jurisdiction which are embraced in this lease or permit.

(11) Unless otherwise authorized, prior to the beginning of operations to appoint and maintain at all times during the term of this lease or permit a local agent upon whom may be served written orders or notices respecting matters contained in this stipulation, and to inform the authorized representative of the Secretary of Agriculture, in writing, of the name and address of such agent. If a substitute agent is appointed, the lessee or permittee shall immediately so inform the said representative

(12) To address all matters relating to this stipulation to

at

who is the authorized representative of the Secretary of Agriculture, or to such other representative as may from time to time, be designated, provided that such designation shall be in writing and be delivered to the lessee or permittee or his agent.

(Signature of Lessee)

GPO 880-292

STANDARD TERMS AND CONDITIONS

(Preference Right Lease or Mineral Materials Permit)

Section 1. *Good Operational and Conservation Practice* The lessee (permittee) shall:

(a) Conduct all operations authorized by this lease (permit) with due regard for good land management, not cut or destroy timber without first obtaining permission from the Forest Service, pay for all such timber cut or destroyed at the rates prescribed by it, and avoid unnecessary damage to improvements, timber, crops, or other cover.

(b) Not clear or use the land for roads, other works or structures necessary for the enjoyment of this lease (permit) until a plan of construction or development covering such use of the premises has been approved by the Forest Service. In the location, design, construction, and maintenance of all authorized roads, works or structures and in operations under this lease (permit), the lessee (permittee) shall do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the land, pollution of the soil and water resources and any damage to the watershed. Where construction, operation, or maintenance of any of the facilities under this lease (permit) causes damage to the watershed or pollution of the soil or water resources, the lessee (permittee) shall repair such damage and take such corrective measures to prevent further pollution or damage to the watershed as are deemed necessary by the Forest Service.

Section 2. *Safety.* The lessee (permittee) shall carry on all mining operations in a good and workmanlike manner and in compliance with all Federal and State laws and the regulations of the Secretary of Agriculture, having due regard for the health and safety of miners and other employees; and safeguard with fences, barriers, fills, covers, or other effective devices, any shafts, pits, tunnels, cuts, and other excavations which otherwise would unduly imperil the life, safety, or property of other persons.

Section 3. *Fire Precautions.* The lessee (permittee) shall do all in his power to prevent and suppress fires on the lease (permit) area and in its vicinity, and require his employees, contractors, and subcontractors to do likewise. Unless prevented by circumstances over which he has no control and to the extent possible the lessee (permittee) shall place his employees, contractors, and subcontractors at the disposal of the Forest Service for the purpose of fighting fires, with the understanding that they may become employees of the Forest Service during such period and be paid for firefighting services at current rates of pay established by the Forest Service for the said national forest for services of similar character: *Provided*, That the lessee (permittee) shall reimburse the Forest Service for the cost of suppressing any fires which the lessee (permittee), his employees, contractors or subcontractors caused in any manner or the origin or spread of which he or they could have prevented. During periods of serious fire danger, as may be specified by the Forest Service, the lessee (permittee) shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, and subcontractors within the lease (permit) area except at established camps, and shall enforce this prohibition by all means within his power. However, the Forest Service may designate safe places where, after all flammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee (permittee), smoking may be permitted. When in the judgment of the Forest Service the fire danger is of such serious nature that fires may result from the operation, the lessee (permittee) will close down operations upon request of the Forest Service for the period of such emergency. The lessee (permittee) shall not burn rubbish, trash, or other flammable material except with the consent of the Forest Service and shall not use explosives during the fire season except as authorized to do so on areas approved by the Forest Service. The lessee (permittee) shall build or construct such fire lines or do such clearing on the lease (permit) area as the Forest Service decides is necessary for fire prevention and shall maintain such fire tools at his headquarters on the lease (permit) area as are deemed necessary by the Forest Service.

Section 4. *Roads; Utility Facilities.*

(a) The lessee (permittee) shall fully and currently repair all damage, other than ordinary wear and tear, to national forest or project roads and trails caused by the exercise of the privileges granted by this permit. No transportation of mineral materials shall be permitted on roads until drainage acceptable to the Forest Service is installed.

(b) The Forest Service shall have the right to use any road constructed by the lessee (permittee) under this lease (permit) for any and all purposes in connection with the protection and administration of the national forest or other lands under its jurisdiction.

(c) Truck roads constructed by the lessee (permittee) under this lease (permit) may be used by other parties in connection with other authorized uses of national forest, national grassland, or other lands administered by the Forest Service. *Provided*, That on nonpublic roads, such use shall not materially interfere with the operations of the lessee (permittee). On truck roads which the lessee (permittee) constructed or is required to maintain, such other parties using the roads for heavy hauling purposes, such as logging and mining, shall pay a fair share of the cost of construction and shall perform a fair share of such maintenance based on their use, or shall pay to the lessee (permittee) the cost of such fair share, as may be agreed upon by the parties concerned, subject to final determination by the Forest Service if the parties disagree.

(d) In all phases of construction and operations the lessee (permittee) shall protect, so far as practicable, all telephone lines, ditches, fences, and other improvements and, if such improvements are damaged by his operations under this lease (permit), he shall restore them promptly. When necessary by reason of the lessee's (permittee's) operations under this lease (permit), the Forest Service may require the lessee (permittee) to move any such telephone line or fence from one location to another.

Section 5. *Cooperative Deposits.* All or portions of any work for fire prevention, road maintenance, restoration, or removal of improvements, revegetation or reforestation, control of erosion, for which the lessee (permittee) is responsible, may, upon written request of the lessee (permittee) and approval by the Forest Service, be attached hereto and become a part hereof, be performed by the Forest Service on a basis of cooperation or assistance under Section 5, act of April 24, 1950 (64 Stat. 83; 16 U.S.C. 572). When the work is to be so performed the lessee (permittee) shall make advance deposits into the Cooperative Work Fund at such times and in such manner as requested by the Forest Service, the total deposits to be sufficient to cover the cost of the work, including necessary overhead charges. *Provided*, That deposits for the control of soil erosion may be used to maintain proper drainage of roads until they have become stabilized.

Section 6. *Lessee's (Permittee's) Responsibility for Damages.* The lessee (permittee) shall pay the United States or its tenant, as the case may be, for any and all damage to or destruction of property caused by lessee's (permittee's) operations hereunder; and shall save and hold the United States or its tenants harmless from all damage or claims for damage to persons or property resulting from operations under this lease (permit).

Section 7. *Compliance With Regulations.* The lessee (permittee) shall comply with all the rules and regulations of the Secretary of Agriculture governing the national forests, national grass lands, or other lands under his jurisdiction.

Section 8. *Local Agent.* The lessee (permittee) shall, unless otherwise authorized, prior to the beginning of operations appoint and maintain at all times during the term of this lease (permit), a local agent upon whom may be served written orders or notices respecting matters contained in this lease (permit), and to inform the Forest Service in writing of the name and address of such agent. If a substitute agent is appointed, the lessee (permittee) shall immediately inform the Forest Service.

Section 9. *Prior Uses and Claims; Other Uses.* This lease (permit) shall be subject to all privileges and uses heretofore duly authorized and all prior valid claims. It shall also be subject to any other lawful uses by the United States, its lessees, permittees, licensees, and assigns, provided that such uses shall not prevent, obstruct or unduly interfere with the lessee (permittee) in the exercise of any privileges granted hereby.

Section 10. *Inspection and Records.* The lessee (permittee) shall hold open at all times for inspection by a duly authorized representative of the Forest Service any books of account covering the operations conducted under this lease (permit) and the sale of materials obtained therefrom and keep such additional records and submit such additional reports as may be required by the Forest Service in the interest of the United States. He shall permit at all reasonable times inspection by any duly authorized representative of the Forest Service of the lease (permit) area and all improvements, works, machinery, equipment pertaining to operations and surveys or investigations under this lease (permit).

Section 11. *Performance by Other than Lessee (Permittee).* The acquisition or assumption by another party under an agreement with the lessee (permittee) of any right or obligation of the lessee (permittee) under this lease (permit) shall be ineffective as to the Forest Service unless and until the Forest Service shall have been notified of such agreement and shall have recognized and approved it in writing; and in no case shall such recognition or approval

(a) Operate to relieve the lessee (permittee) of the responsibilities or liabilities he has assumed hereunder; or

(b) Be given unless such other party

(1) Is acceptable to the Forest Service as a lessee (permittee) and assumes in writing all of the obligations to the Forest Service under the terms of this lease (permit) as to the incomplete portion thereof, or

(2) Acquires the rights in trust as security and subject to such conditions as may be necessary for the protection of the public interests.

Section 12. *Suspension.* All or any part of the operations under this lease (permit) may be suspended by the Forest Service, by notice in writing, if the provisions of this lease (permit) are disregarded.

Section 13. *Termination.*

(a) The Forest Service may, upon reconsideration of the conditions existing at the date of this lease (permit) and in accordance with which the terms of this lease (permit) were fixed, and with the consent of the lessee (permittee), terminate this lease (permit), but in the event of such termination the lessee (permittee) shall be liable for any damages sustained by the United States arising from the lessee's (permittee's) operations hereunder.

(b) If the lessee (permittee) breaches any of the provisions of this lease (permit), the Forest Service may serve written notice of such breach upon the lessee (permittee) and if such breach is not remedied within thirty (30) days after such notice, the Forest Service may terminate this lease (permit).

Section 14. *Removal of Improvements.* Upon abandonment, relinquishment, termination, or cancellation of this lease (permit), the lessee (permittee) shall remove within a reasonable time all structures and improvements except those owned by the United States, and shall restore the site, unless otherwise agreed upon in writing or in this lease (permit). If the lessee (permittee) fails to remove all such structures or improvements within a reasonable period, they shall become the property of the United States, but that will not relieve the lessee (permittee) of liability for the cost of their removal and restoration of the site.

Section 15. *Officials not to Benefit.* No Member of, or Delegate to, Congress, or Resident Commissioner, shall be admitted to any share or part of this lease (permit) or to any benefit that may arise therefrom unless it is made with a corporation for its general benefit.

Section 16. *Covenant Against Contingent Fees.* The lessee (permittee) warrants that no person or agency has been employed or retained to solicit or secure this permit upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial agencies maintained by the permittee for the purpose of securing business. For breach or violation of this warranty, the Forest Service shall have the right to annul this lease (permit) without liability or, in its discretion, to require the lessee (permittee) to pay, in addition to the permit price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

Section 17. *Nondiscrimination in Employment.*¹

[To be attached.]

¹ Does not apply to transactions not exceeding \$10,000.

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APPENDIX I

**FACILITIES
SUMMARY LISTS**

LMP FACILITIES LIST

D.1 FILLMORE DISTRICT

SOLITUDE GUARD STATION BUNKHOUSE

BUILDING REPAIR
WATER & SANITATION CONST.
TRAILER FACILITY
ROAD MAINTENANCE & RECONST.
FENCING

FLAMMABLE STORAGE BLDG.

RADIO HOUSING & MAINTENANCE

FIRE CACHE - DOOR REPLACEMENT

ROCKWOOD GUARD STATION

ROOF REPLACEMENT & BUILDING MAINTENANCE
WATER & SANITATION CONST.
TRAILER FACILITY
ROAD MAINT. & RECONST.
FENCING

FILLMORE WAREHOUSE SITE

FLOOR RECONST.
RANGE EQUIPMENT SHED
BLDG. MAINTENANCE
WAREHOUSE ADDITION

INDIAN SPRINGS GUARD STATION

GENERAL REPAIR & MAINTENANCE
WATER & SANITATION CONST. (OR REMOVE &
ROAD MAINTENANCE SALVAGE EXISTING
FENCING FACILITIES)
TRAILER FACILITY

RED VIEW GUARD STATION

GENERAL REPAIR & MAINTENANCE
WATER & SANITATION CONST.
TRAILER FACILITY
FENCING
ROAD MAINTENANCE & RECONST.

PAHVANT GUARD STATION
GENERAL REPAIR & MAINTENANCE
TRAILER FACILITY
ROAD MAINTENANCE & RECONST.
FENCING

D.2 LOA DISTRICT

ELKHORN GUARD STATION
SANITATION SYSTEM - CONST.
FENCING
BUILDING REPAIR & MAINTENANCE
HORSE CORRAL RECONST.

CLEAR CREEK GUARD STATION
TRAILER PAD
WATER & SANITATION SYSTEM CONST.

FISHLAKE ADMINISTRATIVE SITE
UPGRADE ELECTRICAL SERVICE
TRAILER FACILITIES

D.3 BEAVER DISTRICT

BEAVER WAREHOUSE SITE
PAINT STORAGE BLDG-REMODEL-

INDIAN CREEK GUARD STATION
BUILDING DISPOSAL
SITE RESTORATION

BIG FLAT GUARD STATION
INSULATION
ROOFING
WATER & SANITATION CONST.
ELECTRICAL REWIRING
FENCING
ROAD MAINTENANCE & RECONST.
TRAILER FACILITY

FA&O FACILITIES

D.4 RICHFIELD DISTRICT

GOOSEBERRY ADMIN. SITE

ROAD MAINTENANCE & RECONST.
BUILDING REPAIR
BUILDING REMODELING-SHOWER & BATH HOUSE
TRAILER FACILITY
ELECTRICAL REWIRING
STAIR BRACES

DRY CREEK GUARD STATION

WATER & SANITATION CONST.
TRAILER FACILITY
ROAD MAINTENANCE & RECONST.

MT. TERRILL GUARD STATION

WATER & SANITATION CONST.
BUILDING REPAIRS-ROOF & FOUNDATION
INSULATION
ROAD MAINTENANCE & RECONST.
BUNKHOUSE FLOOR REPLACEMENT
TRAILER FACILITY

MUSINIA GUARD STATION

TRAILER FACILITY
WATER & SANITATION CONST.
ROAD RECONST.
CORRAL CONST.

BUILDING MAINTENANCE

WATER SYSTEM O & M

KOOSHAREM GUARD STATION

BUILDING DISPOSAL
TRAILER FACILITY
WATER & SANITATION CONST.
ROAD MAINTENANCE & RECONST.

THE UNITED STATES

DEPARTMENT OF JUSTICE

OFFICE OF THE ATTORNEY GENERAL

WASHINGTON, D. C. 20530

ATTENTION: MR. [REDACTED]

DATE: [REDACTED]

RE: [REDACTED]

YOUR REFERENCE TO [REDACTED]

IS HEREBY ACKNOWLEDGED.

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VERY TRULY YOURS,

[REDACTED]

[REDACTED]

[REDACTED]

ENCLOSED FOR YOUR INFORMATION

IS A COPY OF [REDACTED]

WHICH MAY BE OF INTEREST TO YOU.

VERY RESPECTFULLY,

[REDACTED]

[REDACTED]

[REDACTED]

YOUR COOPERATION IN THIS MATTER

IS APPRECIATED.

VERY TRULY YOURS,

[REDACTED]

[REDACTED]

ENCLOSED FOR YOUR INFORMATION

IS A COPY OF [REDACTED]

WHICH MAY BE OF INTEREST TO YOU.

VERY RESPECTFULLY,

[REDACTED]

[REDACTED]

[REDACTED]

APPENDIX J

ARTERIAL, COLLECTOR, AND LOCAL ROAD SCHEDULE

This table contains a summary of needed road projects that can not be funded as part of the regular budget. Construction of these projects will require funding from outside the Forest budget. Most timber sale roads will need supplementation to be economically viable.

LMP-10 YEAR ROAD CONSTRUCTION SUMMARY ARTERIAL, COLLECTOR, AND LOCAL ROAD CONSTRUCTION/RECONSTRUCTION

FY	NAME	LOCATION	SIZE	REMARKS
1985	HOGAN PASS RD.	FREMONT/ FREMONT JTN.	15.4 MI.	FED. HIGHWAYS CONST.
	FREMONT RIVER RD.	FREMONT/ JOHNSON RES.	5.0 MI.	FED. HIGHWAYS CONST.
	MONROE MTN. #3		2.5 MI.	FINISH FINAL WRK
	CHALK CREEK		5.0 MI.	ERFO FLOOD REPAIR
	SALINA- WILLOW CREEK		20.0 MI.	ERFO FLOOD REPAIR
	ERFO PROJECTS (MISC)		20.0 MI.	ERFO FLOOD REPAIR
1986	HOGAN PASS/ FREMONT RIVER		\$4.5 MM	FED. HIGHWAYS CONST.
	KENTS LAKE	LABARON	5.0 MI.	NO MONEY SET UP
	BIG LAKE	MONROE MT.	4.0 MI.	NO MONEY SET UP
1985	NEFFS RES. T.S.		1.0 MI.	NO MONEY SET UP
	CIRCLEVILLE #2 T.S.		0.5 MI.	NO MONEY SET UP
	KENT LAKE ASPEN T.S.		0.5 MI.	NO MONEY SET UP
1986	NEFFS RS. #2 T.S.		1.0 MI.	NO MONEY SET UP
	WHOOTEN SPGS. T.S.		1.0 MI.	NO MONEY SET UP
1987	HOGAN PASS		\$3.7 MM	FED. HIGHWAYS CONSTR.
	FREMONT RIVER		\$1.4 MM	FED. HIGHWAYS CONSTR.
	KENT'S LAKE	LABARON	5.0 MI.	
	BIG LAKE	MONROE MT.	4.0 MI.	
	FORSYTH	ELKHORN	4.0 MI.	
	WIFFS PASTURE T.S.		0.3 MI	
	H. HUNT T.S.		1.5 MI	
	LONG FLAT ASPEN T.S.		0.5 MI	
	CLOVER FLAT T.S.		1.0 MI	
1988	HOGAN PASS		\$3.0 MM	FED HIGHWAYS CONST.
	FREMONT RIVER			FED HIGHWAYS CONST.
	KENTS LAKE UI53		5.0 MI	
	FORSYTH	ELKHORN	2.5 MI	
	SAND ROCK RIDGE		5.5 MI	
	HANCOCK T.S.		1.0 MI	
	LAKE PEAK		0.5 MI	
	WHITE LEDGE ASPEN		1.0 MI	

LMP-10 YEAR ROAD CONSTRUCTION SUMMARY (CONT)
ARTERIAL, COLLECTOR, AND LOCAL ROAD CONSTRUCTION/RECONSTRUCTION

FY	NAME	LOCATION	SIZE	REMARKS
1989	HOGAN PASS GOOSE BERRY SAND ROCK RIDGE SUN GLOW CASTLE ROCK BIG JOHNS FLAT LOUSY JIM T.S. (D.3) DOE FLAT (D.4)	SEVEN MI.	4.0 MI 4.0 MI 1.0 MI 1.0 MI 2.0 MI 0.5 MI 0.5 MI	
1990	GOOSEBERRY BIG JOHN'S FLAT MAPLE GROVE CG NEFF'S #3 T.S. FARNSWORTH ASPEN	SEVEN MI	4.0 MI 1.0 MI 4.0 MI 1.0 MI 0.5 MI	RECONST. RECONST. REPAVE
1991	GOOSEBERRY MONROE CANYON MONROE CANYON DEEP CREEK T.S. (D.2) ANNABELLA T.S. (D.4)	SEVEN MI	4.0 MI 3.0 MI 4.0 MI 1.0 MI 1.0 MI	RECONST. ART. COLL.
1992	GOOSEBERRY MONROE CANYON SNOW BENCH T.S. (D.2) FAT CHANCE (D.3) BARNEY LAKE (D.4)	SEVEN MI	4.0 MI 8.0 MI 0.5 MI 1.5 MI 0.5 MI	RECONST. COLLECTOR RECONS.
1993	GOOSEBERRY BIG JOHN'S NEAL'S FLAT T.S. INDIAN PEAK (D.4)	SEVEN MI MARYSVALE	4.0 MI 9.0 MI 1.0 MI 0.5 MI	
1994	GOOSEBERRY WEST WILLOW CREEK WILLIES FLAT T.S. NIELSEN CANYON T.S.	SEVEN MI	4.0 MI 9.0 MI 1.0 MI 1.0 MI	ARTERIAL SPOT RECONST.
1995	RICHFIELD PIONEER KOOSHAREM ASSORTED T.S.		4.0 MI 5.0 MI 2.5 MI	
1996	RICHFIELD PIONEER CORN CREEK ASSORTED T.S.	ADELAIDE	4.0 MI 5.0 MI 2.5 MI	

ROAD CLASS SUMMARY
RE-CONSTRUCTION SCHEDULE & PRIORITY LISTING

D1	ARTERIAL ROADS	MILES	D1	COLLECTOR ROADS	MILES
2	RICHFIELD PIONEER	24.3	3	EL SINORE	5.8
5	JOSEPH - ROCKWOOD	5.8	3	ROCKWOOD	8.2
1	CHALK CREEK	15.3	4	WATTS MTN	9.8
3	WILLOW CREEK	9.1	1	SAND ROCK RIDGE	9.1
6	OAK CREEK	7.0	9	ROBINS VALLEY	9.5
4	CORN CREEK-ADELAIDE	5.4	2	MAPLE GROVE CG	3.9
7	LEAMINGTON PASS	16.9	6	EIGHT MILE	15.8
		<u>83.8</u>	5	CORN CREEK- PAHVANT	<u>14.7</u>
					72.9

D2	ARTERIAL ROADS	MILES	D2	COLLECTOR ROADS	MILES
5	FISHLAKE HWY	15.8	5	POLK CREEK	4.8
1	FREMONT RIVER	11.2	1	FORSYTH-ELKHORN	6.4
2	HOGAN PASS	26.9	2	SUNGLow CG	1.0
3	SEVEN MILE (GOOSEBERRY)	6.6	6	FREMONT-LAST CHANCE	6.3
4	FISHLAKE-JOHNSON VAL	5.8	7	BAKER RANCH	5.7
		<u>66.3</u>	3	MYTOGE MTN	14.9
			4	HANCOCK FLAT	<u>9.1</u>
					48.2

D3	ARTERIAL ROADS	MILES	D3	COLLECTOR ROADS	MILES
3	BIG JOHNS FLAT	3.1	1	INDIAN CREEK	10.1
2	U-153	36.3	2	BIG JOHNS/MARYSVALE	9.0
1	KENTS LAKE-LABARON	13.8	4	COTTONWOOD-BULLION	17.0
		<u>53.2</u>	3	KIMBERLY-BEAVER	20.8
			7	SHINGLE CREEK	6.2
			5	SO. CREEK- COYOTE	17.4
			8	TEN MILE	3.8
			6	CASTLE ROCK CG	<u>1.0</u>
					85.3

D4	ARTERIAL ROADS	MILES	D4	COLLECTOR ROADS	MILES
6	SUFco-CONVULSION	10.4	6	WATER HOLLOW	8.9
4	SOLDIER CANYON	6.6	8	DUNCAN MTN	10.2
5	REX'S RESERVOIR	5.8	7	OLD WOMAN	17.4
2	MONROE CANYON	3.0	5	LOST CREEK-REX'S RES.	11.0
1	GOOSEBERRY/SEVENMILE	19.2	9	GATES LAKE	2.8
3	WILLOW CREEK	30.2	4	GREENWICH	7.2
		<u>75.2</u>	3	KOOSHAREM	5.4
			1	BIG LAKE (MONROE MTN)	38.4
			2	MONROE CANYON	<u>20.0</u>
					121.3

APPENDIX K

LANDOWNERSHIP PLAN

Objectives

The primary purpose of this plan is to facilitate better management of the Forest resources through consolidation of both private and Federal lands within and adjacent to the National Forest. Land adjustments in accordance with the plan will:

1. Improve the planning and layout of timber sales. In some cases landowner-ship lines will be adjusted where they fall across timber types, drainages, or on slopes where it is not feasible to set up working units because of private lands.
2. Improve efficiency of livestock management. Allotment Management Plans will be set up without restriction in relation to topography, cover, and soil types. Also, better distribution of cattle on the range and implementation of intensive management systems of grazing will be facilitated.
3. Increase the feasibility of watershed treatment programs. Many flood-producing areas on acquired lands could be readily treated whereas with several landowners involved, cooperation in land treatment is difficult.
4. Improve the development of the transportation system for fire suppression and resource management. With benefit of land consolidation, Forest Service planning, location, and construction of roads will necessarily be carried out more effectively.
5. Increase recreation opportunities. Recreation planning will be keyed to public demand for camp and picnic sites in given areas. Most important, potential use of recreation areas will be realized with a better organized land net established through land exchanges and purchases.

Implementation of the Landownership Plan will greatly improve general Forest administration so that effective resource management may be carried out more adequately. Recreation and aesthetic values in drainages threatened by floods originating on private lands can be only partly protected at the present time. The need for coordination involving other soil, water, and land use relationships is also obvious. Consolidation of State of Utah and private lands will give the landowners more incentive to fence and properly manage their property, with promise of lower operating costs.

Attainable Goals

In the past 9 years, the Fishlake Forest land exchange program has had moderate success despite the complicated land pattern and many District administrative problems.

Annually, a few landowners express an interest in land exchanges in order to acquire lands adjacent to the Forest boundary or to group their holdings in a workable unit.

Based on indicated interest in land adjustments, an average of three or four cases can be negotiated annually. As the program gets better known and is accepted by some, others will become desirous of making exchanges. In a few years, the average number of exchange cases may increase.

Hopefully, within a fairly short time frame, funds will be available to conduct a land purchase program on the Forest. Land valuations remain moderate, but could accelerate within a few years as demand for summer homesites and other land uses increases. Some speculation is evident on the Richfield, Beaver, and Loa Ranger Districts where lands are being purchased for later subdivision and sale as cabin lots. These lands very likely will be lost for possible acquisition. Therefore, Government acquisition of recreation lands through purchase must be accomplished soon.

Transfers of certain lands from Bureau of Land Management to National Forest jurisdiction are being studied with the BLM. Most of these BLM lands are for grazing purposes and are used by the same permittees who hold permits to use adjacent National Forest System lands, with some allotments on both agencies' land administered either by Forest Service or BLM. The BLM lands would be best described as located from the Forest boundary west to Interstate 15 or east to U.S. 89, another major highway. Both highways run parallel to the Forest boundary lines. Although, when Interstate-70 through the Richfield area is completed, not much BLM acreage will remain between the new highway and the Forest boundary.

A tract of land south of Fish Lake is not isolated from other BLM holdings but is well suited for National Forest purposes because of terrain and topography. The same permittees graze both areas.

(These BLM jurisdictional transfers were submitted in November 1983, in answer to R.O. letter of 7/22/1983.)

Opportunities should be pursued to transfer these BLM lands to the Forest Service for administration.

Priorities

In most cases, the Priority I lands are those most desirable for purchase. However, Priority I acquisition was also given those lands currently "tied up" in land exchange cases; two cases in particular being near completion.

Many Priority III lands are those which probably cannot be acquired in the near future. Most of these lands are under cultivation, comprise an important part of a livestock operation, or belong to a larger block that lends itself to a private operation. Some State lands are currently leased to private entities.

Most State lands are classed under Priority II and III. They are quite uniform in importance as the more valuable lands have gone to patent. A large exchange transaction with the State of Utah would be desirable, and acquisition and consolidation of these State lands would greatly assist Forest administration.

Lands Proposed for Disposal

Most Forest lands offered for exchange will come from the lower areas, outside municipal supply watersheds. In some areas, lands will be offered that are bounded on two sides or more by private lands where serious administration problems exist, and blocking of private lands is desired. A large block of land in the Forshea Mountain area (T. 29 S., R. 2 and 2-1/2 W.) of the Richfield Ranger District is planned for possible disposal to the State of Utah in exchange for their scattered holdings throughout the Forest.

The block of National Forest lands at the southern tip (Garfield County) and on the western side of the Forest, on Beaver Ranger District, is also a possible disposal tract to the State of Utah in exchange for scattered State holdings.

Those disposal lands identified in the patented mining claims area of the Tushar Range, Beaver Ranger District, were also identified in the Assets Management Program, and are comparatively unimportant for resource production purposes. Mining and exploratory work on these claims are active, and the intermingled National Forest lands are difficult to locate and manage, many being of extremely small acreage. Some of these tracts may be disposed of under the authority of the Small Tracts Act.

The block of lands identified on the east side of the Beaver Ranger District could be administered by the BLM if the BLM lands are not transferred to the Forest Service (T. 29 S., R. 3 & 4 W.).

Lands identified for disposal in the far northeastern reaches of the Forest (T. 14, 15, & 16 S., R. 3 W.), near adjoining BLM lands, could best be administered by one Federal agency, the BLM, since they already administer the allotments which graze both National Forest lands and the BLM lands.

The objective will be to dispose of lands better suited to management and access by others. When Project Bold is completed, the State of Utah will be seeking additional lands south of the Forest, in the vicinities of Piute and Otter Creek Reservoirs, to help build up their recreation interests, both fishing and hunting. However, consideration will be given to reserving lower National Forest System lands which are keyed to the survival of deer herds.

LANDS PROPOSED FOR DISPOSAL

<u>Acres</u>	<u>Projected Class of Use</u>
320 1/	Recreation (State of Utah, U-50511)
150 1/	Grazing (Parker Ranches, Inc., U-50510)
5,806	Grazing
1,236	Subdivision
4,376	Grazing/subdivision
5,473	Mining/subdivision/grazing
6,460 2/	Grazing
3	Commercial development
21	Residential/agriculture
2,743	Industrial development
5,642	Grazing (BLM only)
4,346	Grazing/agriculture/subdivision
1,680	Grazing/agriculture
12,391	Grazing/wildlife/recreation (State of Utah only in exchange for State lands)
50,647	
1/	exchange case nearing completion
2/	to BLM, if adjoining BLM outside F.S. boundary not transferred to NFS

LANDS PROPOSED FOR ACQUISITION

<u>ACRES</u>	<u>LANDOWNERSHIP</u>	<u>PROJECTED CLASS OF USE</u>	<u>PRIORITY</u>
600	State	Recreation	I
640	State	Wilderness study area	I
640 1/	State	Grazing	I
3,360	State	Grazing	II
640	State	Timber	II
21,010	State	Grazing	III
<u>480</u> (22,370)	State	Commercial development	III
115,705 2/&4/	BLM	Grazing	II
<u>7,520 3/&4/</u> (123,225)	BLM	Grazing	II
1,200	private	Recreation	I
17	private	Agricultural/grazing	I
200 1/	private	Grazing	I
1,800	private	Grazing	II
960	private	Watershed	II
160	private	Wildlife	III
13,224	private	Grazing	III
<u>160</u> (17,721)	private	Commercial development	III
168,316	TOTAL ACRES		

1/ exchange case nearing completion

2/ BLM lands outside F.S. boundary for transfer to NFS

3/ BLM lands outside F.S. boundary if adjacent NFS lands not disposed of

4/ acreage determined from map; i.e., estimate

Total Priority I acres	3,297
Total Priority II acres	129,985
Total Priority III acres	<u>35,034</u>
Total All Acres	168,316



APPENDIX L

FISHLAKE NATIONAL FOREST FIRE ACTION PLAN

I. INTRODUCTION

Following is a list of the desired objectives resulting from the use prescribed fire on the Fishlake National Forest.

1. Reduce fire suppression costs. (man-hrs/yr)
2. Increase forage production for livestock. (AUM's/yr)
3. Improve wildlife habitat. (acres/yr)
4. Increase forage production for wildlife. (lbs/acre/yr).
5. Reduce fuel loading in conifer.

Specific objective outputs will be located under each zone immediately following:

A. PINYON-JUNIPER-ZONE 1

1. Dwarf tree species predominate.
 - a. Average height of woody plants is 6 feet or greater.
 - (1) Woody plants occupy two-thirds or more of the site.
 - (a) One-fourth or more of woody foliage is dead.

Permit low and high intensity fires to burn within the guidelines prescribed fuel and weather conditions. In the event that a fire threatening life or special situation Zone 4 or escape from the fire suppression forces would consist of ground personnel with hand tools, pumpers, tractors, or air attack bombers.

Low intensity fires in PJ will consume foliage only on a few trees in close proximity of each other. The litter will be singed and only partially consumed with irregular and spotty burning.

High intensity fires consume foliage on numerous trees and only as much as remain on the soil surface.

With low intensity fires, the opening will be reoccupied by grasses, forbs, and/or brush species. The difference between the two intensities is that the high intensity fire will create a larger opening. The possibility that a future fire will maintain that larger opening is fairly high. Therefore the PJ monotype will be broken up and vegetative mosaic maintained.

but not ashed and some perennial grass crowns are killed. The burned area takes less of a mosaic pattern than it does with a low intensity fire. It is more uniform in shape but will still have some unburned islands interspersed with the burned area.

The specific objective outputs for this fuel type are as follows:

1. Reduce Fire Suppression Costs by 63% (from 4689 average man hours/yr to 1735 average man hours/yr).
2. Increase Forage Production for Livestock by 0.45 AUM's/acre the first growing season following a burn.
3. Improve Wildlife Habitat by 1500 acres/yr.
4. Increase Forage Production for Wildlife by 4000 lbs./acre/yr (9000 lb/acre/yr with seeding).

C. SHORT NEEDLE CONIFER- ZONE 3

1. Conifer species predominate.
 - a. Woody shrubs and/or reproduction dominate as understory fuels.
 - (1) The understory seldom burns.
 - (a) The needles are less than 2 inches.

Permit low intensity fires to burn within the guidelines of prescribed fuel and weather conditions. In the event that the prescribed fuel and weather conditions are exceeded or the fire is threatening life or special situation Zone 4 or escape from the FMA, suppression forces would consist of ground personnel with hand tools, or pumpers, or air attack bombers. Tractors would only be considered where the fire is threatening life or special situation Zone 4 or escape from the FMA.

A low intensity fire in short needle conifer would burn less than 4 percent of the canopy. The burning would also be irregular and spotty with little scorching of the understory. There would be light sapling mortality with 20 to 60% of the dead downed fuel 0 to 3 inches in diameter being consumed.

The specific objective outputs for this fuel type are as follows:

1. Reduce Fire Suppression Costs by 35% (from 5037 average man-hours/yr to 3224 average man-hours/yr).
2. Increase Forage Production for Livestock by 0.25 AUM's/acre the first growing season following a burn.
3. Improve Wildlife Habitat by 250 acres/yr.

PINYON-JUNIPER- ZONE 1

Permit low and high intensity fires to burn within the guidelines of prescribed fuel and weather conditions.

The NFDRS fuel type F2P2 will be used to predict the BI for planning purposes. It must be noted that this fuel type will usually overrate the fire behavior at low wind speeds due to a lack of continuous ground fuel between the pinyon and juniper trees. The maximum BI for this fuel type recorded at Chalk Creek Weather Station (5760 feet) is 211. The maximum BI for this fuel type recorded at Fish Lake Weather Station (8900 feet) is 110. The BI range for low intensity is 0 to 40. A fire with a BI of 40 burning on a 20% slope with the wind averaging 11 MPH would spread 13 feet per minute or 11.8 chains per hour. According to the fuel model the fire size in 3 hours would be 1267 acres. In a typical PJ stand it would be extremely unlikely that this would actually occur.

A high intensity fire would have a flame length of 12 feet or more.

An example of a high intensity fire in PJ with a BI of 110 burning on a 20% slope with a windspeed of 16 MPH would spread at 92 feet per minute or 84 chains per hour. The fire size is predicted at 2972 acres in 3 hours. This is unlikely since the largest PJ fire since 1951 in the Beehive Fire Management Plan area was 25 Acres in 1954. This is due primarily to the natural breaks in topography, noncontinuous nature of the fuels, and lack of ground fuels to carry a fire from tree to tree at low wind speeds.

SAGE-GRASS, BRUSH, ASPEN - ZONE 2

Permit low and moderate intensity fires to burn within the guidelines of prescribed fuel and weather conditions. In the event that the prescribed fuel and weather conditions are exceeded or a fire is threatening life or special situation Zone 4 or escape from the FMA, suppression forces would consist of ground personnel with hand tools, or pumpers, or air attack bombers. Tractors would only be considered where the fire is threatening life, special situation Zone 4, or escape from the FMA.

A low intensity fire would be obtained with a BI of 40 or less. A fire burning on a 20 percent slope in sage-grass with a BI of 40 would have a spread of 16 chains per hour. The fire would be approximately 220 acres in size 3 hours after ignition.

A moderate intensity fire would have an ERC (Energy Release Component) between 11 and 19 and a BI between 41 and 80. A fire on a 20 percent slope, with a DB of 91, a RH of 10 percent, a 20-foot wind speed of 13, a BI of 80, and ERC of 19, and a projection time of 3 hours would have a speed of 40 chains per hour, a perimeter of 383 chains, an area of 1024 acres, and an ignition component of 56.

Historically, 87 percent of the days during the season would be within this prescription at Chalk Creek Weather Station and 96 percent at Fishlake Weather Station.

The next two tables indicate the percent safe levels for being at or below a BI of 80 and an ERC of 19 using the highest historical indices and components recorded since 1965 at Chalk Creek and Fishlake Weather Stations.

CHALK CREEK (5760 FEET)-BI AND ERC

<u>PERCENT SAFE LEVEL</u>	<u>END</u>	<u>BEGIN</u>
100%	JUNE 9	OCT. 29
93%	JUNE 23	OCT. 28
86%	JUNE 24	OCT. 27
79%	JUNE 27	OCT. 25
72%	JUNE 30	OCT. 24
65%	JULY 1	OCT. 23

FISHLAKE (8900 FEET)-BI AND ERC

<u>PERCENT SAFE LEVEL</u>	<u>END</u>	<u>BEGIN</u>
100%	Aug 5	Oct 21
93%	Aug 31	Oct 20
86%	Sept 2	Oct 19
79%	Sept 3	Oct 18
72%	Sept 21	Oct 16
65%	Sept 22	Oct 15

*Signal Peak Remote Automated Weather Station (RAWS) considered equivalent to Fishlake data.

SHORT NEEDLE CONIFER - Zone 3

Permit low and moderate intensity fires to burn within the guidelines of prescribed fuel and weather conditions. In the event that the prescribed fuel and weather conditions are exceeded or a fire is threatening life or special situation Zone 4 or escape from the FMA, suppression forces would consist of ground personnel with hand tools, or pumpers, or air attack bombers. Tractors would only be considered where the fire is threatening life, special situation Zone 4, or escape from the FMA.

A low intensity fire in short needle conifer would have an ERC of 30 or less and a BI of 40 or less. A fire on a 20% slope, with a DB of 81 F, an RH of 34%, a 20-foot windspeed of 20 MPH, and a projection time of three hours would have a spread of one chain per hour, a perimeter of 13 chains, an area of one acre, and an ignition component of 33.

Historically, 44 percent of the days during the season would be within this prescription at Chalk Creek Weather Station and 74 percent at Fishlake Weather Station.

The next two tables indicate the percent safe levels for being at or below a BI of 40 and an ERC of 30 using the highest historical indices at components recorded since 1965 at Chalk Creek and Fishlake Weather Stations.

CHALK CREEK (5760 FEET)- BI AND ERC

<u>PERCENT SAFE LEVEL</u>	<u>END</u>	<u>BEGIN</u>
100%	May 8	Oct 29
93%	May 9	Oct 28
86%	May 10	Oct 27
79%	May 11	Oct 25
72%	May 12	Oct 24
65%	May 13	Oct 23

FISHLAKE (8900 FEET) - BI AND ERC

<u>PERCENT SAFE LEVEL</u>	<u>END</u>	<u>BEGIN</u>
100%	June 1	Oct 22
93%	June 2	Oct 21
86%	June 3	Oct 20
79%	June 4	Oct 19
72%	June 9	Oct 18
65%	June 21	Oct 17

Normally, in late June or early July the ERC will exceed the prescribed limits for the Sage-Grass, and Conifer Zones (greater than 19 and 3 respectively) at the lower elevations (below 8000 feet). Once this occurs suppression action will be taken on all fires in the low elevation Sage-Grass, Conifer Zones until September 1st. Management of fires in the lower elevation areas will resume on September 1st in accordance with the above mentioned prescriptive limitations.

IV. FIRE EVALUATION TEAM

The Fire Evaluation Team's responsibility is to initially classify and periodically evaluate FMA fires with significant management potential until they are declared out. A team is not needed where fires obviously need to be controlled or with small fires less than one acre that will be managed for efficiency.

Each team will consist of a District Representative, a Supervisor's Office Representative, and a two person Monitoring Team.

Annually, qualified personnel will be documented and attached to this plan. If additional resource expertise is necessary, the Evaluation Team Leader will utilize members of the District Ranger's Staff or Supervisor's Office Specialists. There must be at least one qualified Sector Boss (under the National Interagency Fire Qualifications System - NIFQS), one qualified Fire Behavior Specialist and one Range Conservationist on the

Team to evaluate a Management Fire. It is possible for one Team Member to fill all three qualification requirements.

The Fire Evaluation Team Leader will be designated by the Forest Supervisor and documented in the file for that fire. The responsibilities of the Fire Evaluation Team Leader are as follows:

1. Make the final decision as to whether a fire is either within prescription and will be managed or is out of prescription and will be suppressed.
2. Report to the Forest Supervisor or Acting on the status of Management Fires.
3. Notify the news media of all newsworthy fires through the Forest P.I.O.

V. MONITORING TEAM

A monitoring team will be dispatched to the fire unless it is obviously out of prescription or has no management potential. The decision will be made by a line officer. Each Monitoring Team will have a number of premade fire monitoring file folders (one per fire) that will contain the following forms and work sheets:

1. Individual Fire Report Form, 5100-29
2. Fire Weather Special Forecast Request Form, WB 653-1
3. Escaped Fire Situation Analysis Form
4. Fire Behavior Work Sheets, June 1980
5. Decision Logic Chart Checklist
6. Copy of the Fishlake Fire Management Action Plan.

Each file folder will contain sections for documentation of chronological events, and photos.

In addition to the file folder, the Monitoring Team will have:

1. Packet of Topographical Maps of the Forest.
2. TI-59 Calculator
3. Belt Weather Kit
4. Camera, Film
5. Personal Portable Radio
6. First Aid Kit
7. All necessary Fire Fighting Gear (Hard Hat, Nomex Pants and Shirt, Gloves, Tools, Field Glasses, etc.)

It will be the monitoring team's responsibility to promptly initiate the documentation of pertinent data and information for each fire to which they are assigned. Each file must be regularly updated during the monitoring procedure until the fire is declared out.

There is a limit to the number of fires a monitoring team can monitor at a time. Only one fire that has potential to reach 10 acres or larger can be monitored by a team at a time. Fires of this potential must be monitored on the ground from 1200 Hr. to 1700 Hr. each day until declared out. This is a minimum requirement and can be increased if necessary.

A monitoring team can also monitor several fires that obviously have no potential for growing larger than 10 acres and at the same time monitor one fire with potential for growth larger than 10 acres. The limiting factor for the number of low potential fires they can monitor is that each fire must be initially classified by the team and then observed at least once a day until declared out. If the team cannot fill these requirements, either two monitoring teams will be utilized or suppression action taken on some of the fires.

Another requirement of the monitoring team is that they must verify what fuel type and zone each fire is burning in. This information will be relayed quickly to the other members of the Fire Evaluation Team.

Each monitoring team must include a qualified Fire Behavior Specialist.

VI. DAILY ASSESSMENT

The initial assessment of a fire will be made within the first burning period by the Fire Behavior Specialist or Fire Behavior Officer using the TI-59 calculator and Fire Behavior Fuel Models. This assessment will be studied by the Fire Evaluation Team. If a fire is determined to be within prescription during the next burning period, the team leader will schedule when the next day's assessment will be performed. The daily assessment will continue until the fire is either declared out or it is predicted that the fire will be out of prescription the next burning period. If the latter is the case suppression action will be taken on the fire.

VII. METHODS OF WEATHER MONITORING AND PREDICTION

Day-to-day weather monitoring will be done at the Chalk Creek Weather Station and at the Fishlake Signal Peak RAWS. The actual and forecasted NFDRS weather data will be received at the Richfield Interagency Dispatch, from AFFIRMS at approximately 1600 hour and posted on the fire bulletin board in the Supervisor's Office at 1630 hour. This information will also be broadcast over the Forest net radio to the four district offices at approximately 1615 hour.

As soon as this information is available a prediction will be made (approximately 1700 hour) as to whether a fire in any one of the zones will be in or out of prescription the following day. Also the actual BI and ERC for that day and forecasted for the next day will be compared to the respective dates on the Seasonal Plot (Seaplt). This will give an indication as to the long-range trend that can be expected in the next few days.

When a fire is detected in the FMA and determined to be in prescription through a correlation between on-the-ground fire behavior data and NFDRS data, it will be monitored each day until it is declared out.

At 1700 hour when the daily prediction is made for the next day, a decision will be made by the Fire Evaluation Team as to the management strategy for the following day. Here again, the Seasonal Plot for BI and ERC will be used to determine what the long range trend can be expected to do.

VIII. DETECTION REQUIREMENTS

Approximately 95% of all fires detected on the Fishlake are reported by the general public and the Utah Highway Patrol from local highways and towns. Also some fires are reported from aircraft passing over the area. The remaining 5% of the fires are detected by Forest Service employees in the field or Forest Service detection flights following lightning activity.

The District Ranger will determine if detection flights are necessary.

IX. CONTINGENCY PLAN

When an unplanned ignition is detected in the fire management area the monitoring team will be activated by the Richfield Interagency Dispatch Office. While the monitoring team is enroute the Dispatcher will assess the availability of the Forest and Regional suppression forces. The dispatcher will then notify the Fire Evaluation Team of the fire and what information is available at that time. The Fire Evaluation Team will already know what the forecasted BI values are for each Zone. Their final decision on management strategy will not be made until more complete information is received from the monitoring team. Upon receiving their report the Fire Behavior Specialist or Officer with the appropriate zone decision logic flow chart will determine if the fire is burning at the desired fire intensity. If the data indicate that the fire is burning out of prescription, the monitoring team will be directed to begin initial attack suppression action. If the initial attack effort cannot suppress the fire the Fire Evaluation Team will begin an escaped fire situation analysis. This process will continue until successful and the fire is declared out.

NOTE: The first time the ERC for the sage-grass or conifer zones is exceeded, there will be no more fires managed in those zones until September 1 and the respective ERC's and BI's are within the desired prescriptions.

If the fire is determined to be burning at the desired intensity and is expected to stay in prescription through the next burning period based on predicted fire weather and fire behavior system outputs, than the team will proceed to answer the next three questions:

1. Is the fire threatening public safety?
2. Is the clearing index less than 500 or could smoke affect a sensitive area?
3. And, is the fire threatening special situation Zone 4 or escape from the Fire Management Area?

If any one of these questions is answered affirmatively, then the Fire Evaluation Team must determine if the fire can be returned or maintained within criteria with project funds. A fire that cannot be returned or maintained within criteria with project funds must be suppressed with FFF funds.

X. FUNDING AVAILABLE FOR IMPLEMENTATION

Funding for management of fires within the FMA follows the guidelines as stated in FSM 6514.23C-1g:

"All fire protection activities in connection with a fire burning within prescription (on National Forest System lands covered by an approved Fire Management Area Plan), including actions taken to contain the fire within prescription will be financed from FFP, or when applicable, from the benefiting project funds. Fire suppression in connection with fires burning outside the prescription will be financed from FFF."

In the event that FFP funds and Benefiting Project Funds are insufficient to monitor or maintain the fire within prescription, the fire will be considered out of prescription and suppression action will be initiated and financed from FFF. If a fire goes out of prescription for any one of the listed reasons it will be declared out of prescription and suppressed with FFF.

XI. INFORMATION AND INVOLVE PLAN

As was done during the formulation of the Beehive Peak Fire Management Plan, a news article will be run in the local papers. The article will describe the general area and intent of the management area. An explanation on how the public can assist in the detection and management of fires will be included, along with phone numbers and names of people to contact 24 hours a day.

The article will be run immediately following the approval of the Forest Plan, and will state the expected implementation date of the Plan.

In addition to the news article a written explanation and map of the FMA will be available to the public at the District Ranger and the Supervisor's Offices.

When any individual from the public sector calls a Forest Service Office to report an FMA fire, they will be given information as to why this fire is different from other fires outside the FMA.

XII. PUBLIC SAFETY

It will be the Fire Evaluation Team's responsibility to assess the possible danger to the public based upon the information provided by the monitoring team. If the monitoring team encounters individuals in the vicinity of the fire, it will be their job to professionally explain the management situation and ask them politely to move to a safer area.

XIII. FOREST TO REGION REPORTING AND NOTIFICATION

The Regional Dispatcher will be immediately notified by phone or computer terminal when fires occur in sensitive areas (Fire Management Areas) or in high value class areas (Region 4 Fire Mobilization Plan 22.2-1).

After the initial phone call the fire will be reported on the daily status report as follows:

7. Prescribed Fires

- a. planned
- b. natural (FMA)
- c. new ignition
- d. planned ignition today
- e. current activity
- f. acres burned
- g. acres burned year-to-date (planned & natural)

8. Air Quality

- a. good
- b. serious
- c. critical
- d. if serious or critical, list areas of concern.

Also, when an FMA fire is detected the following agencies will be contacted by the Richfield Interagency Dispatch Center:

Manti-LaSal National Forest, Price, Utah
Dixie National Forest, Cedar City, Utah
Richfield BLM, Richfield, Utah
Capitol Reef National Park, Fruita, Utah
Utah Highway Patrol, Richfield, Utah
Appropriate County Sheriffs

XIV. POST FIRE EVALUATION

Fire - It will be extremely valuable for future planning purposes to document the actual and predicted NFDRS indexes, components, and fire weather data so they can be correlated with the actual onsite fire behavior. In turn, this information will be compared with the immediate post burn results and each fuel type's objective fire intensity description. Photographs will be a valuable and necessary tool in the evaluation.

The Decision Logic Chart Check List will be used to collect and document this information.

In time, the prescriptions can be fine tuned so that desired results can be more accurately predicted.

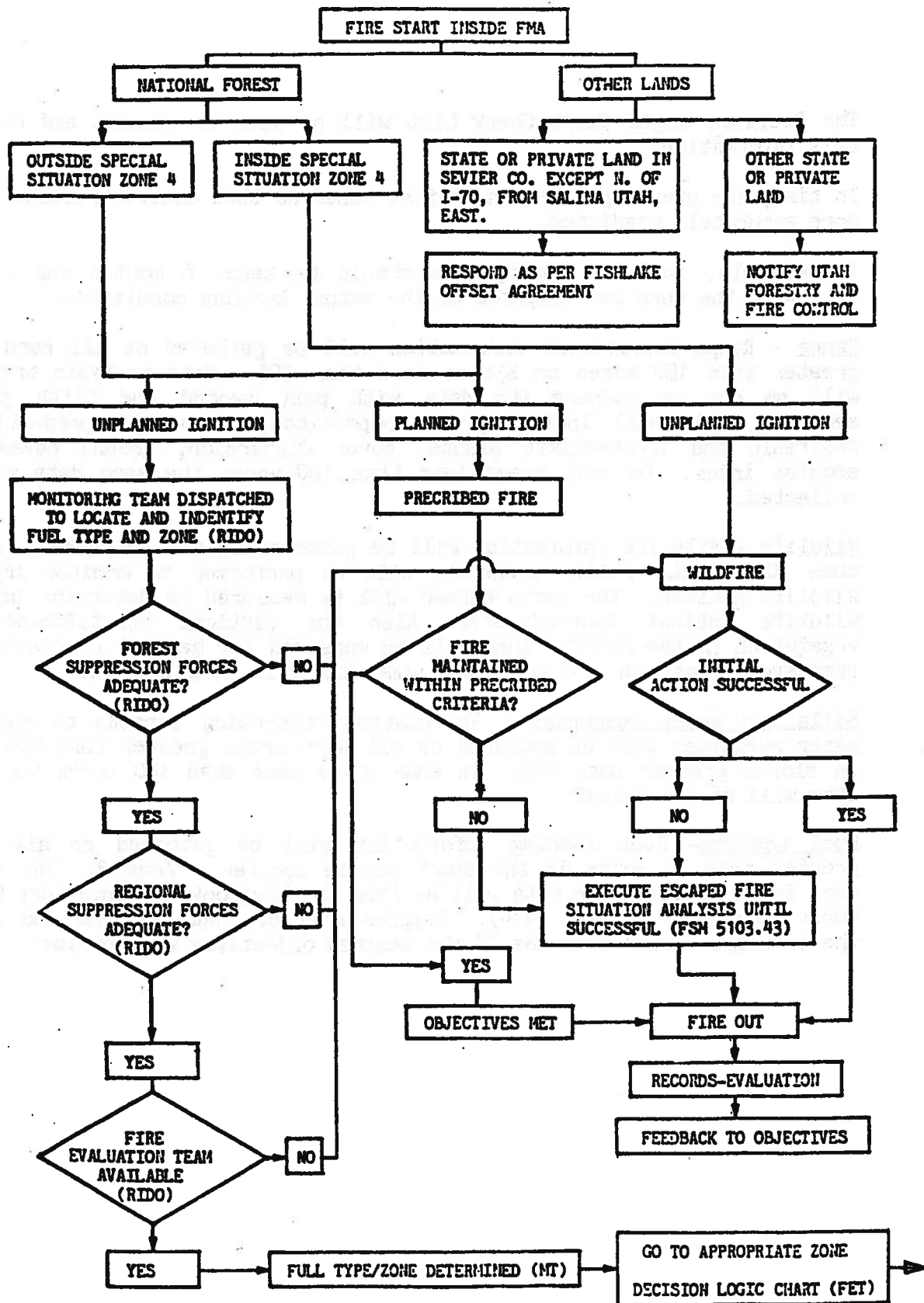
If possible, followup photographs should be taken 6 months and 3 years following the burn and compared to the actual burning conditions.

Range - Range improvement information will be gathered on all burn areas greater than 100 acres on slopes less than 30%. Site analysis transects will be run to compare the data with post second and fifth growing seasons. This will include plant composition, dry weight production of desirable and intermediate plants, cover dispersion, ground cover, and erosion index. On some areas less than 100 acres the same data will be collected.

Wildlife - Wildlife information will be gathered on all burn areas greater than 100 acres. Pellet transects will be performed to monitor improved wildlife habitat. The acres burned will be measured to determine improved wildlife habitat (acres/year). Also the vertical stratification of vegetation in the Conifer Zone will be measured for habitat diversity. On some areas less than 100 acres the same data will be collected.

Soils and Water Resources - Information concerning impacts to soil and water resources will be gathered on all burn areas greater than 100 acres on slopes greater than 30%. On some areas less than 100 acres the same data will be collected.

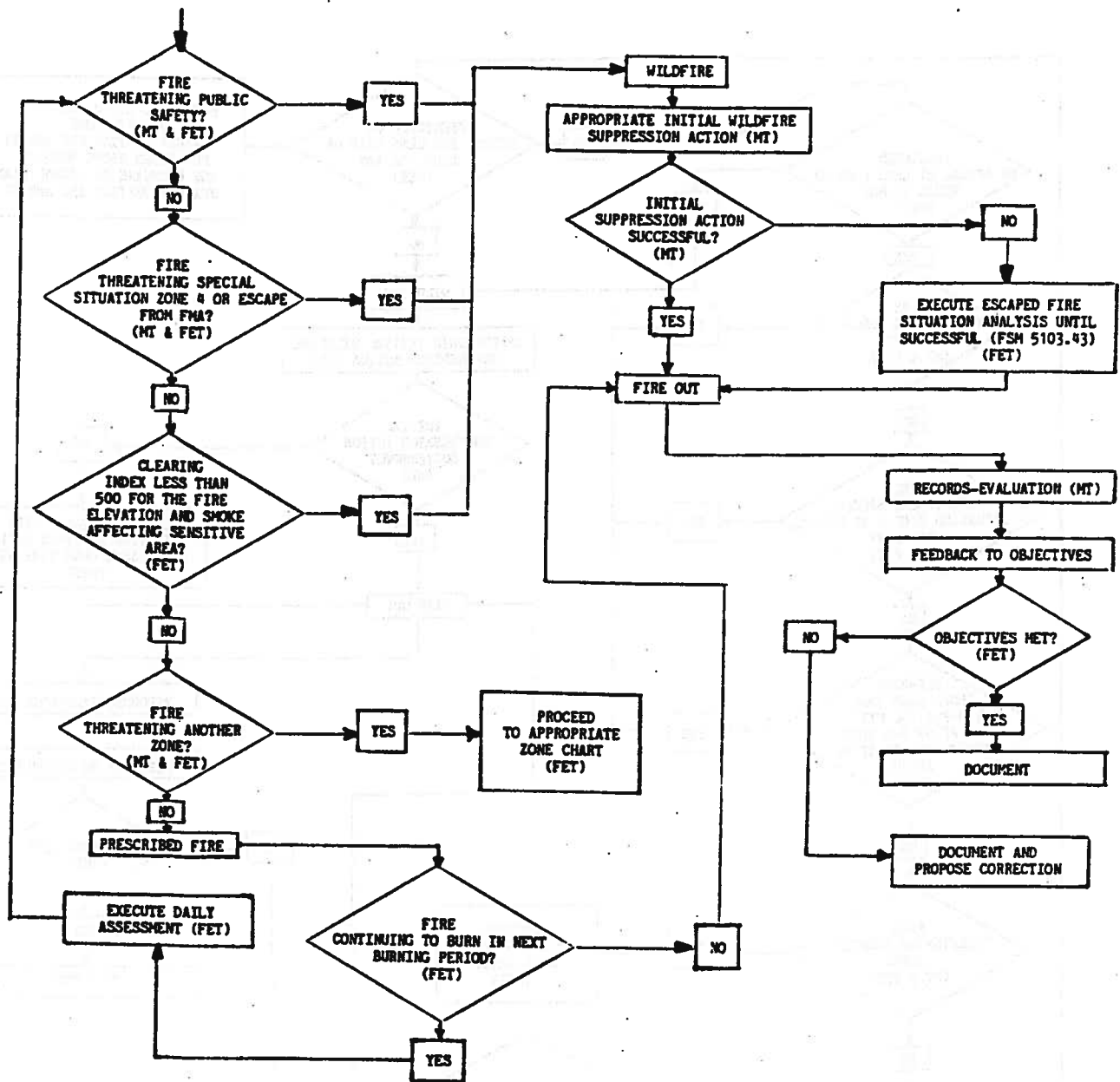
Fuel Loading- Fuel loading information will be gathered on all fires greater than 25 acres in the short needle conifer - Zone 3. The method used for collecting the data will be from the handbook for Inventory Downed Woody Material, (Brown, 1974). Samples will be taken outside and inside the burn and compared to see if the desired objectives was obtained.



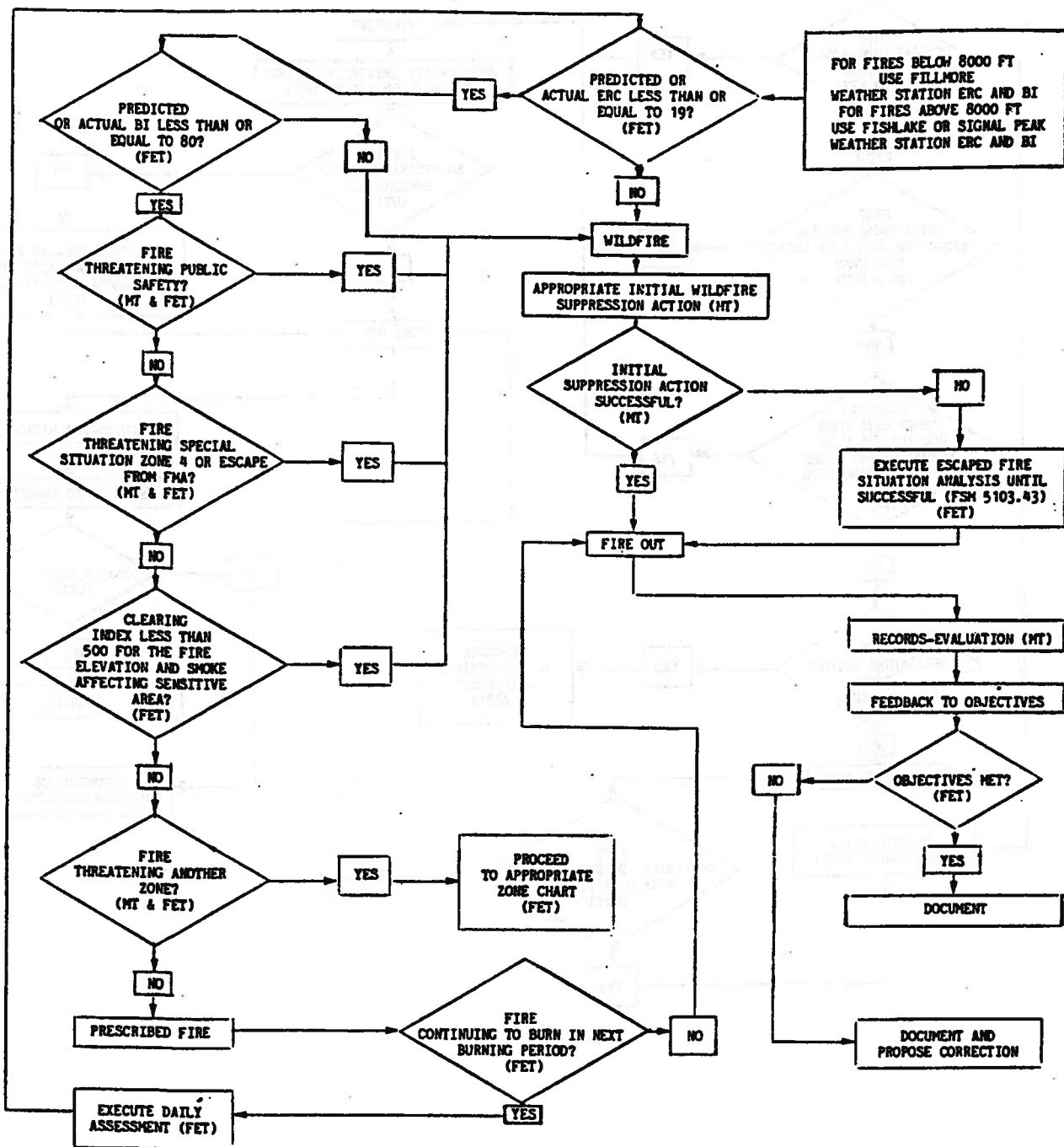
(FET)-FIRE EVALUATION TEAM

(MT)-MONITORING TEAM

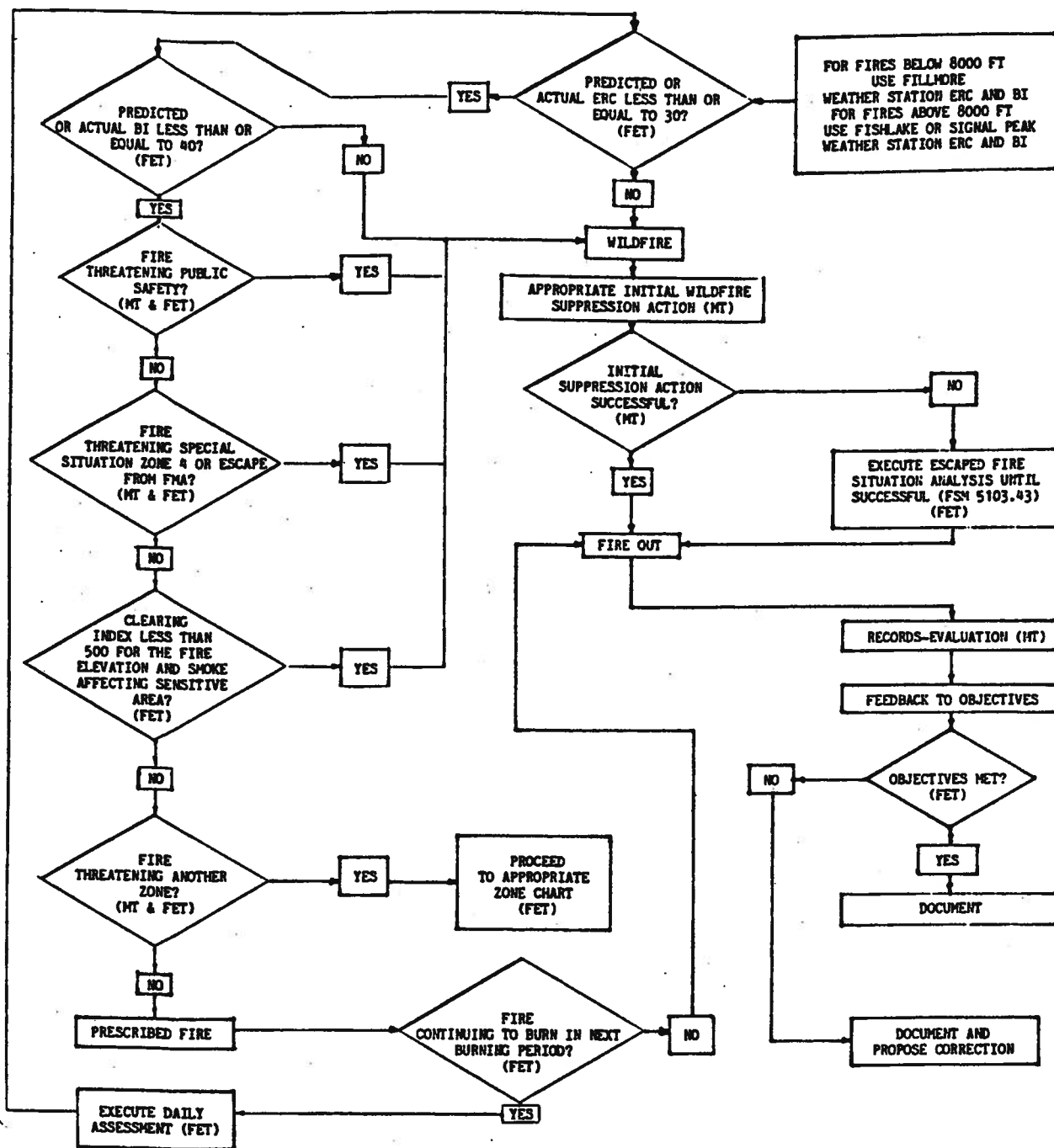
(RIDO)-RICHFIELD INTERAGENCY DISPATCH OFFICE



PINYON-JUNIPER - ZONE 1 F2P2



SAGE-GRASS, BRUSH, ASPEN - ZONE 2 T2P2



SHORT-NEEDLE CONIFER - ZONE 3 H2P2

APPENDIX M
(Reserved)

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APPENDIX N

LONG-RANGE ROAD AND TRAIL RIGHTS-OF-WAY ACQUISITION

(Map on File at Forest Supervisor's Office)

This document comprises the narrative section of the long-range Forest rights-of-way acquisition plan. The old Forest Road and Trail Rights-Of-Way Status Record, the new status records and/or the Forest Transportation plan contain the basic inventory and plan maps from which this information was compiled and which are made a part of this plan by reference.

1. Objectives

The general objectives for the acquisition of permanent public access to National Forest System lands administered by the Forest Service are outlined in FSM 5460.2. In accordance with those objectives, the purposes of this plan are:

- a. to provide for the acquisition of needed road and trail rights-of-way a systematic order one year in advance of planned construction schedules.
- b. to facilitate multiple use management by the acquisition of needed permanent public access over all roads and trails on the Forest transportation system by September 30, 2004. To meet this objective, the Forest plans to acquire no less than 5 percent of the right-of-way needs each year until the job is completed.

2. Annual action plans - shall be developed from the long-range plan and proposed in the program budgeting process.

3. Assignment of Personnel and Responsibilities

- a. Forest level. It is estimated that at least one person, exclusive of those needed for surveys, drafting, and clerical work, will be needed to handle the right-of-way coordination and workload at the Forest level. Primary duties will consist of securing and checking title evidence, researching county records, preparing related documents, recording deeds, assisting District Rangers in negotiations with landowners, arranging for and assistance to an appraiser, and, if needed, assisting in any drafting and/or clerical services.
- b. District level. Approximately one pay period annually of District personnel time for each of the four Ranger Districts will be required to implement the right-of-way program set forth in this plan. Items to be handled to a considerable extent at this level will include preliminary contacts with landowners, route selections, property inspections, and negotiations.

- c. Training needs. Personnel assigned to the Supervisor's Office will require a working knowledge and background of the right-of-way system. Periodic in-service training sessions will also be of value. Limited training should be made available to participating personnel at both District and Supervisor's Office levels. One individual from the S.O. and one from each of the four Districts should be a duly authorized Notary Public to expedite deed executions from landowners.
- d. Other. Use and need of a Zone Appraiser should be maintained at a level no less than currently programmed -- one Zone Appraiser stationed in Cedar City, which services the Dixie, Manti-Lasal, and Fishlake National Forests. Engineering survey and drafting services at the Forest level will need to be maintained at a minimum of one Engineer Program Survey Leader and two survey crew personnel to accomplish the surveying and drafting jobs generated by the acquisition program.

4. Acquisition Climate

- a. Attitude of Public in General to Rights-of-way Acquisition by the Forest Service to Access National Forest System Lands. The attitude of the general public is favorable to the extension of the Forest road system. Public interest lies primarily in better access for hunting, fishing, and other recreational activities. There are some individuals who would prefer to have more development and/or space for 4-wheel and off-road vehicles, but this doesn't reflect the prevailing attitude.
- b. Attitude of Public Road Agencies. Public road agencies have been very cooperative in granting rights-of-way to the United States. The Forest has recently completed negotiations with Sevier County Commissioners, with the result that 19 roads in the County were declared public. Negotiations are on-going with other county agencies to have more roads declared public.
- c. Attitude of Major Landowners. The attitude of major private landowners has been quite good. Many are even willing to donate the right-of-way in a desire to improve access to their property or to eliminate an encroachment or trespass problem on other portions of their property.
- d. Absentee Landowners. Absentee landowners are the usual situation on the Forest and are the class that must be dealt with in most cases.
- e. Settlement of Estates. A small number of cases may be involved in settlement of estates but this should not present a big problem in the acquisition program. There have been no cases of this type in the recent past.

5. Particular Problems in Processing Acquisitions

- a. Obtaining Title Reports and Policies. Service from the local title companies and abstractors has greatly improved within the past several years; occasionally, there is a "lengthy" delay, but on the whole service is quite good.
- b. Outstanding Third-party Interests. To date, these have not been a problem on the Fishlake.

6. General Priority of Acquisitions

- a. Areas in Which Existing Roads are Being Closed to General Public Travel. Although some landowners would rather not have public travel on roads through their lands because of vandalism, littering, gates left open, etc., no attempt is currently being made to prevent such travel.
- b. Area in Which Subdivision Appears Probable. A high priority for right-of-way acquisition exists where subdivision probabilities are highest. Some high mountain properties continue in the process of being subdivided for recreation homesites. Forest efforts continue to be directed toward being aware of potential subdivision sites so that emphasis can be placed on acquisition from these properties.
- c. Areas Planned for Disposal by County, State, and other Federal Agencies. The Forest keeps posted on any disposal transactions involving State, County, and other Federal lands. The Forest also continues to work with Counties in declaring public travel access over those roads deemed of a high priority.
- d. Opportunity Cases. The greatest source of right-of-way at present is opportunity cases; although the greatest one-time amount would be by County declaration. Some opportunity case acquisitions are not as critical to the transportation system as other roads and trails may be, but the "ease" with which these cases can be completed makes them very desirable. Some cases will be given considerable attention because of the willingness on the part of current landowners which may not carry through to any subsequent owners. Donations from cooperative owners who favor extension and improvement of access are sometimes available, and will be encouraged.

7. Feasible and Desirable Cost-share Possibilities with Intermingled Landowners.

There are no known opportunities on the Forest where cost-sharing arrangements are appropriate. Very little commercial hauling of timber or other products is currently taking place, and it is not expected that cost-sharing has much application at this time.

8. Unique Problems Involving Appraisal of right-of-way, such as special types of properties.

Lack of transaction evidence in acreage volume and current market values pose a problem to adequately appraise rights-of-way to mountain lands for recreation potential. In some instances the owners are happy to have new or improved access to these areas, which is an enhancement to the Forest program. However, many times good public access is not desired and the landowners wish to maintain a considerable degree of privacy. Strong opposition to the program can be expected in some situations because landowners do not want to provide access, especially as noisy on- and off-road vehicles become more numerous.

9. Other Unique Problems

Any kind of a reduction of current level personnel would pose a definite problem to the program, as well as lack of sufficient funds to work a good landline location and corners records program.

ADDENDA. District and Forest Summary Sheets:

FOREST SUMMARY
(Fishlake National Forest)

	<u>FOREST-WIDE</u>	
<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>139</u>	<u>68.56</u>
2. Rights-of-way needed on existing roads and trails.	<u>139</u>	<u>68.56</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>50</u>	<u>25.45</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>89</u>	<u>43.11</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>6</u>	<u>4.52</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>78</u>	<u>34.59</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>5</u>	<u>4.0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FOREST SUMMARY
(Fishlake National Forest)

BEAVER CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>26</u>	<u>10.6</u>
2. Rights-of-way needed on existing roads and trails.	<u>26</u>	<u>10.6</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>9</u>	<u>5.1</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>17</u>	<u>5.5</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>16</u>	<u>4.6</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>1</u>	<u>0.9</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FOREST SUMMARY
(Fishlake National Forest)

MILLARD CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>13</u>	<u>6.25</u>
2. Rights-of-way needed on existing roads and trails.	<u>13</u>	<u>6.25</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	<u>10</u>	<u>4.0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>3</u>	<u>2.25</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>3</u>	<u>2.25</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FOREST SUMMARY
(Fishlake National Forest)

PIUTE CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>24</u>	<u>14.01</u>
2. Rights-of-way needed on existing roads and trails.	<u>24</u>	<u>14.01</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	<u>14</u>	<u>5.40</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>10</u>	<u>8.61</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>9</u>	<u>7.31</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>1</u>	<u>1.3</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FOREST SUMMARY
(Fishlake National Forest)

SEVIER CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>72</u>	<u>35.40</u>
2. Rights-of-way needed on existing roads and trails.	<u>72</u>	<u>35.40</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	<u>17</u>	<u>10.95</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>55</u>	<u>24.45</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>6</u>	<u>4.52</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>49</u>	<u>19.93</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FOREST SUMMARY
(Fishlake National Forest)

WAYNE CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>4</u>	<u>2.3</u>
2. Rights-of-way needed on existing roads and trails.	<u>4</u>	<u>2.3</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>0</u>	<u>0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>4</u>	<u>2.3</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>1</u>	<u>0.5</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>3</u>	<u>1.8</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FILLMORE
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

<u>Item</u>	<u>DISTRICT-WIDE</u>	
	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	28	17.75
2. Rights-of-way needed on existing roads and trails.	28	17.75
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	18	11.25
5. Rights-of-way to be acquired in the name of the United States.	10	6.5
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	10	6.5
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

FILLMORE
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

MILLARD CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>13</u>	<u>6.25</u>
2. Rights-of-way needed on existing roads and trails.	<u>13</u>	<u>6.25</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>10</u>	<u>4.00</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>3</u>	<u>2.25</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>3</u>	<u>2.25</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

FILLMORE
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

SEVIER CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>15</u>	<u>11.50</u>
2. Rights-of-way needed on existing roads and trails.	<u>15</u>	<u>11.50</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>8</u>	<u>7.25</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>7</u>	<u>4.25</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>7</u>	<u>4.25</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

LOA
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

DISTRICT-WIDE

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>6</u>	<u>3.60</u>
2. Rights-of-way needed on existing roads and trails.	<u>6</u>	<u>3.60</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>0</u>	<u>0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>6</u>	<u>3.60</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>3</u>	<u>1.80</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>3</u>	<u>1.80</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

LOA
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

	<u>SEVIER CO.</u>	
<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>2</u>	<u>1.30</u>
2. Rights-of-way needed on existing roads and trails.	<u>2</u>	<u>1.30</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	<u>0</u>	<u>0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>2</u>	<u>1.30</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>2</u>	<u>1.30</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

LOA
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

WAYNE CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>4</u>	<u>2.30</u>
2. Rights-of-way needed on existing roads and trails.	<u>4</u>	<u>2.30</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>0</u>	<u>0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>4</u>	<u>2.30</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>1</u>	<u>0.50</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>3</u>	<u>1.80</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

	<u>DISTRICT-WIDE</u>	
<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>54</u>	<u>26.50</u>
2. Rights-of-way needed on existing roads and trails.	<u>54</u>	<u>26.50</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	<u>32</u>	<u>4.20</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>22</u>	<u>12.30</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>20</u>	<u>10.10</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>2</u>	<u>2.20</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

**BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)**

BEAVER CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>26</u>	<u>10.60</u>
2. Rights-of-way needed on existing roads and trails.	<u>26</u>	<u>10.60</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	<u>9</u>	<u>5.10</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>17</u>	<u>5.50</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>16</u>	<u>4.60</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>1</u>	<u>0.9</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

PIUTE CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>18</u>	<u>10.90</u>
2. Rights-of-way needed on existing roads and trails.	<u>18</u>	<u>10.90</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>14</u>	<u>5.40</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>4</u>	<u>5.50</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>3</u>	<u>4.20</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>1</u>	<u>1.30</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

SEVIER CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>10</u>	<u>5.00</u>
2. Rights-of-way needed on existing roads and trails.	<u>10</u>	<u>5.00</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>9</u>	<u>3.70</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>1</u>	<u>1.30</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

RICHFIELD
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

<u>Item</u>	<u>DISTRICT-WIDE</u>	
	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>51</u>	<u>20.71</u>
2. Rights-of-way needed on existing roads and trails.	<u>51</u>	<u>20.71</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>51</u>	<u>20.71</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>6</u>	<u>4.52</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>45</u>	<u>16.19</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>45</u>	<u>16.19</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

RICHFIELD
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

PIUTE CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>6</u>	<u>3.11</u>
2. Rights-of-way needed on existing roads and trails.	<u>6</u>	<u>3.11</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>0</u>	<u>0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>6</u>	<u>3.11</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

RICHFIELD
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

SEVIER CO.

<u>Item</u>	<u>No. Cases</u>	<u>No. Miles</u>
1. Road and trail rights-of-way to be acquired.	<u>45</u>	<u>17.60</u>
2. Rights-of-way needed on existing roads and trails.	<u>45</u>	<u>17.60</u>
3. Rights-of-way to be needed on proposed roads and trails.	<u>0</u>	<u>0</u>
4. Rights-of-way to be acquired in cooperation with, and in the name of, a public road agency.	<u>0</u>	<u>0</u>
5. Rights-of-way to be acquired in the name of the United States.	<u>45</u>	<u>17.60</u>
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	<u>0</u>	<u>0</u>
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	<u>39</u>	<u>13.08</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	<u>0</u>	<u>0</u>
b. Proposed roads and trails.	<u>0</u>	<u>0</u>

APPENDIX O

COAL UNSUITABILITY

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FISHLAKE NATIONAL FOREST COAL LANDS REVIEW

I. INTRODUCTION

The Forest Service is a participant in the Department of Interior's Federal Coal Management Program (FCMP) which was designed in response to the President's May 1977 direction and a September 1977 Federal court order. An environmental impact statement which analyzed the options for managing Federal coal was completed in April 1979. In June 1979, the Secretary of Interior made a final decision and regulations (Title 43 of the Code of Federal Regulations, Part 3400) were issued in July 1979.

The FCMP incorporates the requirements of the Mineral Leasing Act of 1920, as amended by the Federal Coal Leasing Amendments Act of 1967 (FCLAA) (including 1978 supplements to this act), the Surface Mining Control and Reclamation Act of 1977, (SMCRA) and the coal production policies of the President.

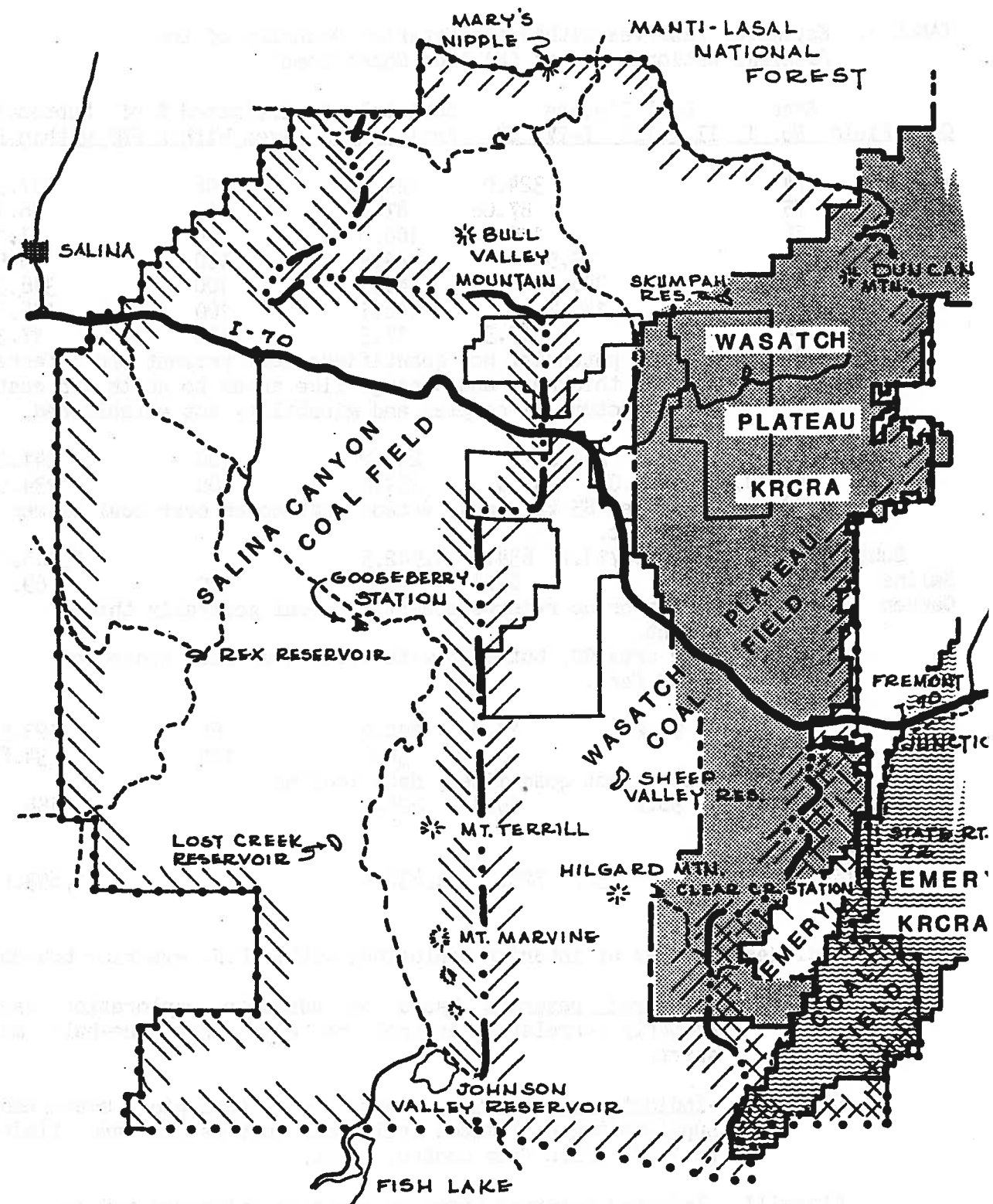
The FCLAA directs that "no lease sale shall be held unless the lands containing the coal deposits have been included in a comprehensive land-use plan and such sale is compatible with such plan." The SMCRA requires a Federal lands review be conducted to assess whether certain classes of Federal lands are unsuitable for all or certain types of coal mining operations, and to establish a process by which the public may petition to have Federal lands designated unsuitable for all or certain types of coal mining operations.

The Fishlake National Forest is presently in the process of developing its Land and Resource Management Plan as required by the National Forest Management Act of 1976. Until the new plan is finalized, the Forest is using its Multiple Use and Unit Plans, developed under the Multiple-Use Sustained-Yield Act of 1960, as the bases for resource development decisions. The new plan will strengthen or redefine the management goals, objectives, and guidelines for actions and programs on lands under the Forest's jurisdiction.

As a part of its current planning effort and pursuant to the requirements of SMCRA and the FCLAA, the Forest has made a review of the coal-bearing lands within the Forest boundary. These lands include approximately 433,300 acres in Sevier County, Utah (including all interior exclusion lands), and are comprised of all of the Salina and the portion of the Wasatch and Emery Coal Fields which lie within the Forest (See Figures 1 & 1a).

Using U.S. Geological Survey (USGS) source data it was derived these lands contain an estimated reserve of 1,693.6+ million tons of coal (See Table 1 and Figure 2). Only those coal beds that average 4 feet or greater in thickness and are covered by less than 3000 feet of overburden are included in the reserve data.

The review was conducted and documented using direction set forth in the Forest Service "Mineral Planning Handbook Coal Supplement" received by the Forest on April 23, 1982.



Known Recoverable Coal Resource Areas (KRCRA)

Also

FIGURE 1

Coal Review Area and Coal Fields

TABLE 1. Estimated Reserves Within the Exterior Boundary of the Fishlake National Forest (Million Short Tons)

Coal Field	Area No.	Coal Classes				Subtotal of Entire Area	Estimated % of Area Within FNF	Subtotal Within FNF
		I	II	III	I-IV			
Wasatch Plateau	74				324.0	324.0	98	317.5
	75				87.0c	87.0	99	86.1
	76				106.0	106.0	35	37.1
	81				39.5	39.5	100	39.5
	82				346.3	346.3	100	346.3
	83				146.7	146.7	100	146.7
	84				17.3	17.3	100	17.3
	85				Reserve potential not quantified; coal present and inferred to have thickness and tonnage like areas to north and east, but structure is complex and minability not established.			
	86				241.2d	241.2	100	241.2
	87	10.5	124.0		100.0	234.5	100	234.5
	88e		Like area 85 to north, except that cover over coal exceed 3000 feet.					
Subtotal	10.5	124.0	773.7	634.3	1,542.5			1,466.2f
Salina Canyon	89				69.1	69.1	100	69.1
	90		Little or no reserve potential, coal generally this or absent.					
	91e		Like area 90, but also with cover over coal exceeding 3,000 feet.					
Emery	100	72.0	98.2		19.8	190.0	65	123.5
	101	34.8				34.8	100	34.8
	102	Reserve not quantified; data lacking.						
Subtotal	106.8	98.2		19.8	224.8			158.3
Total All Fields	117.3	222.2	773.7	723.2	1,836.4			1,693.6

a. Includes reserves of interior exclusions within F.F. exterior boundary

b. Class I - Measured reserves based on adequate exploration data; properly correlated; control no more than one-half mile apart.

Class II - Indicated reserves based on geologic measurement supplemented by limited drill-hole information and limited to 1-1/2 miles from control point.

Class III - Inferred reserves based on geologic inference and projection of the habit of the coal beyond 1-1/2 miles from control points.

Class IV - Potential reserves based on geographic and geologic position with little surrounding data; includes coal covered by no more than 3,000 feet of overburden.

Most of the coal reserve is based on surface measurements which are not always as reliable as the drill. The reserve commonly is underestimated because surface measurements usually are smaller than thickness penetrated by drilling. Class I and II figures are combined in these reports; no attempt was made to separate the more reliable figure. The first three reserve classes constitute the principal reserve and more nearly reflect the current potential. The reserves include only coal beds that average four feet or greater thickness and are covered by less than 3,000 feet of overburden except where otherwise noted. Less than 50 percent of the total reserves are economically mineable. (The division of coal into four classes generally follows that described by Doelling, 1972, p.549.)

- c. Recent drill hole data indicates that this estimate may be high.
- d. Chiefly Classes II - IV.
- e. Areas identified as not potentially mineable.
- f. Plus noted unquantified amounts could possibly add 10-20 percent to the tabulated tonnage.

Information obtained from FEIS, Development of Coal Resources in Central Utah, 1979, Figure II-9, USGS map and table showing coal resources in Central Utah.

Known Recoverable Coal Resource Area Boundary taken from Bureau of Land Management of "Uinta-Southwestern Utah Coal Study Region," 1982.

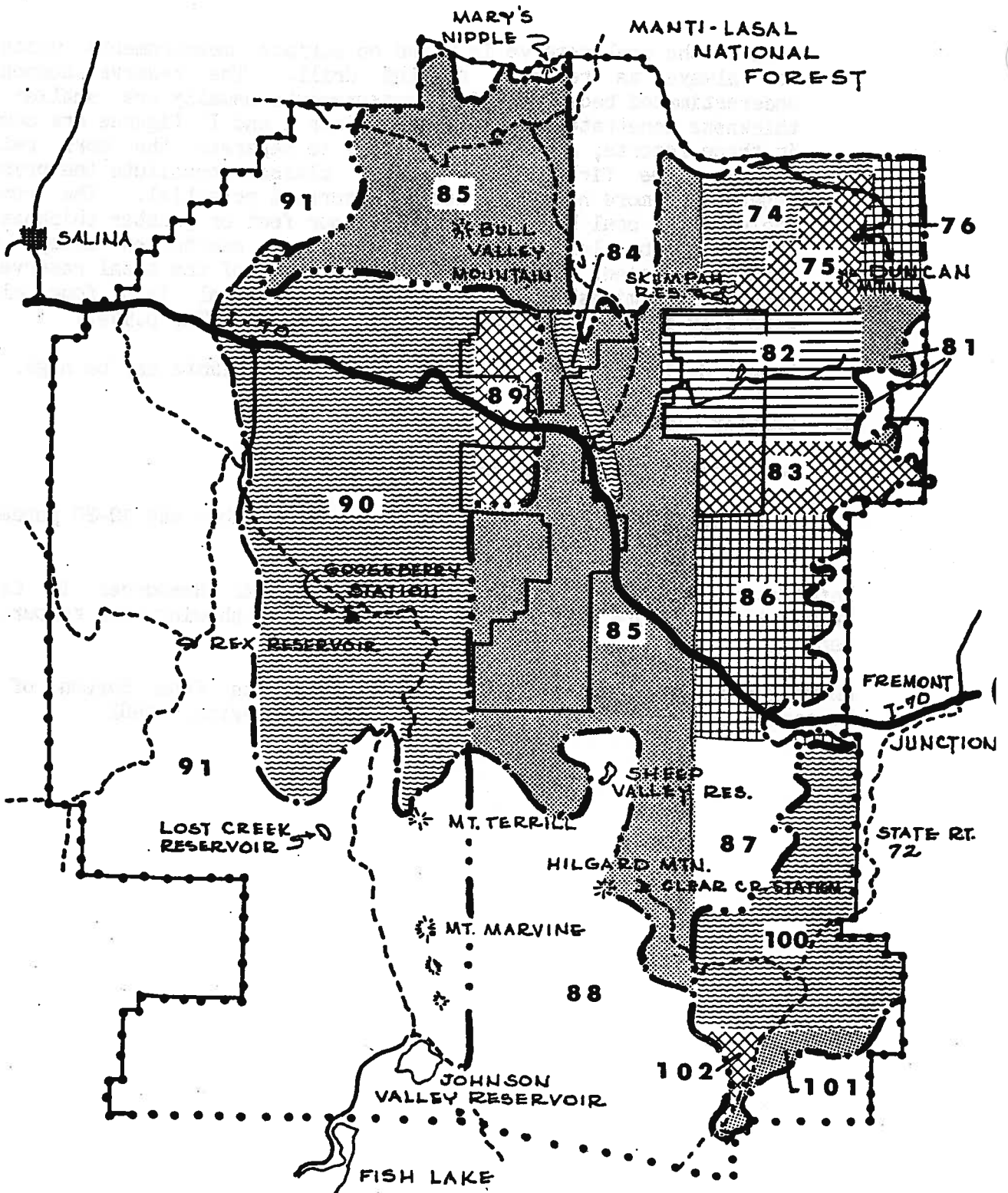


FIGURE 2 Potentially Movable Coal Bearing Lands

II. AREAS ACCEPTABLE FOR FURTHER CONSIDERATION FOR COAL LEASING

The principle land use planning decision concerning the coal resource is to determine which areas are acceptable for further consideration for coal leasing. These areas are identified by placing all coal-bearing lands in the planning area through four screens integral to the planning process:

- 1) Areas are eliminated from further consideration for coal development if they do not have high to medium coal potential.
- 2) Additional coal areas are eliminated if they are judged unsuitable under the Department of Interior's unsuitability criteria.
- 3) Additional coal areas may be eliminated on multiple use grounds if other Federal resource values are determined to be superior to coal.
- 4) Additional coal areas where the Federal government owns the coal, the coal would be surface mined, and the surface is owned by ranchers or farmers may be eliminated after consultation with those surface owners.

The areas remaining after application of these screens are identified as areas acceptable for further consideration for coal leasing, subject to area wide constraints and multiple use coordination requirements to guide coal program activities.

The above 433,300 acres of coal-bearing lands contain 31,669 acres of interior exclusion lands which are eliminated from the above screening process since they are not a part of the Forest. Also within the 433,300 acres are ten Federal coal leases which include, among other lands, approximately 18,273 acres administered by the Fishlake National Forest. Additionally, there are three tracts of land included which are proposed for leasing in the Uinta-Southwestern Utah Coal Region's second round of leasing. These tracts contain 3,423 acres administered by the Forest and 120 acres of privately owned surface.

Since the existing and proposed lease areas have previously been determined as acceptable for coal leasing, they are eliminated from the screening process also. Data for these areas are provided in Table 2 and the locations are shown in Figure 3. Additional information is available in the appropriate environmental documents addressing each existing or proposed lease.

The above eliminated lands result in 379,815 acres available for the screening process as shown in Table 3.

TABLE 2
DATA PERTAINING TO FEDERAL COAL LEASES AND PROPOSED LEASE TRACTS
WHICH INCLUDE FISHLAKE NATIONAL FOREST SYSTEM LANDS

Existing Leases		Approximate Lease Acreage By Surface Jurisdiction				
Lease no. or Tract Name	Effective Lease Issuance Date	Fishlake N.F.	Manti-LaSal N.F.	Bureau of Land Mgt.	Non-federal	TOTAL
1. SL-062583	09/12/41	2,203				2,203
2. U.-062453	03/01/62	73				480
3. U-0149084	06/01/66	240	407			240
4. U-041171	03/01/67	1,825				1,825
5. U-041176	03/01/67	436			1,109 1/	1,545
6. U-041177	03/01/67	593			1,911 1/	2,504
7. U-041178	03/01/67	1,896			80 1/	1,976
8. U-5135	03/01/77	7,636		1,188		8,824
9. U-28s97	05/01/77	2,213	255	164		2,632
10. U-47080	01/01/79	1,158				1,158
		18,273	662	1,352	3,100	23,387
Subtotal						
Proposed Lease Tracts						
1. Skumpah		520			120	640
2. Ivie		1,040				1,040
3. Quitchupah		1,863	6,480	1,360	80 2/	9,783
		3,423	6,480	1,360	200	11,463
Subtotal						
		21,696	7,142	2,712	3,300	34,850
TOTAL						
1/ Interior Exclusion Lands - Private Surface.						
2/ State Lands - Outside of Forest Boundary.						

TABLE 3. Area Available for Screening Process.

Acres	Description
433,300	Coal-bearing lands
-31,669	Interior exclusion
-18,273	Existing leases
<u>-3,543</u>	Proposed leases
379,815	Available for screening

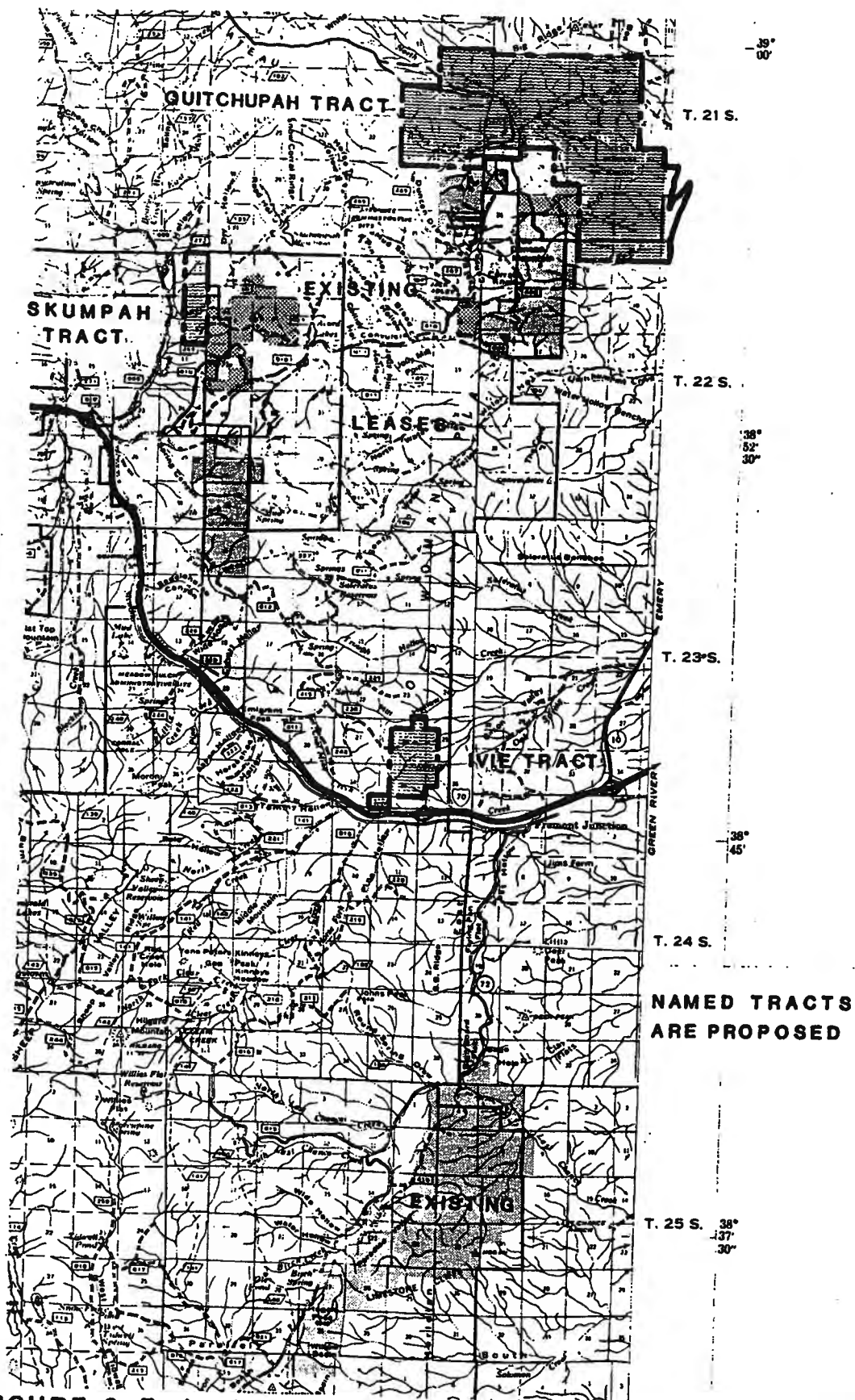


FIGURE 3 Existing & Proposed Federal Coal Leases

A. High to Moderate Potential Coal Lands

Only a portion of the uncommitted coal reserves within a land use planning area is likely to be potentially economic to mine or to become so over the life of the land use plan. Rather than apply all the screens in the planning process to uneconomic coal, the first screen is to identify coal with high or moderate potential for development. Lands with less than moderate development potential are dropped from further consideration until their potential for development is judged to be higher, perhaps the next land use planning cycle.

Using the USGS data shown in Table 1 and Figure 2 it was derived that, out of the 379,815 acres being placed through the screening process, approximately 190,957 acres have little or no reserve potential and thus drop out. They are areas where the coal is generally thin or absent and/or overlain by overburden exceeding 3,000 feet thickness. This results in approximately 188,858 acres which are within the area identified as potentially minable by the USGS. From these, approximately 107,324 acres have been identified as having a low potential for coal development and are thus eliminated. They include lands outside the Known Recoverable Coal Resource Areas established by the USGS where reserve potential is not quantified and minability has not been established. These lands also have generated no apparent interest by the coal industry. All of the Salina Coal Field is included as low potential since it has been predicted that mining is doubtful or will not occur until after 1992 (Doelling, p. 20).

The remaining 81,534 acres of potentially minable lands have been identified as having a high to moderate potential for development and are shown in Figure 4. They comprise the lands to be placed through the remaining three screens and are hereafter referred to as the "assessment area". Surface and mineral estate acreages are shown in Table 4.

TABLE 4. Surface and Mineral Estate Acreages for the Assessment Area.

Status of Jurisdiction	
Surface/Mineral	Acres
Federal/Federal	76,827
Private/Federal	120
Private/Private	4,547
Federal/Private	40
TOTAL	81,534

Estimated reserves for the assessment area total 1,450.8 million tons as shown in Table 5. Recoverability is estimated at 580.3 million tons using an average recoverability rate of 40% (Doelling, p. 131, 438, & 551).

All of the included coal has been determined to be minable by only underground methods (Doelling, P. 129, 438, 440). Those lands which are believed minable by surface methods are contained in existing leases U-5135 shown in Figure 3 and are not contained within the assessment area.

The identification of high to moderate potential coal lands (assessment area) was made using: 1) USGS data contained in the Final Environmental Impact Statement on the Development of Coal Resources in Central Utah, 1979 (Figure II-9, USGS map and table showing coal resource data); 2) Bureau of Land Management Map of Uinta-Southwestern Utah Coal Study Region, 1982 showing KRCRA boundaries; 3) H. H. Doelling's Monograph Series No. 3, 1972 on Central Utah Coal Fields; and 4) input from industry (Expressions of Leasing Interest - Round 1 & 2 for Uinta-Southwestern Utah Coal Region; and nominations under the Energy Minerals Activity Recommendations System).

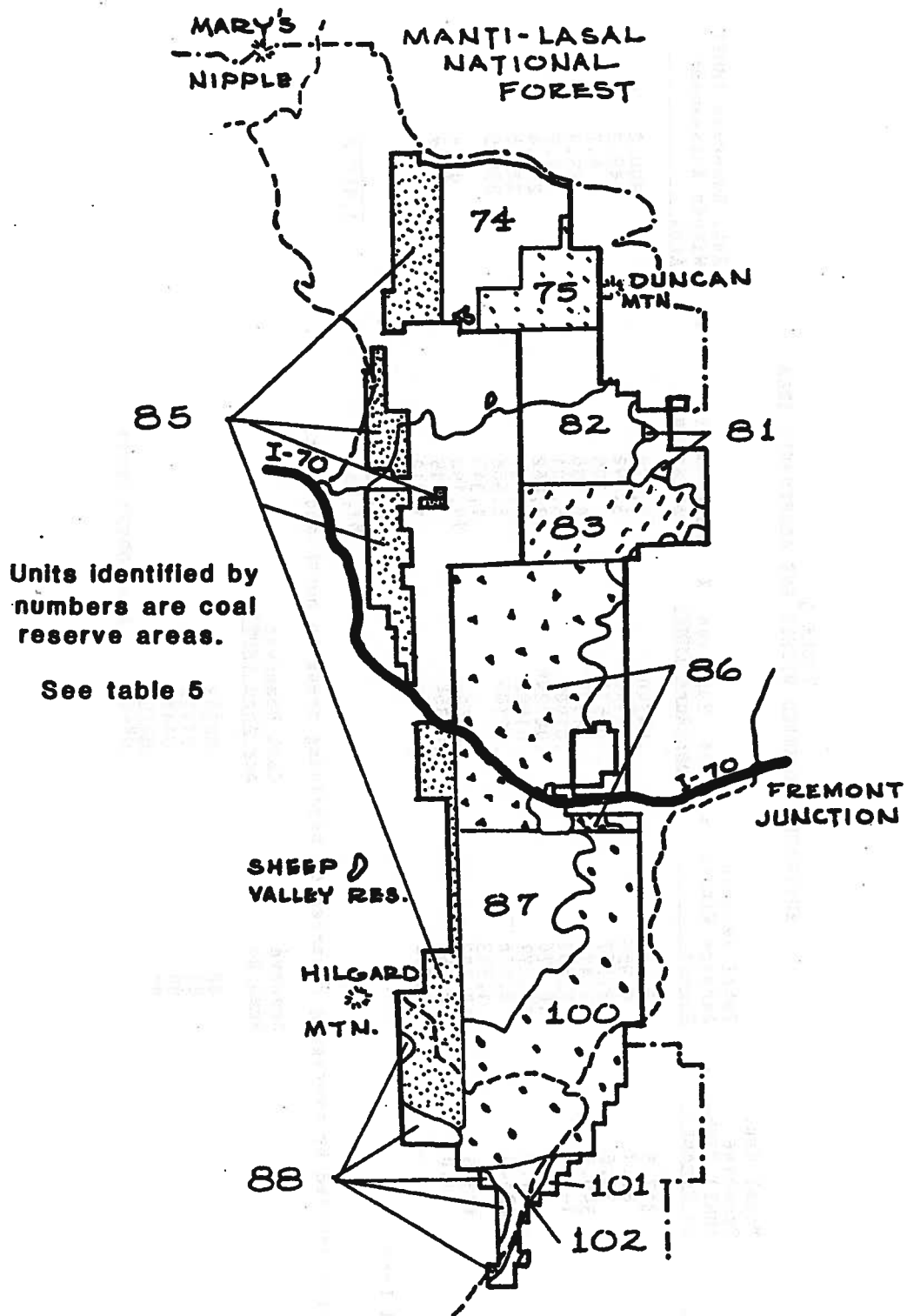


FIGURE 4

Assessment Area

TABLE 5
ESTIMATED RESERVES WITHIN THE ASSESSMENT AREA

Reserve Area No.	Total Est. Reserves (MMT) Within Forest	Total Reserve Acreage Within Forest	Est. Reserves per Acre (MMT)	Assessment Area Acreage	Est. Reserves (MMT) Within Assessment Area
74	317.5	6,698	.04740	6,334	300.2
75	86.1	5,955	.01446	3,342	48.3
81	39.5	2,567	.01539	305	4.7
82	346.3	14,471	.02393	6,496	155.4
83	146.7	7,661	.01905	5,101	97.7
85	241.2	18,376	.02124*	13,062	277.4
86	234.5	16,277	.01482	15,437	228.8
87		8,666	.02706	8,666	234.5
88		1,313		1,313	
100	123.5	19,192	.00643	19,192	98.1
101	34.8	2,552	.01364	415	5.7
102		1,292		1,212	
Non-coal Land				4,596	
				81,534	1,450.8

*Estimation derived by averaging reserves of adjoining areas to north and east:

Reserve Area No.	Est. Reserves per Acre (MMT)
82	.02393
83	.01915
86	.01482
87	.02706
	.08496 - 4 = .02124 MMT/A.

B. Unsuitability Criteria

On August 3, 1977, the President signed into law the Surface Mining Control and Reclamation Act (SMCRA). Section 522 of this act requires the secretary of Interior to review Federal lands to determine whether they contain areas which are unsuitable for surface coal mining operations. In May 1980, a Memorandum of Understanding (MOU) between the Departments of Agriculture and Interior was approved authorizing the Secretary of Agriculture to assess the unsuitability or acceptability of lands within the National Forest System boundaries for surface mining operations. Surface mining operations are defined as "activities conducted on the surface of lands in connection with a surface coal mine and surface impacts incident to an underground coal mine" (43CFR 3400.0-5).

Under the MOU, the Department of Agriculture's Forest Service has the responsibility to administer the Federal lands review on lands within its jurisdiction boundaries using the unsuitability assessment procedures and standards contained in 43 CFR 3400.

The unsuitability criteria have been applied to the assessment area. In the summer-fall of 1980, the Forest and Richfield District of the Bureau of Land Management jointly applied the unsuitability criteria to lands including T. 22s., R. 3, 4 and 5E., and T. 23S., R.3 & 4E. The application results are recorded in the Forest Planning Unit Coal Unsuitability Study, October 1980. Unsuitability criteria were applied to additional lands including the remaining delineated high to moderate potential lands in 1981 and 1982. Application results for the lands included in the proposed lease tracts are recorded in the Final Environmental Impact Statement for Round Two of coal leasing in the Uinta-Southwestern Utah Coal Region, October 1983. This document combines the application results for 11 lands within the assessment area. The previously documented results have been updated where warranted, and carried forward into this report to include under one cover, the results for all the assessment area.

The criteria defined in the Federal Register, Volume 47, July 30, 1982, (effective August 30, 1982) are used. The complete write-up of each criterion is presented, followed by application results including what is unsuitable and why in those cases where the criterion applies. The recoverable coal involved in the unsuitable area is also shown. When an exception does not apply, application of the criterion is complete. Where an exception does apply, the complete write-up of the exception is presented. The recoverable coal is recorded in terms of coal made available through application of the exception.

Table 6 shows which criteria apply to the assessment area and the logic used in determining those which do not apply. The applicability of exceptions to the criteria are shown in Table 7.

Each criterion applied contains the phrase "shall be considered unsuitable" which is shorthand for "shall be considered unsuitable for all or certain stipulated methods of coal mining involving surface mining operations" (surface mining operations are defined earlier).

CRITERION 1 -- FEDERAL LAND SYSTEM

ALL FEDERAL LANDS INCLUDED IN THE FOLLOWING LAND SYSTEMS OR CATEGORIES SHALL BE CONSIDERED UNSUITABLE: NATIONAL PARK SYSTEM, NATIONAL WILDLIFE REFUGE SYSTEM, NATIONAL SYSTEM OF TRAILS, NATIONAL WILDERNESS PRESERVATION SYSTEM, NATIONAL WILD AND SCENIC RIVERS SYSTEM, NATIONAL RECREATION AREAS, LANDS ACQUIRED WITH MONEY DERIVED FROM THE LAND AND WATER CONSERVATION FUND, NATIONAL FORESTS AND FEDERAL LANDS IN INCORPORATED CITIES, TOWNS, AND VILLAGES.

RESULTS

There are no National Park Systems, National Wildlife Refuge Systems, National Systems of Trails, National Wilderness Protection Systems, National Wild and Scenic Rivers Systems, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund or Federal lands incorporated cities, towns, and villages within the study area.

However, 76,867 acres of the assessment area are National Forest System lands, and thus, unsuitable for surface and underground coal mining (see Fig. 4). Involved reserves are estimated at 1,387.3 million tons. Using the average recoverability rate of 40% an estimated 554.9 million tons of coal are associated with the unsuitable lands.

EXCEPTIONS TO CRITERION 1

(i) A LEASE MAY BE ISSUED WITHIN THE BOUNDARIES OF ANY NATIONAL FOREST IF THE SECRETARY FINDS NO SIGNIFICANT RECREATIONAL, TIMBER, ECONOMIC OR OTHER VALUES WHICH MAY BE INCOMPATIBLE WITH THE LEASE: AND (A) SURFACE OPERATIONS AND IMPACTS ARE INCIDENT TO AN UNDERGROUND COAL MINE, OR (B) WHERE THE SECRETARY OF AGRICULTURE DETERMINES, WITH RESPECT TO LANDS WHICH DO NOT HAVE SIGNIFICANT FOREST COVER WITHIN THOSE NATIONAL FORESTS WEST OF THE 100TH MERIDIAN, THAT SURFACE MINING MAY BE IN COMPLIANCE WITH THE MULTIPLE-USE SUSTAINED-YIELD ACT OF 1960, THE FEDERAL COAL LEASING AMENDMENTS ACT OF 1976 AND THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. (ii) A LEASE MAY BE ISSUED WITHIN THE CUSTER NATIONAL FOREST WITH THE CONSENT OF THE DEPARTMENT OF AGRICULTURE AS LONG AS NO SURFACE COAL MINING OPERATIONS ARE PERMITTED.

RESULTS

As stated previously, none of the reserves within the assessment have been determined to be minable by surface methods (Doelling). Therefore, the underground mining exemption from criteria (included below) is applied and the above area is assessed as suitable for underground mining, making available the above 554.9 million tons of recoverable coal. Under exception (i) and (i) (A) to criterion 1, leasing may occur if no significant recreational, timber, economic or other values incompatible with leasing are found in the Forest planning process or the coal activity planning-leasing process (43CFR 3420.3), conducted after land use planning has been completed.

TABLE 6
APPLICABILITY OF UNSUITABILITY CRITERIA TO THE ASSESSMENT AREA

Criterion No.	Criterion Title	Criterion		Rationale for Inapplicability
		Applicable	Inapplicable	
1.	Federal Lands Systems	X		
2.	Rights-of-Way, & Easements	X		
3.	Buffer Zones for Rights-of-Way, Cemeteries, Dwellings, etc.	X		
4.	Wilderness Study Areas		X	None within assessment area.
5.	Scenic Areas		X	None within assessment area.
6.	Lands Used for Scientific Studies		X	None within assessment area.
7.	Historic Lands and Sites	X		
8.	Natural Areas		X	None within assessment area.
9.	Federally Listed Threatened/Endangered Species		X	None within assessment area.
10.	State Listed Threatened/Endangered Species		X	Utah accepts as adequate the Federal list of T/E species and has no State listing.
11.	Eagle Nests	X		
12.	Eagle Roost/Concentration Areas	X		
13.	Falcon Cliff Nesting Sites		X	None within assessment area.
14.	Migratory Birds	X		
15.	State Resident Fish/Wildlife	X		
16.	Floodplains			
17.	Municipal Watersheds		X	None within assessment area.
18.	National Resource Waters		X	None within assessment area.
19.	Alluvial Valley Floors			
20.	State Proposed Criteria	X		No Criteria proposed by State.

TABLE 7
APPLICABILITY OF EXCEPTIONS TO CRITERIA TO THE ASSESSMENT AREA

Criterion No.	Criterion Title	Applicable	Exception Inapplicable	Rationale for Inapplicability
1.	Federal Lands Systems	X		
2.	Rights-of-Way, & Easements	X		
3.	Buffer Zones for Rights-of-Way, Cemeteries, Dwellings, Etc.	X		
7.	Historic Landl and Sites	X		
11.	Eagle Nests	X		
12.	Eagle Roost/Concentration Areas	X		
14.	Migratory Birds	X		
15.	State Resident Fish/Wildlife	X		
16.	Floodplains	X		
19.	Alluvial Valley Floors		X	No exception provided.

UNDERGROUND MINING EXEMPTION FROM CRITERIA (43 CFR 3461.2)

(a) FEDERAL LANDS WITH COAL DEPOSITS THAT WOULD BE MINED BY UNDERGROUND MINING METHODS SHALL NOT BE ASSESSED AS UNSUITABLE WHERE THERE WOULD BE NO SURFACE COAL MINING OPERATIONS, AS DEFINED IN 43CFR 3400.0-5 OF THIS TITLE, ON ANY LEASE, IF ISSUED.

(b) WHERE UNDERGROUND MINING WILL INCLUDE SURFACE OPERATIONS AND SURFACE IMPACTS ON FEDERAL LANDS TO WHICH A CRITERION APPLIES THE LANDS SHALL BE ASSESSED AS UNSUITABLE UNLESS THE SURFACE MANAGEMENT AGENCY FIND THAT A RELEVANT EXCEPTION OR EXEMPTION APPLIES.

CRITERION 2 -- RIGHTS-OF-WAY AND EASEMENTS

FEDERAL LANDS THAT ARE WITHIN RIGHTS-OF-WAY OR EASEMENTS OR WITHIN SURFACE LEASES FOR RESIDENTIAL, COMMERCIAL, INDUSTRIAL, OR OTHER PUBLIC PURPOSES. FEDERALLY OWNED SURFACE SHALL BE CONSIDERED UNSUITABLE.

RESULTS

For the purpose of applying criterion 2, the Forest has included Forest Service Special Use Permits as a type of right-of-way or easement. Table 8 lists rights-of-way, easements and special use permits involving National Forest lands within the assessment area. Figure 5 shows the locations. These encumbrances include approximately 391 acres of Federal surface and are suitable for surface and underground mining. An estimated 7.0 million tons of reserves and 2.8 million tons of recoverable coal are involved.

Using the above stated "underground mining exemption from criteria" (included with criterion 1) the Forest assessed the criterion 2 land as suitable for underground mining provided that no surface operation or surface impacts are allowed. As such the 2.8 million tons of recoverable coal are made available.

Where underground mining would include surface operations and surface impacts, leasing and mining operations would be allowed only if the following exception applied.

EXCEPTIONS TO CRITERION 2

A LEASE MAY BE ISSUED AND MINING OPERATIONS APPROVED IN SUCH AREAS IF THE SURFACE MANAGEMENT AGENCY DETERMINES THAT:

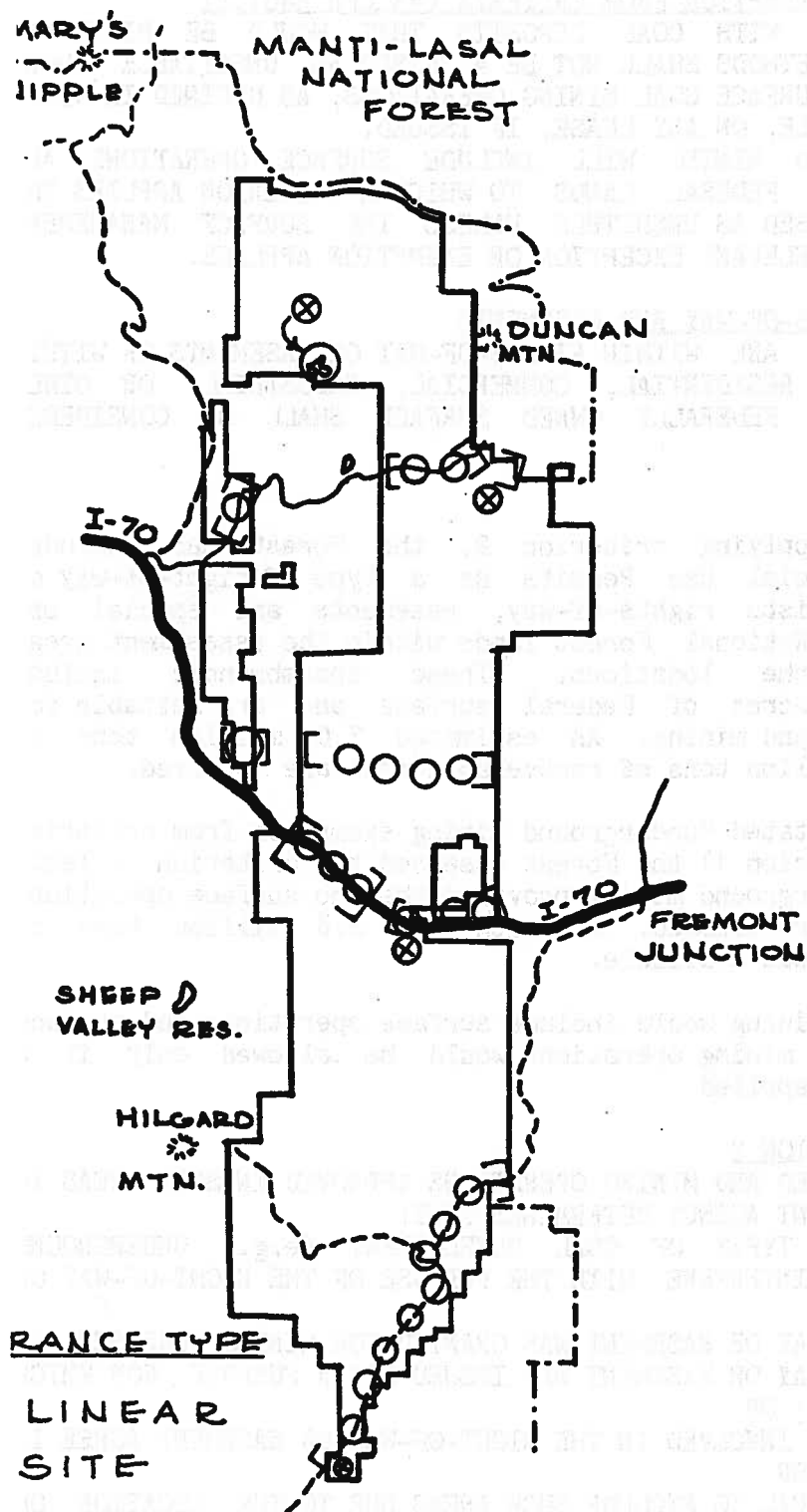
(i) ALL OR CERTAIN TYPES OF COAL DEVELOPMENT (e.g., UNDERGROUND MINING) WILL NOT INTERFERE WITH THE PURPOSE OF THE RIGHT-OF-WAY OR EASEMENT; OR

(ii) THE RIGHT-OF-WAY OR EASEMENT WAS GRANTED FOR MINING PURPOSES; OR

(iii) THE RIGHT-OF-WAY OR EASEMENT WAS ISSUED FOR A PURPOSE FOR WHICH IT IS NOT BEING USED; OR

(iv) THE PARTIES INVOLVED IN THE RIGHT-OF-WAY OR EASEMENT AGREE IN WRITING TO LEASE; OR

(v) IT IS IMPRACTICAL TO EXCLUDE SUCH AREAS DUE TO THE LOCATION OF COAL AND METHOD OF MINING AND SUCH AREAS OR USES CAN BE PROTECTED THROUGH APPROPRIATE STIPULATIONS.



5

Rights-of-Way, Easements, &
Forest Service Special Use Permits

T26S, R4E, Sec 4.

5

D. Coal Search Corp.
a. Utah Dept. of Transportation

28.0 Approx 391

TOTAL

Gravel Pits

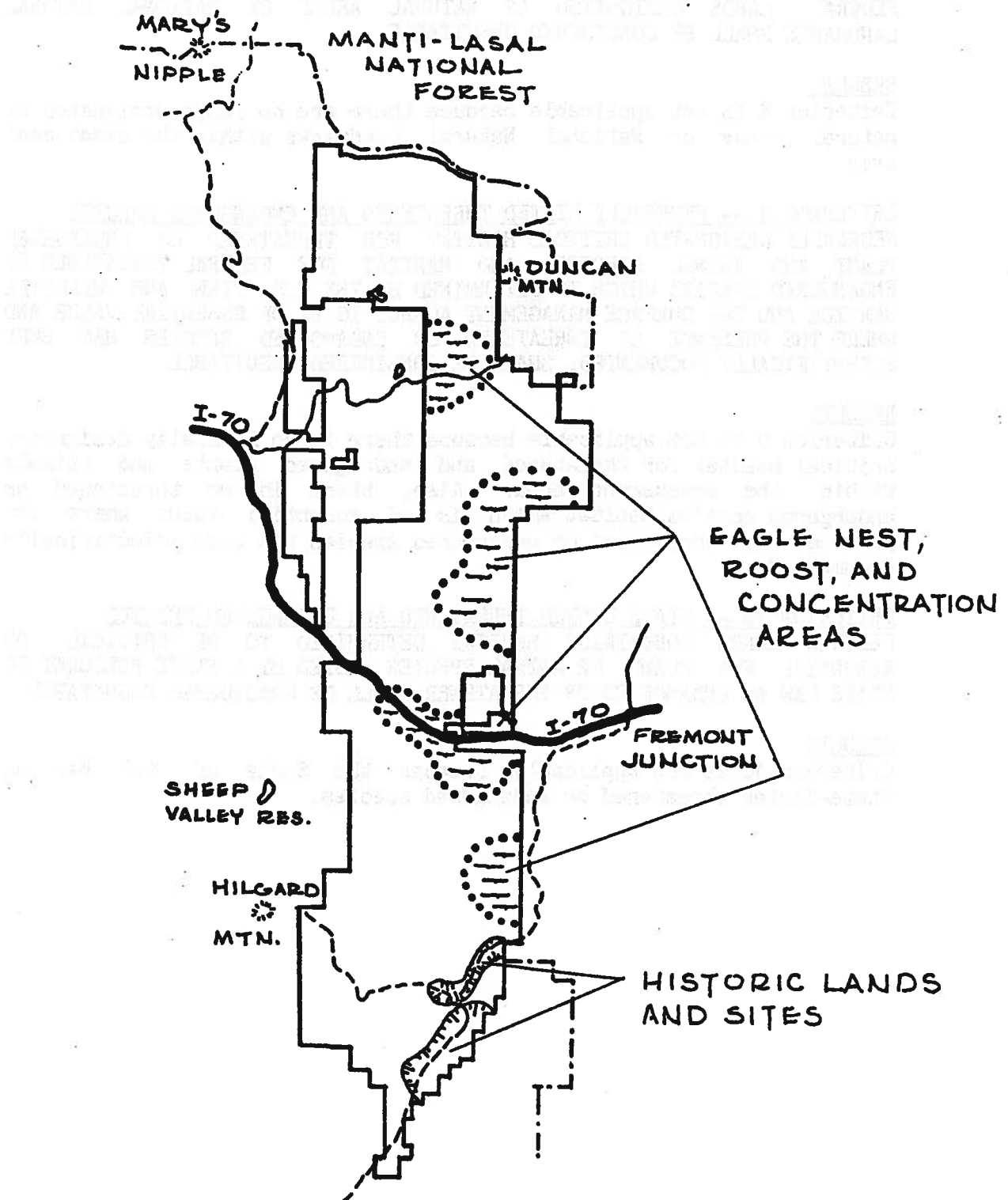


FIGURE 6

Eagle Areas and Historic Lands

CRITERION 8 -- NATURAL AREAS

FEDERAL LANDS DESIGNATED AS NATURAL AREAS OR NATIONAL NATURAL LANDMARKS SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 8 is not applicable because there are no lands designated as natural areas or National Natural Landmarks within the assessment area.

CRITERION 9 -- FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

FEDERALLY DESIGNATED CRITICAL HABITAT FOR THREATENED OR ENDANGERED PLANT AND ANIMAL SPECIES, AND HABITAT FOR FEDERAL THREATENED OR ENDANGERED SPECIES WHICH IS DETERMINED BY THE U.S. FISH AND WILDLIFE SERVICE AND THE SURFACE MANAGEMENT AGENCY TO BE OF ESSENTIAL VALUE AND WHERE THE PRESENCE OF THREATENED OR ENDANGERED SPECIES HAS BEEN SCIENTIFICALLY DOCUMENTED, SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 9 is not applicable because there is no Federally designated critical habitat for threatened and endangered plants and animals within the assessment area. Also, there is no threatened or endangered species habitat which is of essential value where the presence of threatened or endangered species has been scientifically documented.

CRITERION 10 -- STATE LISTED THREATENED AND ENDANGERED SPECIES

FEDERAL LANDS CONTAINING HABITAT DETERMINED TO BE CRITICAL OR ESSENTIAL FOR PLANT OR ANIMAL SPECIES LISTED BY A STATE PURSUANT TO STATE LAW AS ENDANGERED OR THREATENED SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 10 is not applicable because the State of Utah has no state-listed threatened or endangered species.

CRITERION 11 -- EAGLE NESTS

A BALD OR GOLDEN EAGLE NEST OR SITE ON FEDERAL LANDS THAT IS DETERMINED TO BE ACTIVE AND AN APPROPRIATE BUFFER ZONE OF LAND AROUND THE NEST SITE SHALL BE CONSIDERED UNSUITABLE. CONSIDERATION OF AVAILABILITY OF HABITAT FOR PREY SPECIES AND OF TERRAIN SHALL BE INCLUDED IN THE DETERMINATION OF BUFFER ZONES. BUFFER ZONES SHALL BE DETERMINED IN CONSULTATION WITH THE FISH AND WILDLIFE SERVICE.

RESULTS

There are no bald eagle nests or sites on Federal lands within the assessment area. During June and July 1981, a helicopter survey for raptors was conducted and four active golden eagle nest sites and two tended nest sites were found within the assessment area. Appropriate buffer zones around the sites were determined by the Forest in consultation with the Fish and Wildlife Service. These criterion 11 lands within the assessment area, as shown in Figure 6, total approximately 11,315 acres and are unsuitable for mining operations under this criterion. An estimated reserve of 130.7 million tons and 52.3 million tons of recoverable coal are involved in the unsuitable area.

By applying the underground mining exemption from criteria, the above 11,315 acres are assessed by the Forest as suitable for underground mining provided that no surface operations or surface impacts are allowed within the criterion 11 areas. The involved 52.3 million tons of recoverable coal are thus made available.

Leasing criterion 11 areas would be allowed only where surface operations and/or surface impacts would be conditioned pursuant to the following exceptions:

EXCEPTIONS TO CRITERION 11

A LEASE MAY BE ISSUED IF:

- (i) IT CAN BE CONDITIONED IN SUCH A WAY, EITHER IN MANNER OR PERIOD OF OPERATION THAT EAGLES WILL NOT BE DISTURBED DURING BREEDING SEASON; OR
- (ii) THE SURFACE MANAGEMENT AGENCY, WITH THE CONCURRENCE OF THE FISH AND WILDLIFE SERVICE, DETERMINES THAT THE GOLDEN EAGLE NEST(S) WILL BE MOVED.
- (iii) BUFFER ZONES MAY BE DECREASED IF THE SURFACE MANAGEMENT AGENCY DETERMINES THAT THE ACTIVE EAGLE NESTS WILL NOT BE ADVERSELY AFFECTED.

CRITERION 12 -- EAGLE ROOST AND CONCENTRATION AREAS

BALD AND GOLDEN EAGLE ROOST AND CONCENTRATION AREAS ON FEDERAL LANDS USED DURING MIGRATION AND WINTERING SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Within the assessment area, the Forest has identified one roost and concentration area used by bald and golden eagles during migration and wintering. This area, shown in Figure 6, includes approximately 1,756 acres of Federal land (approx. 940 A. coal-bearing) and is unsuitable for surface and underground mining operations under this criterion. An estimated 13.9 million tons of reserves and 5.6 million tons of recoverable coal are involved.

The underground mining exemption from criteria was applied and the Forest assessed the above 756 acres of criterion 12 lands as suitable for underground mining provided that no surface operations or surface impacts are allowed. Application of the underground mining exemption makes the above 5.6 million tons of recoverable coal available.

A lease allowing surface operations and surface impacts within the criterion 12 lands may be issued only if it provides for mitigation of impacts as specified in the following exception.

EXCEPTION TO CRITERION 12

A LEASE MAY BE ISSUED IF THE SURFACE MANAGEMENT AGENCY DETERMINES THAT ALL OR CERTAIN STIPULATED METHODS OF COAL MINING CAN BE CONDUCTED IN SUCH A WAY, AND DURING SUCH PERIODS OF TIME, TO ENSURE THAT EAGLES SHALL NOT BE ADVERSELY DISTURBED. (REFER TO FIGURE 6, FOLLOWING CRITERION 7).

CRITERION 13 -- FALCON CLIFF NESTING SITES

FEDERAL LANDS CONTAINING A FALCON (EXCLUDING KESTRAL) CLIFF NESTING SITE WITH AN ACTIVE NEST AND A BUFFER ZONE OF FEDERAL LAND AROUND THE NEST SITE SHALL BE CONSIDERED UNSUITABLE. CONSIDERATION OF AVAILABILITY OF HABITAT FOR PREY SPECIES AND OF TERRAIN SHALL BE INCLUDED IN THE DETERMINATION OF BUFFER ZONES. BUFFER ZONES SHALL BE DETERMINED IN CONSULTATION WITH THE FISH AND WILDLIFE SERVICE.

RESULTS

Criterion 13 does not apply because the assessment area is not known to contain a falcon cliff nesting site with an active nest.

CRITERION 14 -- MIGRATORY BIRDS

FEDERAL LANDS WHICH ARE HIGH PRIORITY HABITAT FOR MIGRATORY BIRD SPECIES OF HIGH FEDERAL INTEREST ON A REGIONAL OR NATIONAL BASIS, AS DETERMINED JOINTLY BY THE SURFACE MANAGEMENT AGENCY AND THE FISH AND WILDLIFE SERVICE, SHALL BE CONSIDERED UNSUITABLE.

RESULTS

The Bureau of Land Management and Fish and Wildlife Service have identified 21 migratory bird species of high Federal interest as being present within the Uinta-Southwestern Utah Coal Production Region -- a geographic region in which the assessment area is located. A list of these species is shown in Table 9 and is used for application of this criterion.

High priority habitat is defined as areas that: (1) are used regularly by one or more of the listed species, (2) are otherwise limited in availability for feeding, reproduction, wintering, or other uses or supportive of concentrations of one or more species, and (3) contain a combination of natural or man made factors that provide essential habitat requirements. No high priority habitat for the species listed in Table 9 has been identified within the assessment area except for eagles as discussed in criterias 11 and 12. However, because none of the assessment area is known to not meet the definition of high priority habitat, all 76,867 acres of Federal lands are considered unsuitable for surface and underground mining operations. An estimated 1,387.3 million tons of reserves and 554.9 million tons of recoverable coal are involved in the unsuitable lands.

By applying the underground mining exemption from criteria, the Forest assessed the above 76,867 acres as suitable for underground mining provided that no surface operations or impacts within the criterion 14 area are allowed. Thus, application of the underground mining exemption makes the above 554.9 million tons of recoverable coal available.

Leasing criterion 14 lands may be allowed only where surface operations and/or surface impacts would be conditioned pursuant to the following exception:

EXCEPTION TO CRITERION 14

A LEASE MAY BE ISSUED WHERE THE SURFACE MANAGEMENT AGENCY, AFTER CONSULTATION WITH THE FISH AND WILDLIFE SERVICE, DETERMINES THAT ALL OR CERTAIN STIPULATED METHODS OF COAL MINING WILL NOT ADVERSELY AFFECT THE MIGRATORY BIRD HABITAT DURING THE PERIODS WHEN SUCH HABITAT IS USED BY THE SPECIES.

TABLE 9
MIGRATORY BIRDS OF HIGH FEDERAL INTEREST FOUND IN THE UINTA-SOUTHWESTERN UTAH COAL PRODUCTION REGION
AND OCCURRENCE RATING FOR THE ASSESSMENT AREA

COMMON NAME	SCIENTIFIC NAME	KNOWN	OCCURRENCE POSSIBLE	UNLIKELY
1. Great Blue Heron	<i>ardea herodias</i>			
2. Cooper's Hawk	<i>Accipiter cooperii</i>	X	X	X
3. Ferruginous Hawk*	<i>Buteo regalis</i>	X		
4. Golden Eagle	<i>Aquila chrysaetos</i>	X		
5. Bald Eagle	<i>Haliaeetus leucocephalus</i>			X
6. Osprey*	<i>Pandion haliaetus</i>	X		
7. Prairie Falcon	<i>Falco mexicanus</i>		X	
8. Peregrine Falcon	<i>Falco peregrinus</i>		X	
9. Merlin	<i>Falco columbarius</i>			X
10. Long-billed Curlew	<i>Numenius americanus</i>			X
11. Band-tailed Pigeon*	<i>Columba fasciata</i>			X
12. Flammulated Owl	<i>Otus flammeus</i>		X	
13. Burrowing Owl*	<i>Speotyto cunicularia</i>			X
14. Spotted Owl	<i>Strix occidentalis</i>			X
15. Black Swift*	<i>Cypseloides niger</i>			X
16. Pileated Woodpecker	<i>Dryocopus pileatus</i>			X
17. Lewis Woodpecker	<i>Asyndesmus lewis</i>		X	
18. Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>		X	
19. Western Bluebird	<i>Sialia mexicana</i>	X		
20. Grace's Warbler	<i>Dendroica graciae</i>	X		
21. Scott's Oriole	<i>Icterus parisorum</i>		X	

*No habitat type present in the assessment area for these species as per Forest in consultation with Fish and Wildlife Service.

CRITERION 15 -- STATE RESIDENT FISH AND WILDLIFE

FEDERAL LANDS WHICH THE SURFACE MANAGEMENT AGENCY AND THE STATE JOINTLY AGREE ARE FISH AND WILDLIFE HABITAT FOR RESIDENT SPECIES OF HIGH INTEREST TO THE STATE AND WHICH ARE ESSENTIAL FOR MAINTAINING THESE PRIORITY WILDLIFE SPECIES SHALL BE CONSIDERED UNSUITABLE. EXAMPLES OF SUCH LANDS WHICH SERVE A CRITICAL FUNCTION FOR THE SPECIES INVOLVED INCLUDE:

- (i) ACTIVE DANCING AND STRUTTING GROUNDS FOR SAGE GROUSE, SHARP-TAILED GROUSE, AND PRAIRIE CHICKEN;
- (ii) WINTER RANGES MOST CRITICAL FOR DEER, ANTELOPE, AND ELK; AND
- (iii) MIGRATION CORRIDORS FOR ELK.

A LEASE MAY BE ISSUED IF, AFTER CONSULTATION WITH THE STATE, THE SURFACE MANAGEMENT AGENCY DETERMINED THAT ALL OR CERTAIN STIPULATED METHODS OF COAL MINING WILL NOT HAVE A SIGNIFICANT LONG-TERM IMPACT ON THE SPECIES BEING PROTECTED.

RESULTS

Resident fish and wildlife species of high interest to the State of Utah have been identified by the Utah Division of Wildlife Resources (UDWR). Table 10 lists those species known to inhabit the assessment area.

Areas essential for maintaining the listed species have been jointly agreed upon by the Forest and UDWR. They include:

- a. Water impoundments, all perennial and ephemeral stream channels riparian habitat, and associated wetlands along with a 0.5 mile terrestrial habitat buffer zone on each side of the riparian habitat.
- b. All coniferous and aspen vegetation types.
- c. Winter ranges most-critical for deer and elk.
- d. Elk calving areas.
- e. Cliff areas associated with raptor nests.

The above types of essential areas comprise virtually all 76,867 acres of Federal lands within the assessment area and are unsuitable for surface and underground mining operations (see Fig. 4). An estimated 1,387.3 million tons of reserves and 554.9 million tons of recoverable coal are involved in the unsuitable lands.

Through application of the underground mining exemption from criteria, the Forest assessed the above 76,867 acres as suitable for underground mining provided that no surface operations or impacts within the criterion 15 lands are allowed. The above 554.9 million tons of recoverable coal are made available by application of this exemption.

Leasing criterion 15 lands may be allowed where surface operations and/or surface impacts will not have a significant long-term impact on the species being protected, as determined by the Forest in consultation with the UDWR.

TABLE 10: Resident Fish and Wildlife Species of High Interest to the State of Utah Which Are Known to Inhabit the Assessment Area.

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Goshawk	<u>Accipiter gentilis</u>
Sharp-shinned Hawk	<u>Accipiter striatus</u>
Red-tailed Hawk	<u>Buteo jamaicensis</u>
Ferruginous Hawk	<u>Buteo regalis</u>
Golden Eagle	<u>Aquila chrysaetos</u>
Marsh Hawk	<u>Circus cyaneus</u>
Prairie Falcon	<u>Falco mexicanus</u>
Peregrine Falcon	<u>Falco peregrinus</u>
American Kestrel	<u>Falco sparverius</u>
Blue Grouse	<u>Dendragapus obscurus</u>
Sage Grouse	<u>Centrocercus urophasianus</u>
Chukar Partridge	<u>Alectoris chukar</u>
Turkey	<u>Meleagris gallopavo</u>
MAMMALS	
Black Bear	<u>Ursus americanus</u>
Mountain Lion	<u>Felis concolor</u>
Rocky Mountain Elk	<u>Cervus canadensis</u>
Mule Deer	<u>Odocoileus hemionus</u>
Pronghorn Antelope	<u>Antilocapra americana</u>
Snowshoe Hare	<u>Lepus americanus</u>
Mountain Cottontail	<u>Sylvilagus nuttallii</u>
Desert Cottontail	<u>Sylvilagus auduboni</u>
Pigmy Cottontail	<u>Sylvilagus idahoensis</u>
Beaver	<u>Castor canadensis</u>
Bobcat	<u>Lynx rufus</u>
Kit Fox	<u>Vulpes macrotis</u>
Badger	<u>Taxidea taxus</u>
FISH	
Cutthroat Trout	<u>Salmo clarki</u>
Rainbow Trout	<u>Salmo gairdneri</u>
Brown Trout	<u>Salmo trutta</u>
Brook Trout	<u>Salvelinus fontinalis</u>

CRITERION 16 -- FLOODPLAINS

FEDERAL LANDS IN RIVERINE, COASTAL AND SPECIAL FLOODPLAINS (100 YEAR RECURRENCE INTERVAL) ON WHICH THE SURFACE MANAGEMENT AGENCY DETERMINES THAT MINING COULD NOT BE UNDERTAKEN WITHOUT SUBSTANTIAL THREAT OF LOSS OF LIFE OR PROPERTY SHALL BE CONSIDERED UNSUITABLE FOR ALL OR CERTAIN STIPULATED METHODS OF COAL MINING.

RESULTS

Within the assessment area there are approximately 155 acres of Federal lands in special floodplains which the Forest determined are unsuitable for surface and underground mining operations. These lands are shown in Figure 7 and involve 2.8 million tons of reserves and 1.1 million tons of recoverable coal.

Through application of the underground mining exemption from criteria, the Forest has assessed the above 155 acres, involving 1.1 million tons of recoverable coal, suitable for underground mining. Such suitability is based upon determination by the Forest that mining operations can be undertaken, through employment of adequate protective measures, without substantial threat of loss of life or property.

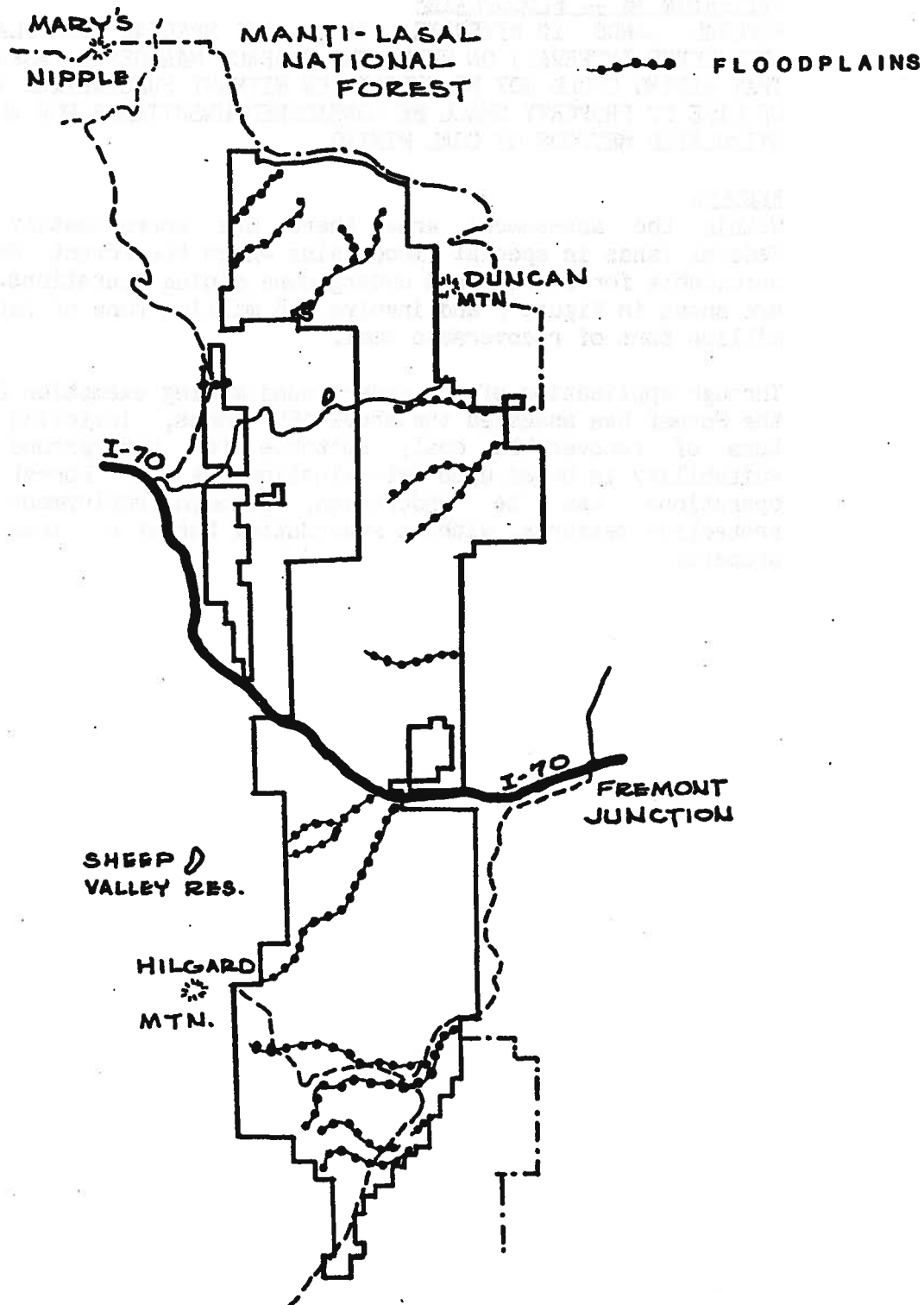


FIGURE 7

Special Floodplains

CRITERION 17 -- MUNICIPAL WATERSHEDS

FEDERAL LANDS WHICH HAVE BEEN COMMITTED BY THE SURFACE MANAGEMENT AGENCY TO USE AS MUNICIPAL WATERSHEDS SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 17 does not apply because there are no municipal watersheds within the assessment area.

CRITERION 18 -- NATIONAL RESOURCE WATERS

FEDERAL LANDS WITH NATIONAL RESOURCE WATERS, AS IDENTIFIED BY STATES IN THEIR WATER QUALITY MANAGEMENT PLANS, AND A BUFFER ZONE OF FEDERAL LAND 1/4 MILE FROM THE OUTER EDGE OF THE FAR BANKS OF THE WATER, SHALL BE UNSUITABLE.

RESULTS

Criterion 18 does not apply because no National Resource Waters have been identified within the assessment area by the State of Utah.

CRITERION 19 -- ALLUVIAL VALLEY FLOORS

FEDERAL LANDS IDENTIFIED BY THE SURFACE MANAGEMENT AGENCY, IN CONSULTATION WITH THE STATE IN WHICH THEY ARE LOCATED, AS ALLUVIAL VALLEY FLOORS ACCORDING TO THE DEFINITION IN 34--0.5 (A) OF THIS TITLE, THE STANDARD IN 30 CFR PART 822, THE FINAL ALLUVIAL VALLEY FLOOR GUIDELINES OF THE OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT WHEN PUBLISHED AND APPROVED STATE PROGRAMS UNDER THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977, WHERE MINING WOULD INTERRUPT, DISCONTINUE, OR PRECLUDE FARMING, SHALL BE CONSIDERED UNSUITABLE. ADDITIONALLY, WHEN MINING FEDERAL LAND OUTSIDE AN ALLUVIAL VALLEY FLOOR WOULD MATERIALLY DAMAGE THE QUANTITY OR QUALITY OF WATER IN SURFACE OR UNDERGROUND WATER SYSTEMS THAT WOULD SUPPLY ALLUVIAL VALLEY FLOORS, THE LAND SHALL BE CONSIDERED UNSUITABLE.

RESULTS

The Forest has identified no alluvial valley floors within the assessment area. Therefore the first part of this criterion does not apply.

Water from the assessment area does supply alluvial valley floors outside the assessment area. However, the Forest has determined that surface and underground mining operations are possible without materially damaging water quantity or quality, provided that performance standards defined in 30 CFR Parts 816 and 817 are met. Therefore, the lands within the assessment area are considered suitable for surface and underground mining.

CRITERION 20 -- STATE PROPOSED CRITERIA

FEDERAL LANDS IN A STATE TO WHICH IS APPLICABLE TO CRITERION (i) PROPOSED BY THAT STATE, AND (ii) ADOPTED BY RULEMAKING BY THE SECRETARY, SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 20 is not applicable because the State of Utah has not proposed, nor had additional criteria adopted by the Secretary of Interior.

C. Multiple Use Resource Management Decision

Most conflicts between coal and other resources and uses have been addressed in application of the unsuitability criteria. However, the Clear Creek Administrative Site, comprised of approximately 202 acres in Lots 1-6, T.24S., R.4E., SLM, and the Lisonbe Administrative Site including 40 acres in SW1/4NW1/4 Sec 34, T.21S., R.4E., SLM, require protection. Surface operations and impacts related to mining would be restricted to safeguard the values present. These sites involve an estimated reserve of 5.1 million tons and 2.0 million tons of recoverable coal. The 2.0 million tons of recoverable coal would be available by underground mining methods which would not include significant impacts to the surface.

Additional conflicts may be revealed through the Forest Planning process. Adjustments to accommodate these conflicts will be made as needed.

D. Surface Owner Consultation

As stated earlier in this document, there are 160 acres of privately owned surface estate overlying Federal coal resources. These lands are located in T.22S., R.3E., Sec 13: SE1/4SE1/4, and Sec. 24: NE1/4SE1/4; and T.24S., R.4E., Sec. 29: N1/2NW1/4. Since these lands are minable only by underground methods, consultation with surface owner(s) is not required (see 43 CFR 3420.1-4(e)(4)(i) and therefore was not done. Availability of the coal resource is not affected.

III. DESIGNATION OF AREAS UNSUITABLE FOR MINING

It should be noted that the Federal lands review is not a program for the designation of lands as unsuitable for mining. Formal designation of Federal lands as unsuitable would occur only in response to a petition to designate under Section 522(c) of the SMCRRRA. The office of Surface Mining Reclamation and Enforcement (OSM) has the responsibility to administer the statutory petition process.

Under the petition process, petitions would be filed with OSM. The petitioner must be adversely affected by potential mining of the lands in question. The petition must "contain allegations of facts with supporting evidence" to establish the truth of the allegations. Or those petitions that do meet these requirements, designation as unsuitable, rejection of the petition, or termination of a prior designation would occur. The OSM would refer each petition to the appropriate land management agency for its review. The results of that review would be presented at or before a public hearing on the petition. The land management agency would also be able to petition OSM on its own behalf to designate Federal lands as unsuitable or to terminate a prior designation.

While the criteria applied in the Federal land review and the petition process are the same, it is important to note that OSM, not the land management agency, controls the outcome of the petition process. If

may be that certain lands which would not be found to be unsuitable in land use planning might be designated unsuitable upon petition, and conversely, lands deemed unsuitable by the land management agency might not be designated unsuitable upon petition. This is possible because the unsuitability criteria themselves, and their exceptions, are, in origin and function, designed to ensure environmental protection and establish mitigation of adverse impacts, while the formal designation process requires consideration of coal demand and the socio-economic impacts in carrying out the environmental purposes served by the criteria.

IV. CONCLUSIONS

Also it should be noted that the conclusions reached in this review and the land use planning process concerning the potential for coal leasing are not a commitment that leasing will take place. They merely identify lands that are acceptable for further consideration for leasing. Also, they do not end the process of evaluation. At a minimum, a potential lease area will still be evaluated as required by the National Environmental Policy Act and no mining will be allowed except as authorized by the Surface Mining Control and Reclamation Act (SMCRA). Environmental Analysis and Coordination with the BLM will be necessary before additional coal leasing occurs. Under the Federal Coal Management Program, even more evaluation is done through tract delineation, including a tract profile consisting of a site specific environmental inventory and preliminary analysis; ranking selection, and scheduling processes of tracts; and the regional sale environmental statement.

V. PUBLIC PARTICIPATION

The Forest invited public comment concerning application of the unsuitability criteria through a notice published in the Federal Register dated January 23, 1981. Notices were published in newspapers of general circulation in the area. Written notice was also sent to the local Six County Commissioner's Organization and the Utah State Planning Coordinator (A-95 Clearing House). A public meeting was also held February 10, 1981 in Richfield, Utah to explain the procedure, answer questions, and receive comments concerning the assessment.

Comments regarding impacts on raptor nests along cliff areas, water quantity and quality, archeological values, and deer and elk winter range were received. Written responses are on file at the Richfield Ranger District Office, 115 East 900 North Richfield, Utah.

APPENDIX P
See Travel Map in Pocket

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APPENDIX Q

SOIL AND WATERSHED IMPROVEMENT NEEDS

Appendix Q shows the soil and watershed improvement needs and the Forest soil monitoring plan. Existing instream flow recommendations and streams needing instream flow quantification are shown in Tables Q-1 and Q-2. Table Q-3 is a prioritized listing of watershed improvement needs. Table Q-4 is a prioritized listing of abandoned mine land restoration. The Forest soil monitoring plan is also contained in this appendix.

1. Water Resource Inventories

The water resource inventories provide for collection and assembly of information which defines and characterizes water resources. These inventories provide interpretations that are made for land and resource management plans. Water resource inventories usually include descriptions of climate, water quality, water quantity, watershed characteristics and water uses and developments. Better definition of water rights, including instream flow claims for "securing favorable conditions of flow" and description of past watershed improvement needs, as identified in the watershed improvement needs inventory, are two major goals of such inventories. The schedule for the next 10 years follows:

<u>Year</u>	<u>Watershed ID</u>	<u>Costs</u>	<u>Acres</u>
85	Kanosh (028)	\$5,500	92,300
86	North Creek (025)/Sulphur(026)	5,500	99,400
87	Beaver River (024)/Fremont(030)	5,500	82,700
88	Fillmore (029)/Up. Salina (016)	5,500	103,200
89	Soldier (017)/L. Salina (016)	5,500	88,800
90	Clear Creek (011)	5,500	104,200
91	Fool Cr. (022)/Scipio (020)	5,500	79,400
92	Convulsion (001)/Koosharem (007)	5,500	87,500
93	Monroe (013)/Marysville (012)	5,500	107,200
94	Otter Cr. (008)/Willow Cr (019)	5,500	91,700

Priorities are based on needs for water rights adjudications, completing instream flow quantifications, completing essential watershed restoration backlogs, the need to complete our watershed data bases and the seriousness of current watershed problems in terms of health, safety, and resource values.

2. Instream Flows

In the Forest Service Manual (FSM 2541.03), it states that "water, including instream flows and standing water, necessary for the development, use, and management of resources of the National Forest System will be obtained and used in accordance with the reservation principle, where applicable. Where the reservation principle is not applicable, water rights will be obtained in accordance with state law." Where neither the reservation principle nor state law can be used to secure a legal right to maintain instream flows, recognition

of values and quantification are necessary as a basis for lar management decisions in possible future proposals for wate diversions. Further direction along these same lines has been give by the Chief, in the President's Water Policy and in the Nationa Forest Management Act (NFMA) regulations. Evaluation for instree flow values should recognize recreation, fish, and wildlife needs, an other uses as well as for activities and uses associated with timbe production and securing favorable conditions of water flow.

Streams and standing water bodies have been identified by th Districts on which instream flow values and minimum water leve determinations should be conducted. These streams, reservoirs, an lakes are listed by HRU's.

TABLE Q-1
STREAMS AND STANDING WATER ON WHICH
DETERMINATIONS SHOULD BE CONDUCTED

Beaver HRU

Birch Creek
Pine Creek
North Creek
Beaver River
South Creek
Indian Creek
Mill Creek

Fremont HRU

Seven Mile Creek
UM Creek
Fremont River
Clear Creek
Polk Creek

Fremont HRU

Sulphur Creek
Sand Creek
Cedar Creek
Reese Creek
Sweetwater Creek
Pole Canyon Creek
Salt Creek
Tasha Creek
Last Chance Creek
Round Spring Draw

Richfield HRU

Salina Creek
Willow creek
Niotche Creek
Little Lost Creek
Lost Creek
Gooseberry Creek
Gates Creek
Monroe Creek
Box Creek
Otter Creek
Fish Creek
Shingle Mill
Skutumpah Reservoir

Delta HRU

Oak Creek

Fillmore HRU

Corn Creek
Meadow Creek
South Fork Chalk Creek
North Fork Chalk Creek
Pioneer Canyon Creek
Maple Grove
Willow Creek
Second Creek
Three Creek
Pole Creek
Skunk Creek

Piute HRU

Manning Creek
City Creek
Bullion Creek
Beaver Creek
Termile Creek
Cottonwood Creek
Deer Creek
Birch Creek
Manning Reservoir

Richfield HRU (con't)

Twin Ponds Reservoir
Farnsworth Reservoir
Abes Reservoir
Harves Reservoir
Salina Reservoir
Hamilton Lake
Gates Lake
Rex's Reservoir
Box Creek Reservoir
Big Lake
Annabella Reservoir
Deep Lake

TABLE Q-2
WATERSHED IMPROVEMENTS

The following watershed improvements have been scheduled by priority for project work starting in 1985:

<u>Project Name</u>	<u>District</u>	<u>Watershed ID</u>	<u>Acres</u>	<u>Cost</u>
Na-Gah flat	D-2	003/03	3	\$2,000
N. Lake Creek	D-2	002/18	20	8,000
Hancock Flat	D-2	007/01	3	1,500
Right Fk UM	D-2	004/04	3	3,000
Gold Gulch Rd	D-3	010/17	20	5,000
Price Spring	D-3	010/08	20	15,000
Brush Hollow Rd.	D-3	026/06	25	5,000
Beaver River	D-3	024/14	21	4,500
Brush Trail	D-4	017/23	5	2,000
Salina Landslides	D-4	016	80	4,000
Sunset	D-1	028/05	5	1,800
Hell Hole Can. #1/2	D-1	028/01	150	20,800
Indian Spring	D-1	028/03	5	1,800
Chokecherry Can.	D-1	029/04	120	20,500
Willow Basin	D-2	002/11	350	26,200
Salt Gulch 2	D-2	004/02	100	17,400
Riley Spring	D-2	004/01	100	15,400
Chokecherry	D-3	009/01	15	3,650
S.Fk So. Cr (CC Pk)	D-3	024/03	15	3,650
Tushar Alpine	D-3	024	80	5,100
Clear Creek	D-4	019/05	15	4,700
Flat Top	D-4	016/47	25	8,200
Gooseberry/Squaw	D-4	017/03	80	14,100
Upper Chokecherry	D-1	029/06	280	30,000
McDonald Basin	D-2	002/10	150	30,000
Tushar Alpine	D-3	024	150	27,000
Tushar Alpine	D-3	010	180	24,700
Big John Flat	D-3	024/05	10	5,000
Soldier Can. #1	D-4	017/12	200	30,000
Cottonwood Cr. Rd	D-1	028/21	5	2,000
Low Rose Hol Rd	D-1	028/15	2	1,000
Up Trail Sp B Rd	D-1	028/16	6	3,000
Grass Valley	D-1	028/13	100	44,000
Upper Severn mile	D-2	003/05	15	8,000
Mamoit Spring	D-2	003/07	2	1,000
Merchant Hollow	D-3	025/03	30	2,000
Brush Hollow Rd	D-3	026/06	25	5,000
Soldier Canyon # 2	D-4	017/13	200	60,000

<u>Project Name</u>	<u>District</u>	<u>Watershed ID</u>	<u>Acres</u>	<u>Cost</u>
Al Gay Flat	D-1	028/19	30	13,000
N. Fk. Big Hollow	D-1	028/11	30	13,000
Garden Basin	D-2	002/14	150	15,000
Cork Rd. Barley	D-3	025/09	10	3,000
Soldier Canyon	D-4	017/11	200	60,000
Pavant GS	D-1	011/05	10	10,000
Mud Sp. Hollow	D-1	011/07	20	15,000
Marys Nipple	D-1	011/09	35	5,000
Meeks Lake	D-2	002/16	40	10,000
Beaver River	D-3	024/14	20	50,000
S. Fk So. Cr.	D-3	025/14	15	43,000
S. Fk Big Hollow	D-1	028/12	200	88,000
Tasha Spring	D-2	003/04	60	5,000
S. Fk Manning R. Rd	D-4	012/12	5	1,000
No. Coal Rd.	D-4	016/11	15	10,000
Mud Lakes	D-4	016/24	7	7,000
N. Fk. North Cr.	D-3	025/15	10	12,000
City Cr. Peak	D-3	010/04	70	8,000
Beaver River 2	D-3	024/14	20	51,000
Snow Corral	D-4	016/02	100	20,000
No Bull Valley	D-4	018/03	38	10,000
Bean Canyon	D-1	014/06	500	40,000
Pole Canyon	D-2	005/01	150	25,000
Bullion Canyon	D-3	010/15	9	32,000
Indian Creek	D-3	025/16	20	50,000
Little Duncan	D-4	001/03	140	15,000
Upper Rock Can	D-1	020/02	250	30,000
Rock Canyon	D-1	020/03	200	25,000
Fish Creek M.	D-3	011/22	5	4,000
Wilson Creek	D-3	011/23	10	5,000
Rosebud Cr.	D-3	011/24	5	4,000
Pine Hollow Spring	D-4	001/15	300	30,000
East Skutumpah	D-4	016/04	200	40,000

TABLE Q-3
ABANDONED MINE LAND RESTORATION

The following abandoned mine lands have been scheduled by priority for project work starting in FY 1986:

<u>PROJECT NAME</u>	<u>WATERSHED ID</u>	<u>DISTRICT</u>	<u>ACRES</u>	<u>DOLLARS</u>
RAINBOW MINE	026-07	D-3	4	1.0
FULLMER CLAY MINE	011-26	D-3	12	7.0
WILD HORSE CANYON	022-07	D-1	3	2.0
MINE HOLLOW	022-06	D-1	13	6.0
HELL HOLE MINE	029-39	D-1	2	2.0
BEAR CANYON MINE	029-38	D-1	3	1.0
1ST LHF MONROE CR.	013-18	D-4	1	1.0
HOLT DRAW 1	006-05	D-2	2	1.0
HOLT DRAW 2	006-06	D-2	2	1.0
SAND CREEK	006-07	D-2	2	1.0
GREENWICH SHAFT	008-11	D-4	2	1.0
ALUNITE MINE	010-18	D-3	2	2.0
N DEER TRAIL MINE	010-19	D-3	5	1.0
UPPER S F MINE	001-20	D-3	5	2.0
RED CREEK	001-27	D-4	3	2.5
SEVENMILE	003-08	D-2	1	0.5
DRY WASH MINE 1	027-06	D-1	2	2.0
DRY WASH MINE 2	027-07	D-1	7	4.0
WRINGER CANYON	021-01	D-1	2	1.0
COTTONWOOD	018-26	D-4	2	1.0
MANNING CR SHAFT	012-15	D-4	1	1.0

3. FOREST SOIL MONITORING PLAN

A. Site Location

Five representative sites will be selected representing various portions of the Forest. These portions are as follows: 1. Canyon range, 2. Pahvant range, 3. Tushar range, 4. Monroe unit, and 5. Salina-Fremont unit. Specific area identification including name and location will be provided for each site with a map showing the location for each selected site. The sites selected will be representative of major habitat types found on the forest with soils typical of these sites.

B. Objectives

Five selected sites will be monitored once a year to evaluate the changes in percent bare ground over time. These sites will be selected in areas subject to management activities to show the related effect management has on soil loss and soil productivity using percent bare ground as an indicator and to ensure that soil loss tolerance limits are not being exceeded.

C. Type of Data to be Collected

Following the procedures as outlined in the Range Analysis Handbook, FSH 2209.21, 4.63 a-4.63 1, called Nested Frequency/Shrub Density Method, a 100 feet long baseline is established and staked along with a witness marker. Photographs are taken of the study site. Five beltlines are randomly selected perpendicular to the baseline and data is collected using a "nested frequency frame." The frame is placed at 5 feet intervals along the beltline. Data collection, gathered on ground cover, i.e., vegetation, pavement, rock, litter, and cryptogams verses bare soil will be obtained from the four points of the frame. Percent bare soil can then be calculated. This will provide 400 points of data per year per site to determine if ground cover is increasing or decreasing over time. This also establishes the "VM" factor used in the Modified Universal Soil Loss Equation to determine soil erosion rates. "VM" is explained in part G of this plan.

D. Timing of Collection and Date of Discontinuation

Data will be collected during the mid-summer each year for each site through the year 1995.

E. Estimated Cost of Total Monitoring Operations

The estimated cost of the total monitoring operation is 1200 dollars per year for all sites x 10 years = \$12,000.

F. Estimated Person Time Involved

Estimated man days is 5 days per year x 10 years = 50 man days.

G. How Data will be Used

Data obtained from the soil monitoring sites will be analyzed as follows using changes in bare soil over time:

1. Plot percent bare soil vs. year of analysis, i.e., year 1, 2, 3 etc.
2. Develop a regression equation using percent bare soil (Y) as the dependant variable and year (X) as the independant variable, $(Y=a+bX)$ with "a" representing the Y intercept and "b" the slope of the line.
3. Test the hypothesis that the slope of the line equals zero, which indicates there is no change in bare soil over time an example follows:

% Bare Soil	Year	Estimated Bare Soil	Deviation from Regression	Square of Deviation
Y	X	Y'	$Y-Y'=dyx$	dyx^2
21	1	23.6	-2.6	6.76
26	2	22.7	3.3	10.89
23	3	21.8	1.2	1.44
19	4	20.9	-1.9	3.61
20	5	20.0	0	0
				$dyx^2=22.70$

Degrees of freedom for the analysis would be $5-2=3$, where 5 observations were made and 2 averages were used in the computation. We then have $Syx^2 = dyx^2/n-2 = 22.7/5-2 = 7.57$ and $Syx = \sqrt{7.57} = 2.75$.

This value furnishes a sample standard deviation of the regression coefficient, where $Sb = Syx / \sqrt{x^2}$. The value for x^2 refers to a value calculated by obtaining the mean value for X (called \bar{X}) and subtracting X from each X value. Square and sum these values to obtain x^2 . Then a significance test for b is given by $t=b/Sb$ with $n-2$ df.

The calculated t value is compared with tabular t values given in any statistical text. If the calculated t value is greater than the tabular value, you assume the slope of the line is different than zero and that a change in bare soil has occurred over time.

Using the Modified Universal Soil Loss Equation as described in "A Approach to Water Resource Evaluation of Non-Point Silvicultura Sources (A procedural Handbook)"^{1/} one can establish surface sheet an rill erosion rates as follows: $A=RKLSVM$

"A" is the estimated average soil loss per unit area in tons/acre fo one year.

"R" is the rainfall factor (values taken from the iso-erodant ma found in "Erosion Control during Highway Construction" Volume II_2/ expressed in units of rainfall-erosivity index, EI.

"K" is the soil erodibility factor expressed in tons/acre/EI units.

"L" is the slope length and is the ratio of soil loss from the fiel slope length to that from a 72.6-foot (22.1m) length on the same soil gradient, cover and management.

"S" is the slope gradient factor and is the ratio of soil loss from given gradient to that from a 9-percent slope with the same soil cover and management.

"VM" is the vegetation-management factor, and is the ratio of soi loss from land management under specified conditions to that from th fallow site. This must be the same site where the factor K i evaluated. This information is obtained from the on-site monitorin data as referred to in part C. of this plan.

Once erosion rates are calculated it can be shown whether soil los tolerance limits are being approached or exceeded. Soil loss tole rance limits are defined as the amount of erosion that can occur on soil in one year without lowering its productivity. They are a follows:

Rooting Depth Inches	Tons/Acre/Year
0-10	1
10-20	1
20-40	2
40-60	3
60+	5

If soil loss tolerance limits are exceeded, productivity is greatl reduced.

4. SOIL RESOURCE INVENTORY

The soil resource inventory for the Fishlake National Forest is part of the National Cooperative Soil Survey (NCSS) that is conducted under a Memorandum of Understanding with the Soil Conservation Service. The level of mapping intensity is dominantly Order 3. Included in the inventories are map preparation, interpretations, field reviews, correlation with the SCS, development and maintenance of legends and field soil notebooks, and publication in accordance with NCSS standards and guidelines. The 10 year schedule follows:

<u>Year</u>	<u>Location</u>	<u>Cost</u>	<u>Acres</u>
85	Pavant Range	\$23,200	65,000
86	Pavant Range	23,200	65,000
87	Tushar Range	23,200	65,000
88	Tushar Range	23,200	65,000
89	Tushar Range	23,200	65,000
90	Tushar Range	23,200	65,000
91	Tushar/Monroe	23,200	65,000
92	Salina Unit	23,200	65,000
93	Salina Unit	23,200	65,000
94	Fremont Unit	23,200	65,000

The Pavant and Tushar Ranges are combined into one soil survey area (SSA) designated as SSA 649. During the first 6 to 7 years, priority will be placed on this area for completion and publication. Where soil resource inventories are needed on specific sites for management decisions, site inventories will be conducted. The Monroe, Salina, and Fremont units represent one survey area and are given second priority for completion.

APPENDIX R
CULTURAL RESOURCES

This appendix contains a listing of needed cultural resource activities that are part of the Forest Plan.

1. Complete the Forest's cultural resources overview by 12/25/89.
2. Identify areas requiring more intensive inventories by 12/25/89.
3. Develop a plan for the interpretation of cultural resources for the education and enjoyment of the American Public by 12/25/89.

As each of the above items is developed, it will be included in this appendix.

APPENDIX B
ORIGINAL DOCUMENTS

This appendix contains a listing of selected original documents and
one page of the latest film.

1. English for Foreigners original document, written by [illegible]
2. English for Foreigners original document, written by [illegible]
3. English for Foreigners original document, written by [illegible]
4. English for Foreigners original document, written by [illegible]

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With the aid of the following information, the following is a list of the names of the persons who have been identified as having been in contact with the person named "John Doe" in the year 1967.

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