Management Area 36 (cont'd)
PRESCRIPTION ALLOCATION

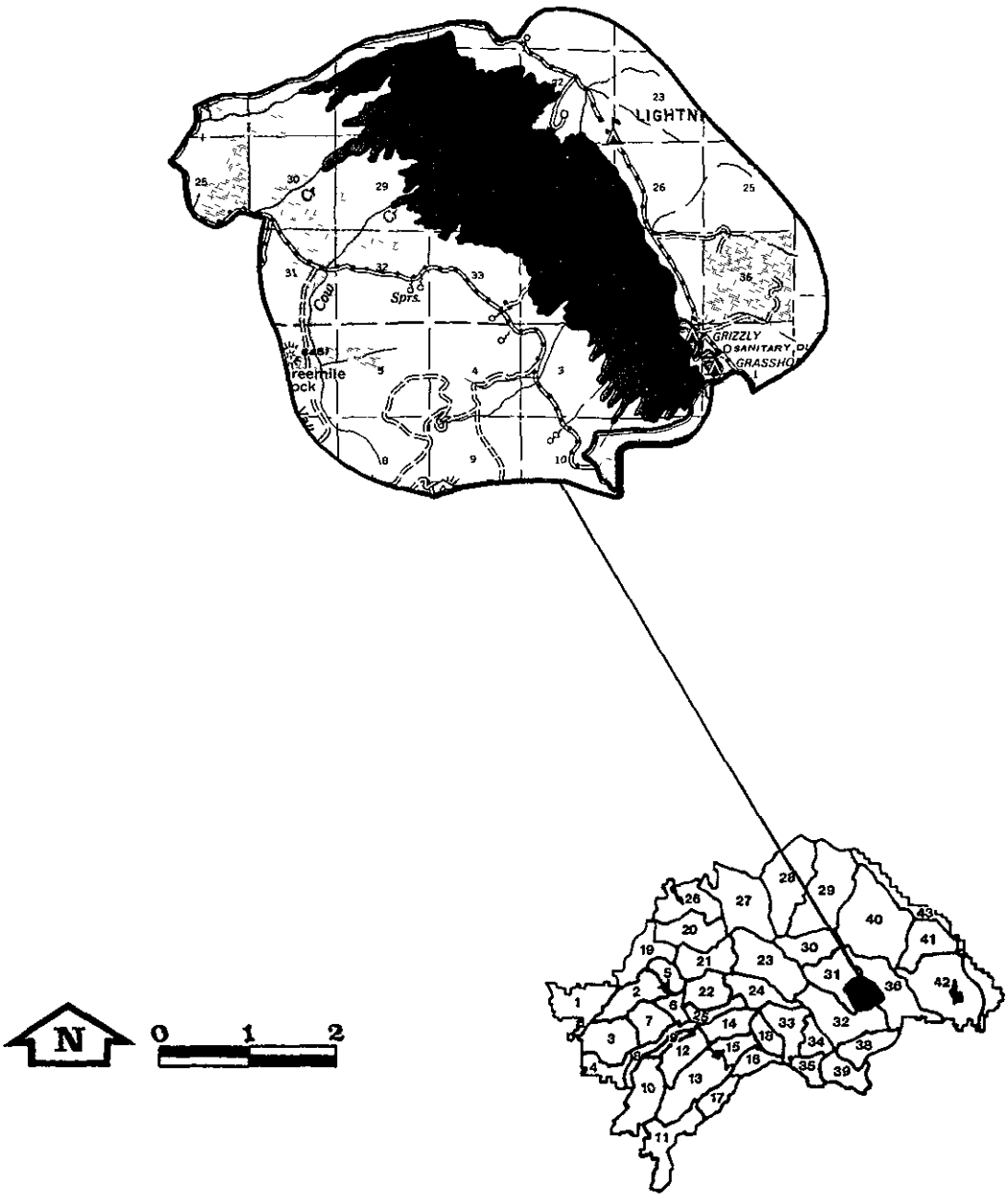
RANGE ALLOTMENT STRATEGIES

Allotment Name	Grazing Strategy
Chase	B
Horton Canyon East	B
Horton Canyon South	B
Burnham	B
Mapes Canyon	C
Bald Rock	C
Arms	C
Chase Enclosure	D
Bacher	D
Bulson	D
Dotta Neck	D

T 24 N, R 13 E

Management Area #37

Lake Davis



MANAGEMENT AREA 37

Lake Davis

District: Beckwourth

Acreage: 16,462 Total
13,146 or 80% PNF

Description

The Lake Davis Management Area surrounds Lake Davis. It is entirely within Plumas County. The major feature of the area is the "lake", a 4,000 acre reservoir of the California Water System formed by damming Big Grizzly Creek in 1966. Gradual releases provide domestic-use water to Plumas County communities and streamflow to Grizzly Creek and the Middle Fork of the Feather River.

Terrain is slightly sloping near the lake, but very steep and rugged between the Walker Mine Road and Crocker Ridge and between the West Side Road and Three Mile Ridge. Elevations range from 5,775 feet, the surface elevation of Lake Davis when full, to 7,693 feet at the top of Smith Peak. Soils have low to moderate erodibility, and risk of instability is dominantly low.

Vegetation is sagebrush with scattered pine on the flat terrain near the lake shore, changing to a dense stand of ponderosa pine and fir on the steeper slopes and ridges. Wet stringer meadows surrounded by dense stands of lodgepole pine extend along the major tributary streams on the west side of the lake. Lake Davis and its tributaries are major trout fisheries. The surrounding area contains bald eagle, goshawk, and osprey habitat and several known nesting sites. Waterfowl use the area for nesting in the spring and frequently concentrate in the area during fall migration. The western portion is within the Smith Peak State Game Refuge.

Evidence exists to indicate use of the area in prehistoric times for hunting, collecting, and seasonal camps and in early historical times for sheep and cattle grazing and railroad logging.

Lake Davis is managed for water-oriented recreation. Three family campgrounds having a total of 185 camping sites, four boat launching ramps, a sewage dump station, and a visitor information display are provided. Winter use includes ice fishing, cross-country skiing, snowmobiling, and snow play, facilitated by the County's plowing of the Grizzly Road. Use of vehicles off roads and camping outside campgrounds is prohibited between the lake shore and the main roads around the lake.

A major portion of the "Grizzly Valley" allotment, part of the "Humbug" allotment, and all of the "Lake Davis" allotment are in the area. Timber production continues, but there is no mining activity or known potential for mining.

MANAGEMENT AREA 37

Lake Davis

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Recreation	
Provide developed recreation facilities/programs to meet demand (1a).	Maintain the Lake Davis Recreation Area; employ Rx-5 and Rx-6.
	If needs are not met by the private sector, construct one group campground and one family campground by the year 2000.
Cultural Resources	
Protect significant properties	Develop a management plan for cultural resources in campgrounds, and around Lake Davis.
Visual Resources	
Maintain pleasing visual corridors (2a).	Apply Rx-10 and Rx-14 to the Grizzly Creek Road, Portola-Lake Davis Road, and the Lake Davis viewshed.
Wildlife	
Protect and improve emphasis species habitat (5a).	Maintain fish habitat in Lake Davis; enhance trout spawning/rearing habitat in the tributaries.
	Improve waterfowl nesting habitat at Lake Davis.
Maintain species viability (5a).	Maintain three osprey nesting platforms at Lake Davis.
	Provide suitable bald eagle winter roost habitat in TC 127; maintain the existing roost site.
Facilities	
Provide roads necessary to meet developed recreation demand (17a).	Reconstruct the road around Lake Davis.
Provide cost-efficient support facilities (17a).	Improve the Smith Peak Lookout.
	Prepare site plan and consider construction of new admin. site at Lake Davis.

Management Area 37
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-5.	Recreation Area	10643
Rx-6.	Developed Recreation Site	120
Rx-9.	Riparian 1/	685
Rx-11.	Bald Eagle Habitat	2237
Rx-13.	Goshawk Habitat	50
Rx-14.	Visual Partial Retention	73
Rx-15.	Timber Emphasis	23
	Total	13,146

WILDLIFE HABITAT ALLOCATIONS

Species	Territories	Compartment	Comments
Bald Eagle	2	108,127	Existing
Bald Eagle	1	127	Potential
Goshawk	1	108	Lake Davis
Osprey	3	127	Maintain nesting platforms

SERAL STAGE (DIVERSITY) TARGETS

Habitat Type	Target Acres (Minimum) Per Stage
Big sagebrush	45
Eastside pine	198
Lodgepole	9
Mixed conifer	195

RANGE ALLOTMENT STRATEGIES

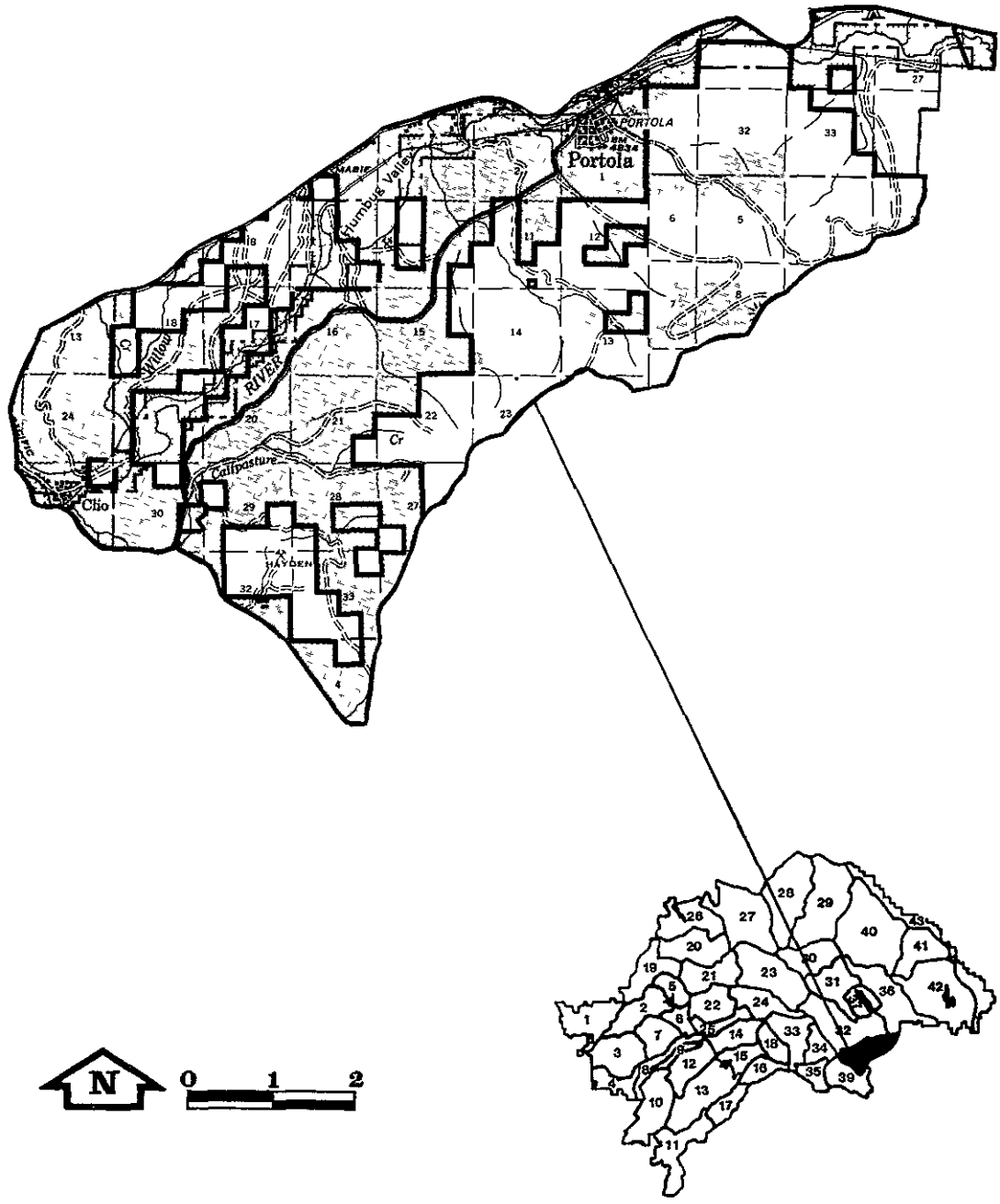
Allotment Name	Grazing Strategy
Humbug	C
Lake Davis	B
Grizzly Valley	C

1/ Acreage overlaps other Rx.

T 22 N, R 13 E

Management Area #38

Beckwourth



MANAGEMENT AREA 38

Beckwourth

District: Beckwourth

Acreage: 23,251 Total
11,217 or 48% PNF

Description

The Beckwourth Management Area extends south of Portola and Highway 70 to the Forest boundary between Beckwourth and the C-Road-Clio area in Mohawk Valley. Southern Portola, Clio, the Middle Fork of the Feather River, and the Union Pacific Railroad lie within the area. It is entirely within Plumas County. Private land is concentrated in Mohawk Valley and along County Road A15 to Portola, including most meadow areas, and is extensive outside of the complex Forest boundary.

Terrain varies from floodplain and canyon of the Middle Fork through moderate slopes to the steep, rocky caprock of Beckwourth Peak. Elevations range from 4,500 to 7,300 feet. Soils are dominantly of volcanic origin and are moderately to highly erodible. Instability risk is low, except on the talus slopes below Beckwourth Peak. Drainage is northwest into the Middle Fork of the Feather River, or southwest into Sulphur Creek, a tributary.

Vegetation is characteristic of the semi-arid conditions, and mixed conifer stands are dominated by ponderosa and Jeffrey pine. Due to subdivision development and arson, the frequency of fire has been high. Flashy fuels are widespread. The area provides transition range for the Doyle and Loyalton-Truckee deer herds. An active Prairie Falcon site is near Beckwourth Peak.

The Middle Fork Wild and Scenic River in the area is classified as a recreation zone. The PNF continues to acquire public access rights in or ownership of the extensive private property here. No developed recreation facilities are in the area, and dispersed use outside of the river zone is minor.

The "Ramelli Ranch" allotment, a portion of the "Beckwourth Peak" allotment, and the "Mlaker" Special Use Pasture are in the area. The 1700 acre Ramelli Ranch was purchased under the Wild and Scenic River Act to provide rural atmosphere and open space along the river. It has approximately 200 acres of irrigated pasture now leased for cattle grazing. Forested areas have been heavily logged since the turn of the century, leaving very little old growth timber. Many land exchanges have resulted in acquisition of additional heavily logged land. Because of the lack of old growth timber, only one small timber sale is planned for the near future.

There are no known active mining claims in the area.

MANAGEMENT AREA 38

Beckwourth

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Recreation Encourage recreation and protect the Middle Fork of the Feather River (1a).	Manage the Recreation Zone consistent with the Wild and Scenic Rivers Act; employ Rx-2. Construct day-use river access facilities at the following locations by the year 2030 in the following priority: Portola Park, Clio, Beckwourth, Willow Creek, Humbug Valley, and Grizzly Creek.
Visual Resources Maintain pleasing visual corridors (2a).	Apply Rx-10 and Rx-14 to the MFFR and Hwys. 70 and 89 viewsheds.
Cultural Resources Protect and interpret selected N.R. sites (3a).	Protect and provide interpretation of important cultural sites along the Middle Fork of the Feather River.
Wildlife Protect and improve emphasis habitat (5a).	Maintain or enhance deer species transition range for the Sloat herd.
Range Expand range productivity as demand and economic feasibility warrant (6c).	Employ Rx-16 on lands so allocated thru annual range improvement scheduling.
Maintain range productivity in active allotments (6c).	Continue to maintain the Ramelli irrigation system.
Water Protect and, where necessary, improve water quality (10a).	Stabilize Willow Creek and Ross Ranch Meadow.

MANAGEMENT AREA 38

Beckwourth

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Lands	
Consolidate ownership and dispose designated lands (16a).	Consider making available for of exchange NF lands outside both the Forest and Wild and Scenic River boundaries, and suitable lands in T22, R13, sec. 8, 9, 10, 11, 12, 15, 21, 22, 27, 28, 29, 32, 33, and T23, R14, sec. 31.
Acquire critical deer range (16a).	Attempt to acquire lands needed to support the Sloat deer herd.

Management Area 38
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-2.	Wild and Scenic River	2562
Rx-6.	Developed Recreation Site	16
Rx-7.	Minimal Management	1290
Rx-9.	Riparian 1/	450
Rx-10.	Visual Retention	1485
Rx-13.	Goshawk Habitat	50
Rx-14.	Visual Partial Retention	3458
Rx-15.	Timber Emphasis	1756
Rx-16.	Intensive Range Management	600
	Total	11,217

WILDLIFE HABITAT ALLOCATIONS

Species	Territories	Compartment	Comments
Goshawk	1	101	
Golden Eagle	1	111	Clio

SENSITIVE PLANT LOCATIONS

Species	Grazing Strategy
Astragalus lentiformis	101
Ivesia aperta	101
Ivesia sericoleuca	101

SERAL STAGE (DIVERSITY) TARGETS

Habitat Type	Target Acres (Minimum) Per Stage
Big sagebrush	23
Eastside pine	305
Mixed conifer	180

RANGE ALLOTMENT STRATEGIES

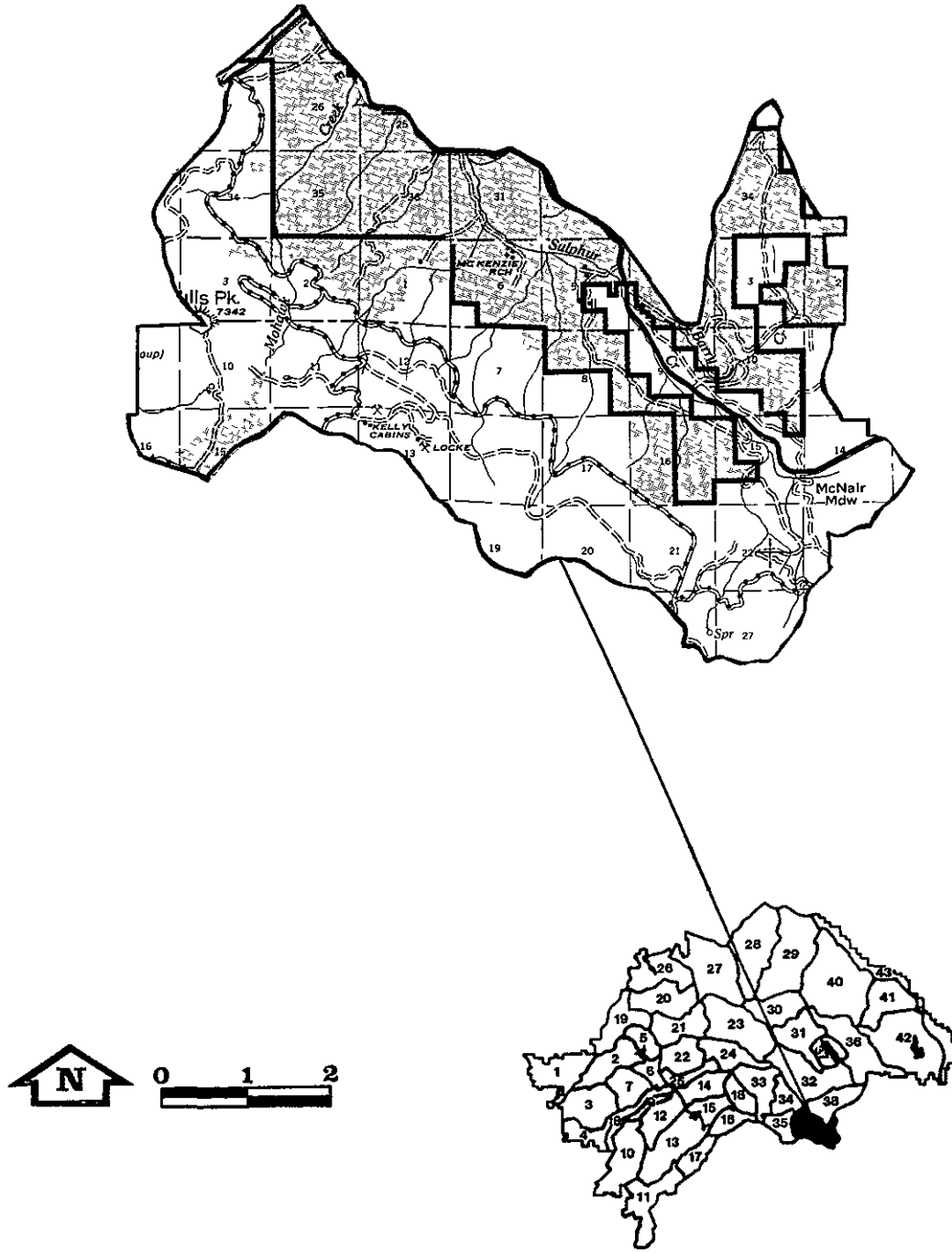
Allotment Name	Grazing Strategy
Beckwourth Peak	B
Ramelli Ranch	D

1/ Acreage overlaps other Rx.

T 21 N, R 13 E

Management Area #39

Haskell



MANAGEMENT AREA 39

Haskell

District: Beckwourth

Acreage: 24,900 Total
15,455 or 63% PNF

Description

The Haskell Management Area extends south from Clio and west from the Gold Lake Highway area to the Forest boundary. The area is almost split equally between Sierra and Plumas Counties. Most of Mohawk Valley is private land outside of the Forest boundary. The Mills Peak - Haskell Peak ridge is the prominent landmark. The area is mostly roaded, but access to the lower slopes of this ridge is limited by private ownerships.

Terrain consists of flat ridgetops and valley floors with fairly steep intervening slopes. Elevations range from 4,400 feet to 8,100 feet. Soils are of volcanic or glacial origin and are moderately erodible. Instability potential is high in glacial deposits on steep slopes. Major streams are Frazier, Mohawk, Boulder, Sulphur, and Barry Creeks, all tributary to the Middle Fork of the Feather River. Mohawk Creek is the domestic water supply for Clio. Mohawk, Boulder, and Sulphur Creeks are used for irrigation of pastureland in Mohawk Valley.

True fir stands are on the top and north slope of the Mills-Haskell ridge, but south-facing lands to the east support the more arid ponderosa and Jeffrey pine stands. All stands are a mosaic of age and structure because of past management and fire. Spotted owl territories are located within the area, and approximately 6,500 acres are Sloat deer herd winter range. Frazier and Sulphur Creek are productive fisheries.

The Mills Peak Lookout provides an overview of Mohawk Valley and surrounding terrain. A self-guided nature trail is near Mills Peak. Recreation is primarily dispersed, and no recreation facilities have been planned.

Mohawk Valley was settled by ranchers around 1870 and the valley pastures are still used for cattle. The "Mount Haskell" and part of the "Beckwourth Peak" allotments are in this area. The former is administered by the Tahoe National Forest in conjunction with some adjacent allotments. Land subdivision is planned for some of the privately-owned meadowlands and low ridges near the McKenzie Ranch. Timber production is the main use of forested land, and woodcutting activity is moderate.

Placer and lode gold mines of the 1850's are scattered throughout the area, but activity is now limited to the Locke Mine area.

MANAGEMENT AREA 39

Haskell

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Visual Resources Maintain pleasing visual corridors (2a).	Apply Rx-10 and Rx-14 to the Gold Lake Hwy. and Hwy. 89 viewsheds.
Cultural Resources Protect and interpret selected National Register sites (3a).	Protect and provide interpretation of the Frazier Falls petroglyphs.
Wildlife Protect and improve emphasis species habitat (5a).	Maintain or enhance deer winter range for the Sloat herd.
Riparian Areas Improve streams in deteriorating condition (9a).	Attempt to stabilize Sulphur Creek on PNF lands.
Water Improve water yield in the Red Fir zone (10a).	Apply Forestwide Standards and Guidelines: WATER, Water Use and Need.
Lands Consolidate ownership and dispose of designated lands (16a).	Consider making NF lands in T21, R13, sec. 3, 4, 5, 10, and 16 available for exchange.
Allow commercial use of PNF land where use of other lands is infeasible and the public interest is served (16b).	Consider identifying a site to allow a permitted radio and television broadcast station in the vicinity of Mills Peak. Issue no new electronic permits for Mills Peak.
Facilities Provide cost-efficient support facilities (17a).	Maintain Mills Peak as a lookout site if abandoned for this purpose, consider using as a recreation or observation site.

Management Area 39
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-6.	Developed Recreation Site	1
Rx-7.	Minimal Management	869
Rx-9.	Riparian 1/	557
Rx-10.	Visual Retention	6255
Rx-12.	Spotted Owl Habitat	3300
Rx-14.	Visual Partial Retention	4123
Rx-15.	Timber Emphasis	907
	Total	15,455

WILDLIFE HABITAT ALLOCATIONS

Species	Territories	Compartment	Comments
Spotted Owl	2	112,117,125	SOHA's F-1 and F-2; overlaps MA's #34 and 35

SERAL STAGE (DIVERSITY) TARGETS

Habitat Type	Target Acres (Minimum) Per Stage
Black oak	6
Lodgepole	28
Mixed conifer	380
Ponderosa pine	26
Red fir	327

RANGE ALLOTMENT STRATEGIES

Allotment Name	Grazing Strategy
Mount Haskell	B
Beckwourth Peak	B

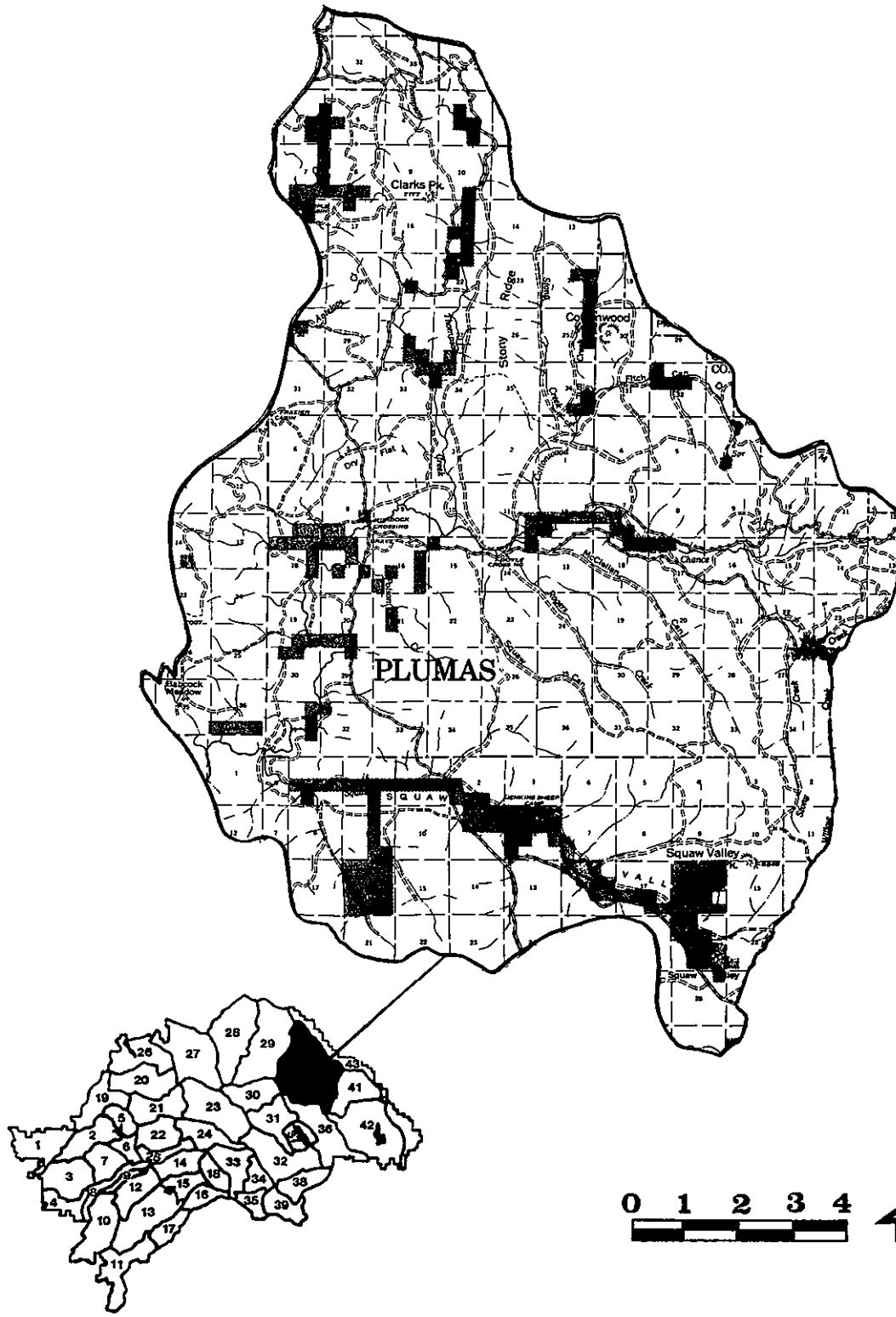
1/ Acreage overlaps other Rx.

Milford Ranger District

T 26 N, R 13 E

Management Area #40

Last Chance



MANAGEMENT AREA 40

Last Chance

District: Milford

Acreage: 98,875 Total
90,238 or 91% PNF

Description

The Last Chance Management Area is located south of Thompson Peak and the Honey Lake Escarpment, east of Antelope Lake and Babcock Peak, north of Red Clover Valley, and west of the Milford-Beckwourth Road. Most of the area is in Plumas County, but 1,425 acres are in Lassen County. Private land is scattered throughout, significant along meadows and streams streams. Subdivision activity has been significant in the Clark Creek area, curtailing public access to the Forest.

Topography is generally rolling and includes many creeks, low ridges, and no prominent landmarks. Elevations range from approximately 5,100 feet near Antelope Lake to 7,800 feet on Thompson Peak. The area is within the watershed of Last Chance Creek, a tributary of Indian Creek and the North Fork of the Feather River. Soils are generally granitic in origin, and have high potential for erosion. Instability potential is low, except on talus slopes.

Vegetation includes open, broad meadows in the valley bottoms and mixed conifers on the slopes. Tree cover is generally Jeffrey and ponderosa pine, with mixtures of white fir, Douglas fir and incense cedar at higher elevations and lodgepole pine in lower, moist areas. Several large fires have burned here in recent years; the Babcock fire of 1977 and the nearby Elephant Fire of 1981 burned nearly ten thousand acres. Thompson Peak Lookout is critical for fire detection on both Forest and private lands in the Janesville area.

Recreation use is dispersed and includes limited fishing, deer hunting, riding, and wood gathering. No developed recreation trails, campgrounds or other facilities are provided. A portion of the Thompson Peak unroaded area is present.

Livestock use predates the Forest in most of the area. Parts of the "Antelope Community", "McKessick Peak", "Jenkins", "Mercer" and "Humphrey" allotments, and all of "Fitch Canyon", "Ridenour", "Doyle", "Bass", "Hosselkus" and "McClellan Canyon" allotments and the "McDermitt Field" special use pasture are included. Historical sheep use has been converted to cattle use in recent years.

Nearly all timbered areas have been harvested in the past, due to railroad logging. Timber sales continue today. The Elephant and the Babcock burns were salvage logged and are being reforested.

There is virtually no mineral activity in the area. Past mining was limited to gold and silver extraction from the Dodge Mine area on Last Chance Creek.

MANAGEMENT AREA 40

Last Chance

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Recreation Provide for semi-primitive recreation (1a).	In conjunction with the LNF, maintain the character of the Thompson Peak semi-primitive area; employ Rx-8.
Cultural Resources Protect significant properties (3a).	Fence and sign Murdock Crossing grave.
Range Expand range productivity as demand and economic feasibility warrant (6c).	Employ Rx-16 on lands so allocated thru annual range improvement scheduling.
Water Protect and, where necessary, improve water quality (10a).	Maintain the erosion control structures at Frazier Cabin. In cooperation with S.C.S., Calif. DFG and private land owners, stabilize stream channels in the Little Last Chance and Squaw Queen Creek watersheds.
Minerals and Materials Withdraw important Forest material sources from mineral entry (13a).	Recommend withdrawal from mineral entry: Site #55-3 - "Squaw Valley Pit"
Protect unique botanic values (13a).	Recommend withdrawal from mineral entry: the Washoe Pine stands in the Last Chance Creek area.
Lands Acquire right-of-way needed to provide adequate recreational access to Forest lands (16a).	Acquire adequate recreational access to PNF lands in the Clark Creek area.
Special Areas Protect unique botanic values (20b).	Perpetuate the Washoe pine stands in the Last Chance Creek area; employ Rx-7.

Management Area 40
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-7.	Minimal Management	22172
Rx-8.	Semi-Primitive Area	1100
Rx-9.	Riparian 1/	3347
Rx-10.	Visual Retention	3676
Rx-13.	Goshawk Habitat	200
Rx-14.	Visual Partial Retention	6073
Rx-15.	Timber Emphasis	51967
Rx-16.	Intensive Range Management	5050
	Total	90,238

WILDLIFE HABITAT ALLOCATIONS

Species	Territories	Compartment	Comments
Goshawk	4	501,503,510 516	

SENSITIVE PLANT LOCATIONS

Species	Compartment
Trifolium lemmonii	503,510,516
Pinus Washoensis	516,518

SERAL STAGE (DIVERSITY) TARGETS

Habitat Type	Target Acres (Minimum) Per Stage
Big sagebrush	98
Eastside pine	2386
Mixed conifer	1677
Juniper	241
Perennial range	9

1/ Acreage overlaps other Rx.

Management Area 40 (cont'd)
PRESCRIPTION ALLOCATION

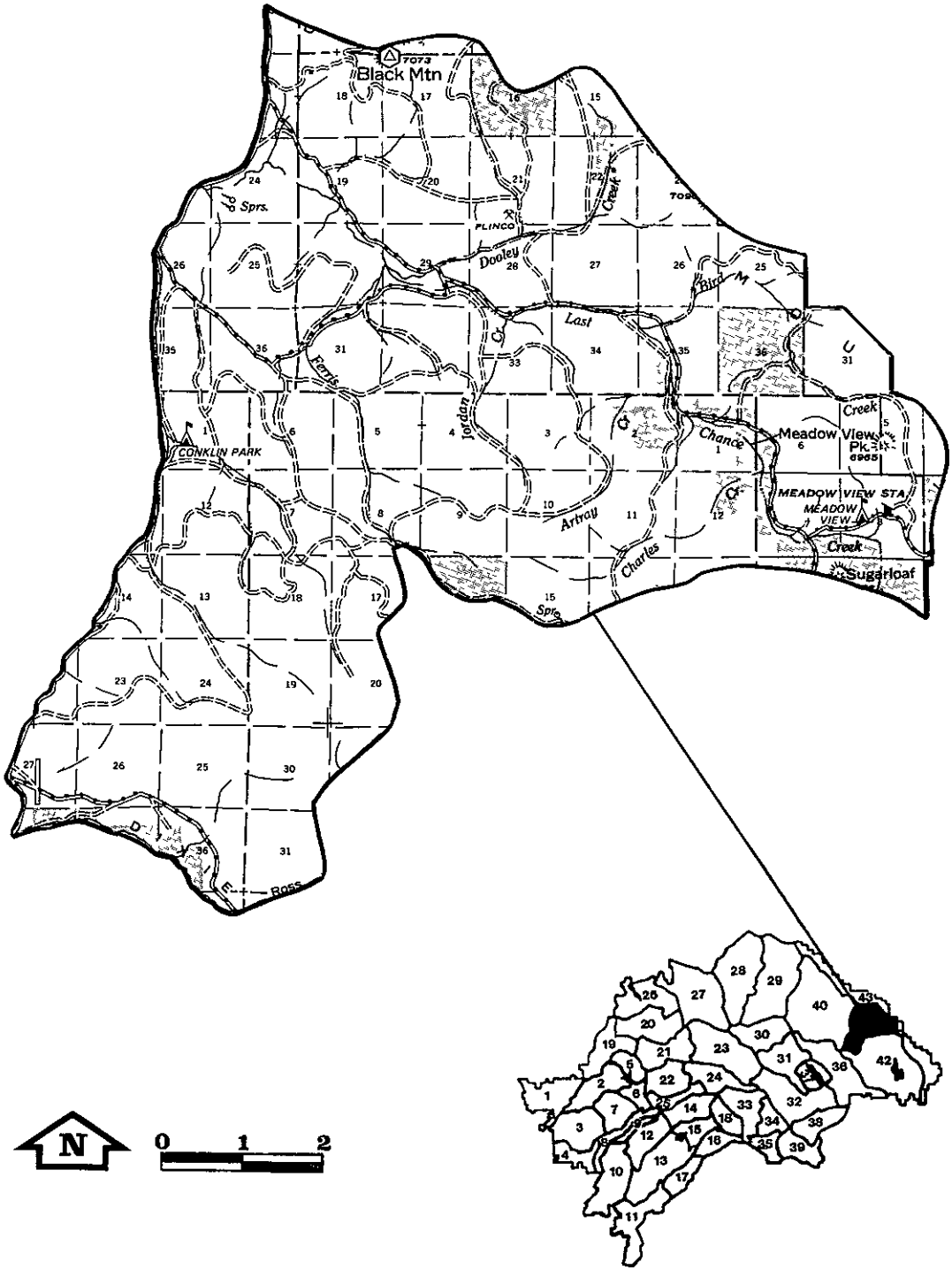
RANGE ALLOTMENT STRATEGIES

Allotment Name	Grazing Strategy
Antelope Comm.	D
McKessick Peak	D
Jenkins	D
Mercer	C
Humphrey	C
Fitch Canyon	C
Doyle	D
Ridenour	D
Bass	D
Hosselkus	D
McClellan Canyon	C

T 26 N, R 15 E

Management Area #41

Ferris



MANAGEMENT AREA 41

Ferris

District: Milford

Acreage: 36,812 Total
33,873 or 92% PNF

Description

The Ferris Management Area is located east of the Milford-Beckwourth Road and southwest of the Honey Lake escarpment within the Last Chance Creek watershed. Meadow View Station is near the southeast corner. Most of the area is in Plumas County, but 811 acres are in Lassen County.

Terrain undulates from low ridges to broad valleys. Elevations range from 5,500 feet on Dixie Creek to 7,300 feet on a ridge between Dixie Creek and Ferris Creek. Most of the area is within the watershed of Last Chance Creek, a tributary of Indian Creek and the North Fork of the Feather River. Soils are dominantly of volcanic origin and are moderately erodible. Instability potential is generally low, except on talus slopes.

Vegetation varies between broad grass meadowlands, surrounded by sagebrush slopes, and mixed conifer upland forests dominated by Jeffrey and ponderosa pine. Large fires have burned through the northern end of the unit, including the Meadow View area burn of 25,580 acres in 1926, the Black Mountain area burn of 4,080 acres in 1950, and the "Ferris" fire in 1974. The entire area is within the summer range of the Doyle deer herd, and two-thirds is within the Dixie Game Refuge.

The area has two small PNF campgrounds - Conklin and Meadow View - but no hiking trails.

The area has long been used for livestock grazing. Parts of the "McKessick Peak", "Otis Canyon", "Downing", "McQueen", "Summit", "Meadow View", "Hall", "Mercer" and "Dixie Valley" allotments and all of the "Ferris Fields" and "Willow Creek" allotments are in this area. Use on several of these is in conjunction with use of BLM and private lands. Most of the area's forests have been used for timber production. Fire salvage and large sawtimber sales continue.

There is no known mineral potential in the area.

MANAGEMENT AREA 41

Ferris

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Recreation Provide developed recreation facilities/programs to meet demand (1a).	Employ Rx-6 at Meadow View and Conklin Park Campgrounds.
Cultural Resources Protect and interpret selected National Register sites (3a).	Protect and provide interpretation of the Last Chance Creek petroglyph sites, and the Ferris Cabin.
Wildlife Protect and improve species emphasis habitat (5a).	Maintain or enhance fawning habitat in the Ferris compartment area.
Range Expand range productivity as demand and economic feasibility warrant (6c).	Employ Rx-16 on lands so allocated thru annual range improvement scheudling.
Water Protect and, where necessary, improve water quality (10a).	Maintain the erosion control structures in Ferris and Jordan Fields. In cooperation with the S.C.S., Calif. DFG, and private owners, stabilize the stream channels within the Dixie Creek and Last Chance Creek watersheds.
Facilities Provide cost-efficient support facilities (17a).	Reevaluate the need for the Meadow View Guard station during the planning period. Construct a new water system if the station is retained. Cooperate with Plumas Co. in acquiring jurisdiction on Plumas Co. Route 101 from the County line to the end of the road. At completion of the PNF microwave facility, remove Black Mountain lookout. Manage the site for service radio use.

Management Area 41
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-6.	Developed Recreation Site	4
Rx-7.	Minimal Management	8612
Rx-9.	Riparian 1/	1503
Rx-10.	Visual Retention	368
Rx-14.	Visual Partial Retention	2823
Rx-15.	Timber Emphasis	18025
Rx-16.	Intensive Range Management	4041
	Total	33,873

WILDLIFE HABITAT ALLOCATIONS

Species	Territories	Compartment	Comments
Golden Eagle	1	514	

SENSITIVE PLANT LOCATIONS

Species	Compartment
Trifolium lemmonii	514
Ivesia sericoleuca	515

SERAL STAGE (DIVERSITY) TARGETS

Habitat Type	Target Acres (Minimum) Per Stage
Black oak	20
Big sagebrush	129
Eastside pine	845
Mixed conifer	597
Juniper	32

1/ Acreage overlaps other Rx.

Management Area 41
PRESCRIPTION ALLOCATION

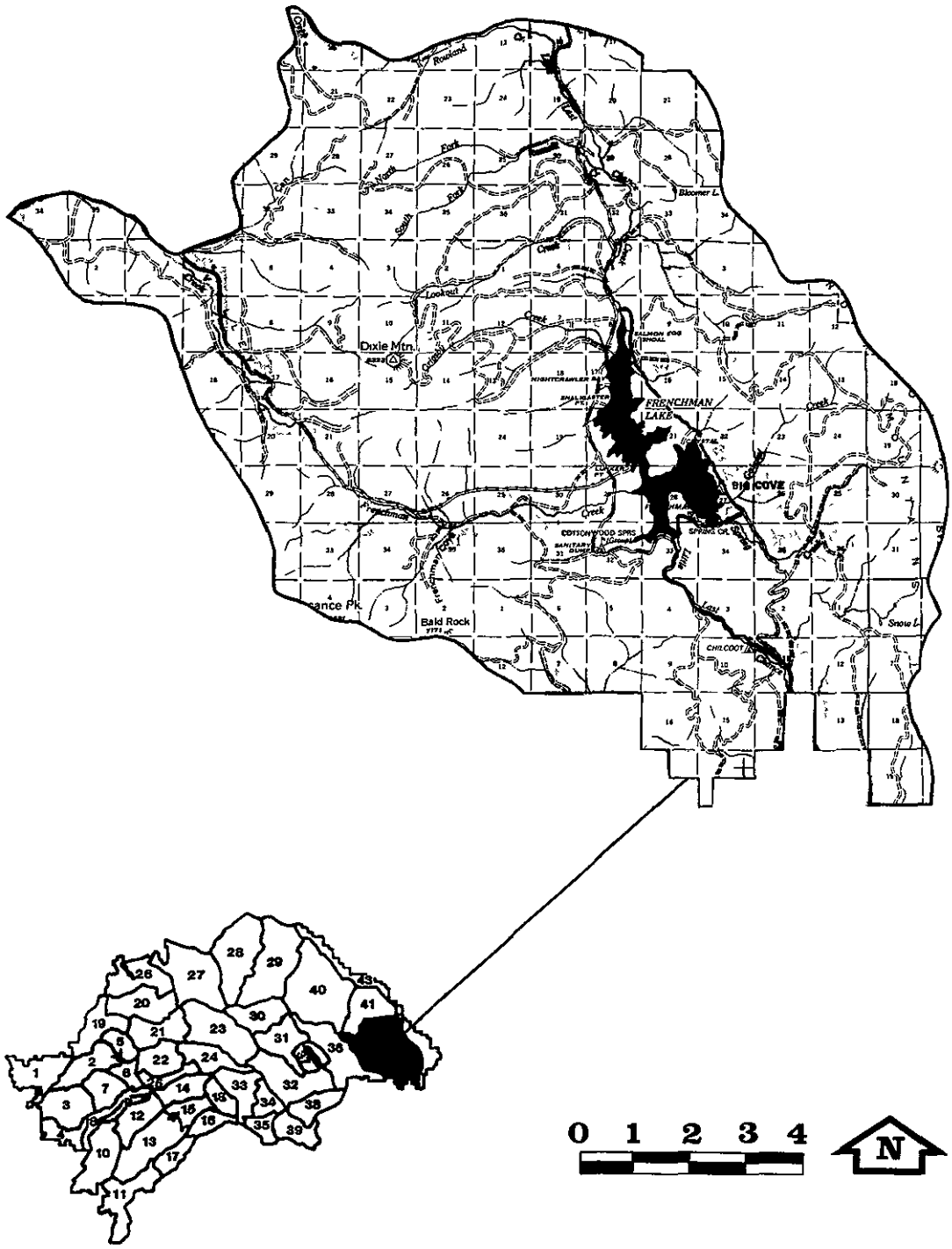
RANGE ALLOTMENT STRATEGIES

Allotment Name	Grazing Strategy
McKessick Peak	D
Otis Canyon	C
Downing	D
Summit	D
Meadow View	C
Hall	C
Mercer	C
Dixie Valley	C
Ferris Fields	D
McQueen	C
Willow Creek	D

T 24 N, R 15 E

Management Area #42

Frenchman



MANAGEMENT AREA 42

Frenchman

District: Milford

Acreage: 81,932 Total
72,750 or 89% PNF

Description

The Frenchman Management Area encompasses the region surrounding Frenchman Reservoir, extending north from the Forest boundary near Chilcoot to the Meadow View Guard Station and east from Dixie Valley to the Honey Lake Escarpment. Most of the area is in Plumas County, but 1000 acres are in Lassen County. Subdivided private land is scattered along the three major creeks, curtailing public access to portions of the Forest. Prominent features are Frenchman Lake, Dixie Mountain, and Adams Peak.

Landform varies from steep-sided volcanic caprock, such as Dixie Mtn., through moderately-sloped ranges, to flat-lying stringer meadows along major streams. Elevations range from 4,980 feet to 8,323 feet. Soils are of volcanic and granitic origin and are moderately to highly erodible. Instability potential is generally low to moderate except for extremely unstable talus slopes around Dixie Mtn. Most of the area comprises the watershed of Little Last Chance Creek, a major tributary of the Middle Fork of the Feather River. Dixie Creek, a tributary of Red Clover Creek, Indian Creek, and ultimately the North Fork of the Feather River, drains a smaller portion of the area.

Vegetation consists of open, broad streamside meadows, bordered with sage-brush, and conifer forest on the slopes. Tree cover is generally Jeffrey and ponderosa pine with some white and Douglas fir. The entire area is within the summer range of the Doyle deer herd, and two-thirds is within the Dixie Game Refuge. The Reconnaissance Peak-Bald Rock area is a prime deer fawning area, and the Snow Lake-Adams Peak area is a key fall and spring transition range for migrating deer. The west side of Dixie Mountain is suitable for reintroduction of peregrine falcons. A bald eagle management zone is included. Several large fires have burned in the area, including the 20,541 acre Bonta Fire in the Reconnaissance Peak - Bald Rock Area in 1931, a 3,000 acre fire in 1966 and again in 1974, and the 244 acre Charles fire in 1979.

Frenchman Lake Recreation Area is a central point for recreation activity, and boating, fishing, camping, and day use is heavy. The area is about one hour from Reno. The Forest maintains one group and five family campgrounds, one boat launch ramp, several fishing access points, but no hiking trails. Part of the Adams Peak unroaded area is included.

The area has long been used for livestock grazing. Parts of the "Mercer", "Dixie Valley", "Summit", "Hall" and "Snow Lake" allotments and all of the "Ramelli", "Upper Trosi", "Galeppi", "Spring Creek", "Trosi Canyon", "Frenchman Reservoir", "Frenchman Creek" and "Little Dixie" grazing allotments are in the area. Private land subdivision has caused some access problems and other conflicts between range permittees and private landowners. Most timberland outside of the roadless area has been harvested in the past. Salvage sales and a commercial thinning sale have recently occurred.

A minimal amount of mineral activity takes place in the Crystal-Adams Peak area. A scattering of minor deposits of gold, silver, copper, and molybdenum, along with decorative rock and some radioactive materials, has been reported.

MANAGEMENT AREA 42

Frenchman

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Recreation Provide developed recreation facilities/programs to meet demand (1a).	Maintain the Frenchman Lake Recreation Area; employ employ Rx-5 and Rx-6. Construct: 1 Family Cmpgrd. 20 Additional campsites at Cottonwood Cmpgrd. 2 Car-top boat launches 2 Picnic areas 1 Boat launch ramp
Visual Resources Maintain pleasing visual corridors (2a).	Apply Rx-10 and Rx-14 to the Frenchman Road and Reservoir viewsheds.
Cultural Resources Protect significant properties (3a).	Develop a management plan for cultural resources in campgrounds, and around Frenchman Lake.
Wildlife Protect and improve emphasis species habitat (5a).	Maintain or enhance fawning habitat in the Bald Rock, Reconnaisance Peak, Frenchman Cove, and Ramelli-Rowland Creek areas. Maintain or enhance deer cover and forage in the Snow Lake Fall holding area. Modify timber management practices accordingly. Construct two osprey nesting platforms at Frenchman Reservoir. Provide suitable Peregrine Falcon habitat in the Dixie Mt. area. Improve waterfowl nesting habitat at Frenchman Reservoir.

MANAGEMENT AREA 42

Frenchman

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Range	
Expand range productivity as demand and economic feasibility warrant (6c).	Employ Rx-16 on lands so allocated thru annual range improvement scheduling.
Water	
Maintain and, where necessary, improve water quality (10a).	In cooperation with the S.C.S., Calif. D.F.G, and private land owners, stabilize stream channels in the Dixie Creek and Little Last Chance Creek watersheds.
Minerals and Materials	
Withdraw important Forest material sources from mineral entry (13a).	Recommend withdrawal from mineral entry: Site #55-4: "Lookout Creek Gravels"
Protect unique scenic and ecologic values (13a).	Recommend withdrawal of Dixie Mtn. and Little Last Chance Canyon from mineral entry.
Lands	
Acquire right-of-way needed to provide adequate recreational access to Forest lands (16a).	Acquire adequate recreational access to all PNF lands.
Facilities	
Provide roads necessary to meet developed recreation demand (17a).	Reconstruct and surface the road to Crystal Point where not now paved. Surface the road from the Frenchman Dam to the Cottonwood Sewage Dump Station.
Provide cost-efficient support facilities (17a).	Continue Frenchman Admin. Site development. Construct a microwave facility at the Dixie Mountain Lookout.

MANAGEMENT AREA 42

Frenchman

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Special Areas Protect unique scenic, ecologic, and geologic values (20b).	Classify the 1500 acre Little Last Chance Canyon area as a Scenic Area (formal Special Interest Area status); employ Rx-7. Provide interpretive services, and preserve and enhance scenic and swallow habitat values. Maintain the visual, wildlife, and recreational values in the Dixie Mt. area; employ Rx-7.

Management Area 42
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-5.	Recreation Area	4921
Rx-7.	Minimal Management	10155
Rx-9.	Riparian 1/	2450
Rx-10.	Visual Retention	4060
Rx-11.	Bald Eagle Habitat	379
Rx-13.	Goshawk Habitat	250
Rx-14.	Visual Partial Retention	17072
Rx-15.	Timber Emphasis	30543
Rx-16.	Intensive Range Management	5370
	Total	72,750

WILDLIFE HABITAT ALLOCATIONS

Species	Territories	Compartment	Comments
Bald Eagle	2	502,512	1 Existing, 1 potential at Frenchman Lake
Goshawk	5	502,508,513 520	
Golden Eagle	1	502	
Prairie Falcon	4	512	
Peregrine Falcon	1	512,513,520	Dixie Mountain
Osprey	2	502,512	Frenchman Lake

SENSITIVE PLANT LOCATIONS

Species	Compartment
Trifolium lemmonii	502,508
Ivesia baileyi	508,512,520,521

SERAL STAGE (DIVERSITY) TARGETS

Habitat Type	Target Acres (Minimum) Per Stage
Black oak	24
Big sagebrush	321
Eastside pine	1888
Juniper	112

1/ Acreage overlaps other Rx.

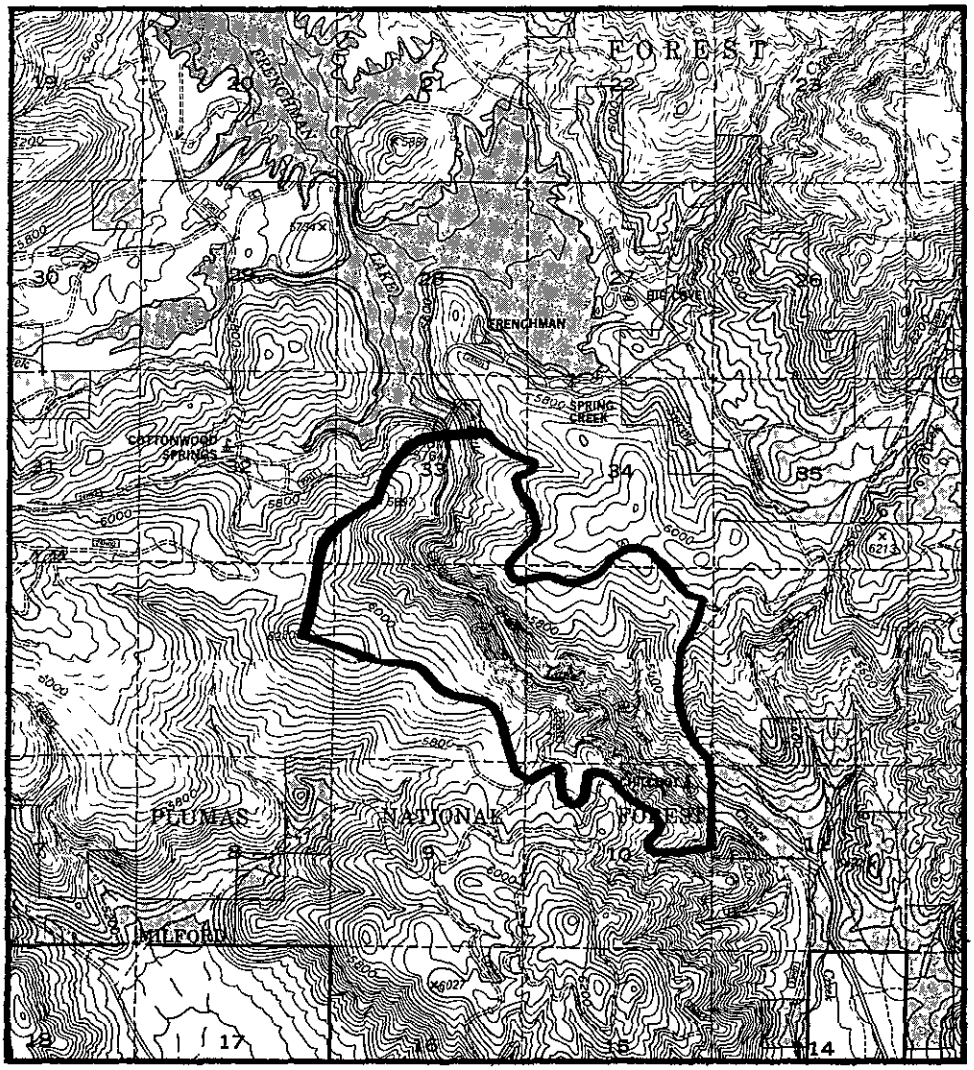
Management Area 42 (cont'd)
PRESCRIPTION ALLOCATION

RANGE ALLOTMENT STRATEGIES

Allotment Name	Grazing Strategy
Mercer	C
Dixie Valley	C
Summit	D
Hall	C
Snow Lake	D
Ramelli	D
Upper Trosi	C
Galeppi	C
Spring Creek	D
Trosi Canyon	C
Frenchman Reservoir	C
Little Dixie	C
Frenchman Creek	C

Figure 4-II

Little Last Chance Canyon Scenic Area

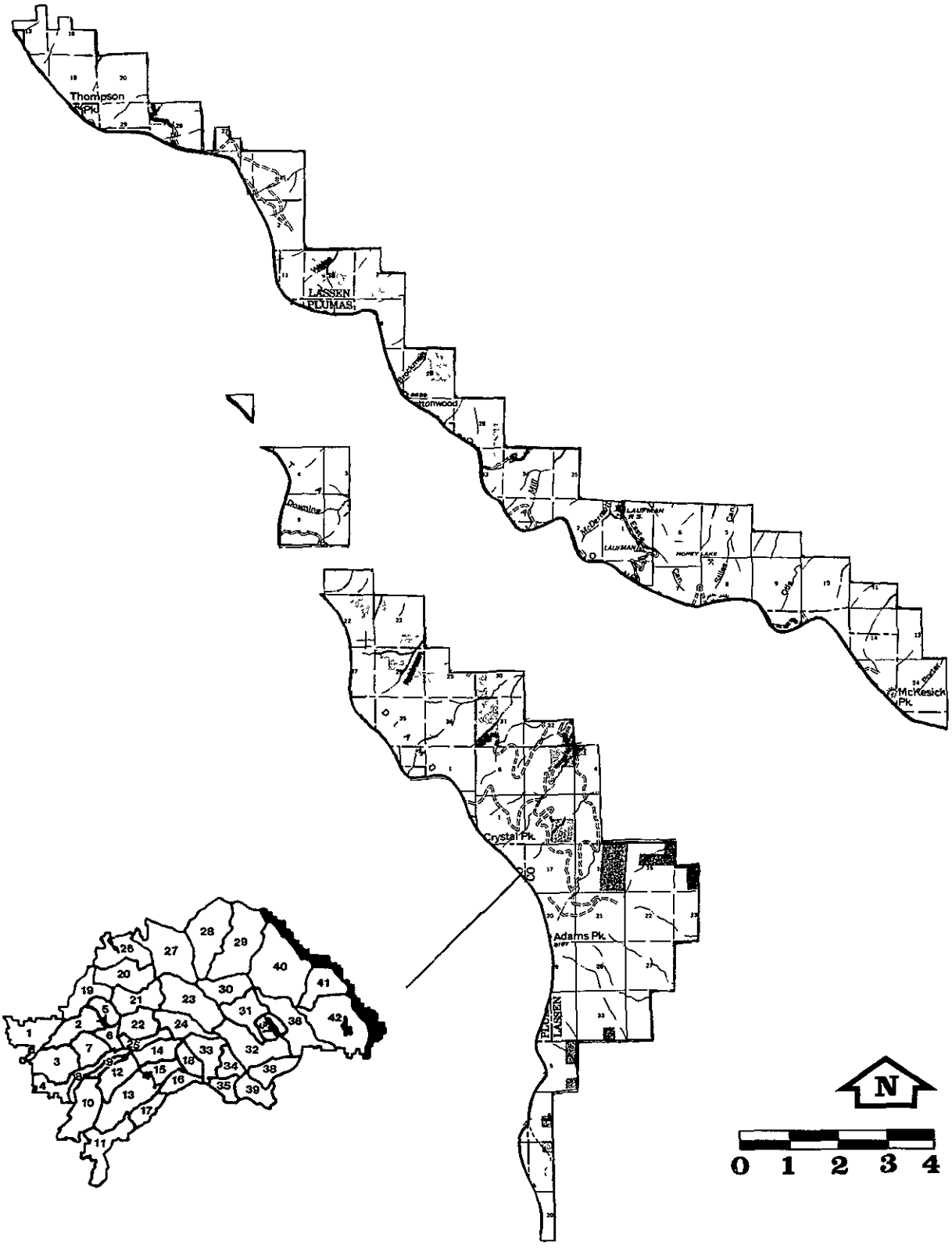


T 23 N, R 16 E

T 23-28 N, R 12-17 E

Management Area #43

Escarpment



MANAGEMENT AREA 43

Escarpment

District: Milford

Acreage: 40,322 Total
35,744 or 88% PNF

Description

The Escarpment Management Area includes the slope draining northeast into Long and Honey Lake Valleys east of the crest of the Diamond Mountains. Most of the area is in Lassen County, but there are 4,623 acres in Plumas County. Prominent features are Adams Peak, Crystal Peak, Sugarloaf, Black Mtn, and Thompson Peak, all peaks along the crest. Part of the Thompson Peak Roadless area is included.

Terrain consists of steep to very steep slopes. Elevations range from 4,200 feet to 8,197 feet. Soils are granitic and highly erodible, and the risk of landslides is generally moderate to high. Through many small watersheds, all drainage is to Honey Lake.

North exposures support mixed conifer stands with some Douglas fir. Low volumes of ponderosa and Jeffrey pine occur on south and east exposures. Understory vegetation is sparse in many areas and consists of manzanita, bitterbrush, sagebrush, mountain mahogany, and scattered black oak. Fuel types, inaccessibility, and strong winds create a potential for large fires. Past fires have ranged from 1,200 to 7,700 acres and have sometimes spread downslope. The area is a transition range and a migration zone of the Doyle deer herd.

The Laufman campground at the foot of the escarpment is the only recreational development. Much of the area is plainly visible from Highway 395.

Most of the area is transitory cattle range. Parts of the "Snow Lake", "Hall", "Meadow View", "McQueen", "Downing", "Otis Canyon" and "Humphrey" allotments and all of the "Red Rock", "Crystal Peak" and "Stiles" allotments are present. Use of several of these is in conjunction with use of BLM and private lands. A few water transmission lines to downslope ranches and fences and water developments for wildlife and livestock are present. Most of the easily accessible areas have been logged. Current salvage and green sales are limited to steep slopes and small volumes. Over half of the area requires aerial harvest methods such as helicopter or cable systems due to steep slopes and erodible soils.

Mining activity is limited.

MANAGEMENT AREA 43

Escarpment

GENERAL DIRECTION	STANDARDS AND GUIDELINES
Recreation Provide for semi-primitive recreation (1a).	Maintain the semi-primitive character of the Adams Peak area. In conjunction with the LNF, maintain the character of the Thompson Peak semi-primitive area; employ Rx-8.
Cultural Resources Protect significant properties (3a).	Protect and interpret escarpment petrographs.
Wildlife Protect and improve emphasis species habitat (5a).	Maintain or enhance deer winter and intermediate range for the Doyle herd.
Water Regulate future water use to assure an adequate supply (10a).	Allow no new surface water development in the area affected by the Long Valley and Hallett Creek adjudications, unless approved by the adjudicators and State criteria for private sources is met or the development is permitted by the State.
Lands Allow agency use of PNF lands when the public interest is served (16b).	Manage Black Mtn. for service radio use.
Facilities Provide cost-efficient support facilities (17a).	At completion of the PNF microwave facility, remove the Black Mtn. Lookout. Manage the mountain for service radio use. Construct a PNF microwave facility at the Laufman RS.

MANAGEMENT AREA 43

Escarpment

GENERAL DIRECTION	STANDARDS AND GUIDELINES
	Monitor the water sources at Laufman R.S., and construct necessary facilities to develop an adequate water source for the facility.
Special Areas Protect unique botanic values westside (20b).	Preserve some of the unique vegetation of the Diamond Mtn. area.

Management Area 43
PRESCRIPTION ALLOCATION

Prescriptions		Acres
Rx-6.	Developed Recreation Site	3812
Rx-7.	Minimal Management	4712
Rx-8.	Semi-Primitive Area	900
Rx-9.	Riparian 1/	883
Rx-10.	Visual Retention	997
Rx-14.	Visual Partial Retention	16597
Rx-15.	Timber Emphasis	12894
Rx-16.	Intensive Range Management	540
	Total	35,744

SERAL STAGE (DIVERSITY) TARGETS

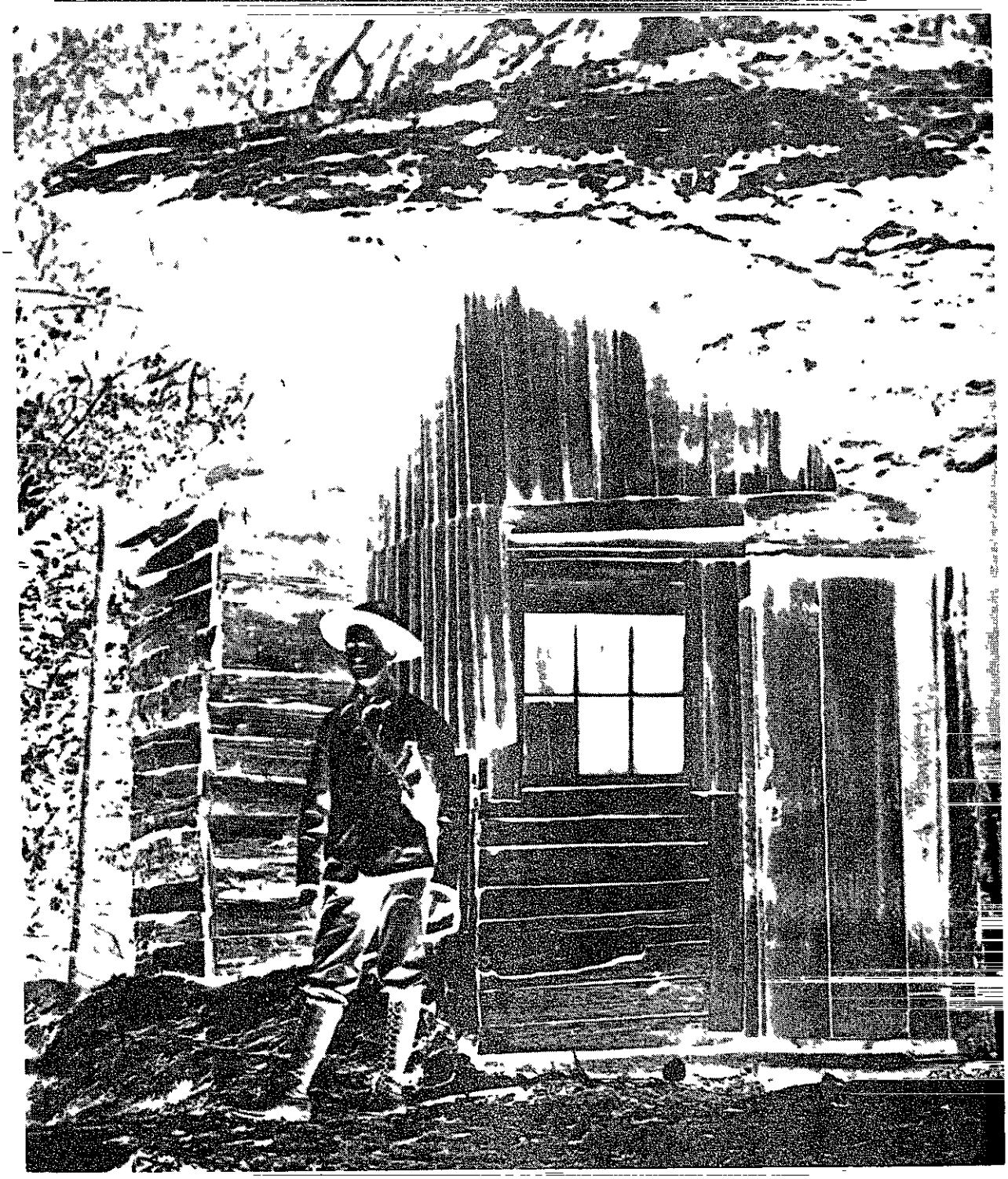
Habitat Type	Target Acres (Minimum) Per Stage
Black oak	256
Big sagebrush	167
Eastside pine	619
Mixed conifer	717
Perennial range	5

RANGE ALLOTMENT STRATEGIES

Allotment Name	Grazing Strategy
Snow Lake	D
Hall	C
Meadow View	C
Downing	D
Otis Canyon	C
Humphrey	C
Red Rock	C
Crystal Peak	C
Stiles	C
McQueen	C

1/ Acreage overlaps other Rx.

Appendices



Appendices

A. Disposition of Existing Plans and Needed Implementation Plans
B. Research and Technical Planning Needs
C. Tentative Ten-Year Timber Sale Action Plan
D. Timber Management Data
E. Seral Stages
F. Allotment Management Strategies
G. Wildlife and Plant Species Classification
H. Developed Recreation Sites
I. Recreational Development Scale
J. Specifications for Road Construction/Reconstruction
K. Visual Management System
L. Ten-Year Developed Site Rehabilitation Plan
M. Guidelines for Widths of Streamside Management Zones
N. Fire Management Protection Program
O. PNF Trails by Allowable Use
P. Suppression Difficulty Index (SDI) Matrix
Q. Water Quality - Best Management Practices (BMP's) and Process
R. Recreation Opportunity Spectrum (ROS)

Plumas National Forest
Land and Resource Management Plan

Appendix A

Disposition of Existing Plans and Needed Implementation Plans

I. Disposition of Existing Plans

Key:

A. No separate plan retained; former plan superseded by this plan.
B. Separate plan retained; but overall direction incorporated into the Forest Plan.
C. To be consolidated into a Fire Management Action Plan.

Plans:

A Ranger District Multiple Use Plans, 1964

A Forest Timber Management Plan, 1976-85

A Bucks Lake Land Use Plan, 1976

A Mohawk Land Management Plan, 1978

A Butterfly Botanical Area Recreation Management Plan, 1967

A Feather Falls Scenic Area Recreation Management Plan, 1965

B Middle Fork Feather, Wild and Scenic River, Recreation Zone Land Acquisition Plan 1980

B Middle Fork Feather, Wild and Scenic River Recreation Zone, Recreation Management Plan, 1980

B Middle Fork Feather, Wild and Scenic River, Wild and Scenic Zone Land Acquisition Plan, 1978

B River Plan, Middle Fork of the Feather, 1968

A Management Guide Middle Fork Feather River, 1972

A Gold Lake Recreation Composite Plan, 1976

B Gold Lake Composite Management and Development Plan, 1980
B Little Grass Valley Recreation Composite Plan

A Pacific Crest Trail Management Plan for the Plumas NF, 1980

A Plumas NF Off-Road Vehicle Control Plan, 1977

B Land Ownership Adjustment Plan, 1970

C Large Fire Mobilization Plan

C Mobilization Plan-Pre Plan Dispatch

C Lightning Concentration Plan

C Specific Action Guide & Protection Staffing Plan

B Range Allotment Plans

B Wild Trout Stream Plans-3

B Deer Herd Plans

B Peregrine Falcon Recovery Plan

A Forest Fisheries

B Law Enforcement Plan

II. Needed Implementation Plans

1. Bucks Lake Wilderness Plan.
2. Fire Management Action Plan.
3. Sensitive Plant Species Management Guides.
4. Bald Eagle Recovery Plan.
5. Corridor Viewshed Plans.
6. Ten-Year Timber Compartment Plan (including Ten-Year Timber Sale Action Plan).
7. Fisheries Management Plan.
8. Five-year Fish and Wildlife Habitat Improvement Plan.
9. Off-road Vehicle Implementation Plan
10. Spotted Owl Habitat Management Plans

Plumas National Forest
Land and Resource Management Plan

Appendix B

Research and Technical Planning Needs

I. Recreation

A. Research Needs

1. Establish recreational carrying capacity criteria, especially those capacities relating to dispersed use and Wilderness.
2. Establish criteria for "usable acres" as defined in the Recreation Opportunity Spectrum.

B. Technical Planning Needs

1. Refine the Recreation Opportunity Spectrum mapping to more closely reflect on-the-ground recreation setting.

II. Cultural Resources

A. Research

1. Conduct palynological studies to determine past climate vegetation and tree line movement.

B. Technical Planning Needs

1. Refine survey strategies through statistically valid testing of cultural resource density/sensitivity models to increase efficiency of inventories.
2. Sample or excavate different site types to build a framework for site appraisal.
3. Construct a chronological sequence by judicious excavation of sites with histories of long occupations.

III. Range

A. Research Needs

1. Determine cost-effectiveness of converting sagebrush to grass.
2. Establish relationship of grazing to riparian area maintenance.

B. Technical Planning Needs

1. Determine if conflict exists between cattle grazing and plantation management.
2. Through range utilization study, establish utilization guidelines for the eastside of the Forest.
3. Study large fire areas and appropriate clearcut blocks to determine new transitory range capacity and duration.
4. Evaluate effects of grazing on deer habitat in selected allotments.

IV. Timber

A. Research Needs

1. Improve methods and guidelines for production and use of high quality nursery stock.
2. Improve methods and guidelines for site preparation and release, especially for natural regeneration of true fir on slopes over 30 percent.
3. Develop standards for acceptable soil nutrient export for biomass utilization.
4. Improve growth and yield projections, including yield tables for plantations and uneven-aged timber management.
5. Develop practical application of existing technology, in the form of revised computer analysis programs, to relate logging skyline load potential, excursion, and inherent equipment limitations, so as to achieve an economic balance between resource utilization and protection.
6. Develop cost-effective, non-herbicide method of vegetation control for steep slopes.
7. Develop cost-effective, non-burning method of logging residue reduction on steep slopes.
8. Study effects of group selection harvesting.

B. Technical Planning Needs

None

V. Soil and Water

A. Research Needs

1. Develop water yields for Sierra Nevada watersheds.
2. Develop sediment yield models for Sierra Nevada watersheds.
3. Determine "cumulative effect" analysis for Sierra Nevada watersheds.
4. Develop soil compaction models for Sierra Nevada watersheds.
5. Develop soil loss models for Sierra Nevada watersheds.

B. Technical Planning Needs

1. Inventory watershed conditions, and complete (and maintain) the Watershed Improvement Needs (WIN) Inventory.
2. Inventory riparian areas and their conditions.
3. Complete and maintain the water uses inventory.
4. Inventory and analyze the physical, chemical, and biological water quality of high priority streams and lakes.
5. Inventory the instream (non-consumptive) flow needs of high priority streams.

VI. Geology

A. Research Needs

1. Establish standardized methodology, valid for all rock/soil types, quantifying the degree of landslide risk due to various management activities. Incorporate the methodology into the planning process.

B. Technical Planning Needs

1. Field verify the photo-interpreted land instability risk mapping on the PNF.

VII. Lands

A. Research Needs

None

B. Technical Planning Needs

1. Refine the "Classification for Land Ownership Adjustment" map boundaries in the Planning Records and transfer to 7 1/2" topographic maps.

Appendix C

Tentative Ten-Year Timber Sale Action Plan

I. Timber Management Controls

Regulation is the organization and control of the Forest's growing stock to achieve a sustained yield of Forest products. Regulation is accomplished by controlling the growth and removal of the growing stock. A Forest in a completely regulated condition would provide a sustained yield harvest equal to volume growth in any decade.

A completely regulated Forest may never be fully obtained, due to factors such as climate, natural disaster, and land base changes. However, the concept of regulation as an objective is used to control present harvest levels and plan future harvests to assure a reasonably sustained yield.

A Forest consisting of stands with highly variable stocking levels and age class distribution is made to approach regulation through scheduled regeneration harvest over a period of time called the "conversion period". During the conversion period an attempt is made to:

1. obtain the maximum yield of timber possible,
2. provide a non-fluctuating yield, and
3. provide a balance of age classes and stocking levels capable of maintaining the Forest's full potential growth at the end of the conversion period.

Two methods of control are generally employed during the conversion period:

Area Control - This method is generally associated with even-age silviculture. It provides for harvesting and regenerating areas of equal productivity. The expected result at the end of the conversion period is an equal distribution of age classes.

Volume Control - This method can be applied to even or uneven-aged management schemes. It provides for somewhat equal yields over the conversion period based on present and predicted stand volumes.

Implementation of the timber management portion of this plan requires maintaining a degree of control over both volume and area to achieve optimum yields both during the conversion period and thereafter.

Volume Control

The Allowable Sale Quantity (ASQ) is established as the maximum harvest from the Forest for a decade. The ASQ established in this Plan is 41.1MMCF or 265.5 MMBF/yr for the first decade (1986-1995). The scheduled volume offered in any given year may exceed the average annual ASQ, but the decade scheduled volume must be in compliance. This scheduled volume is based on growth and yield projections from the suitable, regulated timberlands. Additional volume may be obtained from special cutting to facilitate other resource management on other forested lands. The total ASQ is subdivided into non-interchangeable categories to assure adequate volume control. To accomplish this, the PNF will monitor volume sold by regeneration cutting prescription. The volumes offered during the first decade may not exceed the following subdivided volumes by more than 10 percent:

Table C-1

Average Annual Allowable Quantity by Cutting Method

Cutting Method	MMCF	MMBF
Regeneration Harvest:		
Clearcutting	22.33	144.0
Shelterwood (1st Step)	2.84	18.3
Shelterwood (2nd Step)	2.01	13.0
Group Selection	3.41	22.1
Intermediate Harvest:		
Stand Maintenance	6.62	42.7
Commercial Thinning	3.83	25.4
Total	41.04	265.5

Area Control

Regeneration harvest may not exceed the following by more than 10% in the first decade:

Table C-2
Regeneration Acreage

Cutting Method	Decade Acreage
Clearcut	40,000
Shelterwood	6,000
Group Selection	8,000
Total	54,000

The ASQ and regeneration acreage controls may have to be adjusted to reflect changing conditions. Some changes are inevitable. The effect of the following conditions will be evaluated to determine whether new controls are needed:

1. Changes in the land base (resulting from new planning evaluations or land status changes);

2. Inability to successfully meet the regeneration volume or acreage because of inadequate financing and/or manpower or irresolvable restrictions on regeneration and stand maintenance methods (such as brush control);

3. Failure to meet restocking time limits or accomplish regenerated stand maintenance;

4. Inventory changes resulting from catastrophic damage such as fire or insect and disease attack;

5. Consistent and significant differences between the 1980 Forest inventory and new compartment examination data;

6. Changes in the projected clearcut/shelterwood/group selection regeneration acreage ratios resulting from prescriptions based on intensive examinations that consider local environmental factors; and

7. Consistent trends in per-acre volume yields that differ from the predicted yields.

Achieving long-term regulation requires detailed planning and accurate record keeping.

The 10-Year Compartment Plan will serve as a reference against which more refined estimates and actual accomplishments will be compared for the purpose of assessing the progress toward meeting Forest Plan quantity objectives. The chief tools used for comparison will be stand records and the Sale Tracking and Reporting System (STARS). Progress will be verified by inspections and reviews of attainment reports, cut/sell reports, and other reporting systems.

Plumas Timber Harvest Schedule

(Volume in MMBF)

FISCAL YEAR

1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
185	185	195	195	205	215	230	240	250	265

This harvest schedule is established using the following assumptions:

1. The program that will be carried out may vary from this schedule based on the budget and targets set by Congress, the President, and higher levels of the Forest Service. Traditionally, the Plumas National Forest has requested more sell target and funding than received.

2. Fiscal Years 1988 through 1991 are Region 5 estimates of the program level that will be funded in those years.

3. There is a three to five year delay from the time advance timber sale preparation is funded to the time additional timber volume can bew sold. There is minimal opportunity to increase volume sold in less than three years due to environmental analysis and sale layout requirements.

Plumas National Forest
Land and Resource Management Plan

Appendix D

Timber Management Data

Table D-1

Land Classification for Timber Production

Classification	Acres
1. Non-Forested Land (includes 14,061 acres water)	66,122
2. Forested Land	1,102,395
3. Forested Land Currently Withdrawn From Timber Production 1/	42,578
4. Forested Land Not Capable of Producing Industrial Wood	97,061
5. Forested Land Physically Unsuited	
a. Irreversible damage to soils, watersheds, or productivity likely to occur 2/	15,812
b. Unregenerable Within 5 Years of Final Harvest	32,800
6. Inadequate Information To Predict Resources 3/	0

1/ Withdrawn by Act of Congress, the Secretary of Agriculture, or the Chief of the Forest Service. This includes:

	Acres
Bucks Lake Wilderness Area	21,000
Lakes Basin Recreation Area	7,800
MFFR Wild and Scenic River	10,385
Challenge Experimental Forest	3,393
Total	42,578

2/ Land Instability Risk Class IV areas that are otherwise capable and available for timber production.

3/ Lands for which current information is inadequate to project responses to timber management. Usually applies to lands capable of producing less than 20 cf/ac/yr.

Table D-1
Land Classification for Timber Production
(cont'd)

Classification	Acres
7. Tentatively Suitable Forested Land (Item 2 less Items 3, 4, 5, and 6)	914,144
8. Forested Land Not Appropriate for Timber Production 4/	15,212
9. Total Unsuitable Forested Land (Items 3, 4, 5, 6, and 8)	203,463
10. Total Suitable Forested Land (Item 2 less Item 9)	898,932
11. Total National Forest (Items 1 and 2)	1,168,517

4/ Lands identified as not appropriate for timber production due to:

a. assignments to other resources to meet Forest Plan objectives,
b. management requirements, or
c. not being cost-efficient in meeting Forest Plan objectives over the planning horizon.

Table D-2

Present Forest Conditions

	Softwood Volume (trees greater than 10" dbh)		
	Suitable Land	Unsuitable Land	Total Forest Land
Growing Stock			
MMCF	3,256.25	558.56	3,814.81
MMBF	21,386.04	3,673.47	25,059.51
Live Cull			
MMCF	84.35	11.22	95.57
MMBF	311.79	45.13	356.92
Salvable Dead			
MMCF	58.47	6.30	64.77
MMBF	394.81	42.56	437.37
Annual Gross Growth			
MMCF	53.49	10.23	63.72
MMBF	366.96	70.24	437.20
Annual Net Growth			
MMCF	24.93	6.69	31.62
MMBF	173.21	46.22	219.43
Annual Mortality			
MMCF	28.56	3.54	32.10
MMBF	193.75	24.02	217.77

Table D-3

Timber Inventory by Major Forest Type

Major Forest Type	Acres	%	Net Utilizable Softwood Volume MMCF	%	MMBF 1/
Westside Mixed conifer	694,198	67	3,122	82	20,567
Red Fir	61,315	6	326	8	20,085
Eastside Pine	150,635	14	167	4	1,107
Eastside Mixed conifer	91,447	9	168	4	1,103
Lodgepole Pine	4,343	<1	20	<1	123
Hardwood 3/	41,179	4	12	<1	75
	1,043,117		3,815 MMCF		25,060 MMBF 2/
Net Utilizable Hardwood Volume:			139 MMCF		749 MMBF

1/ Scribner
2/ Precision: 11.6% at one standard error
3/ Hardwood Type contains softwood species

Table D-4
Timber Inventory by Species

Species Group	Net Utilizable Volume MMCF	MMBF	%
Douglas Fir	509	3,590	14
Ponderosa and Jeffrey Pine	594	4,000	16
Sugar and Western White Pine	661	4,670	19
Lodgepole Pine	11	63	<1
White and Red Fir	1,880	11,759	47
Mountain Hemlock	<1	2	<1
Incense-cedar	159	976	4
Total Commercial Softwood	3,815	25,060	
Black Oak	139	749	

Table D-5
Timber Inventory by Diameter Class

DBH Class	Number MM stems	(%)	Volume MMBF	(%)	Ave. BF per Tree
11-17"	29.90	62	4,296	17	140
18-24"	9.63	20	4,111	16	430
25-29"	3.17	6	2,694	11	850
30-39"	3.38	7	6,048	24	1,790
40+"	2.28	5	7,911	32	3,470
Total	48.36		25,060		520

Table D-6
Timberland Productivity

Ave. Stand Age (yrs)	% of Forested Acreage
141-200	24.9
81-140	59.9
41-80	11.2
11-40	Nominal
<11	3.6

Table D-7
Timberland Slope

Slope Class	Acres	% of Total
0-30%	567,000	49
31-60%	483,000	41
>60%	114,000	10

Table D-8
Regenerable Stands

	% of PNF Timberland	Acreage
(1) Poorly-stocked stands (primarily under-utilized site)	36	339,900
(2) Old-growth stands (primarily slow growth rates; decay)	27	258,300
(3) Two storied stands (primarily slow growth rates and decay in overstory; densely-stocked understory)	1	9,400

Table D-9
TSI Backlog

	% of PNF Timberlands	10/82 Acreage
(1) Stands needing release from competing vegetation.	2.0	18,900
(2) Stands needing thinning	1.3	11,900

Table D-10
Timberland Productivity

Forest Survey Site Class	Potential Growth (cubic ft/ac/yr)	Suitable Lands (acres)	Unsuitable Lands (acres)	Total (acres)
1	225+	0	0	0
2	165-224	1,205	45	1,250
3	120-164	43,687	7,760	51,447
4	85-119	196,071	18,595	214,666
5	50-84	344,867	34,349	379,216
6	20-49	313,102	39,730	352,832
7	less than 20	0	102,984	102,984
	Total	898,932	205,463	1,102,395
			Non-Forest	66,122
			Total PNF	1,168,517

Table D-11
Range of Rotation Lengths
(age in decades)

Forest Type	Minimum 1/	Highest
Westside Mixed Conifer		
High Site 2/	5	16
Medium Site	6	16
Low Site	7	16
Red Fir		
Medium site	7	18
Low Site	8	19
Eastside Pine		
Medium Site	7	16
Low Site	8	17
Lodgepole Pine		
Medium Site	4	19

1/ Based on 95% of culmination of mean annual increment in utilizable cubic foot volume of merchantable trees without thinning.

2/ High Site = Forest Survey Site Classes 2, 3, and 4
Medium Site = Forest Survey Site Class 5
Low Site = Forest Survey Site Class 6

Table D-12

Timber Management Scheduled Outputs and Activities

(Annual Average in First Decade)

Management Practice	Acres/Year	Allowable Sale Quantity (MMCF/yr)	(MMBF/yr)
Regeneration Harvest			
Clearcutting	4000	22.33	144.2
Shelterwood (1st step)	600	2.84	18.3
Shelterwood (2nd step)	600	2.01	13.0
Group Selection	800	4.33	28.0
Intermediate Harvest			
Stand Maintenance (Sanitation and selection)	5286	5.70	36.6
Commercial Thinning	5000	3.93	25.4
Total	16286	41.04	265.5
Other Practices			
Timber Stand Improvement			
Release	4789		
Precommercial Thinning	1192		
Total	5981		
Reforestation 1/			
Regeneration Harvest	5400		
Brush Conversion	400		
Total	5800		

1/ Includes natural and artificial.

Figure D-I

Optimum Long Term Sustained Yield Capacity (LTSYC) and Allowable Sale Quantity (ASQ)

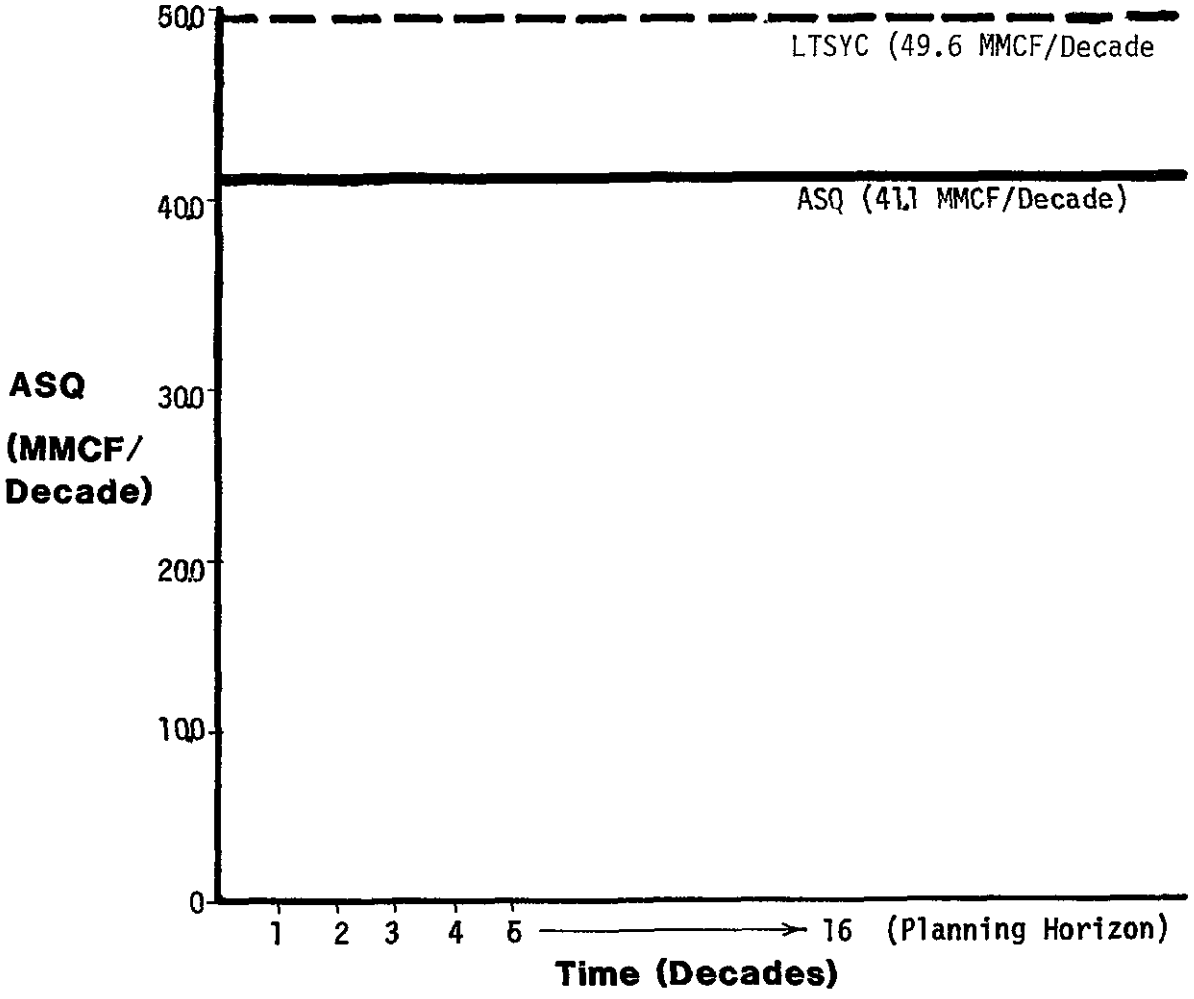
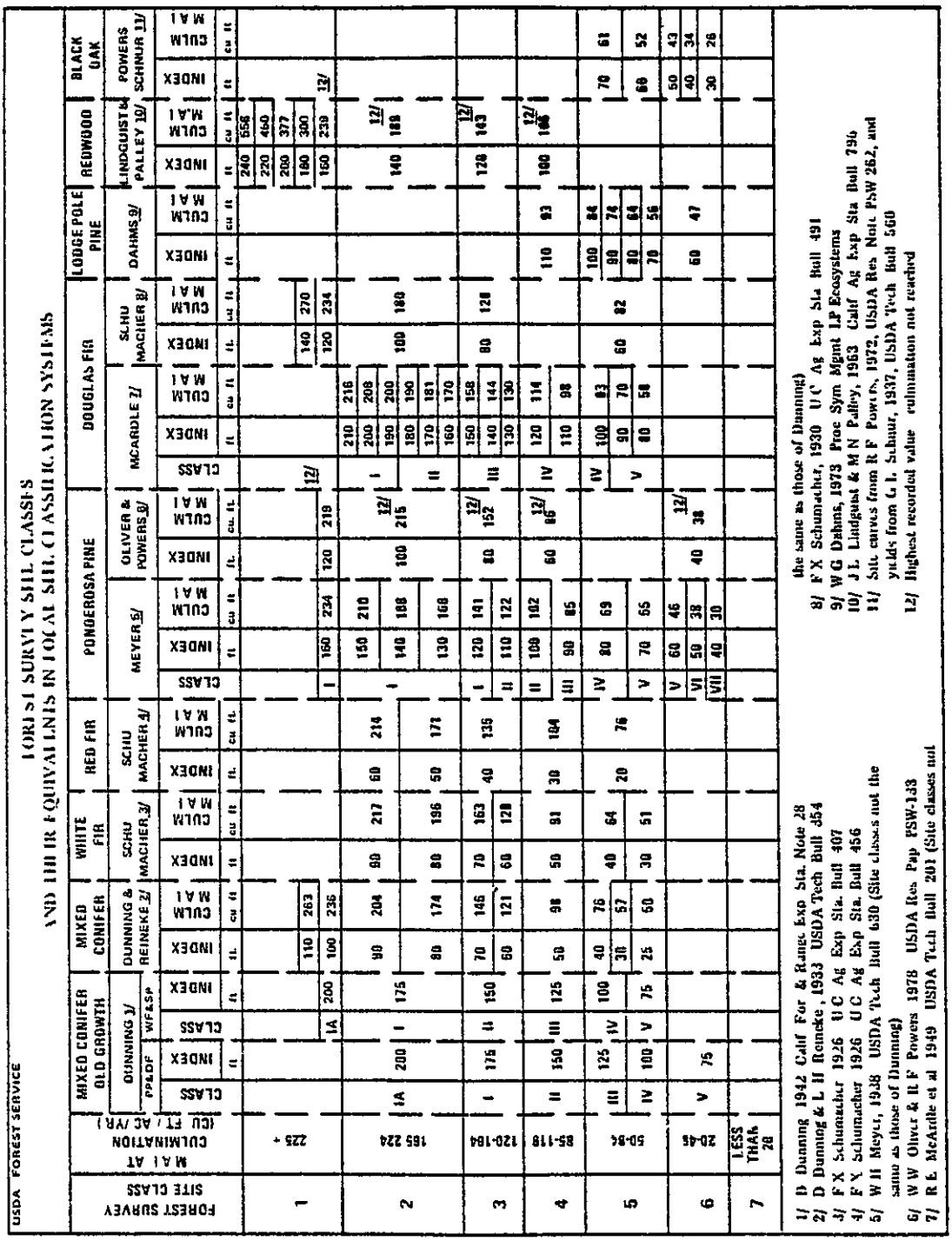


Table D-13

Forest Survey Site Classes and their Equivalents



FSM 5/80 R-5 SUPP 232

Table D-14
Timber Strata

Timber strata are a description of different kinds of timber stands based on Regional timber type, tree size class, and stand density. The first digit is the Regional timber type. Those found on the Plumas in significant quantity include: Mixed Conifer (M), Eastside Pine (P), Eastside Mixed Conifer (F), Red Fir (R), and Lodgepole Pine (L).

The second digit is the tree size class. They are:

Code	Size Class
1	Seedlings and saplings
2	Poles
3	Small sawtimber
4	Medium sawtimber
5	Large sawtimber
6	Two storied stands

The third digit is stand density based on precent of crown closure of all commercial conifers in the overstory and understory of stands apparent on aerial photographs. They are:

Code	Density	Percent Closure
-	Non-stocked	0-9
S	Sparse	10-19
P	Light	20-39
N	Medium	40-69
G	Heavy	70-100

These codes are combined into stratum labels such as M4G (mixed conifer, medium sawtimber, heavy stocking) or P2P (eastside pine, poles, light stocking).

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Appendix E

Seral Stages

During FORPLAN computer runs, the following habitats were tracked as Forestwide outputs, and in addition Habitats H-1X through H-5C were tracked by Timber Working Group.

Habitat	Definition
H-SX	Brush, Grass
H-OO	Barren, Water
H-HD	Pure Hardwood Stands
H-X3	Hardwood-Conifer Stands
H-1X	Seedling, Sapling
H-2X	Poles
H-3A	Small Sawtimber <40% Crown Closure
H-3B/C	Small Sawtimber >40% Crown Closure
H-4A	Large Sawtimber <40% Crown Closure
H-4B/C	Large Sawtimber >40% Crown Closure
H-5C	Large Sawtimber >40% Crown Closure, and 200 years and older

For Plan implementation, the following Wildlife Habitat Relationships habitat types and seral stages will be tracked and monitored. The Seral Stage hargets by Habitat Type are listed in each Management Area. A forestwide summary of the acres required to meet seral stage targets by habitat types as aggregated from the management Areas follows. Complete descriptions of WHR Habitat Types and Seral Stages are available as publications in the Planning Records.

Habitat Type (# of Seral Stages)	Acres/Seral Stage	Total Acres Habitat Type
Big Sagebrush * (3)	1096	3288
Black Oak ** (3)	3721	11163
Digger Pine ** (3)	600	180
Juniper ** (3)	475	1425
Lodgepole (7)	169	1183
Mixed Conifer (7)	36933	258531
Perennial Range *** (1)	95	95
Ponderosa Pine (7)	1739	12173
Red Fir (7)	2890	20230

* Use Open, Moderate, or Dense
** Use Pole, Medium, or Large Tree Stage
*** No stages have been assigned; includes wet and dry meadows and grasslands.

Seral Stage Description

1. Shrub/Tree Seedling-Sapling. Includes brushfields, plantations, and natural stands of trees with crown diameter less than 5 feet (stem diameter less than 5 inches dbh).

2. Pole. Trees with crown diameter 6-12 feet (5.0 to 11.9 dbh); all canopy cover classes.

3. Medium Tree (Small Sawtimber). Trees with crown diameter 13-24 feet (12.0 to 23.9 inches dbh);
   3 A. 0 to 39% tree canopy cover.
   3 B/C. 40% or greater tree canopy cover.

4. Large Tree (Large Sawtimber). Trees with crown diameter 25 feet and greater (24 inches and larger dbh).

   4 A. 0 to 39% tree canopy cover.
   4 B/C. 40% or greater canopy cover.

5. Multi-Storied. Stands with trees of all ages or with at least two distinct tree layers and 40% or greater tree canopy cover.

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Appendix F

Allotment Management Strategies

To establish the link between range activities and the resource, and to simplify the choice of management options, five management strategies are defined. Each of these strategies can be viewed as a management objective. In strategies B through D, multiple-use is considered as a constraint on the degree of grazing emphasis, while Strategy E is subject only to basic stewardship of land and water resources.

The five strategies with management objectives are:

A. Environmental Management Without Livestock

Livestock are excluded by fencing, riding, public education, and by incentive payments. The environment is protected from natural or other disasters, such as wildfires and pest epidemics. Resource damage is corrected to achieve basic stewardship. Costs for this strategy are charged to other benefiting resource areas (watershed management and timber management) and to stewardship resource areas (fire protection, pest control, and lands).

B. Environmental Management With Livestock

Livestock use is kept within the apparent present capacity of the range environment. Investments for range management are applied only to the extent required to achieve basic stewardship in the presence of grazing. Investments for implementation may be very low. Resource damage resulting from past use is charged to benefiting or stewardship resource areas. The goal for the strategy is to attain livestock control; no attempt is made to achieve livestock distribution.

C. Extensive Management of Environment and Livestock

Management systems and techniques, including fencing and water developments, are applied as needed to obtain relatively uniform livestock distribution and plant use, and to maintain plant vigor. Livestock forage production is maximized. No attempt is made to maximize livestock forage production by improvement practices such as seeding.

D. Intensive Management of Environment and Livestock

All available technology for range and livestock management is considered. Livestock forage production is maximized, consistent with maintaining environmental quality and providing for multiple use. Existing vegetation may be replaced through improvement in growing conditions. Structures may be installed to accommodate complex livestock management systems and practices. Advanced livestock management practices are commonplace.

E. Environmental Management With Livestock Production Maximized

Stewardship of soil and water is required. Timber may be completely removed. Multiple use is not a constraint. Feasibility of implementing this strategy is questionable.

Appendix G

Wildlife and Plant Species Classification

	Mgt. Indicator	Endangered	Sensitive	Special Interest	Harvest	Maintenance
Peregrine Falcon	X	X				
Bald Eagle	X	X				
Spotted Owl	X		X			
Goshawk	X		X			
Golden Eagle	X					X
Osprey						X
Prairie Falcon	X					X
Canada Goose	X				X	
(Waterfowl)					X	
Deer	X				X	
Marten	X		X			
Trout	X				X	
Largemouth Bass	X				X	
Juniper Cave Snail						X
Arabis constancei	X		X			
Cypripedium californicum				X		
Cypripedium fasciculatum				X		
Darlingtonia californica				X		
Fritillaria eastwoodiae	X		X			
Lupinus dalesae	X		X			
Monadella stebbinsii	X			X		
Penstamen personatus	X		X			
Silene invisa	X		X			
Trifolium lemmonii				X		
Vacinium coccinium	X		X			
Cupressus bakeri				X		
Drosera Rotundifolia				X		
Lewisia cantelowii	X		X			
Sedum albomarginatum	X		X			
Viola tomentosa				X		
Veronica cusickii				X		

Wildlife and Plant Species Classification

	Mgt. Indicator	Endangered	Sensitive	Special Interest	Harvest	Maintenance
Chenipodium gigantospermum				X		
Pinus washoensis				X		
Astragalus lentiformis			X			
Astragalus webberi			X			
Ivesia aperta			X			
Ivesia baileyi			X			
Ivesia seriocoleuca			X			
Ivesia webberi			X			
Senecio eurycephalus var. lewisrosei			X			
Cypripedium montanum				X		

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Appendix H

Developed Recreation Sites 5/87

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Campgrounds, Free-Use

Cleghorn Bar
Lower Bucks
Little North Fork
Rogers Cow Camp
Milsap Bar
Grizzly Creek
Conklin Park
Meadow View
Laufman
Snake Lake
Deanes Valley
Silver Lake
Bradys Camp
Crocker

Campgrounds, Fee

Lightning Tree
Grasshopper Flat
Grizzly
Jackson Creek
Lakes Basin
Crocker
Boulder Creek
Lone Rock
Long Point
Wyandotte
Little Beaver
Running Deer
Whitehorse
Mill Creek
Sundew
Cottonwood Springs
Chilcoot
Spring Creek
Frenchman
Big Cove
Gansner Bar
North Fork
Queen Lily
Hallsted
Black Rock
Peninsula

Campgrounds, Group

Lakes Basin
Red Feather
Hutchins
Cottonwood Springs
Long Point

Picnic Areas

Jackson Creek
Portola
Antelope
Round Valley
Black Rock

Observation Sites

Fern Falls Trail
Mills Peak
Frazier Falls
Feather Falls
Bucks Lake

Boating Sites

Coot Bay
Mallard Cove
Lightning Tree
Camp 5
Honker Cove
Canyon Dam
Lost Cove
Black Rock
Tooms
Maidu
Sandy Point
Frenchman
Gold Lake

Swimming Sites

Clio
Blue Water
Pancake

Fishing Sites

Little Antelope
Grizzly Forebay
Crystal
Turkey Point
Salmon Egg Shoal
Nighcrawler Bay
Snaligaster Point
Lunker Point

Trailheads

Bald Rock
Feather Falls
Three Lakes
Ebbe Stampmill
Smith Lake
Bear Lakes
Graeagle
Long Lake

Documentary Sites

Elizabethtown
Crocker Guard Station
Walker Mine Tramway
Pioneer Cabin
Torrey Graves
Frenchman Grave
Bear Creek Guard Station
Hallsted Hydraulic Face
Soapstone Hill Wagon Road
French Hotel
Letterbox Townsite
Rich Bar

Interpretive Sites, Minor

Nature Trail (Red Fir)
Round Valley

Interpretive Sites, Admin.

Mohawk R.S.
Greenville R.S.
Boulder Creek Station
Quincy R.S.
Oroville R.S.
Challenge R.S.
Laufman R.S.

Information Sites

Antelope Kiosk
Lake Davis Kiosk
Frenchman Kiosk
Gansner Bar
Challenge

Other Sector

Playground, Park

Paradise Rifle Range

Picnic Area

Paradise Lake
Massack
Lowell Bader Park

Hotel, Lodge, Resort

Elwell Lodge
Gray Eagle Lodge
Camp Layman
Gold Lake Lodge
Bucks Lodge
Pine Aire Motel

Organization Site

Sierra Bible Camp
Camp Timberwolf
Mormon Trail Camp
Oakland Camp

Recreation Residence Site

Layman Bar
Bucks
Haskins

Information Site

Shady Rest
Haskins Valley

Campground, Family

Greenville County

Other Concessions

Mountain Base Camps

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Appendix I

Recreational Development Scale

Development Scale	Level of Site Modification
1	Minimum Site Modification. Rustic or rudimentary improvements are designed for protection of the site rather than comfort of the users. Use of synthetic materials is excluded. Controls over users are subtle. Spacing is informal and extended to minimize contacts between users. Motorized access is not provided or permitted.
2	Little Site Modification. Rustic or rudimentary improvements are designed primarily for protection of the site rather than the comfort of the users. Use of synthetic materials avoided. Controls over users are subtle. Spacing is informal and extended to minimize contacts between users. Motorized access is provided or permitted. Primary access is over primitive roads. Interpretive services are informal, almost subliminal.
3	Site Modification Moderate. Facilities are designed equally for protection of the site and comfort of the users. Contemporary/rustic design of improvements usually involves native materials. Inconspicuous vehicular traffic controls are usually provided. Roads may be hard surfaced and trails formalized. Development density is about 3 family units per acre. Primary access may be over high standard roads. Interpretive services are informal, but are generally direct.
4	Site Heavily Modified. Some facilities are designed strictly for comfort and convenience of users. Luxury facilities are not provided. Facility design may incorporate synthetic materials. Artificial surfacing of roads and trails is extensive. Vehicular traffic control is usually obvious. Primary access usually over paved roads. Development density is 3-5 family units per acre. Planted materials are usually native. Interpretive services are often formal or structured.

5 High Degree of Site Modification. Facilities are mostly designed for comfort and convenience of users and usually include flush toilets; they may include showers, bathhouses, laundry facilities, and electrical hookups. Synthetic materials are commonly used. Trails are surfaced. Access is usually by highspeed highways. Development density is 5 or more family units per acre. Plant materials may be exotics. Formal interpretive services are usually available. Formalized designs and contemporary architecture may be used. Mowed lawns and clipped shrubs are not unusual.

Appendix J

Specifications for Road Construction/Reconstruction

	LOCAL ROADS		COLLECTOR ROADS	ARTERIAL ROADS
PURPOSE (see FSM 7710 51)	Provides access to a specific resource activity such as a campground, trailhead, timber sale, range allotment, or mineral lease, etc		Collects traffic from local roads and connects to a Forest arterial, serving multi-resource activities.	Provides maximum mobility, user comfort, and travel efficiency for through traffic serving multi-resource activities.
	Closed Roads	Open Roads		
Availability	Permanent system road with intermittent use Kept at Maint Level 1 when closed	Permanent system road with constant use (allowing seasonal closure). Kept at Maint Level II or greater,	Constant service provided	Constant service provided.
Design Speed	Typically less than 10 MPH.	5 MPH minimum	Average 10 to 25 MPH.	Typically 20 to 50 MPH.
Lanes	Single lane	Typically single lane.	Typically single lane	Typically double lane
Width	Typically 12' traveled way. Turnouts, special equipment needs, curve widening, and some drainage systems require width variations quire width variations.	Typically 12' traveled way. Turnouts, curve widening, special equipment needs, and some drainage systems require width variations.	Refer to FSM 7721.11	Refer to FSM 7721 11
Turnouts	Minimum 50' long with 25' transitions.	Minimum 100' long with 50' transition Spacing maximum 1,000'	Minimum 100' long with 50' transitions; typically intervisible	
Turnarounds	Turnarounds at maximum spacing of 1000 feet and/or dead ends as needed for road construction	Turnarounds at maximum spacing of 1000 feet and/or dead ends as need for road construction	N A.	N.A.

	Closed Roads	Open Roads		
Horizontal Alignment	Typical minimum 25' radius.	Typical minimum 50' radius	Refer To FSH 7709 11	Refer to FSH 7709 11
Curve Widening	Based on design vehicle and curve radius.	Based on design vehicle and curve radius.	Refer to FHS 7709 11	Refer FSH 7709 11
Vertical Alignment	Typical minimum 100' radius.	Typical min. 100' radius.	Refer to FSH 7709 11	Refer to FSH 7709 11
Grade 1/	4-15% desirable. 5% at switchbacks.	4-10% desirable, but allow. 12% for 500' 15% for 200'	Refer to FSH 7709.11	Refer to FSH 7709 11
Drainage 2/	As supported by Maint Level I, including rolling dips, outslope water bars, and temporary crossings	As supported by Maint. Level II. Generally includes outsloping with dips and/or drivable water bars. Pipes used only as necessary.	Permanent, not to impede traffic Sized for service life of the road	Permanent, not to impede traffic.
Clearing Limits	Typically 2' beyond top of cut and 2' beyond hinge point or to point where fill is considered not harful to permanent vegetation, whichever is greater	Typically 4' beyond top of cut and 4' beyond hinge point or to point where fill is considered not harmful to permanent vegetation, whichever is greater	As needed.	As needed
Surface	Typically native surface.	Typically native surface (except in developed rec. areas).	Typically gravel or native surface; sometimes asphalt concrete.	Typically all-weather, gravel, chipseal, or asphalt concrete.
Maintenance	Typically Level I.	Typically Level II or III, but rec roads may vary from Level III to V	Level III or higher	Level III higher.

1/ Grades in excess of those shown require a documentation of need and special design Assistance from a geotechnical engineer is required for "highly" erosive soils or "highly" unstable slopes

2/ Culverts and other drainage structures larger than 36" diameter require hydrologic calculation

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Appendix K
Visual Management System

VISUAL QUALITY OBJECTIVES

The Visual Management System (VMS) was developed to provide a process for the management of the "seen" aspects of both the land and the activities which occur on it. This Appendix gives background information on the management of visual quality on the PNF, as well as listing the visual guidelines used by Forest personnel. The process involves inventory, analysis, and the determination of visual management objectives and provides for their input into an integrated resources planning and decision making process.

In the inventory and analysis of the National Forest, all lands are identified and delineated on maps for both Variety Classes and Sensitivity Levels. Since these maps are general in nature, project level determination is necessary to validate or adjust them as appropriate. The synthesis of this information is used to determine Visual Quality Objectives (VQOs) for managing Forest lands.

Variety Classes are determinations of scenic quality based upon degrees of variety found in the physical features of the land. Variety is based on large areas of land called Character Types which are delineated and defined by the visual characteristics of landforms, waterforms, rock formations, and vegetative patterns. The greater variety provided, the higher the scenic quality. Three Variety Classes are identified and delineated within each Character Type.

Sensitivity Levels are measurements of people's concern for scenic quality. Travel routes, water bodies, and other use areas are identified along with the user's concern for aesthetics. In order to map Sensitivity Levels, Distance Zones-Foreground, Middleground, Background--are identified and delineated. Landform is generally used to determine whether or not an area is visible or may be seen, since vegetative screening might be altered as a result of management activities or natural causes.

The Variety Classes and Sensitivity Levels are combined to determine the Visual Quality Objectives (VQOs). VQOs describe different degrees of acceptable alteration of the natural landscape. The Objectives are considered the measurable standards for the management of the "seen" aspects of the land.

Two short-term management efforts may be required. The first is to upgrade landscapes containing visual elements that do not meet the established VQOs. The second is to improve landscapes having a potential for greater natural-appearing variety. Once this is attained, one of the following five Quality Objectives is then applied.

Preservation (P): Only ecological change is allowed.

Retention (R): People's activities are not to be evident to the casual forest visitor.

Partial Retention (PR) : People's activities may be evident but must remain subordinate to the characteristic landscape.

Modification (M): Activities may dominate the characteristic landscape but must, at the same time, utilize naturally established form, line, color, and texture. Activities should appear as a natural occurrence when viewed in the foreground or middleground.

Maximum Modification (MM): Activities may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

GUIDELINES FOR ATTAINMENT OF VISUAL QUALITY OBJECTIVES

The Forest Service has developed and published a series of documents titled National Forest Landscape Management, Volumes 1 and 2. These publications were designed to facilitate employee training and use, and to display practical application of visual resource management concepts on National Forest System Lands. A brief explanation and list of existing publications in each volume is provided below. Should additional publications be produced as part of this series, they shall be included as a part of this appendix.

NATIONAL FOREST LANDSCAPE MANAGEMENT SERIES BY VOLUME AND CHAPTER

Volume 1

National Forest Landscape Management, Volume 1, is a training document that was distributed throughout the National Forest System in April 1973. It is used as a basic text to illustrate the concepts, elements, and principles of the landscape management program on the National Forests. This program seeks to identify the visual character of the landscape and analyze, in advance, the visual effects of resource management actions. Volume 1 was prepared by landscape architects, land management specialists, and research scientists from throughout the Forest Service.

This volume consists of only one document titled, "National Forest Landscape Management, Volume 1". It was published by the Forest Service, U.S. Department of Agriculture, in February 1973 as Agriculture Handbook Number 434.

Volume 2

National Forest Landscape Management, Volume 2, consists of several chapters, each dealing with the application of Volume 1 principles to a specific function or area of concern in the field of resource management. The effort to produce individual chapters was spearheaded by the Forest Service utilizing contributions from research scientists, industry, and universities. Each chapter was published separately, as they were completed for the purpose of prompt dissemination of useful information. All existing chapters in Volume 2 are listed below.

1. NFLM VOLUME 2, CHAPTER 1, The Visual Management System, Agriculture Handbook Number 462, 1976.

2. NFLM VOLUME 2, CHAPTER 2, Utilities, Agriculture Handbook Number 478, July 1975.

3. NFLM VOLUME 2, CHAPTER 3, Range, Agriculture Handbook Number 484, May 1977.

4. NFLM VOLUME 2, CHAPTER 4, Roads, Agriculture Handbook Number 483, March 1977.

5. NFLM VOLUME 2, CHAPTER 5, Timber, Agriculture Handbook Number 559, 1980.

6. NFLM VOLUME 2, CHAPTER 6, Fire, Agriculture Handbook Number 608, April 1985.

7. NFLM VOLUME 2, CHAPTER 7, Ski Areas, Agriculture Handbook Number 617, June 1984.

All documents identified above in Volume 1 and 2 are available from the Superintendent of Documents, Washington, D.C.

Appendix L

Ten-Year Developed Site Rehabilitation Plan

Rehabilitation includes returning the site to its originally designed capacity. Facilities may be upgraded, and resource treatment and specialized facilities for handicapped users may be provided. Utilization of sturdy, vandal-proof materials will be stressed. Rehabilitation emphasis is generally being place on heavy use, larger capacity campgrounds. Projects must have a new site or revised site plan approved by the Regional Office within three years of the project. *Rehabilitation priorities are:*

1. Little Grass Valley Complex (Red Feather, Running Deer, Wyandotte, Black Rock)
2. Cottonwood/Spring Creek Campgrounds
3. Frenchman/Big Cove Campgrounds
4. Crystal Point Access
5. Lakes Basin Campground
6. Sun Dew Campground
7. Grasshopper/Grizzly Campgrounds
8. Chilcoot Campground
9. Silver Lake/Mill Creek Campgrounds
10. Antelope Complex (Bolder, Lone Rock, Long Point)
11. Frenchman/Antelope/Davis Kiosk
12. Lightning Tree Campground
13. Laufman Campground
14. Snake Lake Campground
15. Hallstead Campground
16. Whitehorse Campground
17. Red Bridge Campground
18. Milsap Bar Campground
19. Feather Falls Trailhead

Should the Rehabilitation Plan be funded to its full potential, other sites would be added to this list.

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Appendix M

Guidelines for Widths of Streamside Management Zones

Stream ** Class			Horizontal Width and Adjustment (feet)* for each stream side. Perennial	Intermittent	Ephemeral
I	Percent Slope				
	0-30		100	50	
	30-60		150	100	
	>60		200	200	
	Channel Stability	Sideslope Stability			
	Stable	Stable	0	0	
		Unstable	+50	+50	
	Unstable	Stable	+25	+25	
		Unstable	+100	+100	
II	Percent Slope				
	0-30		100	50	
	30-60		100	50	
	>60		150	75	
	Channel Stability	Sideslope Stability			
	Stable	Stable	0	0	
		Unstable	+50	+50	
	Unstable	Stable	+25	0	
		Unstable	+100	+100	
III	Percent Slope				
	0-30		100	50	
	30-60		100	50	
	>60		100	50	

GUIDELINES FOR WIDTHS OF STREAMSIDE MANAGEMENT ZONES (cont'd.)

Stream ** Class			Horizontal Width and Adjustment (feet)* for each stream side Perennial	Intermittent	Ephemeral
	Channel Stability	Sideslope Stability			
	Stable	Stable	0	0	
		Unstable	+50	+50	
	Unstable	Stable	0	0	
		Unstable	+50	+50	
IV	Percent Slope				
	0-30			50	25
	30-60			50	25
	>60			50	50
	Channel Stability	Sideslope Stability			
	Stable	Stable		0	0
		Unstable		+25	+25
	Unstable	Stable		0	0
		Unstable		+50	+50

* Streamside Management Zone (SMZ) widths must be expanded to include the extent of riparian vegetation. The widths displayed above are recommendations and are to be increased or decreased according to on-site conditions. The recommended adjustments can be made by adding the displayed width additions according to channel and sideslope stability. Other factors should also be considered, including channel aspect, streamside vegetation height, fish and wildlife habitat conditions, and treatments planned within and adjacent to the SMZ.

** See FSH 2509.22

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Appendix N

Fire Management Protection Program

1. The selected fire management protection program requires the current budget plus 40% for the first decade, and the current budget for Decades 2 and 5.

   The Forest-wide fire management protection organization for the current budget program is:

   - 20 prevention patrol units,
   - 11 5-person engine units,
   - 5 10-person handtool crews,
   - 1 20-person Hotshot crew,
   - 1 helicopter with crew
   - 6 fixed-location lookouts, and
   - 1 initial attack tractor.

   The Forest-wide fire management protection organization for the current plus 40% budget program is:

   - 20 prevention patrol units,
   - 21 5-person engine units,
   - 8 10-person handtool crews,
   - 1 20-person Hotshot crew,
   - 1 helicopter with crew,
   - 6 fixed-location lookouts, and
   - 1 initial attack tractor.

2. The fire management effectiveness index (FMEI) is a relative measure of wildfire suppression effectiveness of the fire management organization which can be calculated by the equation:

$$\text{FMEI} = \frac{\text{Annual (FFP+FFF+NVC)-Fuel Investment,}}{\text{National Forest Acres Protected}}$$

The FMEI for the current budget program is 4.02. The FMEI for the current plus 40% budget program is 4.52.

3. The Fire Management Action Plan, to be prepared, will guide implementation of the selected fire management program.
4. The proposed annual extent of fuel treatment by prescribed fire to the planning horizon is:

Table N-1

Annual Fuel Treatment

acres/year

Decade	Fire Mgmt.	Timber Mgmt.	Other Purposes	Total
1	250	8,103	1,790	10,143
2	150	7,699	2,625	10,474
3	150	6,363	2,370	8,883
4	150	7,969	2,460	10,579
5	150	7,675	2,910	10,735

5. The expected annual extent of wildfire to the planning horizon, by intensity and fire size class is:

Table N-2

Expected Average Annual Burned Acres by Wildfire

	Size Classes				
	A&B	C	D	E+	Total
Fire Intensity Class 1					
Decade 1	32	0	0	0	32
Decade 2	34	0	0	0	34
Decade 3	36	0	0	0	36
Decade 4	21	0	0	0	21
Decade 5	22	0	0	0	22
Fire Intensity Class 2					
Decade 1	90	54	10	111	265
Decade 2	93	55	10	121	279
Decade 3	99	59	11	125	294
Decade 4	113	55	5	120	293
Decade 5	117	56	5	129	307
Fire Intensity Class					
Decade 1	15	42	0	0	205
Decade 2	16	43	0	217	276
Decade 3	17	46	0	228	291
Decade 4	14	51	0	230	295
Decade 5	14	51	0	235	300

Table N-2
(cont'd)

Expected Average Annual Burned Acres by Wildfire

	Size Classes				
	A&B	C	D	E+	Total
Fire Intensity Class 4					
Decade 1	0	64	18	261	343
Decade 2	0	66	18	293	377
Decade 3	0	71	20	323	414
Decade 4	5	53	20	630	708
Decade 5	5	54	25	641	725
Fire Intensity Class 5					
Decade 1	0	4	0	1470	1474
Decade 2	0	4	0	1546	1550
Decade 3	0	5	0	1631	1636
Decade 4	0	7	35	918	960
Decade 5	0	7	35	944	986
Fire Intensity Class 6					
Decade 1	0	0	0	0	0
Decade 2	0	0	0	0	0
Decade 3	0	0	0	0	0
Decade 4	0	0	0	0	0
Decade 5	0	0	0	0	0
Total					
Decade 1	137	164	28	1277	1606
Decade 2	143	168	28	2281	2620
Decade 3	152	181	31	2489	2853
Decade 4	153	166	25	2560	2904
Decade 5	158	168	30	2652	3008

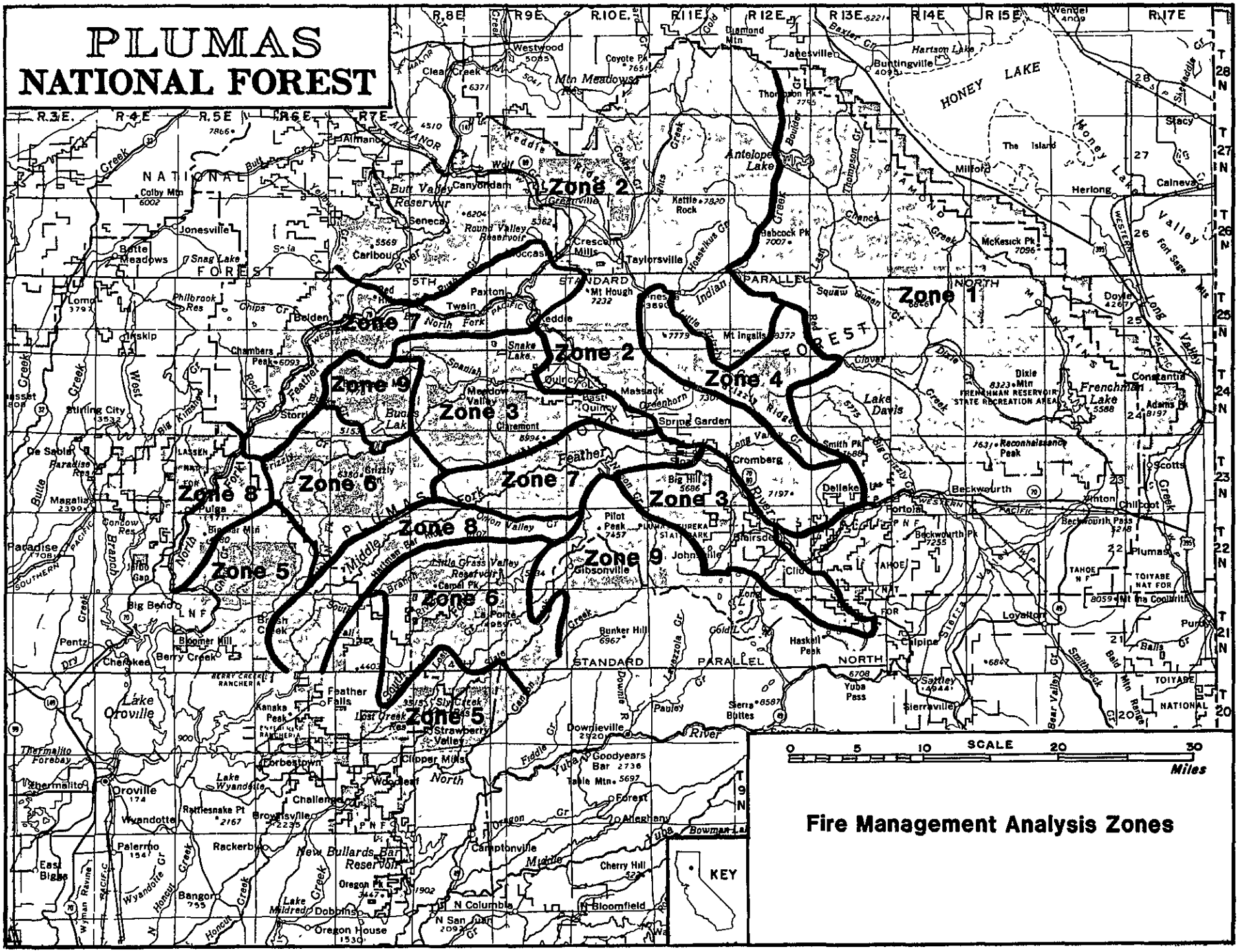
6. Fire management direction is summarized as follows:

Table N-3
Fire Management Direction Summary

Fire Management Analysis Zone 1/	Fire Intensity Level	Average Annual Acres Burned Per Year 2/	Wildfire Suppression Strategy
1	1-5	1200	Control
2	1-4	421	Control
3	1-4	7	Control
4	1-2	3	Control
5	1-2	12	Control
6	1-5	26	Control
7	1-3	195	Control
8	1-5	3	Control
9	1-3	2	Control

1/ See Figure N-1.

2/ From Level 2 Analysis (Initial Attack Assessment).


PLUMAS
NATIONAL FOREST
Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6
Zone 7
Zone 8
Zone 9
KEY
0 5 10 SCALE 20 30
Miles
Fire Management Analysis Zones

N-5

Figure N-1

Appendix O

PNF Trails by Allowable Use

Trail	Mgt. Area	Miles	Foot	Horse	Motorcycles Small ATV	4-wheel Motor.
La Porte District						
Lewis Mine	10	1.5	X	X		
Feather Falls NRT	10	3.8	X	X		
Watson	10	2.4	X	X		
Jackson Ranch	10	1.5	X	X		
Fall River	10	3.8	X	X		
Hanson Bar	9	3.0	X	X		
Kennedy Bar	9	4.3	X	X		
Joe Taylor	9	3.5	X	X		
Obermeyer	13	2.6	X	X		
Stag Point	12	2.0	X	X	X	X
High Ridge	9	3.0	X	X		
Cleghorn Bar	14	1.5	X	X	X	X
Butte Bar	14	1.5	X	X		
Sawmill Tom	14	3.0	X	X		
Hartman Bar NRT	9	4.0	X	X		
Minerva Bar	14	3.0	X	X		
Blue Nose	18	1.0	X	X		
Lakeshore	15	5.0	X	X		
Mt. Filmore	16	4.0			X	X
Illinois	16	3.0	X	X		
Poker Flat	16	2.4			X	X
Hottentot	14	1.5	X	X		
Council Hill	17	1.0	X	X		
Wambo Bar	11	1.0	X	X		
Alabama Bar	11	2.0	X	X		
Cornflake	11	0.3	X	X		
Skinner	11	0.6	X	X		
Pacific Crest	14,15,16	25.0	X	X		
District Total		91.2				

PNF Trails by Allowable Use (continued)

Trail	Mgt. Area	Miles	Foot	Horse	Motorcycles Small ATV	4-wheel Motor.
Oroville District						
Marble Creek	7	5.0	X			
Mountain House	4	1.9	X			
Dome	8	2.3	X			
Big Bald Rock	4	0.5	X			
Mill Creek	5	8.5	X	X		
Kellogg Lake	5	0.5	X			
Little North Fork	7	1.5	X			
Little California	8	2.5	X	X		
Hartman Bar	8	4.4	X			
Hunter's Ravine	8	1.1	X			
Wildcat	2	4.0	X			
Skyhigh	7	1.5	X			
Three Lakes	5	1.8	X	X		
Grizzly Forebay	2	1.6	X			
Three Lakes - PCT tie	5	.3	X	X		
Hutchins	5	.3	X			
Pacific Crest	5	19.2	X	X		
District Total		56.9				
Quincy District						
Gold Lake	21	1.6	X	X		
Rock Lake	21	.5	X	X		
Oddie Bar	25	1.3	X	X		
McCarthy Bar	25	2.5	X	X		
Bachs Creek	25	2.3	X	X		
No Ear Bar	25	1.3	X	X		
Lost Cabin Springs	24,25	0.8	X	X		
Ben Lomond	19	4.8	X	X		
Chambers Creek	19	4.2	X	X		
Yellow Creek	19	2.0	X	X		
Deadman Springs	25		X	X	X	X
Indian Springs	19	3.5*	X	X		
Pacific Crest	19,25	20.5	X	X		
District Total		45.3	X	X		

* Plus 3.0 miles on the Lassen NF

PNF Trails by Allowable Use (continued)

Trail	Mgt. Area	Miles	Foot	Horse	Motorcycles Small ATV	4-wheel Motor.
Beckwourth District						
Lily Lake	35	0.7	X	X		
Gold Lake Lodge-Round Lake	35	1.7	X	X		
Rock Lake	35	1.2	X	X		
Jamison Creek	35	3.0	X	X		
Jamison Lake	35	0.8	X	X		
Mud Lake	35	1.2	X	X		
Long Lake Connect	35	0.2	X	X		
Mohawk-Elwell Park	35	4.4	X	X		
Intake-Graeagle Lodge	35	1.6	X	X		
Lt.Jamison Ck-Smith Lk	35	0.9	X	X		
Graeagle-Smith Lake	35	0.8	X	X		
Upper Graeagle Crk.	35	1.3	X	X		
Long Lk-Graeagle Ck	35	1.4	X	X		
Grassy Lk-Graeagle Ck	35	0.8	X	X		
East Long Lake Spur	35	0.3	X	X		
Silver Lake	35	3.4	X	X		
Bear Lake	35	1.3	X	X		
Mt. Washington	35	3.9	X	X		
Bear/Gold Lks Lodge	35	0.7	X	X		
Silver/Round Lake Connect	35	0.9	X	X		
Round Lk/Tahoe NF	35	0.7	X	X		
Wades Lake/Jamison Connect	35	1.2	X	X		
Red Fir Nature	39	0.4	X			
Frazier Falls	39	0.5	X			
Fern Falls	35	0.1	X			
Jackson Creek	32	0.4	X			
Smith Creek	35	2.4	X	X		
Graeagle	35	0.5	X	X		
Jamison Creek	35	0.8	X	X		
Little Jamison	35	1.0	X	X		
Long Valley	32	3.5	X	X	X	
Nelson Creek	33	3.1	X	X	X	
Summit Lake	35	0.3	X			
Pacific Crest	33	1.0	X	X		
District Total		46.4				
FOREST TOTAL			242.8 miles			

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Appendix P

Supression Difficulty Index (SDI)

The SDI is applied to activity fuels to determine fuel treatment needs for hazard reduction purposes. The SDI does not prescribe a fuel treatment method. This system is to be applied three years after the activity.

Instructions. Follow the SDI process outlined in FHS 5109.19 - Fire Management Analysis and Planning Handbook (FSH 2/87 R-5 SUpp.1), reference pages 52.3--6 through 52.3--8, and Exhibits 4, 5, 6, and 7.

If the resultant SDI is greater than the prescribed threshold index in the Forest-wide Standards and Guidelines for the activity that generated the fuel, then fuel treatment for hazard reduction purposes is necessary. Examination of the rating values for each element can suggest appropriate treatment methods.

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Appendix Q

Water Quality Management- Best Management Practices and Process

Introduction

The Forest Service water quality maintenance and improvement measures called Best Management Practices (BMP's) were developed in compliance with Section 208 of the Federal Clean Water Act, PL92-500, as amended. after a lengthy development and public review process from 1977 to 1979, the practices developed by the Forest Service were certified by the State Water Resources Control Board and approved by EPA. The signing of a 1981 Management Agency Agreement (MAA) resulted in the formal designation of the Forest Service as the water quality management agency for the public domain lands it administers. The BMP's are the measures both the State and Federal water quality regulatory agencies expect the Forest Service to implement to meet water quality objectives and to maintain and improve water quality. There are currently 98 practices documented, 96 of which are certified and approved as BMP's. The two remaining practices are still being improved before referral to the State and EPA for certification and approval. In a like manner, work continues on developing new management practices and evaluating the effectiveness of the existing BMP. Due to the dynamic nature of management practice development and refinement, the original Forest Service publication documenting BMP's is continually being updated. The current publication reference is; WATER QUALITY MANAGEMENT FOR NATIONAL FOREST SYSTEM LANDS IN CALIFORNIA, U.S. Forest Service, Pacific Southwest Region publication, 1979. This publication is hereby incorporated by reference into this document. Work is underway to republish the updated version of this text as a Soil and Water Conservation Handbook.

Water quality management is administered on National Forest lands through the continued implementation of BMP's and through the guidance of a 1981 Management Agency Agreement with the State of California Water Resources Control Board.

Implementation Process

Forest Plans are broad level planning documents that encompass the entire Forest and a multitude of different management activities. Because of the physical-biological diversity of any given National Forest (different soils, vegetation, slopes, presence of surface water, etc.) and the mixture of activities that can occur on various portions of the Forest, site-specific methods and techniques for implementing the

BMP's are not identified at the Forest planning level. For each individual project that is initiated to implement the Forest Plan, a separate site-specific environmental analysis is conducted. The appropriate BMP's necessary to protect or improve water quality and the methods and techniques of implementing the BMP's are identified at the time of this onsite, project-specific analysis. In this manner the methods and techniques can be tailored to fit the specific physical-biological environment as well as the proposed project activities.

Many methods available for implementing a BMP, and not all are applicable to every site. An example is BMP 2.7 Control of Road Drainage. This BMP dictates that roads will be correctly drained to disperse water runoff to minimize the erosive effects of concentrated water. There are many ways to drain a road correctly; e.g., outslope the road surface, install water bars, install French drains, inslope the road surface, and install culverts, etc. It is during the onsite environmental analysis of a specific road construction project proposal that the appropriate method or combination of methods to correctly drain the road are identified.

After the methods and techniques of implementing the appropriate BMP's are identified, they are discussed by the project interdisciplinary team. As a result of discussions, the appropriate mix of implementation methods and techniques are selected and incorporated into the environmental document as required mitigation measures. These mitigation measures are then carried forward into project plans and implementation documents; (e.g., contract language, design specifications, etc.) to assure they are part of the project work accomplished. Implementation on the ground is assured by the Forest Service official responsible for on-site administration of the project. Supervisory quality control of BMP implementation is attained through review of environmental documents and contracts, field reviews of projects, and monitoring the quality of the water in the project area when warranted.

The Best Management Practices

There are 98 practices identified in eight different resource categories. They are as follows:

TIMBER

1.1 - Timber Sale Planning Process
1.2 - Timber Harvest Unit Design
1.3 - Use of Erosion Hazard Rating for Timber Harvest Unit Design
1.4 - Use of Sale Area Maps for Designating Water Quality Protection Needs
1.5 - Limiting Operating Period of Timber Sale Activities
1.6 - Protection of Unstable Areas
1.7 - Prescribing the Size and Shape of Clearcuts
1.8 - Streamside Management Zone Designation

TIMBER (continued)

1.9 - Determining Tractor Loggable Ground
1.10 - Tractor Skidding Design
1.11 - Suspended Log Yarding in Timber Harvesting
1.12 - Log Landing Location
1.13 - Erosion Prevention and Control Measures During Timber Sale Operations
1.14 - Special Erosion Prevention Measures on Disturbed Land
1.15 - Revegetation of Areas Disturbed by Harvest Activities
1.16 - Log Landing Erosion Prevention and Control
1.17 - Erosion Control on Skid Trails
1.18 - Meadow Protection During Timber Harvesting
1.19 - Streamcourse Protection
1.20 - Erosion Control Structure Maintenance
1.21 - Acceptance of Timber Sale Erosion Control Measures Before Sale Closure
1.22 - Slash Treatment in Sensitive Areas
1.23 - Five-Year Reforestation Requirement
1.24 - Non-recurring "C" Provision That Can Be Used For Water Quality Protection
1.25 - Modification of the Timber Sale Contract

ROAD AND BUILDING SITE CONSTRUCTION

2.1 - General Guidelines for the Location and Design of Roads
2.2 - Erosion Control Plan
2.3 - Timing of Construction Activities
2.4 - Road Slope Stabilization (Prevention Practice)
2.5 - Road Slope Stabilization (Administrative Practice)
2.6 - Dispersion of Subsurface Drainage from Cut and Fill Slopes
2.7 - Control of Road Drainage
2.8 - Constraints Related to Pioneer Road Construction
2.9 - Timely Erosion Control Measures on Incomplete Road and Streamcrossing Projects
2.10 - Construction of Stable Embankments
2.11 - Minimization of Sidecast Material
2.12 - Servicing and Refueling Equipment
2.13 - Control of Construction in Streamside Management Zones
2.14 - Controlling In-channel Excavation
2.15 - Diversion of Flows Around Construction Sites
2.16 - Streamcrossings on Temporary Roads
2.17 - Bridge and Culvert Installation
2.18 - Regulation of Streamside Gravel Borrow Areas
2.19 - Disposal of Right-Of-Way and Roadside Debris
2.20 - Specifying Riprap Composition
2.21 - Water Source Development Consistent with Water Quality Protection
2.22 - Maintenance of Roads
2.23 - Road Surface Treatment to Prevent Loss of Materials

ROAD AND BUILDING SITE CONSTRUCTION (continued)

2.24 - Traffic Control During Wet Periods
2.25 - Snow Removal Controls to Avoid Resource Damage
2.26 - Obliteration of Temporary Roads
2.27 - Restoration of Borrow Pits and Quarries
2.28 - Surface Erosion Control at Facility Sites

MINING

3.1* - Administering Terms of the U.S. Mining Laws (Act of May 10, 1872) for Mineral Exploration and Extraction on National Forest System Lands (PRACTICE NEEDS IMPROVEMENT)
3.2 - Administering Terms of BLM Issued Permits or Leases for Mineral Exploration and Extraction on National Forest System Lands
3.3 - Administering Common Variety Mineral Removal Permits

RECREATION

4.1 - Sampling and Surveillance of Designated Swimming Sites
4.2 - On-site Multidisciplinary Sanitary Surveys Will Be Conducted to Augment the Sampling of Swimming Waters
4.3 - Provide Safe Drinking Water Supplies
4.4 - Documentation of Water Quality Data
4.5 - Control of Sanitation Facilities
4.6 - Control of Refuse Disposal
4.7 - Assuring that Organizational Camps Have Proper Sanitation and Water Supply Facilities
4.8 - Water Quality Monitoring Off-Road Vehicle Use According to a Developed Plan
4.9 - Sanitation at Hydrants and Faucets Within Developed Recreation Sites
4.10 - Protection of Water Quality Within Developed and Dispersed Recreation Areas
4.11 - Location of Pack and Riding Stock Facilities in Wilderness, Primitive, and Wilderness Study Areas

VEGETATIVE MANIPULATION

5.1 - Seed Drilling on the Contour
5.2 - Slope Limitations for Tractor Operation
5.3 - Tractor Operation Excluded from Wetlands and Meadows
5.4* - Revegetation of Surface Disturbed Areas
5.5 - Tractor Windrowing on the Contour (PRACTICE NEEDS IMPROVEMENT)
5.6 - Soil Moisture Limitations for Tractor Operation

* These are the two practices that currently have not been recommended for certification and approval as BMP's.

VEGETATIVE MANIPULATION (continued)

5.7 - Contour Disking
5.8 - Pesticide Use Planning Process
5.9 - Apply Pesticide According to Label and EPA Registration Directions
5.10 - Pesticide Application Monitoring and Evaluation
5.11 - Pesticide Spill Contingency Planning
5.12 - Cleaning and Disposal of Pesticide Containers and Equipment
5.13 - Untreated Buffer Strips for Riparian Area and Streamside Management Zone (SMZ) Protection During Pesticide Spraying
5.14 - Controlling Pesticide Drift During Spray Application

FIRE SUPPRESSION AND FUELS MANAGEMENT

6.1 - Fire and Fuel Management Activities
6.2 - Consideration of Water Quality in Formulating Fire Prescriptions
6.3 - Protection of Water Quality from Prescribed Burning Effects
6.4 - Minimizing Watershed Damage from Fire Suppression Efforts
6.5 - Repair or Stabilization of Fire Suppression Related Watershed Damage
6.6 - Emergency Rehabilitation of Watersheds Following Wildfires

WATERSHED MANAGEMENT

7.1 - Watershed Restoration
7.2 - Conduct Floodplain Hazard Analysis and Evaluation
7.3 - Protection of Wetlands
7.4 - Oil and Hazardous Substance Spill Contingency Plan
7.5 - Control of Activities Under Special Use Permit
7.6 - Management by Closure to Use (Seasonal, Temporary, and Permanent)

GRAZING

8.1 - Range Analysis, Allotment Management Plan, Grazing Permit System, and Permittee Operating Plan
8.2 - Controlling Livestock Numbers and Season of Use
8.3 - Controlling Livestock Distribution Within Allotments
8.4 - Rangeland Improvements

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Appendix R

Recreation Opportunity Spectrum (ROS)*

Recreation Opportunity Spectrum is a system used to divide the Forest into recreational opportunity areas based on area size, distance from roads, and degree of development. Existing and potential recreation activities are identified within each to guide future management. Categories range from "primitive" to "urban".

1. Primitive ROS Class - an essentially unmodified natural environment of 5,000 acres or more that is at least three miles from all motorized use, and that provides significant opportunity for isolation from the sights and sounds of man and a feeling of vastness of scale. Visitors have an opportunity to be part of the natural environment, encounter a high degree of challenge and risk, and use a maximum of outdoor skills.

2. Semi-Primitive Non-motorized ROS Class - 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. The area is typically 2,500 acres or more and at least 1/2 mile from motorized use. It presents opportunity for interaction with the natural environment, moderate challenge and risk, and use of a high degree of outdoor skills.

3. Semi-Primitive Motorized ROS Class - a predominantly unmodified natural environment in a location that provides good to moderate isolation from sights and sounds of man, except for facilities/travel routes for primitive motorized recreation travel. Visitor can experience at least a moderate challenge and risk, and a high degree of skill testing. The area is generally 2,500 acres or larger and not closer that 1/2 mile from better-than-primitive roads.

4. Roaded Natural ROS Class - a predominately natural environment where resource modification and utilization practices are evident. Evidence of the sights and sounds of man is moderate and in harmony with the natural environment. Opportunities exist for both social interaction and moderate isolation from sights and sounds of man.

* See THE ROS USER'S GUIDE, USDA, Forest Service in the LMP Files.

The Roaded Natural class as described in the ROS User's Guide has been divided into two sub-classes, Roaded Natural (RN) and Roaded Modified (RM):

a. Roaded Natural (RN) is defined as those original Roaded Natural areas that are also coded as Foreground and Sensitivity Level I. These lands lie along the major travel ways and viewsheds. Nearly all developed sites are in this class. Paved roads and hardened sites are common. User interaction is moderate to high at developed sites.

b. Roaded Modified (RM) is defined as those Roaded Natural areas that are also coded as Middleground, Background or Unseen, and Sensitivity Level II or III. This is the general resource management area of the Forest, typified by pick-up trucks and many miles of dirt and gravel roads. Other than trails and trailheads, virtually no improvements are present. Users experience low interaction.

5. Rural ROS Class a substantially modified natural environment. Sights and sounds of man are evident. Renewable resource modification and utilization practices enhance specific recreation activities or provide the protection of vegetative soil cover.

6. Urban ROS Class a substantially urbanized environment. Sights and sounds of man predominate.

Urban Class areas on the PNF will be managed according to the Rural Class.

United States
Department of
Agriculture

**Forest
Service**

Pacific
Southwest
Region

Record of Decision

PLUMAS NATIONAL FOREST

Land and Resource Management Plan

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USDA-FOREST SERVICE

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I. Overview

The 1,618,517-acre Plumas National Forest (PNF) is located at the northern end of the Sierra Nevada mountain range, in northeastern California. The name "Plumas" originated from a party of Hudson Bay Fur Company trappers who traveled the area in the 1820's. They found Indians wearing blankets interwoven with feathers along a waterway and so named it the "Feather River". Since California was under Spanish rule at that time the name was translated to "Rio de las Plumas", and extended to the naming of the County in 1854, and the Forest in 1905.

By 1850 the California gold rush drew thousands of people to search for gold on what are now PNF lands. With the advent of the miners came the need for timber to build new communities, to develop mines, and to provide heating and energy. To supply this need extensive tracts of land were heavily logged. Initially this was through rather primitive "horse" logging, however as technology developed railroad logging occurred on the more gentle slopes on the eastside of the PNF. The existing road system owes it's origins to these early mining and logging ventures.

As a result of these early activities, large portions of the PNF are now in what can be considered "second growth" condition. On many of these sites growth has reached a point where timber harvesting is again appropriate. The PNF has only 6 percent of the Pacific Southwest Region land base but produces more than 10 percent of the Region's timber. This is a result of productive soils and sound management of the land base for varied multiple uses. A substantial standing volume of large sawtimber remains available to support ongoing production of quality timber.

The early miners' need for meat and dairy products also led to the establishment of cattle ranches in and adjacent to the PNF. This use peaked shortly after the turn of the century. Currently forty-five permittees utilize about 75 percent of the estimated 43,000 animal-unit-month (AUM) capacity.

Watershed value and quality continue to be of the highest order. About one-half of the Forest's total Present Net Value (PNV) results from the value of runoff water for domestic and agricultural uses throughout California. About 92 percent of the Forest's water drains to the State Water Project's Oroville Reservoir via the Feather River, and the PNF makes up nearly one-half of the reservoir's total watershed. A significant

portion of these waters pass through Pacific Gas and Electric's "Stairway of Power", a series of 10 powerhouses on the North Fork of the Feather River and its tributaries.

Recreation use on the Forest currently exceeds 2.3 million recreation visitor days annually and is expected to increase steadily due to the combination of five large reservoirs and scenic landscapes.

The variety of the Forest's flora and fauna reflects the notable variation as a result of climate, terrain and past logging activities. There is habitat for over 300 vertebrate species including two endangered species, the bald eagle and the peregrine falcon.

After 83 years of multiple-use management by the Forest Service the PNF is an environmentally sound and highly productive forest that contributes to the social, economic and environmental needs of society. The Forest Plan will continue the mosiac of uses that has been established over the past 140 years and will maintain and improve the quality and, where possible, the productivity of Forest resources. Over time the appearance of the Forest as seen from local communities, major highways, lakes, and recreation and other high use areas would remain essentially the same. Productive timberlands would contain uneven and evenaged stands, scattered among more natural-appearing areas. Wildlife habitat would generally be more diverse than it is today. Deer, bald eagle and peregrine falcon populations would increase, and viable populations of all other PNF species would be present. Eastside rangelands would change little. Recreational opportunities would be greater due to the development of more campgrounds and trails. Over 110,000 acres on the Forest would remain available for wilderness and semi-primitive recreation.

II. The Decision

I have selected the Preferred Alternative described in the final Environmental Impact Statement and the final Plan to provide direction for management of the PNF for the next 10 to 15 years. This decision was based on a thorough study of the lands and resources, socio-economic interests, detailed study and analysis of six management alternatives and review of over 3,500 public comments on the draft Environmental Impact Statement and draft Plan. This record of decision summarizes the principle management objectives of the Forest Plan and the rationale for my decision.

Plan Direction

The Plan provides a balanced management program that increases utilization of some market resources, maintains or enhances amenity values, and minimizes or avoids adverse environmental impacts. The following summarizes key management direction and goals to be achieved over the ten to fifteen-year period of Plan implementation.

Recreation

The Plan provides a full range of recreation opportunities and encourages development of privately operated facilities. A comprehensive campground construction and reconstruction program will rehabilitate 19 recreation complexes and individual campgrounds to their originally designed capacities, including specialized facilities for handicapped users, and construct three new picnic areas, a fishing access trail, a family campground, three boat launching areas, and additional campsites at existing campgrounds in high use areas. About 9 percent of the PNF will be managed for semi-primitive and primitive recreation as provided by roadless areas, wild and scenic rivers, and Wilderness. Wild and Scenic River lands and easements will be acquired. The Forest trail system will be maintained and expanded. As cross country skiing and snowmobiling increase, a high priority will be placed on managing and coordinating these sometimes conflicting uses.

Special Areas

The current designations of the Butterfly Valley Botanical Area and the Feather Falls Scenic Area are maintained. A recommendation is being made to the Secretary of Agriculture that the Lakes Basin Recreation Area be expanded to include an additional 4,360 acres similar to those within the existing designated area, and to withdraw 130 acres which more closely resemble land outside the area. Research Natural Area status for the Mt. Pleasant red fir-mesic meadow complex and the Mud Lake Modoc Cypress Stand is being recommended to the Chief of the Forest Service. I designate the Soda Rock Geologic Area (a travertine area with Maidu cultural/religious associations), Valley Creek Botanical Area (old-growth mixed conifer) and Little Last Chance Canyon Scenic Area to be Special Interest Areas. In addition, the Soda Rock Geologic Area and the Feather Falls Scenic Area are being reported to the National Park Service as potential National Natural Landmarks.

Wildlife

A strong program of habitat management to meet the needs of various species dependent upon the full range of seral vegetation stages, from early seral through climax, is provided. A minimum of 5 percent of seral stage vegetation is maintained in each of the 43 management areas. Emphasis is placed on habitat management and monitoring of results. Improvements and activities in cooperation with the California Department of Fish and Game will place a high priority on maintaining viable populations of all species of wildlife. Twenty wildlife and plant species are identified as management indicator species. Management for 26 bald eagle territories (double the 1982 level) and for two peregrine falcon pairs (none in 1982) is provided.

Riparian Areas

Forest-wide standards and guidelines and a riparian area prescription emphasize the protection and restoration of riparian areas. Riparian areas are critical to wildlife, fish habitat, vegetation diversity, water quality, flood and sediment control, stream channel stability, recreation, and aesthetics. Timber harvesting, livestock grazing, and

mining are allowable uses within these areas, but must not conflict with riparian dependent resources. Plan direction requires restoration of deteriorated channels and riparian areas.

Grazing

The range program remains relatively static at 34,000 AUMs. The increase of 3,800 AUMs from the 1982 level comes primarily through land exchanges, with minor amounts from new approaches to using transitory range and range improvement programs.

Timber

The timber allowable sale quantity (ASQ) will increase from 250.5 MMBF in the current Timber Management Plan to 265.5 MMBF (The actual amount sold in 1987 was 179.2 MMBF). Market demand and congressional funding will determine the actual annual sale quantity sold in any given year to reach the ASQ. Output estimates are the expected outputs and not what must be accomplished. ASQ decade volume cannot be exceeded.

A variety of harvesting methods including clearcutting, shelterwood, group selection and single tree selection will be used. Selection of silvicultural methods will be based on analysis of vegetation type, topography, and other site conditions and economics and public input. Clearcutting will be used on about 4,000 acres annually, less than proposed in the draft Plan (4,545 acres) but more than provided for in the previous Timber Management Plan (2,970 acres). Clearcutting would be used where even-age harvesting meets management objectives better than uneven-age harvest. Reasons for selecting clearcutting as the optimum method of harvest include:

1. Less ground disturbance will occur by harvesting more volume in fewer acres as compared to partial cutting a greater number of acres. Watershed objectives will be better met because harvesting more volume per acre means that fewer acres are affected.

2. Fewer residual trees will be damaged, which is particularly important for true fir stands.

3. Clearcutting makes possible more efficient and complete cleanup of logging slash to reduce fire hazard and facilitates planting for the reestablishment of timber stands.

4. Infections from dwarf mistletoe spread less quickly in young stands of trees planted in clearcuts.

5. Regeneration and growth rates are higher for shade-intolerant species such as pines and Douglas-fir when planted in clearcut areas, and within clearcut areas they better withstand invasion by the less valuable shade-tolerant trees such as true firs, incense cedar, and tan oak. Some encroachment of these shade tolerant species will occur, but the shade-intolerant species will predominate.

Group selection and single tree selection harvesting will be applied during the Plan period on four timber compartments to determine the feasibility of maintaining a generally continuous forest cover on the large diversified land base of the Plumas National Forest. Twenty-eight percent of the harvested acreage and 61 percent of the timber harvested in the first decade will use even-age regeneration cutting. Non-regeneration prescriptions will be used for the remaining 72 percent of harvested acres and will produce 39 percent of the allowable sale quantity.

Timber sale revenues exceed costs, as they have in the past, except for a small number of sales which are planned to meet other resource objectives. All capable, available and suitable (CAS) lands contribute toward the ASQ. Should timber demand increase significantly in the future, the allowable sale quantity could be increased only by amending the Plan and accepting a decline in visual quality, old growth timber, and associated impacts on old growth dependent wildlife species.

Wilderness and Roadless Areas

No additional wilderness is recommended. No scheduled activities are planned for the Bald Rock, Beartrap, Chips Creek, Dixon Creek, Grizzly Peak, Keddie Ridge, Lakes Basin, Middle Fork, and Thompson Peak roadless areas (79,500 acres in total) for the duration of the Plan. The Semi-Primitive Prescription (Rx-8) permits limited management activities (such as grazing on active allotments, mineral development, use of prescribed fire and timber harvesting with special cutting methods for salvage purposes) to take place in these areas provided that the semi-primitive nature of the areas is protected. Opportunities are available for activities such as hiking and walking, horseback riding, viewing scenery, camping, hunting, nature study, mountain climbing, swimming, fishing, cross-country skiing and snowshoeing.

Water Quality and Quantity

Water quality will be maintained and improved by use of Best Management Practices, an aggressive rehabilitation program and increased attention to protection of riparian areas. Only incidental yields in water quantity will occur as a result of vegetation manipulation.

Visual Resources

High visual quality will be maintained on areas readily apparent from recreational developments, major travel routes, other high use areas and lands managed as semi-primitive areas, Wilderness, Wild and Scenic River and Wild Trout Streams.

Budget

The Plan calls for an annual budget of $29.9 million, an increase of $7.6 million over the current annual budget. Implementation of the Plan will depend on annual allocations from Congress. If annual budgets are significantly less than the Plan requires, some objectives and outputs may not be met. In that case, an amendment or revision of the Plan may be needed.

III. Alternatives Considered

A. Alternatives

A range of alternatives, six in all, was developed and analyzed. In response to public comment on the DEIS and draft Plan, alternatives PRF, AMY and CMY were modified.

Preferred Alternative (PRF)

This alternative attempts to meet both commodity and amenity demands, and has been revised in response to public input and desires. Thoughts and ideas from the public were incorporated and also resulted in development of a riparian prescription, strengthening of the standards and guidelines for wildlife and diversity, reanalyzing the visual management program, review of harvest methods and the appropriate combinations of harvest methods, and raising the allowable sale quantity by 10 MMBF over the draft Plan while continuing to protect other resources and values.

Current Management Alternative (CUR)

This alternative continues management policies and practices, resource outputs, and expenditures at 1982 levels.

RPA Program Alternative (RPA)

This alternative increases outputs for all resources to provide the Forest's share of the 1980 RPA targets.

Constrained Economically Efficient Alternative (CEE)

This alternative emphasizes production of timber, livestock, minerals, developed recreation, and special uses that have potential to produce income to the Government, while preserving a minimum level of amenity values.

Amenity Emphasis Alternative (AMY)

The Amenity alternative emphasizes amenity resources such as wilderness, wildlife, fish, water and dispersed recreation, with an ASQ of 247 MMBF of timber which would be harvested primarily through group selection. This alternative was revised due to input from the Friends of Plumas Wilderness.

Commodity Emphasis Alternative (CMY)

The Commodity Alternative emphasizes a response to commodity demands while maintaining a moderate level of amenity values. Timber, range, and other commodities are produced in such a way as to maximize economic efficiency. This alternative was revised due to input from the Plumas-Sierra Citizens for Multiple use.

B. Public Participation

Coordination with Federal, State and local agencies was recognized as an important part of the planning process. Plans of the agencies, which might be affected by the planning effort, were solicited. Meetings were held with State and local agencies. Numerous meetings between the Forest Service and the California Department of Fish and Game (DFG) were held, and the Forest Service Wildlife Biologist worked with his counterparts in the Department, both at the State and local level, in development of standards and guidelines, selection of Management Indicator Species, and in consideration of other measures affecting wildlife.

The Plumas National Forest conducted an active public involvement program. Federal, State, and local agencies have been informed and consulted throughout the planning effort. Forest users have had an opportunity to participate.

A notice of intent to prepare an EIS for the Plan was published in the Federal Register on November 7, 1979. A notice of availability of the draft EIS and draft Plan was published in the Federal Register on February 7, 1986, and announced by area news media. 650 copies of the draft Plan and DEIS were distributed to the public. Meetings and formal hearings were held during the comment period which lasted through May 23, 1986. Over 3,500 individuals, organizations, and Federal, State, and local agencies commented on the draft Plan and DEIS. All comments were considered in the preparation of the final documents and in the selection of the Preferred Alternative as the Plan.

IV. Reasons for the Decision

This section describes the significant factors forming the basis for my decision in selecting the Preferred Alternative as the foundation for the Plan.

No single factor determined the decision. Rather, using professional judgment and experience, many factors were considered and weighed in making the decision. Based on consideration of all factors, including monetary and nonmonetary costs and benefits, land capability, protection of the basic resources, public desire, and advice and suggestions from other agencies, organizations, and experienced Forest officers, the Plan sets a course that results in the greatest overall long-term benefit to the public.

A. Response to Public Comments

The Plumas National Forest responded to the input received on the DEIS and draft Plan; substantive comments and the responses to them can be found in the EIS Appendix W. This input was very helpful to the Forest; it showed areas of confusion, disagreement, and also those portions of the Plan that the public accepted. The comments included corrections that could be made

to the document, concerns that needed better explanation and major issues to be addressed further.

The Forest received many, varied comments from many different interests, and sometimes comments from one reviewer conflicted with comments from another reviewer. A discussion of how the Plan handles the major issues that surfaced during the public comment period follows.

1. Timber Harvesting Methods

Public concern centered on perceived adverse environmental effects of cleacutting and other even-age silvicultural systems and corresponding advantages of uneven-age silvicultural systems.

In the current Timber Management Plan, the allowable sale quantity is 250.5 MMBF per year. This includes a planned regeneration harvest of 2,970 acres per year from a 769,396 acre commercial forest land base. Under the draft Preferred Alternative the annual sale quantity would have been 255 MMBF per year, with a regeneration acreage of 5,233, from a 871,000 CAS land base. Within the regeneration acreage 4,545 acres per year would be clearcut and 688 acres shelterwood.

Due to public concerns over proposed harvesting methods the following measures were evaluated and incorporated in the final Plan:

-Reduce scheduled timber yields from riparian areas
-Limit timber harvest in semi-primitive areas to salvage
-Schedule low yields on slopes over 60 percent
-Distribute regeneration cuts among the different timber strata to meet dispersion requirements
-Increase intermediate cutting and salvage/sanitation to reduce clearcut acreage
-Utilize a variety of timber harvesting methods and even-age and uneven-age silvicultural methods.

The final Plan increases the allowable sale quantity by 10.5 MMBF to a total of 265.5 MMBF, as compared to the draft Plan. In accomplishing this the CAS land base is essentially fully utilized at 898,932 acres. The maximum regeneration acreage is 5,400 acres per year, of which 4,000 acres will be clearcut, 600 acres shelterwood cut, and 800 acres group selection cut with openings typically less than 2 acres but ranging to 5 acres in size. Standards and guidelines were revised to assure protection of non-timber resources.

2. Herbicide Use

The public was concerned that the Forest would use herbicides to control competing vegetation during reforestation. Many believed that herbicides are a health hazard and that the Forest Service has alternatives to herbicide use. There were others who supported herbicide use and indicated a trust in the Forest to carefully manage the use.

Current direction in the Plan states that: 1) the selection of any particular treatment method will be made at the project level based on analysis of the relative effectiveness, environmental effects and costs of feasible alternatives; 2) monitoring plans to evaluate predicted project effects and adherence to planned treatment methods will be developed for site-specific projects. In response to public comment no herbicide use was modeled in the AMY alternative. All other alternatives assume herbicides will be available for use.

3. Grazing

A number of respondents indicated that too much emphasis was being placed on grazing, especially in relation to the perceived conflicts with riparian areas. To address this concern the Forestwide standards and guidelines for riparian areas have been rewritten, and a new Riparian Area Prescription (Rx-9) has been incorporated into the final Plan giving direction to the management of grazing, as well as other management activities, in riparian areas.

The Plan calls for 34,000 Animal Unit Months (AUM's), 2,000 AUM's more than the draft Plan. This is a result of expansion of grazing land due to land exchanges and better utilization of transitory range. Overall range capacity is estimated to be 43,000 AUM's.

There was also some question as to the grazing AUM value used in the economic analysis of the grazing activity ($10.20 per AUM) when this value was compared with the actual fee received from ranchers ($1.86 per AUM). The grazing value used in the DEIS was based on Economic Research Service studies used to determine the relative value of the range resource. The grazing fee, which is established by Congress, is currently under review.

4. Riparian Areas

The public wants more stringent management and very little or no land disturbances in riparian areas. The Forest should give priority to restoring damaged riparian areas.

In the final Plan, Forestwide standards and guidelines have been rewritten to help address the concerns expressed. In addition a Riparian Area Prescription (Rx-9) was formulated to provide added management emphasis to these sensitive areas. The management of the areas will: 1) allow logging only where it benefits riparian dependent resources, helps control insects and disease, is needed to insure public safety, or facilitates off-site logging activities while protecting the riparian area; 2) implement grazing systems that protect riparian dependent resources; 3) minimize the number of road and stream crossings; and 4) protect riparian areas during mining operations. The final Plan also provides for an aggressive restoration program for riparian areas.

5. Spotted Owls

Numerous comments were received on the spotted owl issue. Some stated that too much land and timber were being set aside for spotted owls. Others wanted more area and stricter guidelines for the management of this species and questioned the ability of the Forest to meet the spotted owl management direction in light of the increased timber harvest proposed in the draft Plan. Some questioned the concept of non-site specific habitat areas used in FORPLAN modeling in the draft Plan and the ability of the Forest to maintain a viable population when the estimated habitat capability to support pairs shows a reduction from 125 to 53 pairs.

Forestwide standards and guidelines have been revised to help deal with some of these concerns. The spotted owl section in Chapter 3 of the EIS has been revised to more clearly explain the estimate of capability to support pairs and how these numbers were derived.

Recent field surveys to better identify areas occupied by pairs of spotted owls have provided more site specific information and allowed analysis of possible network arrangements. As a result, the estimated capability to support pairs of spotted owls has been revised. Also, the network has been revised to 54 spotted owl habitat areas in the final Plan. These were chosen by the PNF Management Team from several alternative network arrangements, which ranged from 53 to 60 habitat areas. The network review and update indicated that Regional standards and guidelines can be met with 49 spotted owl habitat areas. This network covers the geographic range of spotted owls and connects with owl networks on adjacent Forests. Five additional areas have been included in the network. Although these 5 are not needed to meet the standards and guidelines, they are included in the network because their protection is compatible with management of other resources.

The FORPLAN modeling process has been improved to provide a more site specific assessment rather than the "floating" area analysis that was done for the draft Plan. Improvements also were made in the analysis of estimated effects of managing habitat areas by various prescriptions. A mixture of management prescriptions has been adopted.

6. Management Indicator Species

A number of comments were received from individuals and agencies concerning the adequacy of the Management Indicator Species (MIS) listing shown in the draft Plan. The basis for the selection of the MIS was that the selected species would be representative of all other species on the PNF.

A major area of contention was whether we should include species shown on the State Endangered and Rare Species listing. Populations on the Plumas are not known for most of these species. The Forestwide standards and guidelines in the Plan have, however, been revised and call for cooperative surveys with DFG, as well as having a requirement to provide sufficient habitat to maintain existing populations for State listed species.

Management area direction has been added for specific species where information on distribution is known. Any new information discovered during the Plan implementation will be tracked and incorporated into management area direction. During the planning period a coordinated effort with the California Department of Fish and Game will be made to determine priority areas for management of listed species, and to develop population and habitat objectives.

7. Indicator Species Population Levels

The public asked how could Management Indicator Species (MIS) levels be monitored when population levels and habitat requirements are unknown.

Habitat requirements and minimum population levels for MIS are shown on Table 4-4 in the Plan, except for those without population estimates. An assumption was made that viability of species not on the Federal Endangered Species List will be maintained if adequate quality habitat is provided.

Direction in the Plan states that during the planning period the Forest will meet with DFG, and other Forests, to establish MIS monitoring techniques and viability levels. In addition the Plumas will conduct selected species surveys, if needed, to establish background population levels on those species where information is lacking.

8. Roadless Areas

Many of the respondents visualize the roadless areas as "de facto" wilderness and want to preserve the areas as such. Others fear that if the Semi-Primitive Roadless designation is used it will be the first step in making these areas into formal wildernesses in future years. Some indicated that giving the areas any type of designation will limit the activities which could be carried out in these areas.

No scheduled activities are planned for the Bald Rock, Beartrap, Chips Creek, Dixon Creek, Grizzly Peak, Keddie Ridge, Lakes Basin, Middle Fork and Thompson Peak roadless areas (79,500 acres in total) for the duration of the Plan. The title of the prescription for management of these areas has been changed from Semi-Primitive Non-Motorized to Semi-Primitive. Language has also been inserted into the Semi-Primitive Prescription (Rx-8) that would permit limited management activities to take place in these areas providing the semi-primitive nature of the areas is protected.

9. Semi-Primitive Motorized Area

The only Semi-Primitive Motorized Area (SPM) on the Forest in the DEIS was Adams Peak (7,000 acres). The DFG and the Plumas County Board of Supervisors pointed out that this is a prime deer wintering and fawning area, and that off-road vehicle use could be attracted by use of this designation. Accordingly the SPM designation has been dropped in the Plan, even though motorized use will still be allowed to occur. Land characteristics dictate that only minimal management will occur on most of the area.

10. Bucks Lake

The draft Plan proposed to manage the Bucks Lake Basin using guidelines shown in three Management Areas: Bucks, Faggs, and Grizzly Dome. Most respondents pointed out that the Bucks Lake Basin is a unique recreational area and should be incorporated into one management area. There was also some fear that clearcutting would ruin the scenic values in this Basin. The Plan now incorporates the entire Bucks Lake Basin into the existing Bucks Management Area. Changes have been made in standards and guidelines to address concerns relative to timber management and recreation. The harvesting system for the Bucks Lake Basin will be uneven-age management, mostly group selection.

11. Feather Falls Scenic Area

The public's concerns reflect the desire to protect the Feather Falls Scenic Area from hydroelectric development. Commentors indicated that if hydroelectric development is allowed on the portion of Fall River that lies within the Feather Falls Scenic Area it would destroy the scenic value of the area. Many asked that this segment of Fall River be designated a Wild and Scenic River.

A number of hydroelectric projects have been proposed on Fall River. All of these projects have been subsequently abandoned. The lack of success by developers can only be partially attributed to the steep and rocky terrain. Major factors that have discouraged development have been the low price of oil and the relative abundance of power available from other sources. These limiting factors are not static and may swing into more favorable conditions in the future. If that occurs, the Forest will be faced with the dilemma of what to do when a developer has an economically viable project which may affect Feather Falls.

A study will be initiated during Plan implementation to determine the suitability of the 7 mile long portion of the river from Nelson's Crossing to Lake Oroville for inclusion in the Wild and Scenic River System. This segment of Fall River has unpolluted water, is free of impoundments and is generally inaccessible except by trail. In the interim, the Plumas will manage this portion of the river to preserve its free flowing condition.

12. Lakes Basin Recreation Area

A substantial number of comments were received concerning the expansion of the Lakes Basin Recreation Area. These were generally focused on three areas. The Frazier Falls/Frazier Creek Canyon was of primary concern, followed by the Smith Creek and Claim Creek areas, and Jamison Canyon. There were also a number of people who felt that no more or no restrictions should be placed on the land base regardless of where it was on the Forest.

The Plan expands the Lakes Basin area to include an additional 4,360 acres of lands of "primary" concern, as presented by the public, while deleting approximately 130 acres which do not conform to the high altitude, glaciated

characteristics of the Lakes Basin. This would result in a net increase of 4,230 acres over the area originally designated in the draft Plan. Areas to be added are of similar nature to the lands already in the Lakes Basin Recreation Area. The new proposed boundaries of this area are shown in Management Area 35, Lakes Basin, in the Plan. A recommendation will be made to the Secretary of Agriculture to modify the boundaries of the area in accordance with the Plan.

13. Budget Projections

Public comment on this issue indicated concern over the discrepancy between current Fiscal Year budgets and the much higher cost of implementing any of the alternatives. The public questioned how substantially lower budgets would affect resource programs and their priorities.

Appendix C, Budgets and Their Relationship to the Forest Plan has been added to the EIS. This appendix provides an overview of the Federal Government's budgeting process and provides an explanation of how the Plan will be used to formulate budget requests. It also provides information on the importance of cooperative projects and the funding and the contributions of volunteers to program accomplishments. Further implementation of the Administration's policy of having users pay fees, commensurate with the cost or value of the service provided, is discussed as a means of making up budget shortfalls.

Outputs shown in the Plan will be realized only when adequate funding is provided. Regardless of annual budget levels, management requirements including the standards and guidelines established in the Plan will be met. Under the National Environmental Policy Act, an environmental analysis is completed for every project that could have an effect upon the environment.

B. Economic Efficiency of Alternatives

The Constrained Economically Efficient Alternative has the highest Present Net Value, followed by the Commodity Emphasis Alternative and the RPA Program Alternative. However, these alternatives do not reflect the high values Forest users place on non-market values. If these alternatives were implemented, visual quality would be reduced and there would be a significant reduction in old growth timber with resulting impacts on old growth dependent wildlife species.

The Preferred Alternative was selected because it provides for more wildlife, better water quality, more old growth retention and higher visual quality than the three alternatives with higher Present Net Values. It is not the most economically efficient alternative, but provides a high level of net public benefits. These benefits include such market outputs as range, timber, developed recreation and water supply; and such non-market outputs as scenic quality, dispersed recreation opportunities, fish and wildlife and wilderness.

C. Social and Economic Stability

Effects on jobs, revenues, recreational opportunities, fuelwood availability, roadless areas, resource protection for future generations, and social and economic stability for people living in and adjacent to the Forest in Plumas, Lassen, Sierra, Butte, and Yuba Counties were considered in choosing the Preferred Alternative. Public lands make up an overwhelmingly large share of the land base within most of those counties where the Forest is located. The resource and amenity values provided on the Plumas National Forest significantly affect the livelihood of the residents of those counties on public as well as private land. Revenues to the county governments from activities on the Forest are a solid component of the economic base.

The Plan emphasizes protecting and improving water quality, retaining high visual quality, and providing recreation opportunities for developed and primitive and semi-primitive experiences while providing timber harvest, grazing and mineral production that will not significantly curtail historic uses of the Forest, and also helps maintain local social stability by contributing to economic activity. It best meets social and economic concerns by providing for an increased level of timber harvest that is compatible with environmental quality goals and allows for public use of the Forest to ensure that local lifestyles are not adversely affected. The Plumas National Forest will follow a policy of non-discrimination in providing work and recreational and educational experiences for the community and will promote active participation by all segments of the public.

D. Contribution to the Regional Production of Goods and Services

The Preferred Alternative will protect all resources while providing for additional opportunities for recreation, wildlife habitat improvement, forage, timber, fuelwood, and water production needed for local economic growth and stability. It provides an appropriate level of all outputs while protecting the basic soil and water resources and responding to public preferences, and provides commodity outputs at a level where amenity values can be maintained and enhanced. The Plan meets its share of 1990 RPA goals, as assigned in the Regional Guide, except for reforestation (down 1,000 acres), and wildlife equivalent acres (down 1,410 acres).

E. Rationale for the Decision

In selecting the Preferred Alternative, I considered both monetary and non-monetary costs and benefits, the capability of the land, the need for protection of resources, concerns expressed by people interested in the Forest, advice from other agencies and resource professionals and the legislative mandate of the Forest Service. Therefore, national, regional, state and local objectives were considered in making the decision.

The Preferred Alternative provides management direction that will result in the greatest long-term benefits to people, including the benefits of a

healthy, diverse and productive Forest environment. It provides a mix of amenity and commodity resources at reasonable levels and addresses the range of public concerns more effectively than the other alternatives.

The Current Management Alternative does not address some existing problems with water quality and does not provide for future needs in recreation and timber; the RPA Program Alternative relies extensively on clearcutting to reach timber targets and has the highest projected losses from wildfire of all the alternatives; the Constrained Economically Efficient Alternative also relies extensively on clearcutting to reach timber targets, has the highest reduction in old growth timber of all the alternatives, reduces visual quality and provides few amenity resources; the Amenity Emphasis Alternative relies primarily on group selection for harvesting of timber; and the Commodity Emphasis Alternative does not retain most roadless areas and would intensively harvest timber in visual zones.

F. Environmentally Preferred Alternative

I judge Alternative AMY to be the environmentally preferred alternative. All alternatives are environmentally acceptable, however, I judge alternative AMY to have the least impact on the environment. It emphasizes water quality, wildlife habitat, visual quality and wilderness, and provides the highest level of roadless area allocation (116,900 acres), and minimizes foraging competition between wildlife and cattle in favor of wildlife. Wide streamside zones protect riparian areas from disturbance. Timber is managed under the Visual Partial Retention Prescription, using group selection as the primary harvest method. The success of group selection on a large, diversified land base is uncertain, and is a definite deterrent to selecting this alternative. In addition, the level of timber management would require repeated entries on a limited land base, thus impacting the soils more frequently.

G. Compatibility With Other Public Agency Goals and Plans

The goals and plans of other public agencies which could be affected by National Forest management were considered early in the planning process and during the development of the alternatives in the draft EIS. The EIS reflects these along with the comments from public agencies that were received during the public review period (see Appendix W, EIS). Where possible, the Plan was modified to accommodate these concerns.

Federal agencies commenting on the draft were the U.S. Fish and Wildlife Service, the Department of Interior, and the Environmental Protection Agency, Region IX.

State agencies commenting on the draft included the Departments of Parks and Recreation, Water Resources, Fish and Game, and Forestry, the Central Valley and Lahontan Regional Water Quality Control Boards, and the State Board of Forestry.

Local Governments and agencies commenting on the draft included Plumas, Butte, and Yuba counties; the cities of Oroville, Portola, Yuba City, and

Marysville; the Plumas and Oroville Chambers of Commerce; the Plumas County Fish and Game Commission; and the Plumas County Economic Development Commission.

Summarized below are the changes to the EIS and Plan resulting from the agencies' comments:

A number of these agencies had concerns about the economic impacts of planned timber harvest levels, and the effects of clearcutting and herbicides on the environment. Various management constraints were applied in response to these concerns. Modeling of the Preferred Alternative, after modification responding to comments on the draft Plan and DEIS, resulted in an increase in the CAS land base from 871,000 acres to 898,932. The Plan will increase the allowable sale quantity to 265.5 MMBF per year, up from the current Timber Management Plan allowable sale quantity of 250.5 MMBF. Timber harvesting will be accomplished by both even-age and uneven-age management. Clearcutting acres will be reduced from the draft Plan level. Usage of herbicides in the Pacific Southwest Region is still not resolved, pending a decision on the Vegetation Management EIS.

Water quality and protection of riparian areas was also a concern. To address these the Forestwide standards and guidelines for water and riparian areas have been revised, and a Riparian Area Prescription (Rx-9) was formulated. Aggressive rehabilitation is planned and monitoring will occur.

The maintenance of viable population levels of wildlife and plants was a concern of many of the responding agencies. Here again Forestwide standards and guidelines have been revised and planned monitoring intensified.

The above changes were also consistent with many other public comments.

The public input to the Plan provided much needed information and solidified coordination efforts. Dialogue with other federal agencies, the State of California, local governments, and interested publics, will not stop with the approval of the Plan. On-going involvement by interested parties is critical to the successful implementation of this Plan, and all other project and specific resource management plans. As more site specific planning is done, we will conduct additional environmental analyses, with public involvement.

H. Reasons for Selecting the Preferred Alternative

The Preferred Alternative was chosen because it best meets the needs of the people, including concerns for environmental quality. While other alternatives may be more desirable with respect to any particular consideration, none provides as good a mix of resource benefits and uses while maintaining a healthy and diverse natural environment.

The Preferred Alternative provides increased recreation and timber harvesting while protecting the Forest's basic soil and water resources. Amenity values are maintained or enhanced. Increases in all classes of recreation opportunity are provided. Timber is harvested by both uneven-age and even-age systems, utilizing a variety of harvesting methods, including individual tree selection, group selection, shelterwood, clearcutting and intermediate harvest. Increased prescribed fire, which lessens potential wildfire losses, will be used for fuel reduction and for meeting specific resource objectives. Vegetative diversity is emphasized in each of the 43 management areas on the Forest. Livestock grazing will be continued, while at the same time maintaining water quality and long-term soil productivity. Increased protection of riparian areas to reflect public concerns will be provided. Stream rehabilitation will be initiated. Community and regional stability through provision of timber for local industries and maintaining high visual quality for tourism is emphasized. This alternative was developed and modified to reflect, as much as possible, the broad range of desires of the public which were expressed in the letters which helped identify the initial planning issues, and in the comments on the DEIS and draft Plan. PRF maintains and/or enhances amenity values while providing a mix of commodity outputs in an economical manner, and is only slightly less environmentally preferable than alternative AMY.

I judge Alternative PRF to have the greatest long-term public benefit when compared to other alternatives, and have selected it to be the Plan for management of the Plumas National Forest.

V. Implementation, Mitigation and Monitoring

The Plan will not be implemented sooner than 30 days after the Notice of Availability of the Plan, EIS, and Record of Decision appears in the Federal Register. The time needed to bring all activities into compliance with the Plan will vary depending on the type of project.

As soon as practicable after approval of the Plan, the Forest Supervisor shall ensure that, subject to valid existing rights, all outstanding and future permits, contracts, cooperative agreements and other instruments for occupancy and use of affected lands are consistent with the Plan. The Forest Supervisor will also assure that (1) Forest's proposed annual programs, projects, objectives and budget requests are consistent with the overall management direction specified in the Plan; and (2) implementation is in compliance with the Regional Guide and 36 CFR 219.10(e), 36 CFR 219.11(d), and 36 CFR 219.27.

Implementation is guided by the management requirements contained in the Forest direction and management area prescriptions which are found in Chapter 4 of the Plan. These management requirements were developed through an interdisciplinary effort and contain measures necessary to mitigate or eliminate any long-term adverse effects.

Outputs in the Plan may be adjusted as a result of research efforts which produce new information and technologies. Air quality, prescribed fire, riparian trend studies, and other data will enhance and affect Plan implementation. Management Direction contained in Chapter 4 of the Plan will be used to analyze any proposal involving use of NFS lands.

The purpose of the monitoring program is three-fold: (1) to evaluate whether Forest goals and objectives are being realized, (2) to determine how closely management requirements have been followed, and (3) to determine when Plan amendments or revisions are needed. The results of monitoring and evaluation will be used to measure the progress of the Plan implementation.

VI. Planning Records, Amendments and Revisions, and Administrative Review

A. Planning Records

Planning records contain the detailed information and documents decisions used in developing the Plan and EIS as required in 36 CFR 219.12. All of the documentation detailing the Forest planning process is available for inspection during regular business hours at:

Forest Supervisor's Office
Plumas National Forest
159 Lawrence Street
Quincy, California 95971
(916) 283-2050

These records are incorporated by reference into the final EIS and Plan.

B. Amendments and Revisions

The National Forest Management Act requires revision of the Forest Plan at least every 15 years. The Plan may be revised sooner if physical conditions or demands on the land and resources have changed sufficiently to affect the overall goals or uses for the Plumas National Forest. When revising the Forest Plan, all the procedures set forth in 36 CFR 219.12 will be followed; this includes scoping, an analysis of the management situation, formulation of alternatives, an estimation of effects, an evaluation of alternatives, identification of a preferred alternative, documentation in an EIS and draft Plan, and formal public comment before approval and implementation of the revised Plan.

During the implementation of the Forest Plan, prior to its formal revision, various factors may trigger the need to change aspects of the Plan. In this event, based upon the advice and recommendation of the Forest's interdisciplinary team, the Forest Supervisor shall determine whether the proposed changes are significant or nonsignificant. The Regional Forester

will approve any significant amendments to the Forest Plan. The determination of significance shall be made in accord with the requirementsof 16 USC 1604(f), 36 CFR 219.10(e) and (f), 36 CFR 219.12(k), and pertinent sections of the Forest Service Manual and Handbook. The determination of significance or nonsignificance will be documented in a decision notice that is available for public review. No changes will be implemented prior to appropriate public notification. In the event of a significant amendment, the procedures set forth in 36 CFR 219.12 will be followed, though the focus will be on the proposed changes. Determinations of whether proposed changes are significant or nonsignificant are appealable under 36 CFR 211.18.

C. Right to Adminmistrative Review

This decision is subject to appeal in accordance with the provisions of 36 CFR 211.18. Notice of appeal must be in writing and submitted to:

Regional Forester
Pacific Southwest Region
USDA, Forest Service
630 Sansome Street
San Francisco, CA 94111

The notice of appeal, a statement of reasons to support the appeal, and any request for oral presentation must be filed within 45 days after the date of this decision.

Recommendations for Research Natural Area designation of the Mount Pleasant red fir-mesic meadow complex and the Mud Lake Modoc cypress areas are not appealable, as only the Chief of the Forest Service can make these decisions.

An appeal of my decision does not halt Forest Plan implementation. A stay of the decision must be requested. A stay may be requested at any time during the appeal period until a decision on the appeal is made by the Chief, USDA Forest Service.

No decisions on site-specific projects are made in this document, although a number of projects are identified. Those projects identified in various parts of the Plan or final EIS are only included in order to show that Forest Plan goals and objectives can be achieved.

Final decisions on site-specific projects will be made during Forest Plan implementation after appropriate analysis and documentation meeting NEPA requirements. Parties dissatisfied with a specific project may appeal the site-specific decision once it is made.

As provided in 36 CFR 219.10, this decision will remain in effect until the Plan is revised, which is expected to be in 10-15 years, unless an amendment or revision changing the decision is made at an earlier date. In the EIS the effects of alternative choices are projected 40 years beyond the planning period. Short-term opportunities, problems, or conflicts may arise in managing the Forest that were not anticipated in the Plan. When this occurs, the Plan can be amended or revised.

Paul F. Barker

PAUL F. BARKER
Regional Forester

August 26, 1988
Date