APPENDIX 1

SCHEDULE OF ACTIVITIES FOR TIMBER

PROPOSED SCHEDULE OF TIMBER SALES - FY 1989 TO FY 1993 AND AVERAGE ANNUAL SALE PROGRAM THROUGH 1998

This 10-year timber sale program is a plan based on current conditions and information available at the time of forest plan development and that if these conditions change or new information becomes available, the timber sales program may be modified during the implementation of the forest plan The degree of the modification will determine whether or not the forest plan needs amendment, in accordance with the required processes.

The timber sale program volumes are displayed in millions of board feet as calculated The allowable sale quantity (ASQ) portion is considered to be live and green when scheduled for sale Additional dead salvable saw timber, firewood, posts, poles, etc will also be sold on the Forest These sales may also contain some ASQ volume which will be determined during the sale layout period

The first 5 years of this 10-year timber sale program identifies sales by Ranger District. These sales include both ASQ and non-chargeable volume The second 5 years identifies only the average ASQ by the Federal Unit and the Klamath Basin Working Circle

AVERAGE ANNUAL ASQ

Forest 135 9(136) MMBF

Lakeview Federal Unit	Klamath Basin Working Circle
59.6 MMBF	76 3 MMBF

TEN - YEAR TIMBER SALE SCHEDULE

Timber Harvest Volume Distribution, FY 1989

Lakeview Federal Sustained Yield Unit

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	R

Bly Ranger District

Spodue (3)	T 34S ,R 12E.	5,6,15	9 4	.0	0
Book Salvage	T 34S ,R 15E	5	9 5	1 2	1 1
Hills-Magnon	T 35S ,R 13E	1,5,15	11 1	6 8	9 7
Jade-Watt (3)	T 36S ,R 16E	5,7,15,0	12 8	3 0	17 7
Small sales (4)			2 3		
			45 1		

ASQ 44 7 + N-C 4 = TSP 45 1 (5)

Lakeview Ranger District

Lightning	T 40S ,R 18E	5,0	5 3	2 0	5 7
Barley	T 40S ,R 22E	5,0	6 3	1 9	8 1
Cottonwood (3)	T 38S ,R 18E	5	7 6	0	9 0
Cabin	T.40S ,R 22E	5,15,0	11 7	4 5	20 0
Camas (3)	T 39S ,R 22E	5,15,0	7 5	10 0	19 7
Chandler	T 38S ,R 17E	5	8 0	10 7	3 0
Mud Hen (3)	T 38S ,R 20E	5,6	8 0	0	5 9
Small sales (4)		5,6,15,0	3 6		
			58 0		

ASQ 54 4 + N-C 3 6 = TSP 58 0 (5)

Paisley Ranger District

Auger	T 35S ,R 17E	5,15	12 3	9 3	0
Lookout	T 37S ,R 18E	5,0	7 3	1 1	5 2
Small sales (4)		5,6,0	1 9		
			21 5		

ASQ 19 6 + N-C 1 9 = TSP 21 5 (5)

Klamath Basin Working Circle (Forest Portion)

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	R

Diploma	T 34S ,R 16E	5	2 5		
Short Salvage	T 32S ,R 16E	5	4 2		
Butler Salvage	T 34S ,R 15E	5	4 8		
Small sales (4)		*1,5,6,15,0*	2		
			11 7		

ASQ 11 5 + N-C 2 = TSP 11 7 (5)

Silver Lake Ranger District

Hogleg	T 29S ,R 14E	1,5,6	5 1	3 8	11 4
Katati	T 25S ,R 11E	5	5 4	2 7	1 1
Shoedad (3)	T 30S ,R 13E	5	7 3	1 0	1 0
Shortshirt	T.30S ,R 13E	1,5	5.0	0	1 5
Cueball LP Salvage	T 26S ,R 11E	5	5 1	0	0
Glow LP Salvage	T 26S ,R 11E	5	7 5	1 0	0
Smoke LP Salvage	T 26S ,R 12E	5	3 3	0	0
Jades LP Salvage	T 27S ,R 12E	3,4,5	8 1		
Small sales (4)		1,5,14,0	7 6		
			54 4		

ASQ 31 0 + N-C 23 4 = TSP 54 4 (5)

(1) Other unknown possible Forest Management Areas is #0
(2) Road miles C = construction, R = reconstruction
(3) Decisions to sell these sales have been finalized
(4) Small sales (nonchargeable volume)
(5) ASQ in MMBF = ASQ, N-C in MMBF = Nonchargeable, TSP in MMBF = Timber Sale Program

TEN - YEAR TIMBER SALE SCHEDULE

Timber Harvest Volume Distribution, FY 1990

Lakeview Federal Sustained Yield Unit

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	Road Miles (2) R
Bly Ranger District					
Dewitt	T 37S ,R 19E	1,5	5 3		
Potbear	T 40S ,R 16E	5,0	8 2		
Wildrock (3)	T 41S ,R 15E	5	3 6	0	4 0
Scott (3)	T 40S ,R 18E	1,5,6	13 0	17 6	14 4
Irish Deer	T 37S ,R 20E	1,5,6,15	4 5	2 5	4 5
Small sales (4)		5,6,15,0	2 6		
			37 2		
ASQ 34 7 + N-C 2 5 = TSP 37 2 (5)					
Paisley Ranger District					
Big Bean (3)	T 37S ,R 17E	5	6 5		
Sweet	T 36S ,R 17E	5,0	6 1	4 0	4 0
Queen (3)	T 35S ,R 19E	5	7 0	10 3	6 4
Welder	T 36S ,R 16E	5	3 3	1 0	0
Small sales (4)		5,6,15,0	9		
			23 8		
ASQ 22 9 + N-C 9 = TSP 23 8 (5)					

Klamath Basin Working Circle (Forest Portion)

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	Road Miles (2) R
Bly Ranger District					
Good (3)	T 38S ,R 12E	1,5,0	14 1	7 3	18 1
Small sales (4)		5,6,15,0	3 7		
			17.8		
ASQ 16 8 + N-C 1 0 = TSP 17 8 (5)					
Lakeview Ranger District					
Paisley Ranger District					
Trotter	T 34S ,R 15E	5,0	5 6		
Button (3)	T 33S ,R 16E	5,0	3 1		
Small sales (4)		5,6,15,0	2		
			8 9		
ASQ 8 7 + N-C 2 = TSP 8 9 (5)					
Silver Lake Ranger District					
Blue Antler LP	T 30S ,R 12E	5	2 5	1 0	1 0
Banker	T 25S ,R 11E	5,0	5 5	1 0	3 0
Gnat	T 29S ,R 12E	5	3 5	0	1 0
Bungle	T 31S ,R 15E	5	2 0	3 0	2 5
Rocpie	T 30S ,R 16E	5	4 0	1 0	1 0
Knothole	T 30S ,R 14E	5	3 5	1 0	2 0
Border LP Salvage	T 27S ,R 11E	5	1 0	0	1
Swap LP Salvage	T 27S ,R 12E	3,5,14	4 0	2 0	1 0
Small sales (4)		3,5,6,14,0	9 9		
			35 9		
ASQ 28 5 + N-C 7 4 = TSP 35 9 (5)					

(1) Other unknown possible Forest Management Areas is #0
(2) Road miles C = construction, R = reconstruction
(3) Decisions to sell these sales have been finalized
(4) Small sales (nonchargeable volume)
(5) ASQ in MMBF = ASQ, N-C in MMBF = Nonchargeable, TSP in MMBF = Timber Sale Program

TEN - YEAR TIMBER SALE SCHEDULE

Timber Harvest Volume Distribution, FY 1991

Lakeview Federal Sustained Yield Unit

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	R
Bly Ranger District					
Antelope	T 39S ,R 18E	5,6,0	10 0	8 5	3 0
Paradise	T 38S.,R.19E	5 & 0	8 0	6 0	17 6
Blue Spring	T 36S ,R 22E	1,5,6,15	6 0		
Razor	T 38S ,R 17E	5,6	2 5		
Gumbo	T 39S ,R 16E	5	5 0	0 0	5 0
Snell	T 40S ,R 16E	5	5 5		
Small sales (3)		5,6,15,0	2 6		
			39 6		
ASQ 37 1 + N-C 2 5 = TSP 39 6 (4)					
Paisley Ranger District					
Sour	T 33S ,R 17E	5	5 0		
Pad	T 37S ,R 18E	5,0	1 9		
Bring	T 37S ,R 17E.	5,0	12 0	18 3	6 3
Agan	T 36S ,R 17E	5,0	4 0		
East Hertun	T 32S ,R 16E	1,5,6,0	1 2		
Small sales (3)		5,6,15,0	8		
			24 9		
ASQ 24 1 + N-C 8 = TSP 24 9 (4)					

Klamath Basin Working Circle (Forest Portion)

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	R
Bly Ranger District					
Pan	T 39S ,R 13E.	5,0	4 2		
Best	T 38S ,R 15E	5,15,0	10 5		
Blue/Ford	T 34S ,R 12E	5,15,0	10 0		
Deadman	T.38S ,R 13E	5	6 0		
Fishhole Lakes	T 38S ,R 16E.	2,5,6	3 2		
Small sales (3)		5,6,15,0	3 1		
			37 0		
ASQ 35 9 + N-C 1 1 = TSP 37 0 (4)					
Lakeview Ranger District					
Paisley Ranger District					
West Hertun	T 32S ,R 16E	5,6,1	1 2	2 0	0
Coil	T 34S ,R 15E	5,0	3 9		
Edge	T 32S ,R.16E	5	4 3		
Small sales (3)		5,6,15,0	2 5		
			11.9		
ASQ 9 4 + N-C 2 5 = TSP 11 9 (4)					
Silver Lake Ranger District					
Parameter	T 30S ,R 13E	5,6	8 0	1.0	2 0
Strip	T 28S ,R 12E	5	2 0		
Rif	T 25S ,R 12E	5	4 3		
Alder	T 30S ,R 13E	5,15,0	9 5	1 5	1 5
Toma LP Salvage	T 26S ,R 12E	5,0	4 0	1 0	0
Trout LP Salvage	T 26S ,R 11E	5,0	3 0	1 0	0
Small sales (3)		1,3,5,6,14,0	9 6		
			40 4		
ASQ 36 4 + N-C 4 0 = TSP 40 4 (4)					

(1) Other unknown possible Forest Management Areas is #0
(2) Road miles C = construction, R = reconstruction
(3) Small sales (nonchargeable volume)
(4) ASQ in MMBF = ASQ, N-C in MMBF = nonchargeable, TSP in MMBF = Timber Sale Program

TEN - YEAR TIMBER SALE SCHEDULE

Timber Harvest Volume Distribution, FY 1992

Lakeview Federal Sustained Yield Unit

Sale Name	Location	Mgt. Area (1)	Volume (MMBF)	Road Miles (2) C	Road Miles (2) R
Bly Ranger District					
Orchid	T 37S ,R 18E	5,15,0	8 0		
Buckhorn	T 41S ,R 16E	5	4 0		
JD	T 40S ,R 18E	5	3 0	12 0	3 9
Lovely	T 37S ,R 21E	5	5 3		
Willow Hawk	T 40S ,R 21E	5,15	5 2		
Small sales (3)		5,6,15,0	2 6		
			28 1		
ASQ 25 4 + N-C 2 7 = TSP 28 1 (4)					
Paisley Ranger District					
Faucet	T 36S ,R 19E	5	2 4		
Tamarack	T 35S ,R 17E	5,6	10 5	8 0	0
Big Flat	T 32S ,R 16E	5,15,0	10 0	5 0	0
Small sales (3)		5,6,15,0	8		
			23 7		
ASQ 22 9 + N-C 8 = TSP 23 7 (4)					

Klamath Basin Working Circle (Forest Portion)

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	Road Miles (2) R
Bly Ranger District					
Beautiful	T 38S ,R 12E	5	6 0		
Jupiter	T 39S ,R 16E	5,0	8 0		
Whiskey	T 36S ,R 13E	5,15,0	12 0		
Pooch	T 37S ,R 14E	5	6 0		
Small sales (3)		5,6,15,0	3 1		
			35 1		
ASQ 34 0 + N-C 1 1 = TSP 35 1 (4)					
Paisley Ranger District					
Retrim	T 33S ,R 16E	5,6	2 1		
Bull	T 34S ,R 16E	5	4 5		
Loco	T 32S ,R 16E	5	7 0		
Small sales (3)		5,6,15,0	2		
			13 8		
ASQ 13 6 + N-C 2 = TSP 13 8 (4)					
Silver Lake Ranger District					
Farm	T 29S ,R 15E	5	5 0	1 0	2 0
Cookie	T 29S ,R 12E	5,0	14 5	2 0	3 0
McVat	T 30S ,R 15E	5	2 5	2 5	1 5
Small sales (3)		1,5,6,14,0	9 5		
			31 5		
ASQ 28 4 + N-C 3 1 = TSP 31 5 (4)					

(1) Other unknown possible Forest Management Areas is #0
(2) Road miles C = construction, R = reconstruction
(3) Small sales (nonchargeable volume)
(4) ASQ in MMBF = ASQ, N-C in MMBF = nonchargeable, TSP in MMBF = Timber Sale Program

TEN - YEAR TIMBER SALE SCHEDULE

Timber Harvest Volume Distribution, FY 1993

Lakeview Federal Sustained Yield Unit

Sale Name	Location	Mgt Area (1)	Volume (MMBF)	Road Miles (2) C	R

Bly Ranger District

Swede	T 36S ,R 15E	5,15,0	10 0		
Oriana	T 39S.,R 15E	5,15,0	5 0		
Deadcow	T 35S ,R 16E	5,15,0	8 0		
Steep	T 34S ,R 12E	5,15,0	11 0		
Small sales (3)		5,6,15,0	3 1		
			37 1		

ASQ 36 1 + N-C 1 0 = TSP 37 1 (4)

Lakeview Ranger District

Cox Flat	T 37S ,R 18E.	5,6,15,0	10 0		
Moldy Mill	T 36S ,R 20E	5	3 0		
Lass	T 37S ,R 19E	5	6 5		
Five Corner	T 39S ,R 21E	5	3 0		
Fitzcraft	T.40S ,R 28E	5,0	12 0		
Bald Bauer	T 37S ,R 19E	5	5 5		
Pan	T 41S ,R 16E	5	2 0		
Thunderegg	T 40S ,R 21E	5,2	5 5		
Small sales (3)		5,6,15,0	2 0		
			50 1		

ASQ 47 6 + N-C 2 5 = TSP 50 1 (4)

Paisley Ranger District

Sneaker	T.37S.,R 18E	5	3 0		
Bayou	T.36S.,R 18E	5,15,0	5 0		
Instant	T.35S ,R 17E	5	5 0		
Snapshot		5,15,0	10 0		
Small sales (3)		5,6,15,0	8		
			23 8		

ASQ 23 0 + N-C 8 = TSP 23 8 (4)

Degree	T 34S ,R 16E	5	3 2		
Retoot	T 32S.,R 16E	5	4 0		
Boulder	T 34S ,R.16E	5	3 5	2 0	0
Jack	T 34S ,R 16E	5	2 2		
Small sales (3)		5,615,0	2		
			15 1		

ASQ 12 9 + N-C 2 = TSP 13 1 (4)

Klamath Basin Working Circle (Forest Portion)

Sale Name	Location	Mgt. Area (1)	Volume (MMBF)	Road Miles (2) C	R

Silver Lake Ranger District

Scild	T 31S ,R 12E	5,0	12 0	1 0	2 0
Spoon	T 30S ,R 13E.	5	6 0	2 0	1 0
Carty	T 30S ,R 15E	5	4.0	1.0	1.0
Tsuga LP Salvage	T 30S ,R 12E	5	6 6	2.0	1 0
Small Sales		5 6 15 0	9.5		
			38 1		

ASQ 33 9 + N-C 4 2 = TSP 38 1 (4)

(1) Other unknown possible Forest Management Areas is #0
(2) Road miles C = construction, R = reconstruction
(3) Small sales (nonchargeable volume)
(4) ASQ in MMBF = ASQ, N-C in MMBF = Nonchargeable, TSP in MMBF = Timber Sale Program

Following are the estimated average annual ASQ volumes by major management areas scheduled during the remainder of the first ten years (1994 through 1998) of the Forest Plan

Lakeview Federal Sustained Yield Unit

	Management Areas	ASQ MMBF
	5	42 7
	0(1)	14.2
TOTAL		56 9

Klamath Basin Working Circle

Management Areas	ASQ MMBF
5	61 2
0(1)	15.0
	76 2

(1) Other unknown possible Forest Management Areas is #0

FOREST EARNED HARVEST FACTORS (EHF)

The 1979 Timber Resource Plan calculated factors from genetic tree planting and from the combined acres of precommercial thinning, nonstocked planting backlog and release However, the EHF was not calculated for this Forest Plan due to changes in management, activity accomplishments and the availability of reliable data that could significantly change management because of budget variability.

Planting backlog has been completed and the plantation release program is a very insignificant part of the reforestation program on the Forest. Planting of seedlings from trees in the first stage of the Genetic Tree Program has become standard practice on this forest. Seedling seed sources would not revert to a "squirrel cache" base with variation in that specific budget item.

The Forest expects to have more precommercial thinning acres available during the first decade than indicated by Forplan outputs Refer to Chapter IV of the Environmental Impact Statement. No precommercial thinning acres are scheduled in FORPLAN during the first decade from regenerated stands This is the result of aggregating seedlings with saplings in a model component and assigning the aggregate a ten-year starting age Due to this assumption, precommercial thinning from regenerated stands are first scheduled in the second decade of the Forest Plan Most of the anticipated precommercial thinning acres available during the first decade will be financed with Knutsen-Vandenberg (KV) funds and will not depend directly upon budgeted appropriated monies

APPENDIX 2

SCHEDULE OF ACTIVITIES FOR OTHER RESOURCES

Range Activity Schedule

Activity and Project	NAS (1) Type Code	District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
PROGRAM ADMINISTRATION		*All*	$		*202 5*	*202 5*	*202 5*	*202 5*	*202 5*
Nonstructural	DN222								
Brush Control, Chemical	DN222		Acres	0 07			1,056		
Brush Control, Prescribed Fire	DN222		Acres	0 00525		68			
Undesirable Weed Control	DN24		Acres	0 200	20	25	216	200	250
Rangeland Seeding	DN222		Acres	0 013			1,056		
Prescribed Fire Rangeland and General Forest	DN222		Acres	0 00325	2,500	3,000	3,500	4,000	4,500
Rangeland Fertilization	DN222		Acres	0 018			1,056		
New Construction	DN221								
Small Water Developments	DN221		Each	1,200	15	30	45	18	
Large Water Developments	DN221		Each	6,500		1		1	
Fences	DN221		Miles	4,500	13			5	5
Reconstruction	DN221								
Small Water Developments	DN221		Each	0 600	50	100	150	175	125
Large Water Developments	DN221		Each	3 250		1		1	
Fences	DN221		Miles	5 300	25	50	75	100	150
Maintenance									
Small Water Developments	DN23		Each	0 05	50	75	125	150	150
Large Water Developments	DN23		Each	0 05	2		2		2
Fences	DN23		Miles	0 200	60	60	60	60	60
Range Health Monitoring									
Allotment Inspections	DN1		Each	0 30	14	14	14	14	14
Utilization Study	DN1		Each	1 00	6	6	6	6	6
Range Environmental Analysis	DN1		Each	6 00	6	6	6	6	6

(1) National Activity Structure

Range - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
	NONSTRUCTURAL	
DN24	Undesirable Weed Control	40-50
	NEW CONSTRUCTION	
DN221	Large Water Development	6 5
DN221	Fences	23-36
	RECONSTRUCTION	
DN221	Small Water Developments	60
DN221	Large Water Developments (Biennially)	3 25
DN221	Fences	265-340
	MAINTENANCE	
DN23	Small Water Developments	7 5-9
DN23	Large Water Developments (Biennially)	0 1
DN23	Fences	12

(1) National Activity Structure

Fish and Wildlife Activity Schedule

Activity and Project	NAS (1) Type Code		District	Unit	Cost/Unit M $ (2)	Units by Year 89	90	91	92	93
PROGRAM ADMINISTRATION	CW1,CF1, CT1		All			48	48	52	52	52
PROGRAM MANAGEMENT	CW1,CF1, CT1		Headquarters			38	51	51	51	51
SUPPORT TO TIMBER	ET113		All			122	122	122	133	133
SUPPORT TO RANGE	CW1,CF1		All			20	20	20	25	25
SUPPORT TO FIRE	CW1		All			25	25	25	25	25
PLANS AND SURVEYS										
Bald Eagle Nest/Roost	CT111 CT112	Plan	Headquarters	Each	20	1		1		1
Peregrine Falcon Nest/ Reintroduction	CT111 CT112	Survey/Plan	Paisley	Each	00	1	1	1	1	
Short-Nosed Sucker/ Reintroduction	CT111 CT112	Survey/Plan	Bly/Lkvw.	Each	50		1			
Sensitive Plants	CT111 CT112	Survey/Plan	All	Each	78	1	1	1	1	1
Sensitive Fish	CT111 CT112	Survey/Plan	All	Each	78		1	1		
Sensitive Birds	CT111 CT112	Survey/Plan	All	Each	78		1	1		
Sensitive Mammals	CT111 CT112	Survey/Plan	All	Each	100		1	1	1	
Sensitive Invertebrates	CT111 CT112	Survey/Plan	All	Each	68		1			
Fishing Reservoirs	CF112	Plan	All	Plan	60	1	1	2	1	
Chewaucan River Rehabilitation	CF112	Plan	Paisley	Plan	25	1				
Sycan River Rehabilitation	CF112	Plan	Bly	Plan	25		1			
Sprague River Rehabilitation	CF112	Plan	Bly	Plan	25		1			
Thomas Creek Rehabilitation	CF112	Plan	Lakeview	Plan	25		1			
Winter Range Closures	CW112	Plan	All	Plan	25		1			
Hunting Season Closures	CW112	Plan	All	Plan	25		1			
Fort Rock Deer Herd	CW112	Plan	Silver Lake	Plan	50	1				
Interstate Deer Herd	CW112	Plan	All	Plan	50		1			
Warner Mountain Deer Herd	CW112	Plan	Lakeview	Plan	50			1		
Silver Lake Deer Herd	CW112	Plan	Silver Lake	Plan	50				1	
Black Hills Deer Herd	CW112	Plan	Bly	Plan	50					1
Crooked Creek Deer Herd	CW112	Plan	Lakeview	Plan	50					
East Goose Lake Deer Herd	CW112	Plan	Lakeview	Plan	50					
West Goose Lake Deer Herd	CW112	Plan	Lakeview	Plan	50					
Gearhart Mountain Deer Herd	CW112	Plan	Bly	Plan	50					
North Goodlow Deer Herd	CW112	Plan	Bly	Plan	50		1			
Waterfowl Habitat	CW112	Plan	All	Plan	60					
Watchable Wildlife	CW112	Plan	All	Plan	60		1			
Elk Telemetry	CW1	Survey	All	Each	150		1	1	1	1

SEE END OF TABLE FOR FOOTNOTES.

Fish and Wildlife Activity Schedule, Continued

Activity and Project	NAS (1) Code	Type	District	Unit	Cost/Unit M $ (2)	Units by Year 89	90	91	92	93
Aquatic Habitat	CF1	Survey	All	Each	6 0		2	2	2	2
Waterfowl	CW1	Survey/Plan	All	Each	6 0		2	2		
MONITORING										
Fish and Wildlife Funding	CW12 CF12		Headquarters	M $	1 0	1	1	1	1	1
Threatened and Endangered Species	CT12	Report	Headquarters	M $	5 0					
Sensitive Species	CT12	Report	Headquarters	M $	37 0			.15		1
Indicator Species	CW12 CF12	Report	Headquarters	M $	38 0	.75	75	.75	85	1
Underburn Program	CW1	Report	Headquarters	M $	75 0	1		1		1
HABITAT IMPROVEMENTS										
Bighorn Sheep	CW1	Reintroduction	Paisley		3 0		1			
River Otter	CW1	Reintroduction	All		1 0			1		
Fishing Reservoirs	CF2	Construction	All		20 0			1		1
Sensitive Species	CT2	Nonstructural	All	Acres	5 0					
Chewaucan River	CF2	Structures	Paisley	Each	10 0		600		100	
Sycan River	CF2	Structures	Bly	Each	10 0		400		10	
Sprague River	CF2	Structures	Bly	Each	10 0			10		40
Thomas Creek	CF2	Structures	Lakeview	Each	10 0		10		10	
Other Steams	CF2	Structures	All	Each	10 0		50		60	
Winter Range	CW2	Nonstructural	All	Acres	5.0	500	500	500	500	500
Aspen	CW2	Nonstructural	All	Acres	3 0	10		10		10
Threatened and Endangered Species	CT2	Nonstructural	All	Acres	3.0			5		
Riparian Habitat	CF2 CW2	Nonstructural	All	Acres	10.0	10	10	10	10	10
Waterfowl Habitat	CW2	Structures	All	Each	5 0		10	5	5	10
Waterfowl Habitat	CW2	Nonstructural	All	Acres	8 0		10	5	5	10
Watchable Wildlife	CW2	Structures	All	Each	2 0		1		1	
Watchable Wildlife	CW2	Nonstructural	All	Acres	2 0		5		2	

(1) National Activity Structure
(2) Cost would increase at a rate of 15% per year.

Fish and Wildlife - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
	PLANS AND SURVEYS	
CT111,112	Bald Eagle Nest/Roost	2
CW112	Crooked Creek Deer Herd	5
CW112	West Goose Lake Deer Head	5
CW112	Gearhart Mountain Deer Herd	5
	MONITORING	
CW12,CF12	Fish and Wildlife Funding	1
CT12	Threatened and Endangered Species	5
CT12	Sensitive Species	15-1
CW12,CF12	Indicator Species	95-1
CW1	Underburn Program	1
	HABITAT IMPROVEMENTS	
CF2	Fishing Reservoirs	20
CW2	Other Streams (40 Structures)	10
CW2	Winter Ranger (500 Acres)	5
CW2	Aspen (10 Acres)	3
CT2	Threatened and Endangered Species (5 Acres)	3
CF2,CW2	Riparian Habitat (10 Acres)	10
CW2	Waterfowl Habitat (5 Structures)	5
CW2	Waterfowl Habitat (5 Acres)	8
CW2	Watchable Wildlife (2 Acres)	2

(1) National Activity Structure

Recreation Activity Schedule

Activity and Project	NAS (1) Code	Type	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
PROGRAM ADMINISTRATION			Headquarters	M $		57 2	82 2	82 2	82.2	82 2
			Bly	M $		10 3	11.1	12 4	13 6	15 0
			Lakeview	M $		11 8	12 9	14.2	15 6	17 2
			Paisley	M $		15 6	17 2	18 9	21.0	23.1
			Silver Lake	M $		6 0	6 6	7 3	8 0	8 8
CONSTRUCTION/ RECONSTRUCTION	AN22									
East Bay Campground		Rehab /Expand.	Silver Lake	PAOT						
Survey and Design					0 13	100				
Construction					2 44		100			
Dog Lake		Rehab./Expand	Lakeview	PAOT						
Feasibility/Planning					0 045				155	
Preconstruction					0.122				155	
Construction					1 61					155
Lee Thomas Toilet		Construction	Paisley	PAOT						
Preconstruction					0 023	35				
Construction					0 571	35				
Holbrook Toilet		Rehabilitation	Bly	PAOT						
Preconstruction					0.017	30				
Construction					0 50	30				
Thompson Reservoir		Rehabilitation	Silver Lake	PAOT						
Preconstruction					0 082					110
Lofton Reservoir		Rehab /Expand	Bly	PAOT						
Feasibility/Planning					0 035	120				
Preconstruction					0 067			120		
Construction					1 67				120	
Silver Creek Marsh		Rehab /Expand	Silver Lake	PAOT						
Feasibility/Planning					0 038			80		
Preconstruction					0.138				80	
Construction					1.88					80
Marsters Spring		Rehab./Expand.	Paisley	PAOT						
Feasibility/Planning					0 041			70		
Preconstruction					0 114				70	
Construction					2 86					70
Sprague River		Rehab./Expand.	Bly	PAOT						
Feasibility/Planning					0.019			105		
Preconstruction					0 086			105		
Construction					1 90			105		
Drews Creek		Rehab /Expand.	Lakeview	PAOT						
Feasibility/Planning					0 012			120		
Preconstruction					0 067				120	
Construction					1 25					120

SEE END OF TABLE FOR FOOTNOTES.

Recreation Activity Schedule, Continued

Activity and Project	NAS Code (1)	Type	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
CONSTRUCTION/ RECONSTRUCTION, Continued	AN22									
Heart Lake		Construction	Bly	PAOT						
Feasibility/Planning					0 083			30		
Preconstruction					0.233					30
Quartz Wayside		Construction	Bly	PAOT						
Feasibility/Planning					0 027	75				
Preconstruction					0 025		75			
Construction					0 20		75			
Spodue/Horsefly		Construction	Bly	PAOT						
Feasibility/Planning					0 043					30
Mill Flat Reservoir		Construction	Lakeview	PAOT						
Feasibility/Planning					0 08				50	
Preconstruction					0 35					50
Holbrook Reservoir		Construction	Bly	PAOT						
Feasibility/Planning					0 057				35	
Preconstruction					0 214					35
Bunyard Crossing		Construction	Silver Lake	PAOT						
Feasibility/Planning					0 18					25
Jones Crossing		Construction	Paisley	PAOT						
Feasibility/Planning					0 14		15			
Pikes Crossing		Construction	Paisley	PAOT						
Preconstruction					0 053		15			
Construction					1 33		15			
Upper Sycan Toilet		Construction	Paisley	PAOT						
Preconstruction					0 053		15			
Construction					1 33		15			
Dairy Point		Rehab /Expand	Paisley	PAOT						
Feasibility/Planning					0.033		30			
Preconstruction					0 09			30		
Construction					0.543				30	
Sandhill Crossing Toilet		Rehabilitation	Paisley	PAOT						
Preconstruction					0 027	30				
Construction					0.667		30			
VEGETATIVE MANAGEMENT - DEVELOPED SITES	AN11									
Deadhorse Lake			Paisley	Plan	5 0		1			
Campbell Lake			Paisley	Plan	5 0		1			
Lee Thomas			Paisley	Plan	5 0					
Sandhill Crossing			Paisley	Plan	5 0			1		
Happy Camp			Paisley	Plan	5 0				1	
Mud Creek			Lakeview	Plan	5 0				1	
Cottonwood Meadows			Lakeview	Plan	5 0					1
Drews Creek			Lakeview	Plan	5 0					1

SEE END OF TABLE FOR FOOTNOTES

Recreation Activity Schedule, Continued

Activity and Project	NAS (1) Type Code	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
TRAILS CONSTRUCTION/ RECONSTRUCTION	AT22								
Deadhorse Rim - #139		Paisley	Miles						
Construction				1 8	5.0				
Administration				0.20	5 0				
Gearhart Mtn - #100		Bly	Miles						
Construction				6 07	2 8				
Administration				0.714	2 8				
Deadhorse Rim - #139 Segment 2		Paisley	Miles						
Preconstruction				0 859	6 4				
Construction				1.56		6.4			
Administration				0.625		6 4			
Deadhorse Intertie - #141		Paisley	Miles						
Preconstruction				2 32		2 8			
Construction				3 57				2 8	
Administration				1 07				2 8	
Crane Mountain NRT - #139		Lakeview	Miles						
Preconstruction				2 11	14 9				
Construction				4 70			14 9		
Administration				0 403			14 9		
Cross Country Ski Trails		Lakeview	Miles						
Planning/Reconnaissance				0 15	10.0				
Preconstruction				0 25		10 0			
Construction				0 80		10 0			
Administration				0.10		10.0			
Lofton/Holbrook - #104		Bly	Miles						
Preconstruction				0 334		15 0			
Construction				1 67			15 0		
Administration				0 267			15 0		
Spodue/Horsefly - #105		Bly	Miles						
Planning/Reconnaissance				1 2			2.5		
Preconstruction				0 80				2.5	
Construction				0.20					2 5
Administration				0.80					2 5
Buck Creek Trail - #170		Silver Lake	Miles						
Planning/Reconnaissance				0 158	7.6				
Preconstruction				0 895	7.6				
Construction				5 89		7 6			
Administration				1 0		5 0			
Bridge Creek Trail - #171		Silver Lake	Miles						
Planning/Reconnaissance				0 10	8 0				
Preconstruction				0 95	8.0				
Construction				4 25		8 0			
Administration				0 375		8 0			

SEE END OF TABLE FOR FOOTNOTES.

Recreation Activity Schedule, Continued

Activity and Project	NAS (1) Type Code	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
TRAILS CONSTRUCTION/ RECONSTRUCTION, Continued	AT22								
Drews Loop Trail - #123		Lakeview	Miles						
Planning/Reconnaissance				0 214			14 0		
Preconstruction				0 357					14 0
Deep Creek Trail - #124		Lakeview	Miles						
Planning/Reconnaissance				0 20			5 0		
Preconstruction									
Construction				0.4				5 0	
Fremont NRT - #160 Segment 3		Lakeview	Miles						
Construction				2 2	5 0				
Administration				0 4	5 0				
Fremont NRT - #160 Segment 4		Lakeview	Miles						
Planning/Reconnaissance				0 667		3 0			
Preconstruction				1 67			3 0		
				3 33					3 0
				0 667					3 0
Fremont NRT - #160 Segment 5		Lakeview	Miles						
Construction				4 0		5 0			
Preconstruction				1 0		5 0			
Fremont NRT - #160 Segment 6		Lakeview	Miles						
Construction				6 67		3 0			
Administration				1 0		3 0			
Fremont NRT - #160 Segment 7		Paisley	Miles						
Planning/Reconnaissance				0 4	5 0				
Preconstruction				1 0			5 0		
Construction				2 6				5 0	
Administration				0 3				5 0	
Fremont NRT - #160 Segment 8		Paisley	Miles						
Planning/Reconnaissance				0 428	7 0				
Preconstruction				0 714			7 0		
Construction				2 43					7 0
Administration				0 285					7 0
Fremont NRT - #160 Segment 9		Paisley	Miles						
Planning/Reconnaissance				0 625		4 0			
Preconstruction				1 0				4 0	
Fremont NRT - #160 Segment 10		Paisley	Miles						
Planning/Reconnaissance				0 4		5 0			
Preconstruction				1 0				5 0	

SEE END OF TABLE FOR FOOTNOTES

Recreation Activity Schedule, Continued

Activity and Project	NAS (1) Type Code	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
TRAILS CONSTRUCTION/ RECONSTRUCTION, Continued	AT22								
Fremont NRT - #160		Paisley	Miles						
Segment 11									
Planning/Reconnaissance				0.571			5 25		
Preconstruction				0 952			5.25		
Construction				7 62				5 25	
Administration				0 952				5 25	
Fremont NRT - #160		Paisley	Miles						
Segment 12									
Preconstruction				0.909	11 0				
Construction				4.54			11 0		
Administration				0 454			11 0		
Fremont NRT - #160		Paisley	Miles						
Segment 13									
Planning/Reconnaissance				0 231		13 0			
Preconstruction				0 615				13 0	
Construction				3 85					13 0
Administration				0 308					13 0
Fremont NRT - #160		Silver Lake	Miles						
Segment 14									
Planning/Reconnaissance				0 333				9 0	
Fremont NRT - #160		Silver Lake	Miles						
Segment 15									
Planning/Reconnaissance				0 368					9.5
Fremont NRT - #160		Silver Lake	Miles						
Segment 16									
Planning/Reconnaissance				0 108	6.5				
Preconstruction				1 4		6 5			
Construction				5.51				6.5	
Administration				0.769				6.5	
Fremont NRT - #160		Silver Lake	Miles						
Segment 17									
Planning/Reconnaissance				0 354	11 0				
Preconstruction				0 591		11 0			
Construction				4.5			11 0		
Administration				0.454			11 0		
Fremont NRT - #160		Silver Lake	Miles						
Segment 18									
Planning/Reconnaissance				0 105	3.8				
Preconstruction				1 0	3 8				
Construction				3 47		3 8			
Administration				0 789		3 8			

SEE END OF TABLE FOR FOOTNOTES

Recreation Activity Schedule Continued.

Activity and Project	NAS (1) Type Code	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
TRAILHEAD CONSTRUCTION	AT22	Lakeview	Each						
Fremont NRT - Segment 3 (Old Mill)	LT222								
Preconstruction				30		1			
Construction				200			1		
Administration				20			1		
Fremont NRT - Segment 6 (Mill Flat)		Lakeview	Each						
Planning/Reconnaissance				30	1				
Preconstruction				50		1			
Construction				200			1		
Administration				20			1		
Fremont NRT - Segment 7 Road 3510 (Moss Pass)		Paisley	Each						
Planning/Reconnaissance				20	1				
Preconstruction				30			1		
Construction				200				1	
Administration				20				1	
Fremont NRT - Segment 10 Road 33 (Beer Creek)		Paisley	Each						
Planning/Reconnaissance				2.0		1			
Preconstruction				30				1	
Fremont NRT - Segment 11 Road 3315		Paisley	Each						
Planning/Reconnaissance				20			1		
Preconstruction				40			1		
Construction				200				1	
Administration				20				1	
Fremont NRT - Segment 12 Road 29 (Government Harvey)		Paisley	Each						
Planning/Reconnaissance				20		1			
Preconstruction				40		1			
Construction				200			1		
Administration				20			1		
Fremont NRT - Segment 13 Road 2901034 (Fremont Point)		Paisley	Each						
Planning/Reconnaissance				20		1			
Preconstruction				40				1	
Construction				200					1
Administration				20					1
Fremont NRT - Segment 14 Road 2901 (Dead Indian)		Silver Lake	Each						
Planning/Reconnaissance				20				1	

SEE END OF TABLE FOR FOOTNOTES

Recreation Activity Schedule, Continued

Activity and Project	NAS (1) Type Code	District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
TRAILHEAD CONSTRUCTION, Continued	AT22								
Fremont NRT - Segment 16		Silver Lake	Each						
Road 28									
Planning/Reconnaissance				2.0	1				
Preconstruction				4.0		1			
Construction				20.0			1		
Administration				2.0			1		
Fremont NRT - Segment 17	LT222	Silver Lake	Each						
Road 27 (Silver Creek Marsh)									
Planning/Reconnaissance				2.0	1				
Preconstruction				4.0		1			
Construction				20.0			1		
Administration				2.0			1		
Fremont NRT - Segment 18		Silver Lake	Each						
Road 3038									
Planning/Reconnaissance				2.0	1				
Preconstruction				4.0	1				
Construction				20.0		1			
Administration				2.0		1			
Bridge Creek, Road 7645		Silver Lake	Each						
Planning/Reconnaissance				2.0	1				
Preconstruction				4.0	1				
Construction				20.0		1			
Administration				2.0		1			
Buck Creek, Road 7645		Silver Lake	Each						
Planning/Reconnaissance				2.0	1				
Preconstruction				4.0	1				
Construction				20.0		1			
Administration				2.0		1			
Deep Creek, Road 4015		Lakeview	Each						
Planning/Reconnaissance				2.0			1		
Preconstruction				3.0			1		
Construction				10.0				1	
Administration				2.0				1	
Willow Creek, Road 4011		Lakeview	Each						
Planning/Reconnaissance				2.0			1		
Preconstruction				3.0			1		
Construction				20.0				1	
Administration				2.0				1	
Crane Mountain NRT, Road 1-15		Lakeview	Each						
Planning/Reconnaissance				2.0			1		
Preconstruction				3.0			1		
Construction				20.0				1	
Administration				2.0				1	

SEE END OF TABLE FOR FOOTNOTES

Recreation Activity Schedule, Continued

Activity and Project	NAS (1) Type Code		District	Unit (2)	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
TRAILHEAD CONSTRUCTION, Continued										
Crane Mountain NRT, Hwy. 140			Lakeview	Each						
Planning/Reconnaissance					2 0			1		
Preconstruction					3 0			1		1
Construction					20 0					1
CLASSIFIED AREA INVENTORY	AN122									
Chewaucan River			Paisley		20 0			1		
Deep Creek			Lakeview		10 0				1	
South Fork Sprague River			Bly		25 0					1
CLASSIFIED AREA PLANNING	AN122									
Dog Lake			Lakeview		20 0			1		
North Fork Sprague River			Pais/Bly		25 0				1	
South Fork Sprague River			Bly		25.0					
Sycan River			Bly/Pais		40 0					1
Chewaucan River			Paisley		20 0				1	
VISUAL RESOURCE MANAGEMENT										
Monitoring	AN121		All	M $		5	5	5	7	7
Visual Inventory	AN112		All	MAcre			5	5	10	20
Viewshed Plans	AN112									
Highway 140			Bly	Plan	5 0	1				
Road 3615			Lakeview	Plan	5 0		1			
Road 28			All	Plan	10 0			1		
Dog Lake			Lakeview	Plan	8 0				1	
Cottonwood Lake			Lakeview	Plan	8 0					1
Recreation Opportunity Spectrum Inventory	AN112		All	Plan	4.0			1		
SPECIAL MANAGEMENT AREA INVENTORY	AN11	Inventory		Each						
Buck Creek					8 0			1		
Antler					8 0			1		
Crane Mountain					8 0				1	
Drake McDowell					8 0					1
SPECIAL MANAGEMENT AREA PLANNING	AN11	Planning		Plan						
Buck Creek					2 0				1	
Antler					2 0				1	
Crane Mountain					2 0					1

(1) National Activity Structure
(2) PAOT = Persons at one time.

Recreation - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
AN22	CONSTRUCTION/RECONSTRUCTION	
	Thompson Reservoir Construction	130
	Heart Lake Construction	150
	Spodue/Horsefly Preconstruction/Construction	23
	Mill Flat Construction	200
	Holbrook Construction	175
	Bunyard Crossing Preconstruction/Construction	160
	Deadhorse ATV Planning/Reconstruction/Construction	163
	Corral Creek Planning/Preconstruction/Construction	214
	Jones Crossing Preconstruction/Construction	48
	Sycan Crossing Planning/Preconstruction/Construction	23
AN11	VEGETATIVE MANAGEMENT/DEVELOPED SITES	
	Silver Creek Marsh	5
	East Bay	6
	Thompson Reservoir	8
	Dog Lake	8
	Lofton Reservoir	5
	Marster Spring	5
	Dairy Point	5
	Sprague River	5
	Willow Creek	5
	Deep Creek	5
AT22	TRAIL CONSTRUCTION/RECONSTRUCTION	
	Drews Loop Trail Construction/Administration	9
	Fremont NRT #160 Segment 9 Construction/Administration	21
	Fremont NRT #160 Segment 10 Construction/Administration	28
	Fremont NRT #160 Segment 14 Preconstrn /Constn./Admin.	39
	Fremont NRT #160 Segment 15 Preconstn /Constn./Admin	50
	Fremont NRT Bear Creek Construction/Administration	22
	Fremont NRT Road 2901 (Dead Indian)Constn /Administation	26
	Crane Mountain NRT - Highway 140 Administration	2
AN122	CLASSIFIED AREA INVENTORY	
	Slide Mountain	
AN122	CLASSIFIED AREA PLANNING	
	Slide Mountain	
	South Fork Sprague River	
	Deep Creek	
AV112	VISUAL RESOURCE MANAGEMENT	
	Monitoring	7-9
	Visual Inventory (20-50 MAcres)	
	Viewshed Plans	
	Slide Mountain	5
	Road 33	5
	Road 3715	5
	County Road 660N	8
	Road 27	5
	Road 30	

SEE END OF TABLE FOR FOOTNOTES.

Recreation - Pool of Possible Projects, Continued
1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
AN11	SPECIAL MANAGEMENT AREA INVENTORY	
	Brattain Butte	8
	Mt. Bidwell	8
AN11	SPECIAL MANAGEMENT AREA PLANNING	
	Drake McDowell	2
	Brattain Butte	2
	Mt. Bidwell	2

(1) National Activity Structure

Cultural Resources Activity Schedule

Activity and Project	NAS (1) Type Code	District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
PROGRAM ADMINISTRATION	AC12	All	M $		12 5	13	13 5	13 5	14
PROGRAM MANAGEMENT/COORD	AC1	All	M $		44	44	44	44	44
INVENTORY									
Timber Surveys	ET113	All	MAcre	1 25	73	75	68	78	34
Landownership Adjustment	*JL26*	*All*	*Acres*	1.25	400	400	400	400	400
Cultural Resources	AC	All	Acres	1 25	100	100	100	100	100
Other (Minerals, Wildlife Range, etc)	DN,GM,PW	All	Acres	1.25	150	150	150	150	5
Wilderness	*AW*	*All*	*Acres*	1 25					5
SITE DOCUMENTATION	ET113/AC	Bly	Sites	25 00	30	30	30	30	3
		Lakeview	Sites	25 00	40	40	40	40	4
		Paisley	Sites	25 00	35	35	35	35	3
		Silver Lake	Sites	25 00	12	12	12	12	1
SITE EVALUATIONS	AC112	All	Sites	50 00	8	8	10	10	10
DATA RECOVERY	AC123	All	Sites	10,000	1	2		2	3
(Evaluation/Mitigation) (2)	AC123								
CULTURAL RESOURCE MANAGEMENT PLANS									
Depression Era Structures Preservation/Maintenance	AC	Bly	Plans	6,000	1				
		Paisley	Plans	6,000		1			
		Lakeview	Plans	6,000			1		
Historical Railroad Logging (Overview/Inventory)	AC		Plans	10,000	1				
Historic Arborglyphs	AC		Plans	10,000		1			
OVERVIEW UPDATE		All	Docmt.	15,000					1

(1) National Activity Structure
(2) Cost for evaluation/mitigation of sites will be borne by benefitting function (i e timber, engineering)

Cultural Resources - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
AC111	INVENTORIES	
	Timber Surveys	19-49
	Landownership Adjustments	0 5
	Cultural Resources	0 125
	Other Inventories (Wildlife, Range, etc)	0 188
	Wilderness	0 006
AC111	SITE DOCUMENTATION	
	Bly	0 075
	Lakeview	0 100
	Paisley	0 075
	Silver Lake	0 025
AC112-1	SITE EVALUATIONS	
	Sites	0 5-0 6
AC124	DATA RECOVERY	
	Evaluation/Mitigation (Biennially)	30-50

(1) National Activity Structure

Soil and Water Activity Schedule

Activity and Project	NAS (1) Type Code	District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
PROGRAM ADMINISTRATION									
Support to Timber	ET113	All	M $		81	84	91	91	91
Support to Other	FW112 FW112	All	M $		36	36	39	39	39
Riparian Inventory and Classification	FW111-2	All			25	25	25	25	
Riparian Restoration	FW22/CWKV								
Sycan River KV Channel Revetment		Bly	M $		15				
Sycan River Channel Revetment		Bly	M $		15				
Sycan River KV Permnt. Fence		Bly	M $			18			
Sycan River KV Permnt. Fence		Bly	M $			18			
Dismal Creek Channel Rehab		Lakeview	M $		10				
Cox Creek KV Rock and Juniper Revetment		Lakeview	M $		14				
Wild Horse Creek KV Checkdams and Electric Fence		Lakeview	M $				29		
Pitchlog and Hay Creeks KV Checkdams and Electric Fence		Lakeview	M $						
Less Timber Sale KV Willow Planting		Lakeview	M $					6	
Red Willow Timber Sale KV Channel Rehabilitation		Lakeview	M $						
Swamp Creek Timber Sale KV Permanent Fence		Paisley	M $			10			
Chewaucan River Rehab Plan		Paisley	M $			3			
Morgan Creek KV Channel Rehab		Paisley	M $					5 5	
Bar Young Creek KV Channel Rehabilitation		Paisley	M $				10		
Wooley Creek KV Channel Rehab		Paisley	M $				8		
Unspecified P&M Projects		All			10	10	10	10	10
Unspecified KV Projects		All						25	25
Watershed Restoration	FW22/CWKV								
Drews Creek KV Checkdams		Bly	M $			12			
Drews Creek Checkdams		Bly	M $			12			
Strawberry KV Checkdams		Bly	M $			16			
Little Butcher KV Checkdams		Bly	M $				6		
Thomas Creek Rehab. Plan		Lakeview	M $			5			
Brush-Thin Timber Sale KV Road Closure		Lakeview	M $		8				
Camp Timber Sale KV Road Closure		Lakeview	M $				4		
Help Timber Sale KV Road Closure		Lakeview	M $						5
Porcupine Timber Sale KV Road Obliteration and Closures		Lakeview	M $			10			
Harvey Creek Area KV Slump and Gully Rehabilitation		Paisley	M $				21		

SEE END OF TABLE FOR FOOTNOTES

Soil and Water Activity Schedule, Continued

Activity and Project	NAS (1) Type Code		District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
Swamp Creek KV Checkdams			Paisley	M $		12				
Ennis Butte Gully Rehab			Paisley	M $		5	5	5	5	
Green Creek KV Gully Rehab.			Paisley	M $						30
Glades Well			Silver Lake	M $			25			
Squaw Creek KV			Silver Lake	M $		4 5				
Unspecified P&M Projects			All	M $		20	20	20	20	20
Unspecified KV Projects			All	M $					40	50
Water Monitoring	FW121 ET113									
Baseline Stations			All	8 Each	1 38	6	6	6	6	8
Non-Point Source			All	10 Each	1 0/ 833	10	10	12	12	12
Quartz Mountain Gold Mine	FW121		Bly	6 Each	0.067	9	9	9	9	9
Soil Monitoring										
Project-Low Intensity	ET113	Stations	All	12 Each	2 0	6	6	6	6	6
Project-High Intensity	ET113	Stations	All	4 Each	1 0	4	4	4	4	4
Fertilizer Trials	ET113	Soil Types	All	8 Each	8 0/4 0		1	2	2	2
Other Resources	FW121	Stations	All	4 Each	2 0	2	2	2	2	2
Forest Plan Monitoring	FW121 ET113									
Standards and Guidelines			All	M $		6	6	6	6	10
Cumulative Effects			All	M $		5	5	5	5	8
Riparian Monitoring	FW121	Stations	All	15 Each	1 875/5	8	3			
Air Monitoring Class I Airshed	FA11	Stations	Bly	2 Each	0.333/0 2	6	6	10	10	10
Soil Survey SRI Update	FW111-1		All	M $		5	5	5	5	10
Air Resource Administration	FA1		All	M $		12	15	20	20	20
Watershed Structures Mtce.	FW23		All	M $		15	15	15	25	25

(1) National Activity Structure

Soil and Water - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
	RIPARIAN RESTORATION ACTIVITIES	
FW22/CWKV	Pitchlog and Hay Creek (KV)	34
FW22/CWKV	Red Willow Timber Sale (KV)	19
FW22/CWKV	Unspecified P&M Projects	10
FW22/CWKV	Unspecified KV Projects	25-35
	WATERSHED RESTORATION ACTIVITIES	
FW22/CWKV	Military Timber Sale (KV)	9
FW22/CWKV	Willow Creek (KV)	23
FW22/CWKV	Green Creek (KV)	12
FW22/CWKV	Yellow Dog Timber Sale (KV)	3-7
FW22/CWKV	Unspecified P&M Projects	30
FW22/CWKV	Unspecified KV Projects	50-70
	WATER MONITORING	
FW121/ET113	Baseline Stations (8)	8-10
FW121/ET113	Non-Point Source	12-14
FW121	Quartz Gold Mine	9
	SOIL MONITORING	
ET113	Low Intensity Projects (12 Stations)	6
ET113	High Intensity Projects (4 Stations)	4
ET113	Fertilizer Trials (8 Stations)	2
FW121	Other Resources (4 Stations)	2
FW121/ET113	FOREST PLAN MONITORING	10
FW121	RIPARIAN MONITORING (15 Stations)	10
FA11	AIR MONITORING (2 Stations)	10-15
FW111-1	SOIL SURVEY	10-15
FA1	AIR RESOURCE ADMINISTRATION	25-30
FW23	WATERSHED STRUCTURES MAINTENANCE	25-30

(1) National Activity Structure

Lands and Minerals Activity Schedule

Activity and Project	NAS (1) Type Code	District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
LANDS PROGRAM ADMINISTRATION									
Special Land Uses	JL122	All	Cases	240	200	205	205	210	210
Landownership Adjustments	JL263								
Exchanges in Progress (2)			Acres						
BLM/Klamath Co		Bly	40(2)	2 75					
Livingston		Bly	1,480	12 0					
Thornton		Lakeview	1,600	12 0					
Rocking AC		Bly	4,360	18 0					
J-Spear		Bly	410	2.0					
Colahan		Paisley	720	7 0					
Weyerhaeuser		Bly Paisley Silver Lake Lakeview	82,000	28 0					
Visual Analysis for Land Exchange		All	MAcre	0 5	0 3	0 3	0 3	0.3	0.3
Archaelogical Survey for Land Exchange		All	MAcre	2 0	90 0	0 4	0 4	0.4	0 4
Purchase Proposals	JL261		Acres						
Dog Lake #1 (3)		Lakeview	6 38	7 1					
Dog Lake #2 (3)		Lakeview	20	300					
Status - Miscellaneous Land Activities Assistance to Other Resources		Headquarters and All	Days	150	20	20	20	20	20
MINERALS									
Program Administration	GM122	All	Oper Plans	20	3	4	6	8	8
Quartz Mountain Project	GM122	Bly	Oper. Plans	50	1	1	1	1	1

(1) National Activity Structure
(2) Any land exchange generally requires three to six years to complete The same acreage would appear several times if listed Cost M Dollars would be spread across the project life Additional exchange proposals could occur in any year
(3) Purchase of properties has been authorized in Dog Lake Area. Dollars have not been allocated Acquisition could occur by land exchange

Lands and Minerals - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
JL122	SPECIAL USE ADMINISTRATION	30-48
JL263	LAND EXCHANGE PROPOSALS (New cases)	12-35
GM122	MINING, MINERAL LEASING ACTIVITIES Quartz Mountain New operating plans	15-20 10
JL261	LAND PURCHASE (Recreation, Wildlife)	25-40

(1) National Activity Structure

Facility Construction Activity Schedule

Activity and Project	NAS (1) Code	Type	District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
Lakeview Office Addition	LF222	Construction	Lakeview	Each	60	1 (2)				
Silver Lake Office Addition	LF222	Construction	Silver Lake	Each	245	1 (2)				
Bly Office Addition	LF222	Construction	Bly	Each	84	1 (2)				
Paisley Multiplex Residence	LF222	Construction	Paisley	Each	135	1 (2)				
Paisley Office Addition	LF222	Construction	Paisley	Each	46	1 (2)				

(1) National Activity Structure
(2) Sometime in the period 1989-93

Facility Construction - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
LF222	Bly Multiplex Residence	144
LF222	Silver Lake Multiplex Residence	144
LF222	Bly Residence	80
LF222	Silver Lake Residence	80
LF222	Silver Lake Residence	80
LF222	Paisley Residence	80
LF222	Paisley Multiplex Residence	144
LF222	Paisley Office Addition	60

(1) National Activity Structure

Road Construction and Reconstruction Activity Schedule

Activity and Project	NAS (1) Code	Type	District	Unit	Cost/Unit M Dollars	Units by Year 89	90	91	92	93
Cueball Lodgepole Access	LT223	Const/Reconst	Silver Lake	Miles	5	2 5				
Trotter Lodgepole Access	LT223	Const/Reconst	Silver Lake	Miles	50	8 1				
River Road Segment II (33)	LT223	Reconstruction	Paisley	Miles	580	9 1				
Drews Creek Bridge (3940)	LT225	Reconstruction	Lakeview	Each	60	1				
Thompson Reservoir Campground	LT223	Reconstruction	Silver Lake	Miles	80	1 9				
Lodgepole Pine Access	LT223	Const/Reconst	All	Miles	240	25 0				
Rocky Canyon (3753)	LT223	Reconstruction	Bly	Miles	240	5 0				
Blue Lake Trailhead (3372015)	LT223	Reconstruction	Bly	Miles	50		1 0			
Deadhorse Campbell (28)	LT223	Reconstruction	Paisley	Miles	322		9 7			
Deadhorse Campbell (2800033)	LT223	Reconstruction	Paisley	Miles	83		2 5			
Upper North Sprague (3315)	LT223	Reconstruction	Paisley	Miles	400		11 8			
Dog Creek Bridge (4017)	LT225	Reconstruction	Lakeview	Each	75		1			
Dog Mountain Bridge (4017)	LT225	Reconstruction	Lakeview	Each	75		1			
Road 3428	LT223	Reconstruction	Paisley	Miles	350		7.5			
Lodgepole Access	LT223	Const/Reconst	All	Miles	150		25 0			
North Sprague (3411)	LT223	Reconstruction	Bly	Miles	400			15 2		
Old Trunk (28)	LT223	Reconstruction	Silver Lake	Miles	327			7 6		
South Fuller Walker (3660)	LT223	Reconstruction	Bly	Miles	439			14 1		
Lodgepole Access	LT223	Const/Reconst	All	Miles	150			25 0		
2516 (Hwy 31 to 2516265)	LT223	Reconstruction	Silver Lake	Miles	500				9 0	
3790 (Mile Post 8 65 to 3817)	LT223	Reconstruction	Bly	Miles	300				6 0	
28 (2800033 to 3315)	LT223	Reconstruction	Paisley	Miles	120				4 0	
3752 (County Dump to 3814)	LT223	Reconstruction	Bly	Miles	500				7 0	
2516 (2516018 to 2576025)	LT223	Reconstruction	Silver Lake	Miles	90				3 0	
Lodgepole Pine Access	LT223	Const/Reconst	All	Miles	150				25 0	
3790 (3817 to 3752)	LT223	Reconstruction	Bly	Miles	500					9 0
27 (2840 to 3142)	LT223	Reconstruction	Silver Lake	Miles	960					8 0
Chewaucan Bridge	LT223	Reconstruction	Paisley	Each	50					1
Long Branch Bridge	LT223	Reconstruction	Bly	Each	50					1

(1) National Activity Structure

Road Construction/Reconstruction - Pool of Possible Projects 1994-1998

NAS (1) Code	Activity and Project	M Dollars Annually
LT223	2415 (Hwy. 31 to 2415049) 11 0 mi	275
LT223	2415 (2415049 to 2415101) 7 0 mi	250
LT223	28 (30 to 3315) 10 0 mi	300
LT223	3142 (27 to 28) 3 0 mi	200
LT223	27 (3142 to Long Creek) 9 0 mi	1,000
LT223	Thomas Pit Access 1.0 mi	75
LT223	3752 (3790 to 4017) 7 0 mi	400
LT223	4017 (3752 to D/L section)6.0 mi	500
LT223	3870 (Hwy. 140 to County Road) 12 0 mi	800
LT223	34 (County Road to 3428) 17 0 mi	1,000
LT223	3428 (34 to 28) 7 0 mi	500
LT223	3462 (County Road to 27) 14.0 mi	1,000
LT223	27 (3207 to 46) 2.5 mi	300
LT223	27 (46 to Long Creek) 4 0 mi	400
LT223	3323 6 0 mi	200
LT223	3411 (28 to 3372) 7.0 mi	210
LT223	3372 (3428 to 3411) 10.0 mi	300
LT223	3509 (3510 to 3509012) 3.5 mi	100
LT223	3510 (33 to County Road 2-10C) 15.0 mi	450
LT223	29 (West end) 1.0 mi	incl. below
LT223	29 (East end) 3 0 mi	245
LT223	3315 (Mill Grade) 3 0 mi	150
LT223	34 (County Road to 3428) 19 0 mi	750
LT223	3400012 (34 to Campground)	150
LT223	3814 (County Dump to 3823) 8 0 mi	500
LT223	3616 (to Vee Lake) 2 0 mi	40
LT223	3817 (3790 to 3715) 6.0 mi	600
LT223	3715 (Hwy. 140 to 3715013) 8.0 mi	400
LT223	3715 (3715013 to 3790) 5.0 mi	400
LT223	3615 (Hwy 140 to North Forest Boundary)	
LT223	3616 (3615 to Vee Lake)	
LT223	3915 (Hwy. 140 to Deep Creek)	
LT223	28 (Forest Boundary to Road 33)	
LT223	28 (Forest Boundary to Squaw Creek)	
LT223	3753 (3752 to County Road)	
LT223	3673 (County Road to Deer Springs)	
LT223	3672 (Hwy. 140 to 3678)	
LT223	3678 (Hwy. 140 to 3673)	
LT223	3490 (Hwy. 140 to 3752)	
LT223	All	

(1) National Activity Structure

APPENDIX 3

LANDOWNERSHIP PLAN

Adjustments will be made to the Fremont National Forest landownership pattern that will enhance the objectives of this Forest Plan. Opportunities for improving the pattern are provided by land exchanges, purchases, and occasional donations.

The landownership objective is: to achieve the landownership pattern that best accommodates the land and resource direction in this plan and improves the administrative efficiency of the management of the resources

The public and private lands within the Forest have been classified and prioritized for acquisition or exchange with the intent of eventually achieving the optimum landownership pattern. All lands have been placed in one of the following groups

Group I: These are lands where Congress has either directly or indirectly instructed the Forest Service to retain ownership and acquire nonfederal lands for a designated purpose. The objective for Group I lands is to retain existing ownership and acquire the remaining lands as implied by congressional direction. Acquisition of less than fee title will be considered if direction and land management objectives can be met.

Group II: These lands have been recognized for a special management and are allocated to meet specific purposes. They include special management areas and areas allocated to range, fish and wildlife, visual, watershed, soils, and timber values. Landownership direction is to retain National Forest ownership and acquire private lands as the opportunity or need occurs. The basic criteria for Group II lands is special management to meet a special public need. Acquisition of less than fee title will be considered if direction and land management objectives can be met.

Group III: Lands in this group are in areas where management direction emphasizes commodity production. These lands will be available for land adjustment and usually will provide most of the land considered in exchange projects. Areas of mixed private and federal ownership are included with the objective of rearranging ownership patterns to benefit commodity production goals for both parties. Also included are some isolated parcels that can best be managed by the Forest Service or some other public agency. The assumption for lands in this group is that they will be managed to provide similar types of outputs whether in private or public ownership. Normally, large blocks of contiguous National Forest lands will not be available for land exchange, therefore, the following table does not include these areas.

Group IV: These lands are isolated tracts of National Forest that are costly to administer and contain no special resource features. The landownership direction is to generally make these lands available to exchange for private lands in Groups I, II, or III.

Group V: These lands need more intensive study and planning before landownership decisions can be made. Land acquisition and disposal decisions will be deferred until the needed studies have been completed.

Acreages within each group are summarized in the following table.

Land Adjustment Priorities
Lands to be considered for acquisition to meet essential National Forest management needs are assigned the following priorities:

Priority 1 - Group I lands
Priority 2 - Group II lands
Priority 3 - Group III lands

National Forest lands available for disposal by exchange for private lands are assigned the following priorities:

Priority 1 - Group IV lands
Priority 2 - Group III lands

A detailed Fremont National Forest Landownership Classification Plan with maps is available for review at the Forest Headquarters. This plan identifies and prioritizes specific private parcels to be considered valuable additions to the Forest if they became available for acquisition. Specific National Forest System lands are also prioritized for disposal. The following table summarizes data from the Landownership Classification Plan.

Landownership Adjustments

	State of Oregon	Timber Industry	Private Grazing Lands	Other Private	Private Land	USFS System
Total Acres	1,073	318,900	165,196	27,123	512,292	1,198,308
Group I						
Wilderness	0	0	0	0	0	---
Group II						
Research Natural Areas	0	0	0	0	0	---
Roadless Areas	0	240	605	0	845	---
Class I and Class II Watercourses	633	4,000	1,600	0	6,233	---
Wild and Scenic Rivers	0	0	0	0	0	---
Special Management, Unique and Recreation Composites	0	800	0	746(1)	1,546	---
Threatened and Endangered Species	0	0	0	760	760	---
Group III(2)						
General Forest	440	25,780	8,840	1,240	36,300	---
Group IV						
Disposal Priority - High	NA	NA	NA	NA	NA	12,020
Disposal Priority - Moderate	NA	NA	NA	NA	NA	25,560
Group V						
Further Study Required	(0)	(980)	(40)	(160)	---	(2,160)
Totals(2)(3)	1,073	30,900	11,285	2,746	46,004	37,580

(1) Includes three potential purchase areas
(2) Table does not include 15,240 acres of lower priority acquisitions in Group III
(3) Totals do not include Group V acres in parentheses

APPENDIX 4

SCENIC CORRIDORS

Foreground Retention. Klamath Basin Working Circle.

FS Road	34	(3400367 to 3660, Corral Spring)
"	3400012	(34 to Lookout Rock Trailhead)
Highway 140		

Foreground Retention. Lakeview Working Circle.

FS Road	34	(3660 to 3372)
Highway 140		
Dog Lake Special Management Area		
Slide Mountain Special Management Area		

Middleground Partial Retention. Lakeview Working Circle.

Dog Lake Special Management Area

Foreground Partial Retention. Klamath Basin Working Circle.

FS Road	27	(Forest boundary south of Silver Lake to Thompson Reservoir Campground)
"	27	(Thompson Reservoir Campground to 30)
"	28	(Forest boundary south of Silver Lake to East Bay Campground)
"	28	(East Bay Campground to 2800450)
"	3239	(28 to 30)
"	30	(27, Camp 6 to 28)
"	29	(28 to Government Harvey Pass)
"	3411	(3372 to Gold Creek)
"	3400018	(3400355 to 3400019)
"	3411	(Forest boundary north of long Creek to 3372)
"	3372	(3411 to Wagonwheel Creek)
"	3715	(Highway 140 to Lofton Reservoir area)
County Road 660N.		
Highway 31		

Foreground Partial Retention. Lakeview Working Circle.

FS Road	28	(2800450 to 2800033)
FS Road	29	(Government Harvey Pass to Highway 31)
"	28	(2800033 to Bottle Creek)
"	28	(Dairy Point to Forest Boundary at Hammersly Ranch)
"	33	(Burford Canyon to 28)
"	3615	(Highway 140 to North Warner viewpoint)
"	2800033	(28 to Deadhorse Lake)
"	33	(Forest boundary south of Paisley to Burford Canyon)
"	2800047	(3428 to Happy Camp)
"	3870	(Highway 140 to Cottonwood Meadows Campground)

- 4017 (Forest boundary at Drews Creek to Dog Lake)
- 3372 (Wagonwheel Creek to 34
- 3428 (34 to 2800047)

APPENDIX 5

WILDERNESS MANAGEMENT PLAN

INTRODUCTION

This plan revises and updates previous wilderness management plans prepared by Augustine (1966) and Bauer (1978). It provides a uniform system for protecting or restoring the resource and social conditions needed to comply with the Wilderness Act of 1964 and National Forest Management Act (NFMA) regulations (CFR 219.18).

Wilderness policy and management has been evolving since the establishment of the Wilderness Preservation System in 1964 A synopsis of wilderness management regulations and policy is provided to give the reviewer knowledge in current direction for managing the resource These regulations and policies provide the planning framework for establishing wilderness management objectives and for integrating these objectives into the Forest Plan. The planning framework explains the interrelationship between the various planning and management documents which guide, direct, and implement on-the-ground management of the wilderness

The wilderness resource and other resources and uses are described to familiarize the reader with the present situation. This description provides the basis for establishing existing wilderness conditions

These conditions serve as a benchmark to establish the current degree of naturalness, social contact, and managerial influences on the wilderness resource. Existing wilderness conditions, which identify the degree of alteration to the wilderness, also provide the basis for identifying management issues, concerns, and opportunities

By identifying issues, concerns, and opportunities the foundation is established for refining management direction to deal with uses and impacts that affect the wilderness resource. Management of the wilderness needs to reflect area-specific features and values in order that the role of the Gearhart Mountain Wilderness at forest, regional, and national levels can be assessed in the Forest planning process.

Wilderness management intensities are developed to address the issues, concerns, and opportunities These intensities provide a range of options to protect or restore resource conditions within specific areas of the wilderness. They also provide a balance between the realities of what exists, as revealed by the existing conditions, and what is possible.

A set of standards and guidelines are integrated into the management intensities to provide direction for managing specific resources and uses within the wilderness. These standards and guidelines, which are common to all the management intensities, identify the limits of acceptable change to resources such as soil, water, and air quality and also provide guidance in conducting specific activities such as trail maintenance within the wilderness.

The wilderness management intensities, in conjunction with the standards and guidelines, offer a diverse range of potential wilderness conditions

Upon implementation of this Forest Plan, a Wilderness Implementation Schedule will be developed to implement the preferred wilderness management intensity or range of intensities This schedule will identify the management action potentially necessary to protect or restore resource conditions to meet the standards as prescribed in the adopted management intensity for a specific area within the wilderness.

A description of the type of management actions most appropriate or least appropriate is provided to show what steps may be required to meet each management intensity. A wilderness monitoring process is also incorporated into the schedule to insure that prescribed wilderness management intensities are achieved and maintained.

The success or failure of wilderness management ultimately lies upon the commitment of land managers and wilderness visitors to provide an enduring resource of wilderness. Commitment from management, for the most part, is reflected by the amount of money invested in a work force needed to carry out the objectives identified in this plan. Commitment from the visitor is reflected in their awareness and understanding of how they can affect the wilderness resource. This plan concludes by identifying the costs associated with providing a comprehensive, adequately funded management program to insure that the goals of the Wilderness Act are approached and realized for the Gearhart Mountain Wilderness.

MANAGEMENT DIRECTION, PLANNING FRAMEWORK AND OBJECTIVES

Management direction for the wilderness focuses on delivery and preservation of those wilderness-related benefits specified in the Wilderness Act of 1964, the National Forest Management Act of 1976, and in the Department of Agriculture and Forest Service policy guidelines.

The management objectives include:

1. Maintenance of an enduring system of high-quality wilderness;

2. Perpetuation of the wilderness resource;

3. Provision of, to the extent consistent with items 1 and 2, opportunities for public use, enjoyment, and understanding of wildernesses, and the unique experiences dependent upon a wilderness setting;

4. Maintenance of plants and animals indigenous to the area;

5. Accommodation to and administration of those uses or activities which are of the type generally prohibited by the Wilderness Act, but which are specifically excepted by that Act, or subsequent establishing legislation, in a manner that minimizes their impact on the wilderness resource and values;

6. Maintenance of stable watersheds within constraints of the Wilderness Act; and

7. Consideration of protection needs for populations of threatened and endangered species and their habitats in management of wilderness.

DIRECTION FOR MANAGING VISITOR USE

Regulation 36 CFR 219.18(a) states that wilderness management will:

> "...provide for limiting and distributing visitor use of specific portions in accord with periodic estimates of the maximum levels of use that allow natural processes to operate fully and that do not impair the values for which wildernesses were created."

These procedures and regulations are referred to as carrying capacity studies.

> "Carrying capacity studies provide information needed to systematically develop management strategies that allow use and enjoyment of the wilderness resource while minimizing impacts to wilderness values."
>
> "Forest Service researchers have been working with managers of wilderness to refine methods for determining where and when it is necessary to limit and distribute use. Rather than attempting to arrive at a specific number of people and pack/saddle stock an area can accommodate, the new concept relates to establishing objectives for the 'limits of acceptable change' (LAC) for various parameters. The objectives apply to effects on resources of the land as well as to human experiences. The concept recognizes that an area's ability to accommodate use depends on several variables, including the intensity of management, visitor behavior, timing or season of use, and elevation and habitat of the specific sites involved."

By establishing and monitoring guidelines for visitor use, a numerical recreation carrying capacity can be established for wilderness.

DIRECTION FOR MANAGING FIRE IN WILDERNESS

National direction governing fire management in wilderness is contained in Chapter 2320 of the Forest Service Manual (FSM).

Objectives

The objectives of fire management in wilderness are:

1. Permit lightning-caused fires to play, as nearly as possible, their natural ecological role within wilderness.

2 Reduce unnatural buildups of fuels that present a fire danger in excess of what might have existed had fire been allowed to occur naturally.

3. Reduce, to an acceptable level, the risks and consequences of wildfire within wilderness or of wildfire escaping from wilderness.

Policy

Only two types of prescribed fires may be approved for use within wilderness: those ignited by lightning and allowed to burn under prescribed conditions and those ignited by qualified Forest Service officers. The use of prescribed fire in wilderness is subject to preplanned, specified conditions.

Specific objectives, standards, and guidelines for the control of wildfire and the use of prescribed fire within each wilderness (FSM 5100, 5150, and 5190) must be set forth in either a Forest plan or a wilderness implementation plan prepared pursuant to a Forest plan Where the Forest planning process has not been completed, Forest officers shall document decisions and provide appropriate guidelines for control of wildfires and use of prescribed fire within each wilderness in either wilderness management plans or fire management area plans.

1. Suppress all wildfires within wilderness in accordance with the direction in FSM 5130.

2. Fire ignited by lightning may be permitted to burn if prescribed in an approved plan (FSM 2324 and 5150).

3. Forest Service managers may ignite a prescribed fire within wilderness if the decision to do so meets at least one of the wilderness fire management objectives set forth in FSM 2324.02 and if all of the following conditions are met:

   (a) The use of prescribed fire or other fuel treatment measures outside of wilderness is not sufficient to achieve fire management objectives within wilderness.

   (b) An interdisciplinary team of resource specialists has evaluated and recommended the proposed use of prescribed fire.

   (c) The interested public has been involved appropriately in the decision.

   (d) Lightning-caused fires must be suppressed to avoid serious threats to life and/or property within wilderness or to life, property, or natural resources outside of wilderness.

4. A decision to use prescribed fire in wilderness shall not be based on benefits to wildlife, maintenance of vegetative types, improvement in forage production, or enhancement of other resource values. These can be additional benefits which may result from a decision to use prescribed fire but are not objectives for managing fire in wilderness.

5. Management-ignited fire will not be used to achieve wilderness fire management objectives where lightning-caused fires can achieve the same objectives.

DIRECTION FOR MANAGING THE RANGE RESOURCE IN WILDERNESS

The objective of commercial livestock operations in wilderness is to conduct these activities in a manner that utilizes the forage resource in accordance with established wilderness objectives (36 CFR 293.7). Congressional guidelines on "Grazing in National Forest Wilderness Areas" can be found in Conference Report S.2009.

In summary, subject to the conditions and policies outlined in the committee report, "The general rule of thumb on grazing management in wilderness should be that activities or facilities established prior to the date of an area's designation as wilderness should be allowed to remain in place and may be replaced when necessary for the permittee to properly administer the grazing program. Thus, if livestock grazing activities and facilities were established in an area at the time Congress determined that the area was suitable for wilderness and placed the specific area in the wilderness system, they should be allowed to continue. With respect to areas designated as wilderness prior to the date of this Act, the guidelines outlined in the report shall not be considered as a direction to re-establish uses where such uses have been discontinued" (H.R. No 96-1126).

WILDERNESS NONDEGRADATION POLICY

"The nondegradation policy recognizes that in existing wilderness one can find a range of natural and social settings from the most pristine to those where naturalness and opportunities for solitude have been significantly diminished by established uses. It is the intent of this policy to assure that appropriate diversity and existing wilderness character are maintained. Further intent is to ensure that all of the

most pristine areas will not be reduced to the minimum acceptable standard of naturalness simply to disperse and accommodate more use" (FSM 2320, R-6 SUPP).

PLANNING INTERRELATIONSHIPS

Forest plans required by the National Forest Management Act must provide for integrated management direction for each resource on the Forest. The Gearhart Mountain Wilderness Management Plan is part of the Forest Plan. This management direction includes guidance for management of the individual components and attributes of the wilderness resource such as visitor use (recreation), wildfire, insect and disease control, range, and wildlife and fisheries resources.

Wilderness management involves many attributes of the wilderness resources and is related to ecological change and man's activities regarding fire, recreation, and wildlife and fish species that require specific management direction. The direction established in this plan constitutes the direction for managing the wilderness resource. A wilderness fire management plan, developed for managing fire in the Gearhart Mountain Wilderness, is included in the Forest Plan. A Wilderness Implementation Schedule will be prepared to implement the direction adopted by the Forest Plan

In addition, there is a concern regarding the need for specific management direction for the fisheries attributes of the wilderness resource in the vicinity of Blue Lake. This plan recognizes some wilderness recreation use is interrelated with fisheries management activities and the associated consumptive and nonconsumptive uses of the fisheries attribute of the wilderness resource. As part of the ongoing planning and management processes related to the Wilderness, direction that is specific to fisheries management in the Wilderness will be integrated into the Wilderness Implementation Schedule following the approval of the Forest Plan. As that component of the management process is developed, fisheries management direction, in cooperation with the Oregon Department of Fish and Wildlife (ODF&W), will be integrated to ensure recreation management actions are complementary to sustaining an enduring resource of wilderness.

WILDERNESS PLANNING OBJECTIVES

The objectives of this plan are:

- to describe the existing conditions of the Gearhart Mountain Wilderness, which will serve as a benchmark of naturalness and solitude,
- to identify management concerns and issues related to the Gearhart Mountain Wilderness;
- to provide a basis for the establishment of management intensities;
- to identify area-wide standards and guidelines;

- -- to establish wilderness management intensities in the Forest planning process;
- -- to prescribe monitoring and evaluation for the Wilderness; and
- -- to identify and program funds and work force necessary to meet these management intensities.

DESCRIPTION OF WILDERNESS RESOURCE AND OTHER RESOURCES AND USES WITHIN THE WILDERNESS

On November 11, 1943, the Gearhart Mountain Wild Area was established by the Forest Service on the Fremont National Forest. With the passage of the Wilderness Act of 1964 (1939 U-Regulations), Congress designated all National Forest wild areas as wildernesses. The 1984 Oregon Wilderness Act added 4,144 acres to the Gearhart Mountain Wilderness, which currently totals 22,823 acres. Of these acres, 3,449 are located in Klamath County and 19,374 are in Lake County.

NATURAL INTEGRITY AND APPEARANCE

Human influences have had and will continue to have some impact on the natural integrity or long-term ecological processes of the Wilderness. These influences include a primitive road system and a barbed wire fence in the northern most portion of the Wilderness, incidental firewood cutting along isolated segments of the Wilderness boundary, maintained trails, extensive commercial livestock grazing with concentrated livestock use occurring in moist meadows and riparian areas, and recreation impacts to vegetation due to dispersed camping in the vicinity of Blue Lake (see Appendices A and C). These impacts do have a depreciative effect on the natural integrity and appearance of the area.

OPPORTUNITY FOR SOLITUDE AND PRIMITIVE EXPERIENCE

Except for a few isolated areas, the Wilderness provides outstanding opportunities for solitude in terms of contact with other visitors. Blue Lake, the Palisades, and the head of Dairy Creek are the only areas within the Wilderness where contacts between groups can be anticipated. In these more frequented areas, one may encounter up to five other groups while traveling or camping. Outside these areas, contact with other groups while camping or hiking may be less than one per day.

The presence of human impacts and the relative small size of the area can affect the visitor's opportunity to experience a primitive, unmodified natural environment. The capability of the area to provide a more primitive unmodified setting is diminished by the presence and impacts from these activities.

Challenging or unconfining types of recreation opportunities are primarily those associated with hiking or walking. The basalt rock cliffs at the Palisades, the Dome, and Gearhart Mountain may provide a challenge to rock climbers. The area also provides opportunities for hunting big game in an undeveloped setting.

MANAGERIAL INFLUENCES

Management of the Wilderness has had a subtle effect on the resource as well as those who visit the area. Signs at the Wilderness trailheads inform the users of wilderness ethics and policy. Compliance has been poor resulting in resource degradation in some areas.

The management philosophy for the Gearhart Mountain Wilderness has been to provide "an area where the earth and its community of life are untrammeled by man." This has allowed the visitor to experience spontaneity and freedom while traveling within the Wilderness without being directly affected by management personnel. The mandatory wilderness permit system has never been instituted for the Wilderness. Emphasis has been placed on indirect management techniques through educational and informative signing at the trailheads.

TOPOGRAPHY

The dominant topographic feature of the Wilderness is Gearhart Mountain, a very large, low-profile mountain that is the highest and perhaps oldest of the many volcanic domes in the mountains of western Lake County. Elevations range from about 5,750 to 8,364 feet at the summit. Dairy Creek and North Fork Sprague River lie within moderately dissected valleys containing moderately steep to very steep side slopes. Picturesque rock formations cap most of the high-elevation ridgetops. On a clear day the distant Steens Mountain to the east and the Cascade Peaks from Mt. Lassen in California north to the Three Sisters are visible, a distance of approximately 125 air miles.

VEGETATION

Meadow openings containing the headwaters of numerous small streams lie at the base of many of the cliffs and ridges. These wet meadows are surrounded by dense old-growth stands of white bark pine and lodgepole pine. At lower elevations, lodgepole pine and mixed ponderosa pine-white fir forests predominate, interspersed with narrow stringer meadows bordering the major streamcourses. The most diverse and complex plant communities are found in the Dairy Creek drainage. *Allium campanulatum*, *Castilleja chlorotica*, and *Penstemon glaucinus* are the only sensitive plant species known to occur within the Wilderness. Presently, neither livestock grazing nor recreation use are adversely affecting these species. In general terms, the northern portion of the Wilderness is predominately covered by lodgepole pine vegetation types and the southern and western portions are predominately covered by mixed conifer and ponderosa pine types.

WATER

Several of the major streams on the Forest have their sources within the Wilderness. They include the Chewaucan River and the North and South Forks of the Sprague River. These rivers are sources of irrigation water for downstream agricultural operations. Blue Lake, the only lake in the Wilderness, is 18 acres.

WILDLIFE

Wildlife species found in the Wilderness are those associated with old-growth pine and mixed conifer habitats. The Wilderness provides important summer range for the Forest's major elk herd. No threatened or endangered species are believed to occur in the Wilderness, though reintroduction of the peregrine falcon has been considered (Boyce, *et al.*, 1980). No conflicts currently exist between recreation use and wildlife.

FISHERIES

Several species of trout, both native and introduced, occur in the Wilderness. Rainbow trout are periodically stocked by aircraft at Blue Lake and provide fair angling. Both rainbow and brook trout inhabit the small streams emanating from Gearhart Mountain. The greatest fishing pressure occurs at Blue Lake.

FIRE

The extensive stands of seral lodgepole pine and fire scars found on mature stands of ponderosa pine over 500 years old, indicate that fire previously played a significant role in the natural processes occurring in the Wilderness. Studies of the ponderosa plant community types demonstrate that fire was an important part of the natural ecology. Previous fire management direction, which called for fast aggressive control of all fires, has acted to reduce this natural role. Fire history within the area indicates that the average burn frequency is 30 to 100 years.

MINING

The Wilderness Act of September 3, 1964 provided that all areas designated as wilderness would be withdrawn from all forms of appropriation under the mining laws and from disposition under laws pertaining to mineral leasing on January 1, 1984. Although prior claims and rights were recognized and new activities could occur before the cut-off date, no proposals were filed within the Gearhart Mountain Wilderness, nor was there any evidence of past activity prior to wilderness designation. A recent surface geology survey found no indicated potential for metallic mineral resources, mineral fuels or geothermal energy within the Gearhart Mountain Wilderness boundary (Walker and Ridenour 1982).

CULTURAL RESOURCES

The majority of cultural resource inventories on the Forest are project related. For this reason the Gearhart Mountain Wilderness has not been systematically surveyed for cultural sites. However, the occasional archaeological data that have been found indicate that Native Americans used the Wilderness to some degree in their seasonal rounds of resource utilization, probably hunting big game. No major habitation or use areas are known to exist within the Wilderness boundaries.

There is minor evidence of historic use in the Wilderness. This includes the remains of an old guard station at "Hole-in-the-Ground" meadow and some old trails made by sheep herders. A number of these trails have nearly returned to natural conditions while some have evolved into the present trail system

COMMERCIAL LIVESTOCK GRAZING

The Wilderness lies within the boundaries of four grazing allotments: Dairy Creek, Deming Creek, Paradise Creek, and Pothole. Currently, the Wilderness provides approximately 620 AUM's annually. Isolated areas on these allotments exhibit evidence of erosion, gullying, soil compaction, and lowered water tables from past uneven distribution of livestock grazing. Current allotment management plans for the Wilderness limit livestock use to no more than 35 percent of annual forage production. Livestock use now appears to be more widely dispersed. However, overutilization continues to be a problem within portions of the allotments.

Annual range inspections are conducted to monitor grazing in the Wilderness. Fencing has been considered as a means of maintaining livestock distribution between the Deming and Pothole allotments This will reduce livestock drift between allotments and will alleviate overgrazing in isolated areas Fencing currently exists in the Gearhart Mountain Wilderness Addition.

EXTERNAL INFLUENCES

Due to its small size and topography, the Wilderness is subject to sounds and sights of nonwilderness character. These include light reflected from automobile windshields and aluminum roofs in the Sprague River Valley below the Wilderness and the sounds of logging activity and large trucks on surrounding Forest roads. Timber harvests on private lands along the western Wilderness boundary create a significantly less than natural view from overlooks within the Wilderness. The National Forest lands adjacent to the Wilderness are currently designated as Recreation Opportunity Spectrum (ROS) class Roaded-Natural. The Visual Quality Objectives (VQO's) of this ROS class require silvicultural and harvesting practices designed to maintain and/or enhance a natural-appearing landscape adjacent to areas of visual sensitivity. The ROS classification of the adjacent National Forest lands could change, depending on the management emphasis and land allocations of the alternative selected for the Forest Plan.

RECREATION

Much of the recreation use in the Gearhart Wilderness tends to be concentrated in a few relatively small areas. Blue Lake receives 70 percent of the use because of its popularity for fishing. A recent inventory and evaluation of visitor impacts found 55 campsites around the lake, 87 percent of them located within 200 feet of the lakeshore (see Appendix A). Current policy prohibits camping within 200 feet of the lakeshore to alleviate adverse impacts to the wilderness resource; however, enforcement of this policy has been difficult. Almost all the sites have some trees that have been damaged by recreation use. To illustrate how extensive the recreation impacts are around the lake, campsite density is approximately five sites per acre, a site density comparable to or higher than most developed campgrounds with vehicle access (Spjut 1985).

Other popular areas include the meadows at the head of the Dairy Creek drainage, the Dome-Palisades area, and the lower segment of Dairy Creek. However, none of these locations show signs of depreciative use. The following table displays recreation use of the Wilderness by activity and Recreation Visitor Days (RVD's)

Gearhart Mountain Wilderness Use by Kinds of Activities, Fiscal Year 1986.

Activity and Activity Code	Use in Recreational Visitor Days	Percent of Total Use
Viewing Scenery (01.1)	200	2.7
Hiking and Walking (14.1) Horseback (14.3)	1,200 200	16.2 2.7
Fishing, Cold Water (31.1)	1,200	16.2
Camping, General Day (41.1) Camping, Tent (41.4)	1,300 1,700	17.6 23.0
Canoeing (15.1) Other Watercraft (15.3)	100 100	1.4 1.4
Swimming and Waterplay (22.1)	100	1.4
Picnicking (43.1)	300	4.1
Hunting, Big Game (61.1)	300	4.1
Birds, Fish (62.1)	500	6.8
Nature Study, Hobby and Education (62.2)	200	2.7
Total	7,400	100.0%

TRAILS

Use of the Wilderness for activities such as backpacking and hiking appears to be increasing by two percent annually. Most of this use is trail-oriented, with the exception of Gearhart Mountain summit and lower Dairy Creek. Three trails, comprising approximately 13.4 miles, are maintained within the Wilderness. Trail difficulty levels vary from easy to difficult and are, for the most part, serving the needs of the recreationist. Existing trail density is 2.58 miles per 640 acres

Existing trailhead facilities are generally inadequate with parking areas cramped and poorly developed On the average, each trailhead should provide enough parking for about 10-15 vehicles All three trailheads are signed and have self-registration stations and bulletin boards The 1984 Gearhart Wilderness Addition required relocating the Nottin Creek Trailhead outside the newly designated wilderness boundaries. This relocation increases the hiking distance to Blue Lake by about one mile. Also, a 2.5-mile segment of trail leading up to the Notch may require reconstruction to alleviate soil erosion problems by reducing the existing steep grade.

OUTFITTERS AND GUIDES

Outfitters and guide services have not been attracted to the Wilderness at this time due in part to its small size and relative lack of attractive features.

INVENTORY OF EXISTING WILDERNESS RESOURCE CONDITIONS

The entire Wilderness is currently inventoried as wilderness-semiprimitive, following the guidelines established for assigning wilderness acres to the appropriate Wilderness Recreation Opportunity Spectrum (ROS) class (FSM 2320 R-6 Supp). The Wilderness ROS system, which is analogous to the ROS classification process, provides a general process for identifying current conditions based upon the degree of alteration to the wilderness resource The system also provides the framework to maintain or improve existing wilderness conditions

Recognizing that each wilderness is unique, Fremont National Forest wilderness managers have identified categories within the general condition of wilderness-semiprimitive. These categories of existing wilderness conditions inventory alterations to the wilderness resource in terms of three basic components:

1. *Physical/Biological.* Defined in terms of general ecological condition, prevalence and duration of impacts, and visibility of impacts.

2. *Social Setting.* Defined in terms of opportunities for experiencing solitude and primitive recreation in an area where human-influenced impacts to the wilderness environment are substantially unnoticeable.

3 *Managerial Setting* Defined in terms of contact with management personnel during normal use season, rules and regulations on visitor use, presence and extent of signing, presence and condition of facilities such as trails and range improvements

Existing wilderness conditions for the Gearhart Mountain Wilderness are described below Figure 7 indicates the location of these conditions within the Wilderness

CONDITION ONE

Physical/Biological Setting:

- Ecological conditions: Area minimally affected directly or indirectly by human activities such as recreation and/or commercial livestock grazing. Impacts that do occur are not apparent to most visitors.

- Soils: Displacement and erosion of soil resulting from human activity, either directly or indirectly, is limited to a rate that closely approximates the natural process. Soil compaction not apparent.

- Water: Water quality not degraded from human activity: i.e., the water quality returns to its previous level when the activity ceases.

- Vegetation: Very little or no use of key forage plants by commercial livestock. No long-term modification of natural plant succession by human activities. Modifications that are occurring recover in one growing season

- Fish and Wildlife: Fish and wildlife are indigenous to the area No facility development or habitat development or habitat alteration exists.

Social Setting:

- Encounters: Interparty contact while traveling is very low (90 percent probability of zero encounters).

- Camps: Interparty contact while at campsite is nonexistent (90 percent probability of zero encounters). Campsite density, on the average, is less than one campsite per 640 acres. Distance between campsites is greater than 300 feet.

- Solitude: Moderately high opportunity to experience solitude and isolation in an environment where human influence impacts are substantially unnoticeable.

Managerial Setting:

off-site evidence/controls:

- Rules and Regulations: primarily available outside wilderness in areas such as at trailheads.

- External influences: activities such as timber harvesting, road construction, etc., outside wilderness noticeable only at key vantage points.

on-site evidence/controls:

- Contact with management personnel: infrequent (90 percent probability of no contact).

- Presence and extent of signing: no trail signs present.

- Trail/condition: no trails present.

- Commercial livestock: impacts from use may be noticeable. No facility development present.

CONDITION TWO

Physical/Biological Setting:

- Ecological condition: Area minimally to moderately affected directly or indirectly by human activities such as recreation and/or commercial livestock grazing. Visibility of impacts are apparent only to a low number of visitors.

- Soils: Displacement and erosion of soil resulting from human activity, either directly or indirectly, is limited to a rate that closely approximates the natural process Soil compaction not readily apparent.

- Water: Changes in water quality transitory in nature; the water quality returns to its previous level when the activity ceases.

- Vegetation: Key forage plants light to moderately used by commercial livestock. Practically no use of low-value forage plants. No long-term modifications to natural plant succession as a result of human activity. Changes that occur are those that recover in one growing season.

- Fish and Wildlife: Fish and Wildlife are indigenous to the area. No facility development or habitat alteration exists

Social Setting:

- Encounters: Interparty contact while traveling; low (80 percent probability of zero encounters per day).

- Camps: Interparty contact while at campsite; very low (90 percent probability of zero encounters per day). Campsite density is less than three sites per 640 acres Distance between campsites is greater than 300 feet.

- Solitude: High to moderately high opportunity to experience solitude and primitive recreation in an environment where human influenced activities are substantially unnoticeable.

Managerial setting:

off-site evidence/controls

- Rules and regulations. primarily available outside wilderness in areas such as at trailheads.

- External Influences: activities such as timber harvesting, road construction, etc., outside wilderness noticeable only at key vantage points.

on-site evidence/controls

- Contact with management personnel: infrequent (90 percent probability of zero contact).

- Presence and extent of signing: no trail signs present.

- Trail condition: no trails present

- Commercial livestock: Impacts from use noticeable. No facility development present.

CONDITION THREE

Physical/Biological Setting:

- Ecological Conditions: Area moderately affected directly or indirectly by human activities such as recreation and/or commercial livestock grazing. Visibility of impacts are apparent to a moderate number of visitors.

- Soils: Displacement and erosion resulting from human activity, either directly or indirectly, is being moderately exceeded over the natural process. Soil compaction from commercial livestock use may be noticeable in key forage areas.

- Water: Changes in water quality transitory in nature; the water quality returns to its previous level when the activity ceases.

- Vegetation: Impacts to plant communities persist from year to year in some areas. Moderate loss of vegetation where camping and commercial livestock grazing occurs. Key forage plants moderately used for the season of grazing. Some use of low-value forage plants.

- Fish and Wildlife: Fish and wildlife are indigenous to the area. No facility development or habitat alteration exists.

Social Setting:

- Encounter: Interparty contact while traveling; low to moderate (80 percent probability of one or fewer encounters per day).

- Camps: Interparty contacts while at campsite; low to moderate (80 percent probability of one or fewer encounters per day). Campsite density is equal to or less than five sites per 640 acres. Distance between sites is greater than 300 feet.

- Solitude: Moderate opportunity to experience solitude and isolation in an environment where human influenced activities are substantially unnoticeable.

Managerial Setting:

off-site evidence/controls

- Rules and regulations: primarily available outside wilderness in areas such as at trailheads.

- External Influences: activities such as timber harvesting, road construction, etc. outside wilderness noticeable only at key vantage points.

on-site evidence/controls

- Contact with management personnel: infrequent (90 percent probability of zero contact).

- Presence and extent of signing: signs present but only minimum amount of information provided.

- Trail condition: trails maintained to accommodate light-to-moderate use and/or resource protection and user safety. Trail experience at difficult level per Trails Handbook

- Commercial livestock: range improvements present (or planned).

CONDITION FOUR

Physical/Biological Setting:

- Ecological Conditions: Many locations substantially affected directly or indirectly by human activities such as recreation and/or commercial livestock grazing. Visibility of impacts are readily apparent to most visitors.

- Soils: Displacement and erosion resulting from human activity, either directly or indirectly, is occurring at a rate above the natural process. Soil compaction from commercial livestock grazing is noticeable in key forage areas

- Water: Changes in water quality transitory in nature; the water quality returns to its previous level when the activity ceases.

- Vegetation: Impacts to plant communities persist from year to year. Moderate impact or loss of vegetation due to recreation use or commercial livestock grazing. Key forage plants are closely cropped. Low value forage plants generally being grazed. Trampling damage may be evident.

- Fish and Wildlife: Wildlife indigenous to the area. Fish introduced with stocking occurring on a periodic basis. No facilities or habitat alteration for wildlife exists.

Social Setting:

- Encounter: Interparty contact while traveling, low to moderate (80 percent probability of five or fewer encounters per day)

- Camps: Interparty contact while camping; low to moderate (80 percent probability of three or fewer encounters per day). Campsite density is equal to or less than five sites per acre. Distance between sites is less than 75 feet.

- Solitude: Moderate to low opportunity to experience solitude and isolation in an environment where human-influenced activities are substantially unnoticeable.

Managerial Setting:

off-site evidence/controls

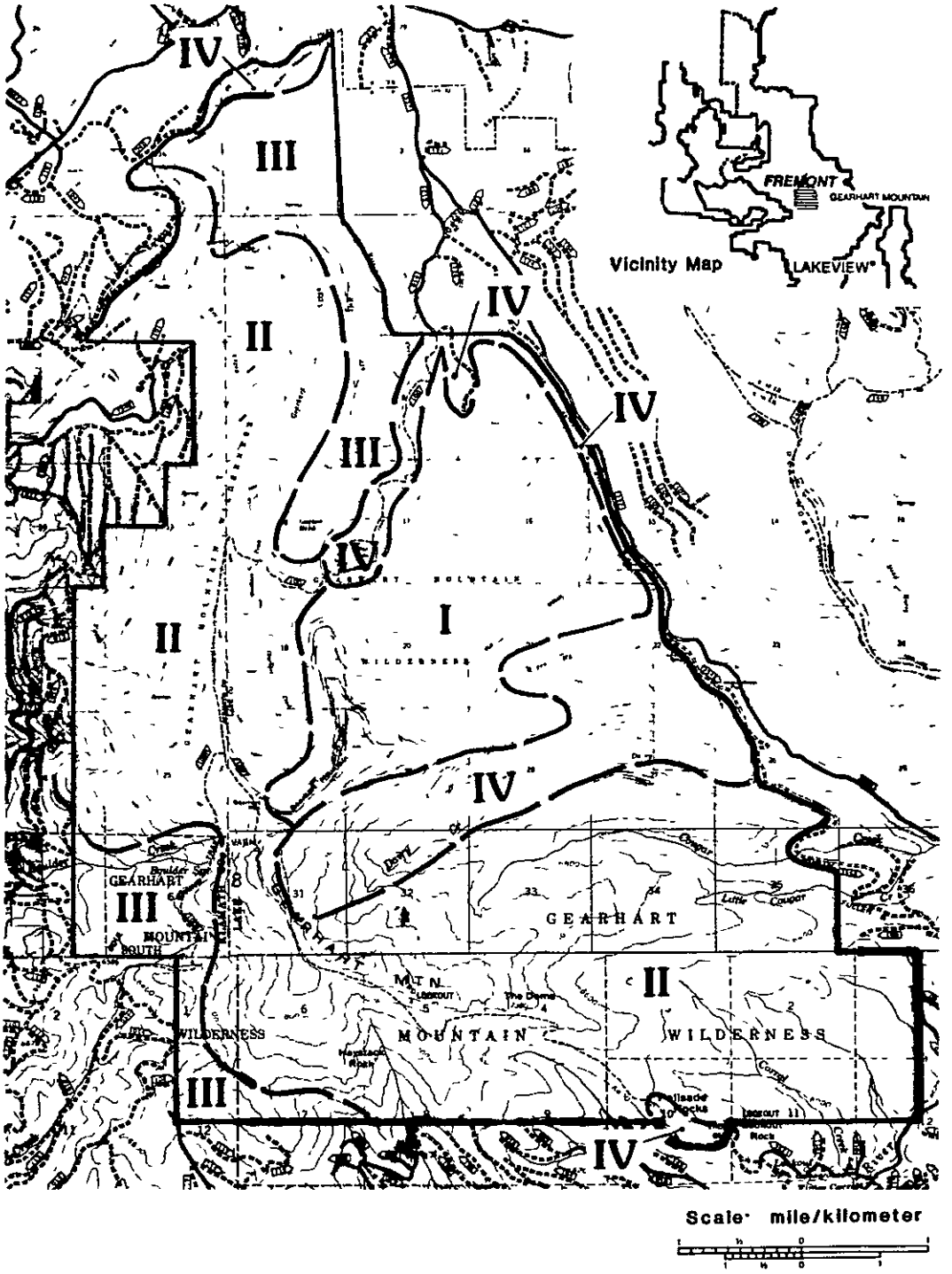
- Rules and regulations· primarily available outside wilderness in areas such as at trailheads.

- External Influences: activities such as timber harvesting, road construction, etc , outside wilderness noticeable only at key vantage points.

on-site evidence/controls

- Contact with management personnel: infrequent (90 percent probability of zero contact).
- Presence and extent of signing: signs present but only minimum amount of information provided.
- Trail condition: trails maintained to accommodate moderate to heavy traffic and/or resource protection and user safety. Trail experience at easy level per Trails Handbook.
- Commercial livestock: range improvements present (or planned).

Figure 7. Existing Wilderness Conditions for the Gearhart Mountain Wilderness.



MANAGEMENT ISSUES, CONCERNS, AND OPPORTUNITIES

Based upon an analysis and evaluation of current wilderness resource conditions the following management issues, concerns, and opportunities have been identified (for more background data see Appendices A, B, and C):

1. *Depreciative Wilderness Use.* Research has shown that increasing or decreasing use is not the determining factor concerning the intensity of recreation impacts. Appropriate behavior requires knowledge of a largely unwritten set of rules or norms for wilderness use. For example, visitors who are sensitive to these norms will usually try to camp out of sight of others and hold down noise. Extensive social overtures beyond the courtesies of greeting and limited getting acquainted are usually not considered appropriate in wilderness camp areas and visitors respect one another's privacy. Littering, scarring of trees, logs, and erection of campsite improvements, such as fire places and trenches to divert water are all examples of depreciative or incongruent wilderness behavior that can detract from the quality of the wilderness experience of others. The resolution of this concern will determine what management actions are appropriate and necessary to alleviate depreciative use and/or minimize campsite impacts in an effort to provide a wilderness experience where the impacts of use are substantially unnoticeable to the wilderness visitor.

2. *Camping within 200 feet of the Lakeshore Setback at Blue Lake.* Analysis of the data indicates that approximately 87 percent of the campsites are located within the 200 feet setback. Compliance and enforcement of the 200 feet setback per Regional standards (FSM 2320 #56) is poor. Camping within the setback detracts from the visitor's experience of solitude more than those who use sites outside the setback. Noises carry easily to other parties around the lake because of the lack of sound-diminishing barriers and because the lake surface minimizes the attenuation of sound. The resolution of this concern and/or opportunity will determine what management action is necessary to meet the Regional setback standard in order to maintain or enhance the visitor's perception of solitude and privacy from others while camping at the lake.

3. *Trailhead and Trail Location.* Trailhead and trail location can markedly influence the quality of the wilderness experience of visitors hiking to and camping around the lake. With the inclusion of the Gearhart Addition as classified wilderness, the old Nottin Creek Trailhead and a portion of the access road were abandoned and relocated increasing the hike into Blue Lake by approximately one mile.

   Also, as identified by the Blue Lake Survey (Spjut 1984), the trail around Blue Lake is almost entirely within the lakeshore setback. Road and trail access can be modified and this would probably alter use patterns substantially. The major aspect of this concern is what effect relocation would have on enhancing the visitor's opportunity to experience solitude and a more primitive type of recreation.

4. *Stocking Trout in Blue Lake.* According to creel census data and trailhead registration cards collected at the old Nottin Creek Trailhead, fishing is an important attraction for many visitors. Management actions that enhance fishing opportunities will probably increase use, and attract a clientele of use that is primarily interested in fishing. Because a lake without fish will get less use, the surrounding lakeshore area will, overall, remain less impacted, and those visitors concerned more with solitude and primitive recreation than fishing would prize such places. If the area was a semiprimitive-nonmotorized recreation area, then manipulating fish stocking levels would be a powerful and appropriate technique for controlling recreation use. Therefore, whether or not to continue to stock fish is probably the major concern or issue that must be resolved if opportunities to experience solitude in any wilderness environment where human impacts are substantially unnoticeable are to be maintained or enhanced

5. *Regulations, Restrictions, and Controls on Wilderness Recreation Experience.* Managerial actions on use can have a profound effect on the visitor's experience. Wilderness visitor management can employ a wide range of tools and techniques to modify use. These can be either indirect or direct. Indirect management emphasizes influencing or modifying behavior. The individual retains freedom to choose. The manager controls visitors less completely, thus allowing more variation in use and behavior. Direct management emphasizes regulation of behavior. Individual choice is restricted, and management will exert a high degree of control over visitors. The resolution of this concern is to determine what management action will be taken to alleviate impacts to the wilderness resource without affecting the visitor's opportunity to experience spontaneity and freedom or a more primitive unconfined type of recreation.

6. *External Influences.* Sights and sounds from nearby logging and road construction can diminish the sense of solitude, isolation, and naturalness traditionally available in the wilderness setting. Constructing more roads to harvest timber adjacent to wilderness boundaries provides additional easy access points and can disperse visitor entry, use, and impacts over a greater area within the wilderness. Comparable activities on private lands adjacent to the Wilderness can also produce these changes in the character of the Gearhart Wilderness. The resolution of this concern will determine what management actions, if any, are needed to minimize these potential impacts.

7. *Riparian Degradation due to Concentrated Livestock Grazing.* Historical use of livestock grazing within the riparian areas has resulted in severe streambank erosion along isolated segments of Dairy and Wagonwheel Creeks. The major aspect of this concern is to determine if current grazing practices are adequate or to develop alternative practices that alleviate impacts to the riparian and fisheries resources.

8. *Primitive Recreation.* Due to the impacts and/or presence of commercial livestock there are no opportunities to experience primitive recreation in an environment where human-influenced impacts are substantially unnoticeable. The intent is not to modify grazing due to wilderness designation but to identify those limits of acceptable change that will provide for primitive recreation. Therefore, the resolution of this issue will determine to what extent commercial livestock grazing is compatible with primitive recreation

9 *How Fire Should be Managed in the Wilderness.* How will the Wilderness Fire Management Plan relate to management of the recreational use? To what extent should prescribed fire be allowed to interact freely with wilderness ecosystems? The resolution of these concerns is addressed in the Wilderness Fire Management Plan (Appendix B).

10. *Costs of Managing and Providing for an Enduring Wilderness Resource.* It is important to reaffirm the necessity of wilderness management, the principle that wilderness cannot be preserved merely by its classification (i.e., draw a line around it and leave it alone), but requires a comprehensive, adequately funded, management program to insure that the goals of the Wilderness Act are approached and the objectives realized. Nevertheless, funds allocated to wilderness management must be used in the most cost efficient manner The importance of this concern is to identify those management intensities that can have the greatest influence on perpetuating an enduring resource of wilderness with the least cost.

WILDERNESS MANAGEMENT INTENSITIES

Wilderness management intensities are directed at restoring wilderness conditions to acceptable levels or preventing unacceptable conditions from occurring in order to provide for present and future generations the benefits of an enduring resource of wilderness. Intensities that would disperse or increase

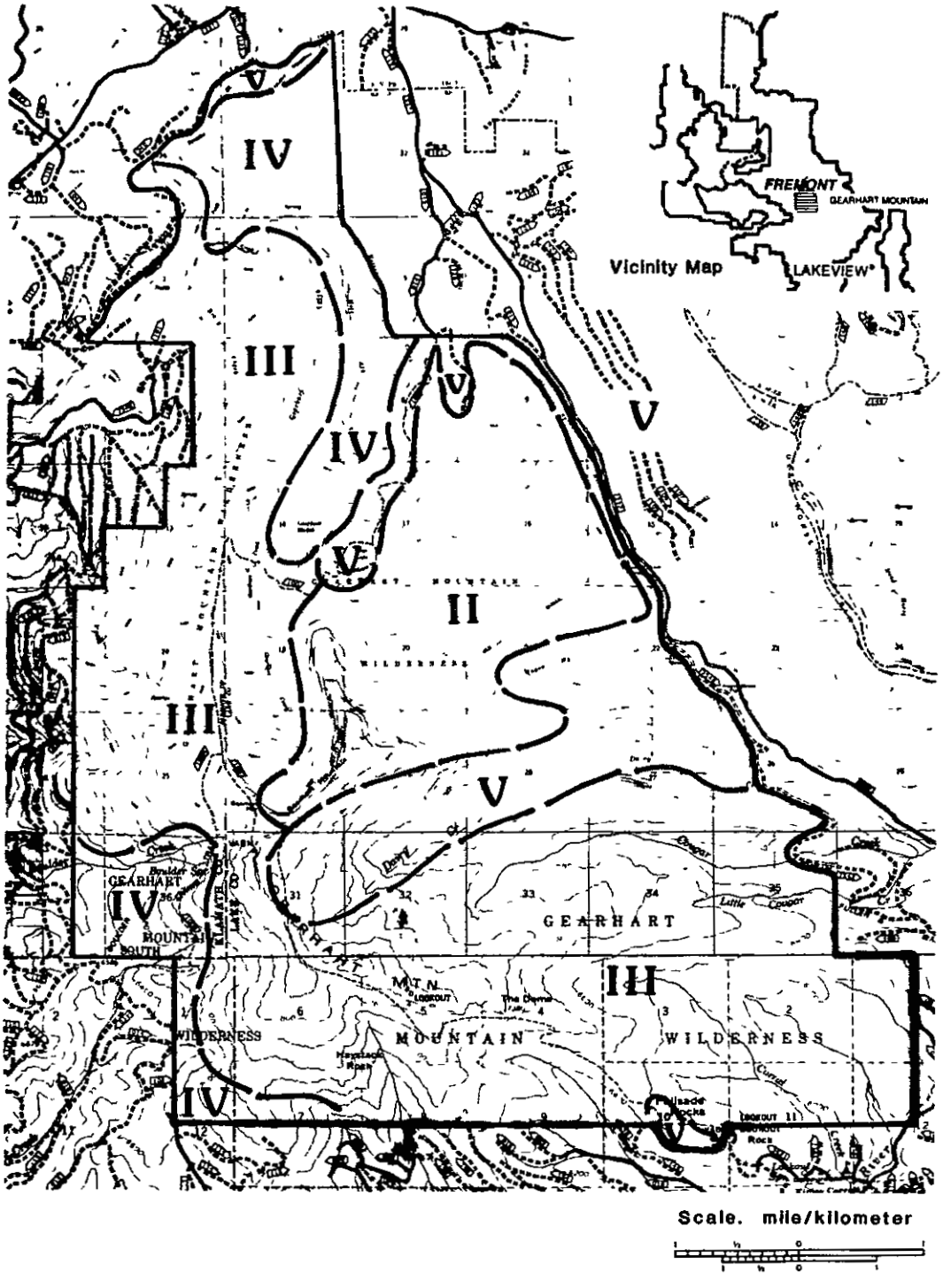
recreation use to other areas within the wilderness were not considered per Regional Wilderness Nondegradation Policy (FSM 2320).

These wilderness management intensities represent a spectrum of wilderness experience opportunities within the wilderness. They describe existing or potential areas within the wilderness having different resource and social conditions. They also identify management standards that are acceptable within each intensity. Inherent in the definitions are different levels of resource and social conditions acceptable for each intensity in the spectrum.

Three components are used to describe each management intensity: resource, social, and managerial settings. Each component has several elements that are used to describe differences between intensities. These descriptions provide managers, and users with common definitions for terms used to describe areas within the wilderness.

The management intensities are listed and identified in Figure 8.

Figure 8. Wilderness Management Intensities for Gearhart Mountain Wilderness.



WILDERNESS MANAGEMENT INTENSITY TWO:

A. Description

Physical/Biological Setting:

Characterized by an essentially unmodified natural environment. Ecological and natural processes are not measurably affected by the actions of users, but are slightly affected by commercial livestock grazing. Environmental impacts are minimal, restricted to temporary loss of vegetation where camping and commercial livestock grazing occur. Most impacts recover on an annual basis and will be apparent to only a low number of visitors.

Social Setting:

This intensity provides an outstanding opportunity for isolation and solitude, with very infrequent encounters with other users. The user has opportunities to travel across country utilizing a moderately high degree of self-reliance. Interparty contacts will be very few while traveling and rare to nonexistent at the campsite.

Managerial Standards:

Management will strongly emphasize sustaining and enhancing the natural ecosystem. Direct on-site management of visitors will be seldom Necessary rules and regulations will be communicated to visitors outside the area, such as at trailheads or boundary portals. Contact of visitors by Forest personnel will be mostly reactive and by invitation, with discussion items limited to what visitors want to know. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area for optimum benefits to all. Formal restrictive regulations or programs may be considered only when light-handed, less restrictive measures have consistently failed to achieve desired goals and objectives. Infrequent patrols and monitoring of conditions by appropriate state and federal agency personnel will be conducted only as necessary to achieve management objectives. All scientific and ecological monitoring actions will be scheduled to meet social setting criteria. Trails will not be constructed, and maintenance will be conducted only to protect the resource. No trail signs will be present, and no facilities of any kind will be provided or permitted, including lookouts and radio transmitter stations.

B. Management Standards

- Ninety percent probability of not encountering another party while traveling and camping.
- No other camps visible or audible from any one site.
- Camps shall be separated from other campsites and set back from trails, meadows, lakes, and streams at least 200 feet.

Human Impacted Sites:

- No more than two low impact sites per 640 acres.
- No moderately or highly impacted sites. One site (see Appendix A, Blue Lake Survey) per one square mile (640 acres).

Range:

- No more than 35 percent of the available forage utilized.
- General range trend either static or improving.
- Overall range condition is fair to good.

WILDERNESS MANAGEMENT INTENSITY THREE:

A. Description

Physical/Biological Setting:

Characterized by an essentially unmodified natural environment. Ecological and natural processes and conditions are minimally affected by the action of users but moderately affected by commercial livestock grazing. Environmental impacts are low and restricted to minor losses of vegetation where camping and commercial livestock grazing occur. Most impacts recover on an annual basis and will be apparent to only a low number of visitors.

Social Setting:

There is high opportunity for experiencing isolation from the sights and sounds of people, with the probability of encountering other users being low. The user has good opportunity for experiencing independence, closeness to nature, tranquility, and self-reliance through the application of primitive recreation skills. These opportunities occur in an environment that offers a moderately high degree of self-reliance. Interparty contacts will be low on the trail and fairly low at the campsite, with parties often camped in isolation.

Managerial Setting:

Management will emphasize sustaining and enhancing the natural ecosystem Direct on-site management will involve minimum visitor contact during the normal use season. Necessary rules and regulations will be communicated to visitors by Forest personnel and will be mostly reactive and by invitation. In addition to what the visitor wants to know, the opportunity will be seized to present other pertinent site-specific messages. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area for optimum benefit to all. Formal rules and regulations may be necessary to achieve management objectives, and permits may be considered only when less restrictive measures have failed to achieve desired goals and objectives Signs will be permitted within the area, and will provide only the minimum information necessary to protect the wilderness resource. Trails will normally be constructed, maintained, and managed at the "most difficult" level, per Trails Handbook (FSH 2309). Routes will be maintained only for resource protection and minimal user safety. Modification of the natural environment would be minimal. The route should provide the user with an opportunity for testing skills and experiencing a sensation of physical exertion and a feeling of accomplishment Facilities will be provided only in a few extreme cases, only for the purpose of resource protection, and will use only native materials.

B. Management Standards

- Eighty percent probability of not more than one encounter while traveling and camping.
- Not more than one campsite should be visible or audible from any one site.
- Camps shall be separated from other campsites and set back from trails, meadows, lakes, and streams at least 200 feet.

Human Impacted Sites:

- No more than three low impact sites per 640 acres.
- No more than two moderately impacted sites per 640 acres.
- No highly impacted sites per 640 acres.

Range:

- No more than 35 percent of the available forage utilized.
- General range trend either static or improving.
- Overall range condition is generally fair to good.

WILDERNESS MANAGEMENT INTENSITY FOUR:

A. Description

Physical/Biological Setting:

Characterized by an essentially unmodified natural environment where ecological and natural processes are, in a few areas, moderately affected by the action of users and/or commercial livestock grazing and show some losses of vegetation. Impacts in some areas often persist from year to year and are apparent to a moderate number of visitors.

Social Setting:

There are moderate opportunities for experiencing isolation from the sights and sounds of people, with the probability of encountering other users low to moderate. The user has moderate opportunities for experiencing independence, closeness to nature, tranquility and self-reliance through the application of primitive recreation skills. Contact with other visitors both on the trail and while camped will be moderately frequent.

Managerial Setting:

Management will emphasize sustaining and enhancing the natural ecosystem. On-site management will involve routine visitor contact. Necessary rules and regulations will be communicated to visitors outside the area, such as at trailheads and boundary portals. Contact is initiated by Forest personnel during routine duties. Information concerning protection of site-specific wilderness resources will be presented. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area for optimum benefit to all. Formal

rules and regulations may be necessary to achieve management objectives, and permits may be considered only when less restrictive measures have failed to achieve desired goals and objectives. Signs will be permitted within the area, and will include the minimum number necessary to protect the wilderness resource and for administration. Trails will normally be constructed, maintained, and managed at the "difficult" level, per Trails Handbook (FSH 2309), to accommodate moderate use for the majority of the use season. The route will modify natural conditions only to the extent necessary to protect the environment and provide for moderately safe use by a user with limited experience and average physical ability. A moderate number of facilities will be provided or permitted, and only those necessary for the protection of the wilderness resource and the user. Natural materials will predominate. Dimensional and non-native materials may be used, but must remain nonevident to the average user.

B. Management Standards

- Eighty percent probability of three or fewer encounters while traveling and camping.
- Not more than one campsite should be visible or audible from any one site
- Camps shall be separated from other campsites and set back from trails, meadows, lakes, and streams at least 200 feet.

Human Impacted Sites:

- No more than four low impact sites per 640 acres.
- No more than two moderately impacted sites per 640 acres.
- No highly impacted sites per 640 acres

Range:

- No more than 35 percent of the available forage utilized.
- General range trend either static or improving.
- Overall range condition is fair to good.

WILDERNESS MANAGEMENT INTENSITY FIVE:

A. Description

Physical/Biological Setting:

Characterized by a predominantly unmodified natural environment, where ecological and natural processes are, in many locations, substantially affected by the action of users. Environmental impacts are generally high in areas along the shores of Blue Lake and near major entry points. Impacts often persist from year to year and there may be moderate loss of vegetation and soil at some sites. Impacts are readily apparent to most visitors.

Social Setting:

This intensity offers moderate to low opportunities for experiencing isolation from the sights and sounds of people with the probability of encountering other area users moderate to high. The user has the opportunity for a high degree of interaction with the natural environment. Contacts with other users can be relatively high, both on the trail and at campsites. Some parties will camp out of sight and sound of other parties, but this will not be common during the main-use season.

Managerial Setting:

Management will be oriented to sustaining and enhancing the natural ecosystem. Necessary rules and regulations will be communicated to visitors outside the area, such as at trailheads and boundary portals. Special efforts will be taken to contact visitors. Information concerning wilderness management, user conflicts, fire prevention, and other pertinent subjects will be presented. Formal and informal user education programs will be initiated to inform users about what to expect and how to use the area for optimum benefit to all. Formal rules and regulations may be necessary to achieve management objectives and permits may be considered only when, less restrictive measures have failed to achieve desired goals and objectives. Signs within the wilderness will be placed for resource protection purposes. Trails will normally be constructed, maintained, and managed at the "easy" level, per Trails Handbook (FSH 2309), to accommodate heavy traffic for the majority of the use season. The routes will blend into the natural features of the area. Facilities and improvements may be provided and permitted for resource protection. Facilities, when constructed, will emphasize the use of natural materials. Dimensional and non-native materials are acceptable, but should harmonize with the natural environment.

B. Management Standards

- Eighty percent probability of five or fewer encounters while traveling and camping.
- A maximum of two campsites should be visible or audible from any one site.
- Camps shall be separated from other campsites and set back from trails, meadows, lakes, and streams at least 200 feet.

Human Impacted Sites:

- No more than five low impact sites per 640 acres.
- No more than five moderately impacted sites per 640 acres.
- One highly impacted site per 640 acres.

Range:

- No more than 35 percent of the available forage utilized.

- General range trend either static or improving.

- Overall range condition is fair to good.

WILDERNESS IMPLEMENTATION AND MONITORING SCHEDULE

A Wilderness Implementation Schedule will be developed to identify those management actions that must be taken to implement a selected management intensity in the Forest Plan. These management actions will become area specific by management intensity as identified in the Wilderness Implementation Schedule. The schedule will identify areas or sites in the Wilderness where current conditions may be shifted to a different management intensity, areas where standards are being violated, and to identify potential management actions to maintain or enhance wilderness conditions.

The Schedule will include a monitoring process to ensure that standards are being met for each intensity. The monitoring process will be adopted upon the completion of the Implementation Schedule. A tentative monitoring plan is included in this plan (Appendix D) It is intended to show what, how, and when parameters will be measured to insure compliance. The monitoring program will be adopted upon completion of the Implementation Schedule.

PROGRAM PLANNING AND BUDGETING

Program planning and budgeting needs for the Gearhart Mountain Wilderness are based upon the management activities prescribed for the Wilderness. The following table displays wilderness management activities and associated costs for various funding levels by management intensity.

The level shown is the minimum necessary for managing at each management intensity level.

Gearhart Mountain Wilderness Program Planning and Budgeting.

Activity/ Funding CODE	Base Level Management Activity	Description of Management Activity	Estimated Annual Cost (in 1988 dollars) by Wilderness Mgt. Intensity Two	Three	Four	Five
	WILDERNESS MANAGEMENT *PLANNING/ADMINISTRATION*					
AW12/NFRN	1. Work Planning	Develop and/or revise short and long-term project work plans (1900-4 and 1930) for activities to be accomplished (0 5 day per year).	100	100	100	100
AW12/NFRN	2 Annual Wilderness Report	Complete Annual Wilderness Report to Congress (0.5 day per year).	$50	$50	$50	$50
AW12/NFRN	3. *Wilderness Implementation* Schedule	Complete and update as necessary the Wilderness Implementation Schedule to maintain and/or enhance wilderness conditions (10 days per year).	$1,500	$1,500	$1,500	$1,500
	RECREATION					
AW121/NFRN	1 RIM Reporting and Update	Maintain and update RIM reports and records (0.2 day per year).	$25	$25	$25	$25
AW121/NFRN	2. Recreation Use Monitoring Campsite Restoration	Monitor recreation use as prescribed under item 1-6, Annual Monitoring Process and Fremont National Forest RIM Supplement. Restore and rehabilitate problem areas (minimum 18 days per year, May-October).	$5,200	$4,100	$6,500	$6,500
	TRANSPORTATION					
AT23/NFTR	1 Trailhead Maintenance	Maintain trailhead facilities (eg Information and education signing, self-registration stations, etc) Clean up and remove litter and inspect trailheads at least one day per week during season of use (minimum 12 days per year)	$2,200	$2,200	$2,200	$2,200
AT12/NFTR	2. Trailhead Reconnaissance and Maintenance	Inspect trails for resource damage and maintain at level specified per management intensity (minimum 8 days per year).	N/A	$1,000	$1,500	$2,300
	RANGE					
DN121/NFRG	1 Range Condition Trend Surveys	Inspect and monitor range resource conditions Randomly select sites within each management intensity to determine if ecological conditions are being achieved (minimum 2 days per year)	$1,800	$1,200	$800	$400

Gearhart Mountain Wilderness Program Planning and Budgeting Continued.

Activity/ Funding CODE	Base Level Management Activity	Description of Management Activity	Estimated Annual Cost (In 1988 dollars) by Wilderness Mgt. Intensity Two	Three	Four	Five
FW112/NFSW	WATER	Steamside restoration and maintenance (minimum 2 days per year)	$1,200	$900	$700	$350
FW111-2/NFSW	1 Watershed Condition Surveys	Inspect problem areas to insure that resource conditions are stabilizing or improving (minimum 1 day per year).	$375	$250	$100	$100
CW121/NFSW	2. Water Quality Monitoring	Monitor Blue Lake once every 5 years Monitor Dairy Creek annually (1 day per year)	$100	$100	$100	$100
PF24/NFAF	FIRE	Monitor fire management plan once every 5 years to determine if objectives are being achieved.	$150	$150	$150	$150
FA121/NFSW	AIR 1. Air Quality Monitoring	Monitor (minimum 3 days per year) at greater than 125 miles and/or less than 5% contrast change	$375	$375	$375	$375
AV12/AFVR	VISUAL 1. Permanent Photo Monitoring Station	Monitor external visual impacts per FSM 2380 VRM Monitoring Process adjacent to wilderness as seen from permanent photo monument on Gearhart Mountain summit (1 day every 5 years).	$25	$25	$25	$25
TG4/NFNF	PROGRAM SUPPORT	Clerical services, wilderness management training, equipment, supplies, communications, etc.	$2,500	$2,500	$2,500	$2,500
	INCREMENT ONE	Total cost per management intensity (cost per acre).	$15,460 (0.67)	$13,615 (0.60)	$12,195 (0 54)	$12,875 (0 55)

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APPENDIX 6

DOCUMENTATION OF FISHERIES AND WILDLIFE MONITORING PLAN

INTRODUCTION

Monitoring fish and wildlife resources in this Forest Plan will occur in three major areas during the first five years of the plan: Fish and Wildlife Funding, Population Trends - Threatened, Endangered and Sensitive Species, and Indicator Species. The monitoring will be intense so major problems can be identified and corrected or alternative monitoring programs developed. At the end of year five, a new monitoring plan will be developed for the second five-year period.

Each monitoring question will be matched with a corresponding threshold of variability statement. This statement points to the situation where a review of management decision is necessary or where a revision in the Forest Plan is potentially necessary.

FISH AND WILDLIFE FUNDING

The Forest will maintain a fish and wildlife program with adequate funding to carry out management direction, surveys, habitat improvements and monitoring outlined in the Forest Plan.

Monitoring Questions
Is adequate funding of the Fish and Wildlife Program allocated in the Forest budget to implement direction, surveys, complete project plans, install habitat improvements and perform monitoring outlined in the Forest Plan?

Threshold of Variability
Forest Fish and Wildlife Program receives less than $230,000 of appropriated monies per year.

Suggested Monitoring Methods
Examine Forest outyear budgeting to determine if funding to implement plan is proposed.

Responsibility and Cost
Forest Supervisor and Fish and Wildlife Staff are responsible for adequate Fish and Wildlife funding (both appropriated monies and timber sale receipts (KV)) to perform the management direction, surveys, project plans, habitat improvement and monitoring as outlined in the Forest Plan.

POPULATION TRENDS - THREATENED, ENDANGERED AND SENSITIVE SPECIES

BALD EAGLE

Two forms of monitoring will take place for bald eagles.

One monitoring effort will determine population trends of the eagles by annual survey of nesting activities and success. This monitoring will be provided by the Cooperative Wildlife Unit, Oregon State University. The twice yearly surveys are currently financed in part by the Regional Office.

Monitoring Question
Are existing nest sites producing young as anticipated?

Threshold of Variability
No active nest site is unoccupied two years in succession. If an active nest site is unoccupied two years in succession, action will be taken to determine causes and correct the situation if possible.

Responsibility and Cost
The Forest Fish and Wildlife Staff is responsible for the interagency survey. The cost of the interagency survey is $10,000 per year.

Other Needs and Coordination
Additional surveys to locate winter roost sites are needed. Updates of information in the Fremont Bald Eagle Management Plan will be done every two years.

The second monitoring effort will deal with the issue of maintaining habitat for bald eagles. The goal of this monitoring is to ensure the Forest provides habitat to meet recovery level populations of bald eagles established in the Pacific States Bald Eagle Recovery Plan. Management Area 1 (existing bald eagle nest sites, potential nest sites and winter roosts) will be the area monitored.

Monitoring Questions
(1) Are management areas being managed as required by the standards and guidelines?
(2) Are potential nest sites being protected?
(3) Are habitat improvements effective?

Threshold of Variability
(1) Standards and guidelines are applied to all management activities affecting the site.
(2) *Less than 10 percent of the potential sites are unsuitable for occupancy at any given time.*
(3) Future nesting and roosting habitat is not created by habitat improvements.

Responsibility and Cost
District Rangers are responsible for bald eagle nesting and roosting sites on their respective Districts. The cost will average $130 per site per year.

Other needs and Coordination
Additional surveys to locate winter roost sites are needed. Updates of information in the Fremont Bald Eagle Management Plan will be done every two years.

PEREGRINE FALCON HABITAT

The Forest will meet recovery goals for the peregrine falcon as outlined in the Peregrine Recovery Plan for the Pacific population. The Forest will protect all occupied and potential peregrine habitats on the Forest.

Monitoring Questions
(1) Are existing (or potential) peregrine nest sites being used and are they as productive as planned?
(2) Is the reintroduction effort on the Forest supplying the area with adult birds?
(3) Are the standards and guidelines in the Recovery Plan and Forest Plan being followed?
(4) Are individual management plans completed for each occupied site?

Threshold of Variability
(1) Any loss of existing peregrine nest sites or any loss of potential sites that cannot be mitigated by alternate areas.
(2) No adult birds return within two years to reintroduction sites or other habitat on Forest.
(3) Disruption of nest sites or reintroduction sites by resource management activities.
(4) No management plan for occupied habitat site.

Suggested Monitoring Methods
(1) Annual survey of occupied and potential sites in cooperation with USDI Fish and Wildlife Service and Oregon Department of Fish and Wildlife.
(2) Evaluate resource management activities near nesting or reintroduction sites.

Responsibility and Cost
Forest Supervisor is responsible for the maintenance and protection of threatened and endangered species habitat. Average cost will be $650 per site

Other Needs and Coordination
Further studies needed to determine distribution of peregrines and success of reintroduction effort.

SENSITIVE PLANT HABITAT

The Forest will maintain or enhance habitat for plants listed for the Forest on the Regional Forester's Sensitive Species List. This management will aid in keeping the sensitive species from becoming candidate species for the Federal Threatened and Endangered Species List.

Monitoring Questions
(1) Are the standards and guidelines in the Plan and individual Sensitive Plant Management Plans being implemented?

(2) Are these standards and guidelines adequate?
(3) Are plant density and distribution being maintained or increased?
(4) Are habitat improvements effective?

Threshold of Variability

(1) Disturbance of sensitive species habitat outside of recommended practices or improvement projects.

(2), (3), and (4) A decrease of greater than 10 percent below existing plant density.

Suggested Monitoring Methods

(1) Review all appropriate project plans to determine if standards and guidelines are being implemented. This is an annual report with a summary report every five years.
(2) To determine plant density, complete annual survey of known sensitive species locations for two consecutive years out of every five years.

Responsibility and Cost

District Ranger is responsible for review of appropriate project plans. Forest Supervisor is responsible for the maintenance and protection of sensitive plant habitat and populations. Average cost of project review will be $2,000. Report every fifth year will be $2,500. Average cost of plant density surveys will be $5,000 per year of survey.

Other Needs and Coordination

Further studies needed to determine distribution of sensitive plant species on the Forest.

SENSITIVE ANIMAL HABITAT

The Forest will maintain or enhance habitat for birds, mammals, invertebrates, fish, reptiles and amphibians listed for the Forest on the Regional Forester's Sensitive Species List. This management will aid in keeping the sensitive species from becoming candidate species for the Federal Threatened and Endangered Species List.

Monitoring Questions

(1) Are the standards and guidelines in the Plan and individual Sensitive Species Management Plans being implemented?
(2) Are these standards and guidelines adequate?
(3) Are animal density and distribution being maintained or increased on the Forest?
(4) Are habitat improvements effective?

Threshold of Variability

(1) Disturbance of sensitive species habitat outside of recommended practices or improvement projects.

(2), (3), and (4) A decrease of greater than ten percent below existing animal density on the Forest.

Suggested Monitoring Methods

(1) Review all appropriate project plans to determine if standards and guidelines are being implemented. This is an annual report with a summary report every five years.
(2) To determine animal density, complete annual survey of known sensitive species locations for two consecutive years out of every five years.

Responsibility and Cost

District Ranger is responsible for review of appropriate project plans. Forest Supervisor is responsible for the maintenance and protection of sensitive animal habitat and populations. Average cost of project review will be $2,000. Report every fifth year will be $2,500. Average cost of animal density surveys will be $20,000 per year of survey.

Other Needs and Coordination

Further studies needed to determine distribution of sensitive animal species on the Forest.

A major "CAUTION" - certain factors, especially weather, can cause significant positive or negative changes in animal populations irrespective of habitat conditions or trends. In the case of migratory birds, loss or significant change in wintering habitat can cause populations to decrease regardless of optimum breeding habitat available on the Forest.

INDICATOR SPECIES

MULE DEER

Two forms of monitoring will take place for mule deer. Population trends will be monitored by the Oregon Department of Fish and Wildlife. Habitat capability will be monitored by the Forest Service. The ODF&W annually surveys individual deer herds to identify fall and spring fawn survival, buck escapement, population trends, hunter activity/success, etc Annual survey results are compared to the ODF&W Herd Management Objectives. These objectives were adopted by the Forest in the preferred alternative. The annual survey data will be used to follow population trends.

Interagency Deer Herd Management Plans will be completed for all herds by 1995. These plans will be tied to the ODF&W and Klamath Tribe's Herd Management objectives. The existing and potential habitat capacity will be identified. Trends in habitat capacity can be tracked and "related" to trends in populations.

Monitoring Question
Are herd management objectives being maintained as predicted in the plan?

Threshold of Variability
Any significant change in a five-year period as monitored by the ODF&W.

Responsibility and Cost
The Forest Fish and Wildlife Staff is responsible for obtaining the census information from the ODF&W. The cost will average $500 per year.

Other Needs and Coordination
Need additional research to correlate habitat effectiveness with population trends.

A major "CAUTION" - certain factors, especially weather, can cause significant positive or negative changes in deer populations irrespective of habitat conditions or trends.

The second monitoring effort deals with habitat capability to support populations identified in the Forest Plan.

Monitoring Questions
(1) Are the standards and guidelines being followed to meet habitat effectiveness levels established for Management Area 2 as well as summer and transition ranges?
(2) Are habitat improvements effective?

Threshold of Variability
(1) Habitat effectiveness is more than 20 percent below the objective in any given management unit at any point in time.
(2) Habitat improvements do not show indication of big game use or do not mitigate for effects caused by resource management.

Suggested Sampling Methods
(1) Habitat relationships modeling with Interagency Mule Deer Model or other model based on principles outlined in the Interagency Mule Deer Model. This sampling will be done as projects occur with a five-year summary.
(2) To determine effectiveness of habitat improvements, complete annual surveys for two consecutive years out of every five years. Report at conclusion of second survey year.

Responsibility and Cost
District Rangers are responsible for the winter, summer and transition ranges on their respective Districts. The cost will average $600 per year to gather habitat effectiveness data. Cost of the 5-year summary will be $1,200. The cost to determine effectiveness of habitat improvement projects will be $1,200 per year with $800 to write the report.

Other Needs and Coordination
Will need to gather information on cover and forage values for vegetation.

RESIDENT TROUT AND RIPARIAN HABITAT

Monitoring for resident trout habitat and riparian habitat will be accomplished in two sections. Management Area 15 will be the focus of this alternative as well as reservoirs, rivers and streams included in Management Area 7.

Trends in population of resident trout will be monitored in streams with the Oregon Department of Fish and Wildlife. The direction and magnitude of population changes will be compared to the ODF&W Trout Management Objectives adopted by the Forest in the Forest Plan. Significant short-term (10 to 20 years) changes in trout population in lakes and ponds cannot be measured and generally are not relevant because the ODF&W stocks most lakes annually. Fish population monitoring by the ODF&W will determine changes in populations resulting from stream habitat improvement projects.

Monitoring Questions
(1) Are habitat improvements being accomplished?
(2) What is the existing fish population before the habitat improvement is installed?
(3) Are habitat improvements providing habitat for greater numbers of fish in streams?
(4) What are the conditions of fish habitat in terms of aquatic insect diversity, fish spawning and resting habitat, streambank vegetation changes and channel structure changes?

Threshold of Variability
(1) Less than 60 percent of the inventories and habitat improvements are completed
(2) and (3) Fish populations show no change from pre-improvement levels.
(4) Decline in aquatic habitat/fish population for more than one year.

Suggested Monitoring Methods
(1) Review fisheries inventory and habitat improvements every two years.
(2) and (3) Electro-fishing will be the primary sampling method.
(4) 20 percent sampling of fisheries streams on an annual basis.

Responsibility and Cost
District Rangers are responsible for installing fish habitat improvements. Cost will average $15,000 per year. The Forest Fish and Wildlife Staff is responsible for obtaining the census information from the ODF&W Districts and coordinating fish habitat surveys. Cost will average $7,000 per year.

Other Needs and Coordination
Need Forest Fisheries Biologist.

The second monitoring effort will be completed by the Forest Service.

Monitoring Questions

(1) Are riparian standards and guidelines being implemented?
(2) Are the standards and guidelines effectively contributing to the Forest riparian goal?
(3) Are range allotment plans incorporating riparian specific objectives?
(4) What are the cumulative effects of activities on riparian vegetation condition, bank stability, water quality (temperature and turbidity) and stream width/depth?

Threshold of Variability

(1) End results of standards and guidelines are not occurring.
(2) Failure to improve riparian condition within time frame prescribed in Riparian Management Action Plan.
(3) Ten percent of range allotment plans written within time frame of Forest Plan do not have riparian specific objectives.
(4) Trend of declining condition regardless of existing condition.

Suggested Monitoring Methods

Surveys will be completed to determine presence of aquatic invertebrates, to determine stream/riparian habitat condition, stream width/depth, bank stability, riparian vegetative condition including shade to stream, water quality (temperature and turbidity, and instream habitat. Permanent photo points will be established.

Responsibility and Cost

(1) District Rangers are responsible for implementing riparian and fish habitat standards and guidelines in all resource activities that affect fish and riparian habitat. Cost will average $2,500 per year.
(2) Forest Resources Staff is responsible for monitoring effectiveness of riparian standards and guidelines. Cost will average $5,000 per year.
(3) and (4) The Forest Fish and Wildlife Staff is responsible for establishment and monitoring of permanent riparian stations. Cost will average $3,000 per year.

Other Needs and Coordination

Coordination with Area Ecologist and Oregon Department of Fish and Wildlife.

PILEATED WOODPECKER HABITAT

The Forest will provide habitat areas that meet or exceed the standards outlined in Management Areas 3 and 14 in the Forest Plan for pileated woodpecker habitat.

Monitoring Questions

(1) Are the areas identified as pileated woodpecker habitat being managed as described in the standards and guidelines, i.e., size, spacing and age of timber stands?
(2) What is the rate of pileated woodpecker use in these areas for nesting and feeding?

Threshold of Variability

(1) The number of habitat areas is below the level outlined in the Forest Plan.
(2) Pileated woodpecker use is absent in more than 40 percent of the pileated woodpecker habitat areas.

Suggested Monitoring Methods

(1) Track number of habitats and evaluate effects of adjacent management activities. Review all adjacent projects annually with ten-year report.
(1) Examine ten percent of all areas each five years to determine if areas meet pileated woodpecker habitat criteria.
(1) Review standards for every project that might affect the habitat capability and document findings in project environmental assessment or implementation plan.
(2) Monitor populations using pileated habitat areas. Survey areas every five years.

Responsibility and Cost

(1) District Rangers are responsible for pileated woodpecker areas and all resource activities that affect pileated woodpecker habitat on their respective Districts. Cost will average $130 per area studied.
(2) Forest Fish and Wildlife Staff is responsible for monitoring populations. Average cost will be $15,000 per survey.

Other Needs and Coordination

Need additional habitat relationships information for pileated woodpecker in south central Oregon. Encourage ODF&W to develop population census.

PINE MARTEN HABITAT

The Forest will provide habitat areas that meet or exceed the standards outlined in Management Areas 3 and 14 in the Forest Plan for pine marten habitat.

Monitoring Question

Are the areas identified as pine marten habitat being managed as described in the standards and guidelines, i.e., size, spacing and age of timber stands?

Threshold of Variability

The number of habitat areas is below the level outlined in the Forest Plan.

Suggested Monitoring Methods

(1) Track number of habitats and evaluate effects of adjacent management activities. Review all adjacent projects annually with ten year report.
(2) Examine ten percent of all areas each five years to determine if areas meet pine marten habitat description.
(3) Review standards for every project that might affect the habitat capability and document findings in project environmental assessment or implementation plan

Responsibility and Cost

District Rangers are responsible for pine marten areas and all resource activities that affect pine marten habitat on their respective districts. Cost will average $130 per area studied.

Other Needs and Coordination
Need additional habitat relationships information for pine marten in south central Oregon. Encourage ODF&W to develop population census.

THREE-TOED WOODPECKER HABITAT

The Forest will provide habitat areas that meet or exceed the standards outlined in Management Areas 3 and 14 in the Forest Plan for three-toed woodpecker habitat.

Monitoring Questions
(1) Are the areas identified as three-toed woodpecker habitat being managed as described in the standards and guidelines, i.e., size, spacing and age of timber stands?
(2) Is the three-toed woodpecker occupying the habitat--especially habitat heavily infested with mountain pine beetle?

Threshold of Variability
(1) The number of habitat areas is below the level outlined in the Plan.
(2) No evidence of three-toed woodpeckers within habitat heavily infested with mountain pine beetle.

Suggested Monitoring Methods
(1) Track habitats to determine if habitat described in Plan is retained for three-toed woodpeckers.
(2) Track habitats affected by adjacent management of other resources or by mountain pine beetle infestations and evaluate effects. Annual review with report every five years.
(3) Examine five percent of all areas each year to sample for mountain pine beetle infestation. Report every five years.
(4) Review standards for every project that might affect the habitat capability and document findings in project environmental assessment or implementation plan.

Responsibility and Cost
District Rangers are responsible for three-toed woodpecker areas and all resource activities that affect three-toed woodpecker habitat on their respective districts. Cost will average $500 per area studied.

Other Needs and Coordination
Need additional habitat relationships information for three-toed woodpecker in beetle infested habitat in south central Oregon. Encourage ODF&W to develop population census. Use Regional entomological data maps.

GOSHAWK HABITAT

The Forest will provide habitat areas that meet or exceed the standards outlined in Management Areas 3 and 14 in the Forest Plan for goshawk habitat.

Monitoring Question
Are the areas identified as goshawk habitat being managed as described in the standards and guidelines, i.e., size, spacing and age of timber stands?

Threshold of Variability
The number of habitat areas is below the level outlined in the Plan.

Suggested Monitoring Methods
(1) Track number of habitats to determine if habitat level is met.
(2) Examine ten percent of all areas each five years to determine if areas meet goshawk habitat description.
(3) Evaluate effects of adjacent management activities. Review ten percent of adjacent projects annually with five year report.
(4) Review standards for every project that might affect the habitat capability and document findings in project environmental assessment or implementation plan.

Responsibility and Cost
District Rangers are responsible for goshawk areas and all resource activities that affect goshawk habitat on their respective districts. Cost will average $130 per area studied

Other Needs and Coordination
Need additional habitat relationship information to validate assumptions that allocated habitat areas will be occupied by birds displaced from other areas

DECIDUOUS DEPENDENT SPECIES - (RED-NAPED SAPSUCKER)

The Forest will provide aspen habitat areas that meet or exceed the standards and guidelines outlined in the Forest Plan for red-naped sapsucker habitat

Monitoring Questions
Are the pure aspen stands being managed as described in the standards and guidelines, i.e., number of stands in mature stage and in younger age classes?

Threshold of Variability
The number of habitat areas is below the level outlined in the Plan.

Suggested Monitoring Methods
(1) Track number of habitats to determine if habitat level is met
(2) Examine ten percent of all areas every five years to determine if areas meet red-naped sapsucker habitat description (i.e., pure aspen stands).
(3) Evaluate effects of adjacent management activities. Review ten percent of adjacent projects annually with five year report.
(4) Review standards for every project that might affect the habitat capability and document findings in project environmental assessment or implementation plan

Responsibility and Cost
District Rangers are responsible for pure aspen areas and all resource activities that affect red-naped sapsucker habitat on their respective districts. Cost will average $130 per area studied.

Other Needs and Coordination
Need additional habitat relationships information to validate assumptions that 2,500 acres of pure aspen will supply habitat for red-naped sapsuckers. Use local conservation groups to establish and read transects to determine use by red-naped sapsuckers.

PRIMARY CAVITY EXCAVATORS (WOODPECKERS)

The Forest will maintain the number, size and distribution of snags and future snags to meet habitat requirements for the potential population levels shown by management areas in the Forest Plan.

Monitoring Questions
(1) Are snags and replacement trees being left in the right numbers, sizes and distribution on lands available for timber removal?
(2) Are snags and replacement trees being maintained as planned on all other lands?
(3) Are management indicator species (primarily the excavator guild) occupying the habitat?

Threshold of Variability
(1) More than 10 percent of the surveyed areas have less than 90 percent of the prescribed trees and snags.
(2) Cavities are not being created to support a viable population of secondary cavity nesters.

Suggested Monitoring Methods
(1) Annually examine habitat on 20 percent of timber sales within one year of sale closure per district.
(2) Evaluate timber inventory plot data each ten-year period.
(3) Establish and measure transects to measure longevity in areas where fuelwood is gathered. This will be done biannually.

Responsibility and Cost
District Rangers are responsible for cavity-dependent species habitat and all resource activities that affect that habitat on their respective districts. Forest Wildlife Staff will be responsible for ten year timber inventory plot study. Annual cost of monitoring will be $5,000 per year.

Other Needs and Coordination
Need additional habitat relationships information by physiographic province. Use local conservation groups to establish and read transects to determine use by cavity nesters.

NEEDED REGIONAL MONITORING METHODS

Pine marten (old-growth dependent) and dead-tree dependent animals are indicator species on all National Forests in Washington and Oregon. Monitoring programs and methods need to be developed for these National Forests. Cost-effective and reliable monitoring procedures should be developed by the Pacific Northwest Regional Office of the Forest Service in conjunction with the State Departments of Fish and Wildlife, academic communities, and other interested agencies. Methods should identify the relationships between number of dead trees retained and population levels. These methods should be available for individual Forest use by year five.

APPENDIX 7

RIPARIAN MANAGEMENT ACTION PLAN

OVERVIEW

Heightened concern by the public and land resource managers about the requirements for fish and wildlife habitat and the availability of irrigation water supplies and the increasing demand for clear, continuous flows of water by an ever-expanding, more knowledgeable public sector emphasize the importance of good watershed management principles.

The management of riparian areas and streamside management zones has received increased emphasis in recent years. The conditions and trends of riparian areas have become the focal points for providing indications of the relative health or condition of a channel, drainage or watershed.

Timber harvesting activities (including road construction) have the largest impact on the *watershed* over the shortest period of time of any resource activity. (This should not be confused with the impacts attributed to improper grazing, which refers to *riparian areas* only.) In addition to the short-term effects, the existing Forest transportation network causes the greatest long-term sedimentation, of all land management activities, by changing and concentrating run-off and overland flows. It is estimated that 80 to 90 percent of sediment increases resulting from land management activities are generated by the road network.1/ Road prisms create barriers to surface and subsurface flows over entire watersheds, especially in and adjacent to meadows and riparian zones. Mass slope failures, while not a major problem on the Forest, are often directly related to road cuts, fills, and landings The Forest has a very high road density of 3.68 miles of road per square mile of land.

The Fremont National Forest has approximately 109,613 acres of streamside management zone/riparian areas. Included are 23,763 acres (600 miles) along perennial streams and 85,850 acres (4,700 miles) on intermittent streams. The riparian portion of this involves about 8,286 acres adjacent to perennial streams and 44,840 acres associated with intermittent streams for a total of 53,126 acres.

About 65 percent of Class I, II, and III trout-bearing streams and associated riparian areas are in good to excellent condition. The remainder, about 35 percent, are in poor condition because of channel and bank instability and the lack of riparian shrubs and trees. Approximately 63 percent of the intermittent streams are in fair to good condition while the remainder, 37 percent, are in poor condition. 2/

Numerous lakes, ponds, marshes, and wet meadows are scattered throughout the Forest. Most of the riparian areas associated with these sites appear to be in fair or better condition. However, many of the moist meadows, seeps, and springs are used heavily by livestock. Most of these areas are degraded, exhibiting soil compaction and overbrowsing on the brush, and are often adding sedimentation into stream channels The rate of improvement toward an ecological potential varies relative to the impacts from other resource activities on an area. Periods of short-term decline created by wildfire, catastrophic hydrological events, or resource activities are evident in localized areas.

1/ Reference to Draft Environmental Impact Statement, Proposed Land and Resource Management Plan, Fremont National Forest, p. III-19, 1987.

2/ Reference Draft Environmental Impact Statement, Proposed Land and Resource Management Plan, Fremont National Forest, p. III-17, III-52, 1987

Improper grazing by domestic livestock has the largest, adverse effect on the Forest's *riparian* areas. The exclusion of livestock by fencing; their removal when proper utilization is reached; changing the season of use; or the implementation of intensive (pasture management) grazing systems as compared to continuous (season-long) systems provides immediate improvements in vegetation production and organic litter accumulation.

These improvements in vegetation help trap sediment within the riparian zones. This sediment would otherwise be lost downstream where it would be deposited into impoundments and irrigation distribution systems. Trapped sediment will cause stream channels to become narrower and deeper, and associated water tables to rise toward their original levels. Converting the plant communities to their ecological potential, however, requires a relatively extensive period of time.

Identifying the potential natural vegetative community of a site, as well as its current condition, are the initial steps needed to set objectives for riparian management and rehabilitation activities.

The Fremont National Forest is striving to develop an ecological balance to maintain and enhance good condition riparian and streamside areas, while improving areas in poor condition through planning, mitigating and constraining resource management activities to provide for long-term human and animal benefits.

The Fremont National Forest has placed a high priority on the management and restoration of riparian areas. *Riparian areas* are defined as geographically delineable areas with distinct resource values and characteristics that are comprised of the aquatic and riparian ecosystems. These ecosystems are defined (FSM 2526.05) as follows:

1) *Aquatic Ecosystems*. The stream channel, lake or estuary bed, water, biotic communities and the habitat features that occur therein.

2) *Riparian Ecosystems*. A transition between the aquatic ecosystem and adjacent terrestrial ecosystem; identified by soil characteristics or distinctive vegetation communities that require free or unbound water.

The *Oregon Department of Forestry* has defined Riparian Areas (in Forest Practices Notes No. 6, Oct. 1987) as: The wet soil areas next to streams, lakes, estuaries and wetlands. Those areas that have high water tables and soils which exhibit characteristics of wetness. Riparian areas often contain water-loving trees such as alder, willow, cottonwood, cedar and spruce.

Riparian areas are a part of, and are included within, the *Streamside Management Units(SMU)*. Streamside Management Units are defined (FSM 2526 R6 SUPP. 51) as the stream and an adjacent area of varying width where practices that might affect water quality, fish, and other aquatic resources are modified to meet water quality goals for each class of stream. The width of this area will vary with the management goals for each class of stream, characteristics of the stream and surrounding terrain, *and the type and extent of the planned activity*. SMU's will be managed for water quality for the benefit of all water uses, and to comply with the intent of the Clean Water Act.

GOAL

RESTORE AND MAINTAIN ALL RIPARIAN AREAS TO THEIR DESIRED MANAGED POTENTIAL WITHIN THE SCOPE OF OUR INFLUENCE, FUNDING, AND CAPABILITIES.

OBJECTIVES

For the purpose of this plan, objectives must be measurable, obtainable, sequential, interim steps toward reaching the goal. Objectives can be both short-term and long-term. Objectives can be established for the entire Forest, for watersheds, drainages, or specific riparian areas, or by project activities.

The *KEY OBJECTIVE* for this plan will be to *maintain* or *restore soil productivity*. A healthy soil mantle is the basic, essential requirement for the management of all resources.

Specific Objectives, Action Items, and Assignments

1. Classify plant communities within the riparian ecosystem by ecological status, and identify their vegetative potential.

   1A Continue with the ongoing ecological classification and mapping program. Identify the current and potential, natural vegetation associations of riparian ecosystems.

   ASSIGNMENT: Area 4 Ecologist supported by Forest Personnel by. *12/91*

2. Establish specific objectives for all resource values in the riparian areas, site-specifically (area-by-area) within drainages.

   2A Research existing manual direction, handbook guidelines, and written policies Identify and collect literature and research data pertinent to riparian and streamside management. Determine if and where data gaps exist. Prepare a summary report and make it available to the Forest.

   ASSIGNMENT. Forest Hydrologist and Forest Soil Scientist by: *Ongoing*

   2B Develop a riparian classification system to facilitate the establishment of site-specific objectives for management.

   ASSIGNMENT: ID Team by: *12/92*

   2C Conduct inventories of riparian and aquatic ecosystem conditions for Class I and perennial Class II streams. These inventories will include elements such as stream shading and stream structure.

   ASSIGNMENT: Ranger Districts and Forest Headquarters by: *12/91*

   2D Emphasize and utilize a Forest-wide, coordinated process for funding of projects and timely monitoring of project activity results. Maintain a Forest-wide list of viable projects for implementation as funding becomes available.

   ASSIGNMENT: Forest Resources Staff: *Ongoing*

   2E Use data collected to develop and implement site-specific objectives for each area and incorporate into various activity plans.

   ASSIGNMENT: Ranger Districts by: *6/90 and ongoing*

3. Establish grazing systems consistent with land capabilities and riparian objectives on all allotments by the year 2000.

3A Evaluate, re-prioritize, and initiate corrective action, through the Annual Range Management Action Plan, on allotments requiring management system changes.

ASSIGNMENT: Forest and District Range Conservationists: *Annually*

3B Gain cooperation of permittees through involvement in the allotment planning process.

ASSIGNMENT: Forest and District Range Conservationists: *Ongoing*

4. Complete all currently identified gully stabilization work by the year 2000.

4A Review existing watershed surveys, rehabilitation plans, Knutsen/Vandenberg (KV) post-sale plans and allotment environmental analysis data, etc., for depth, breadth, and adequacy of coverage of watershed restoration needs. Identify estimated and actual costs for rehabilitation by type of improvements. Explore and identify all sources of available funding.

ASSIGNMENT: Districts with assistance from Forest Hydrologist and Forest Soil Scientist by: *12/89*

4B Continue adding to our existing restoration inventory data by developing site-specific projects for ongoing resource management activities, such as, but not limited to, Allotment Management Plans, Road Management Objectives, Timber Sale Environmental Analysis Statements, and Post-Sale KV Plans.

ASSIGNMENT: District Personnel: *Ongoing*

4C Restore degraded areas by established priorities as they are identified in the Fremont National Forest Soil and Water Restoration Guide. Update priorities annually. Incorporate priorities for fisheries in line with the "Rise to the Future" program, wildlife habitat, and threatened and endangered species project plans. (Priorities are developed on the Districts and then arranged into Forest priorities based on available funds, proximity to existing and planned post-sale work and urgency to protect resource values.)

ASSIGNMENT: District Personnel, Forest Hydrologist, Forest Soil Scientist, Forest Biologist: *Annually*

5. Monitor and evaluate riparian areas in accordance with the Forest Plan to determine if site-specific objectives are being met.

5A Monitor and review methods and procedures currently being used for rehabilitation work. Identify what we have already accomplished. Identify what's happening on the ground (current activities, current management philosophy and priorities). Monitor completed projects to determine if the objectives are being met and update list of accomplishments.

ASSIGNMENT: District Personnel, Forest Soil Scientist, Forest Hydrologist, Forest Biologist: *As needed, project-by-project*

5B Evaluate the impacts of roads located within the riparian zone of Class I, II, and III streams. These will be relocated on an opportunity basis if impacts to emphasized values are judged significant. Abandoned roadbeds will be rehabilitated. Identify and eliminate roads in excess of our needs.

ASSIGNMENT: IDT Team, Districts, Engineering: *Ongoing*

6. Gain both internal and external support for sound riparian management.

   6A Within our zone of influence, keep in-service people, other agencies, cooperators, Forest users, and the public informed of our actions. Involve these people with our planning and decision making process to assure their inputs are included.

   ASSIGNMENT: Forest Hydrologist, Forest Soil Scientist, Forest Leadership team (in-house and outside agencies), and Forest Public Affairs Officer (Media): *Ongoing*

   6B Encourage private landowners within and adjacent to the Fremont National Forest to practice sound riparian management by coordinating and cooperating on activities and projects.

   ASSIGNMENT: Forest Leadership Team: *Ongoing*

   6C Emphasize and use an aggressive program to obtain funding from the Regional Office. Involve the Oregon Department of Fish & Wildlife, Klamath Tribe, and grazing permittees in obtaining support and funding.

   ASSIGNMENT: Forest Supervisor and Forest Staff: *Annually*

OTHER CONSIDERATIONS

The rehabilitation of watersheds providing downstream irrigation has high priority. There will, however, be other site-specific objectives for domestic or municipal watersheds which may have higher priorities than downstream irrigation.

Rehabilitation and management efforts must begin on high priority watersheds.

Maintain strong communication ties with local citizen advisory groups involved in matters of watershed management. By doing this, all organizations may be able to capture some additional dollars through cooperative efforts.

Maintain communications with Irrigation Districts, Soil and Water Conservation Districts, and individuals who store and use water from the Forest.

Maintain communications with the Lakeview-Thomas Creek Water Control District.

Delineate - Inventory - Classify - Prioritize as small an area as necessary, on a case-by-case basis, to do an adequate job.

Determine costs, identify where and how to get dollars, and incorporate the data into the land management process. Cover costs, both for specific improvements and for area management projects. Incorporate watershed classification system and restoration needs into the Forest data base and digitize layers of information as the Forest acquires Geographical Information System (GIS) capability.

Continue a strong, ongoing training and monitoring program tied to Chapter V of the Land and Resource Management Plan for the Fremont National Forest.

Communicate our successes and failures both internally and externally.

Utilize camera points, "before and after" photos, video tapes, news articles, formal and informal write-ups, and oral presentations for technological transfer.

Periodically review, reaffirm, or revise our goal, action items, and objectives (annually, starting 12/88).

Re-evaluate the steps we need to take to meet our objectives.

Identify the objectives we have accomplished.

Incorporate this Riparian Management Action Plan into the Proposed Fremont Land and Resource Management Plan.

APPENDIX 8

ADDITIONAL RESOURCE INFORMATION

INTRODUCTION

This appendix presents additional background data for certain subjects including:

- -- two tables of data on fisheries habitat conditions;
- -- an illustration of visual variety classes on the Forest;
- -- data on the visual absorption capacities of lands on the Forest;
- -- specific scenic viewsheds on the Forest and their appearance under the different alternatives;
- -- and information on the surface area acreage of the Forest's major recreation lakes and reservoirs.

This information is summarized in the main chapters of the EIS, but has been included here for those readers interested in more detailed data on these topics Additional information on these subjects can also be found in the Forest planning records, available for review at the Fremont National Forest Headquarters in Lakeview, Oregon.

Fisheries Habitat Condition and Rehabilitation Opportunities for Streams on the Fremont National Forest Which Produce 85 Percent or More of All Stream-Related Fishing

STREAM	FISHERIES HABITAT CONDITION Current(1)	Potential for Improvement(2)	Survey	Rehabilitation(3)
Chewaucan	VERY POOR, 1964 flood, little shade, bank stability, instream cover, high temperatures	HIGH, co-op, multi-agency landowner improvement program needed	1 F/R(4)	Two portions completed 1983/84/85
Lower Sycan	VERY POOR, little shade, bank stability, instream cover, high temperatures	VERY HIGH, 98% under USFS administration	Done	1
Upper Sycan	GENERALLY GOOD, good in canyon areas, fair to good in meadows but some site-specific problems	MODERATE, local sites	Done	Via coordination and KV
North Fork Sprague	GENERALLY GOOD, some site-specific problems	MODERATE, local sites	2 F/R(4)	Via coordination and KV
South Fork Sprague	GENERALLY GOOD, some site-specific problems	MODERATE, local sites	3 F/R(4)	Via coordination and KV
Five Mile (Bly)	POOR/FAIR, little shade or instream cover, gravel cemented, high temperatures	HIGH, shade/instream cover, co-op improvements underway	Done	Ongoing
Silver/West Fork Silver	POOR, little shade/bank stability, high temperatures	MODERATE, only creek close to Silver Lake, stocked	4 R(4)	3
Dairy	GENERALLY GOOD, some site-specific problems, some inherent native trout production problems	MODERATE, local sites, wild fish scarce/re-evaluate stocking	5(5)	Via coordination and KV
Elder	GENERALLY GOOD/FAIR, some site-specific problems, watershed impacted heavily by Weyco	LOW, local sites	Via Sale and REA(6)	Via coordination and KV
Big Honey	GENERALLY GOOD, some site-specific problems	LOW, local sites	Done	Via coordination and KV
Little Honey	GOOD/FAIR, shade bank stability, siltation problems in burn area	LOW, local sites	Done	6
Thomas	POOR, shade, bank stability, siltation, water temperatures and low flow problems	MODERATE, unique Goose Lake trout 50-60% of spawning occurs here, much private land	Done	4
Camas	VERY POOR, shade, bank stability, siltation, water temperature problems	MODERATE, only small section administered by USFS	6 R(4)	7

SEE END OF TABLE FOR FOOTNOTES.

Fisheries Habitat Condition and Rehabilitation Opportunities for Streams on the Fremont National Forest Which Produce 85 Percent or More of All Stream-Related Fishing, Continued

STREAM	FISHERIES HABITAT CONDITION Current(1)	Potential for Improvement(2)	Survey	Rehabilitation(3)
Cottonwood	FAIR/GOOD, some site-specific problems	LOW, local sites	ODF&W scheduled 1981	Via coordination and KV
Dismal	FAIR/GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via Coordination and KV
Burnt	FAIR/GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV
Willow	FAIR/GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV
Deep	FAIR/GOOD, some site-specific problems	MODERATE, local sites	R(4)	5
Lower Drews	POOR, siltation, low flow, temperature problems	VERY LOW, Drews Reservoir situation	Very low priority	Via coordination and KV
Upper Drews	FAIR/POOR, shade, bank stability	MODERATE, local sites	R(4)	8
Deer	GOOD/FAIR, siltation	LOW, local sites	Via sale and REA(6)	9
Buck	GENERALLY GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV
Bear	GENERALLY GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV
Long	GENERALLY GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV
Corral	GENERALLY GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV
Deadhorse	GENERALLY GOOD, some site-specific problems	LOW, local sites	Via sale and REA(6)	Via coordination and KV

(1) Some site-specific problems i e. bank instability, lack of shade, instream cover, siltation
(2) Local sites potential for improvement generally limited to scattered segments, not the entire length
(3) Generally, rehabilitation/enhancement work will be accomplished through coordination with other resource KV funds.
(4) F/R F represents a fisheries habitat survey and R a rehabilitation survey
(5) A study needed of why natural stocks are very low
(6) Generally, wildlife/fisheries surveys will be accomplished through timber sale and REA inventories

Fisheries Habitat Condition and Improvement Opportunities/Priorities for Existing Lakes and Reservoirs on the Fremont National Forest

Lake/ Reservoir	Type/ Purpose	Fishery	Stocking	HABITAT CONDITION Current	Potential	Priority
Dog	NATURAL, recreation, fish/ wildlife	WARMWATER (primarily)	NONE	MODERATE,water drawdown limits spawning success	HIGH, warmwater fish, retain water over spawning beds into June, create spawning substrate, introduce another predator fish	1
Vee	RESERVOIR, recreation, fish/ wildlife	TROUT	REQUIRED ANNUALLY	MODERATE, shallow and weed infestations	HIGH, trout, increase water depth (will also reduce weed problems)	Done 1984
Thompson	RESERVOIR, irrigation, recreation, fish/ wildlife	TROUT	REQUIRED ANNUALLY	MODERATE, rough fish problem–poisoned every 5 years, no conservation pool	MODERATE, trout, obtain conservation pool, introduce predator fish	2(2)
Lofton	RESERVOIR, irriagation (with conservation pool) recreation, fish/wildlife	TROUT	REQUIRED ANNUALLY	HIGH, no major problems	HIGH, trout continue current program, obtain additional water if possible in low water years	
Heart	NATURAL, recreation, fish/ wildlife	TROUT and KOKANEE	REQUIRED ANNUALLY	HIGH, no major problems	HIGH, trout/kokanee, continue current program	
Cottonwood Meadows	RESERVOIR, irrigation, (with conservation pool) recreation, fish/wildlife	TROUT	REQUIRED ANNUALLY	HIGH, periodic weed problems	HIGH, trout, continue current program	Annually
Blue (Wilderness)	NATURAL, recreation, fish/ wildlife	TROUT	REQUIRED PERIODICALLY	MODERATE, high elevation lake, inherently low productivity	MODERATE, continue current program	
Deadhorse/ Campbell	NATURAL, recreation, fish/ wildlife	TROUT	REQUIRED ANNUALLY	MODERATE, high elevation lakes, inherently low productivity	MODERATE, continue current program	
Overton	RESERVOIR, recreation, fish/ wildlife	TROUT	REQUIRED ANNUALLY	HIGH, weed problems, shallow	HIGH, continue current program, explore deepening	3
Slide	NATURAL, recreation, fish/ wildlife	TROUT	REQUIRED PERIODICALLY	MODERATE, relatively high elevation lake, no major problems	MODERATE, continue current program	
Withers	RESERVOIR, irrigation, recreation, fish/ wildlife	TROUT	NATURAL REPRODUCTION	MODERATE, relatively high elevation lake, no major problems	MODERATE, continue current program	

SEE END OF TABLE FOR FOOTNOTES.

Fisheries Habitat Condition and Improvement Opportunities/Priorities for Existing Lakes and Reservoirs on the Fremont National Forest, Continued

Lake/ Reservoir	Type/ Purpose	Fishery	Stocking	HABITAT CONDITION Current	Potential	Priority
Drews	RESERVOIR, irrigation, recreation, fish/ wildlife	WARMWATER and TROUT	NONE, INTRODUCTIONS of new species have occurred	LOW, very muddy, extreme water level fluctuation	LOW, continue current program, explore other fish introductions (2)	
Cottonwood	RESERVOIR, irrigation, recreation, fish/ wildlife	TROUT	REQUIRED PERIODICALLY	MODERATE, water fluctuations	MODERATE, continue current program, explore other fish introductions (2)	
Big Swamp	NATURAL/ RESERVOIR natural lake with dam, irrigation, recreation, fish/ wildlife	WARMWATER	NONE	LOW, low water, located in slump area	LOW, continue current program	
Devil	RESERVOIR, irrigation, recreation, fish/ wildlife	WARMWATER	NONE	LOW, low water	LOW, continue current program	
Holbrook	RESERVOIR, irrigation, recreation, fish/ wildlife	TROUT	REQUIRED PERIOCIALLY	HIGH, put under coop agreement with USFS, ODF&W, and landowner in 1984, stocked with trout in 1984	MODERATE, trout, previously stocked with trout, may have moderate potential	4 (2)

(1) Inherent potential
(2) Studies required for conversion from one type of fishery to another

Visual Condition of Viewsheds on National Forest Lands

VIEWING OR TRAVEL ROUTE	ESTIMATED LONG TERM CUMULATIVE EFFECTS (1) ALTERNATIVE							
	Existing	A&NC	B	C	D	E	F(2)	G
Highway 395	NA	NA	SA	NA	NA/SA	NA/SA	NA/SA	HA
Highway 140	NA	NA	NA/SA	NA	NA	NA	NA	HA
Highway 31	SA/A	NA	A/HA	NA	SA	SA	SA	HA
County Road 4-10	NA	NA	SA	NA	SA	SA	SA	HA
Road 3411 (Gearhart)	NA	NA	NA	NA	NA	NA	SA	HA
Road 3372	NA	NA	SA	NA	SA	SA	SA	HA
Road 3400335	NA	NA	HA	NA	HA	HA	HA	HA
Road 34 (Gearhart)	NA	NA	SA	NA	NA	NA	NA/SA	HA
Road 3715	NA	NA	SA	NA	SA	SA	SA/A	HA
Road 3400012	NA	NA	NA	NA	NA	NA	NA	HA
Road 2800047	NA	NA	HA	NA	SA	SA	SA	HA
Road 33	NA/SA	NA/SA	NA/SA	NA/SA	NA/SA	NA/SA	NA/SA	HA
Road 3870	NA	NA	SA	NA	NA	SA	SA	HA
Road 4011	NA	NA	HA	NA	HA	HA	HA	HA
Road 4015	NA	NA	HA	NA	HA	HA	HA	HA
Road 28	NA/SA	SA/A	SA/A	NA/SA	SA/A	SA/A	SA/A	HA
Road 2800033	SA	NA	NA	NA	NA	NA	SA	HA
Road 4017	NA	NA	SA	NA	SA	SA	SA	HA
Road 27	SA/A	SA/A	SA/A	SA/A	SA/A	SA/A	SA/A	HA
Road 3239	SA/A	SA/A	HA	SA/A	HA	HA	SA/A	HA
Road 3462347	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 3462	SA/A	SA/A	HA	SA/A	HA	HA	SA/A	HA
Road 3462027	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 3462028	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 30	SA/A	SA/A	HA	SA/A	HA	HA	SA/A	HA
Road 29	SA/A	SA/A	HA	SA/A	SA/A	SA/A	SA/A	HA
Road 2800332	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 3613	SA/A	SA/A	HA	SA/A	HA	SA	SA	HA
Road 3660	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 3752	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 3814	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA
Road 3753	SA/A	SA/A	HA	SA/A	HA	HA	HA	HA

(1) NA = natural appearing, SA = slightly altered, A = altered, HA = heavily altered
(2) Preferred alternative

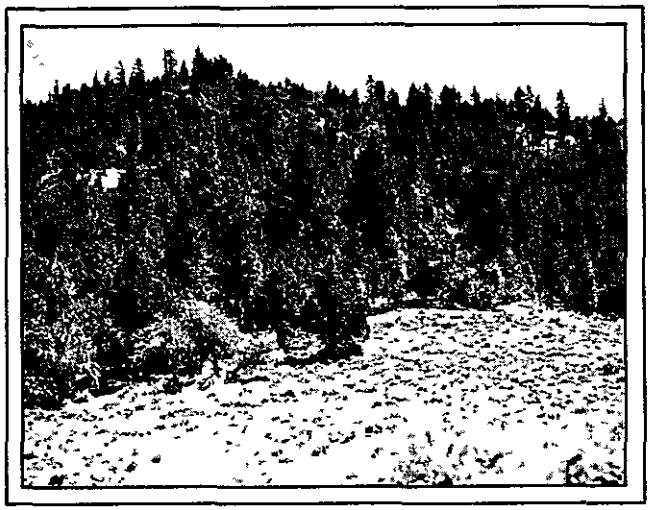
Surface Area of Primary Recreation Lakes and Reservoirs on the Fremont National Forest

LAKE/RESERVOIR	LOCATION (Ranger District)	AVERAGE SURFACE AREA (Acres)
Blue Lake	Bly	18
Lofton Reservoir	Bly	38
Heart Lake	Bly	21
Dog Lake	Lakeview	300
Cottonwood Meadows Reservoir	Lakeview	42
Deadhorse Lake	Paisley	29
Campbell Lake	Paisley	20
Withers Reservoir	Paisley	5
Thompson Reservoir	Silver Lake	1,523

Figure 9. Examples of Visual Variety Classes on the Fremont National Forest

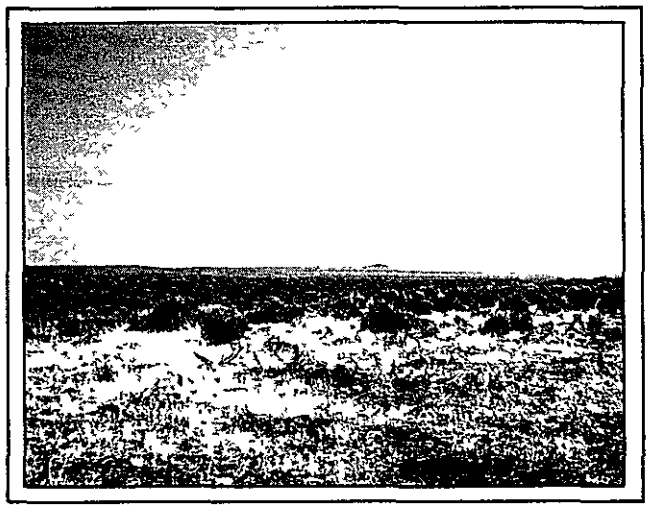
VARIETY CLASS A– DISTINCTIVE

This is a landscape with distinctive visual features, rich in a variety of texture, line, form, and color.



VARIETY CLASS B– COMMON

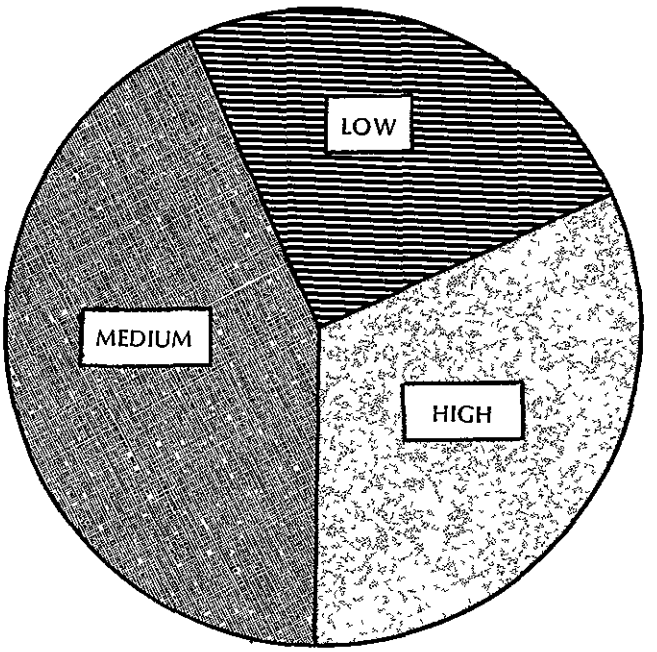
This is a landscape with common visual features, showing moderate variation in texture, line, form, and color.



VARIETY CLASS C–MINIMAL

This is a landscape with minimal visual features, displaying little variation in texture, line, form, and color.

Figure 10. Visual Absorption Capacities of Lands on the Fremont National Forest



VISUAL ABSORPTION CAPACITY (VAC) CATEGORIES	# OF ACRES IN EACH CATEGORY	% OF NET FOREST ACRES
High	383,458	32%
Medium	515,273	43%
Low	299,577	25%
TOTAL	1,198,308	100%

APPENDIX 9

PLANS SUPERSEDED BY OR BROUGHT INTO COMPLIANCE WITH THE FOREST PLAN

Future Status of Existing Resource Management Plans

DOCUMENT TITLE	FUTURE STATUS -- WILL BE: INCORP.	REPLACED	REVISED
Cultural Resources:			
1984 Fremont National Forest Cultural Resource Inventory Plan	X		
1985 Fremont National Forest Cultural Resource Management Monitoring Plan			X
Fire:			
Fremont National Forest Fire Plan			X
Fremont National Forest Prescribed Underburn Plan			X
Lands:			
Dog Lake Management Plan	X		
Existing Special Use Permits:			
-Pacific Northwest/Pacific Southwest Intertie MOU w/Fremont National Forest (Bonneville PA).	X		
- Federal Aviation Administration MOU w/Fremont National Forest	X		
Land Ownership Classification System Plan			X
RNA Establishment Reports	X		
Quamasia Quamash Botanical Area	X		
Range:			
Fremont National Forest Allotment Management Plans			X
Recreation:			
1979 Campbell & Deadhorse Lakes Campsite Plan	X		
1976 Fremont National Forest Offroad Vehicle Plan			X
1979 Fremont National Forest Recreation Trail System	X		
1978 Gearhart Mountain Wilderness Management Plan			X
1966 Slide Mountain Unusual Interest Area			X

Future Status of Existing Resource Management Plans, Continued

DOCUMENT TITLE	FUTURE STATUS -- WILL BE: INCORP.	REPLACED	REVISED
Roads/Transportation:			
Deadhorse Rim Roadless Area Development Plan			X
Forest Development Transportation Plan			X
RARE II/Roadless Area Transportation Plan	X		
Water/Soils:			
Fremont National Forest Water Quality Monitoring Plan	X		
Wildlife:			
1981 Fremont National Forest Bald Eagle Management Act Plan	X		
1974 Fremont National Forest Accipiter Management Plan			X
1974 Osprey Management Plan			X
1980 Road Closure Plan, Ft. Rock-Cabin Lake Mule Deer Winter Range	X		
1986 Medicine Mountain Mule Deer Herd Management Plan	X		
Timber:			
1979 Timber Resource Management Plan, *Fremont National Forest*		X	

APPENDIX 10

FOREST PLAN MONITORING WORKSHEETS

ISSUE: Off Road Vehicles

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Determine need for ORV recreation opportunities

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: **COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___**

MONITORING QUESTIONS:

1. The amount of ORV use?
2. Location of ORV use?
3. Type of ORV use?

THRESHOLD OF VARIABILITY *N/A* **(Provide for each Monitoring Question as needed)**

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
1. Observation	Annual
2. Questionnaire to ORV clubs	Annual (only once)

RESPONSIBILITY:

Recreation Staff
Resource Assistants

ANNUAL COST OF MONITORING:

$1,000

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Recreation needs and expectations

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Meet Recreation strategies

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

1. What opportunities should be provided?
2. What should be provided in developed sites?

THRESHOLD OF VARIABILITY *N/A* **(Provide for each Monitoring Question as needed)**

SUGGESTED SAMPLING METHODS (by question)	REPORT PERIOD (YEARS)
Visitor contact Questionnaire	Annual

RESPONSIBILITY:

Recreation Staff
Resource Assistants

ANNUAL COST OF MONITORING:

$3.5 M

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Visitor Use

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

To accurately determine the visitor use and type for the Forest in both developed and dispersed areas.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

1. Who uses the Forest?
2. What type of use?
3. What is the duration of use?

THRESHOLD OF VARIABILITY *N/A* **(Provide for each Monitoring Question as needed)**

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
- Traffic Counters	Annually
- Visual Sampling	Annually for 5 years

RESPONSIBILITY:

Recreation Staff
Resource Assistants

ANNUAL COST OF MONITORING:

$4.0 M

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Wilderness Resource

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

To determine if the limits of acceptable change are met.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

1. What use is occurring?
2. Where is use occurring?
3. What are impacts to resources?

THRESHOLD OF VARIABILITY *N/A* **(Provide for each Monitoring Question as needed)**

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Visual observation	Annual
Visitor sampling	Annual

RESPONSIBILITY:
Recreation Staff
Bly Resource Assistant

ANNUAL COST OF MONITORING:

$4.7 M

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Visual Quality

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

To ensure that the VQO's are met

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: **COST OF ERROR *1* X LIKELIHOOD OF ERROR *1* = RISK INDEX *1***

MONITORING QUESTIONS:

Are the Visual Quality Objectives (VQO's) being met and adhered to for the Fremont National Forest?

THRESHOLD OF VARIABILITY ____ (Provide for each Monitoring Question as needed)

VQO's not met when potential is documented.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
field observation, public comment	continuous
permanent photo monitoring	annual
activity reviews	continuous

RESPONSIBILITY: Recreation Staff

ANNUAL COST OF MONITORING:

1.0

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Cultural Resources

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Preserve and Protect Cultural Resource Values

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Are Resources being degraded?
Are Resources being protected and/or impacts mitigated as planned?
Is inventory being accomplished?
Are enhancement projects being accomplished?

THRESHOLD OF VARIABILITY____(Provide for each Monitoring Question as needed)

65% of Cultural Values

SUGGESTED SAMPLING METHODS (by question) **REPORT PERIOD (YEARS)**

On the Ground Inspection Annual

RESPONSIBILITY: Recreation Staff

ANNUAL COST OF MONITORING:

$3,500

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Fish and Wildlife

The Fish and Wildlife Monitoring Plan is located in Appendix 6 of this Forest Plan. Although presented in a different format, these are the worksheets to be used in monitoring the Forest's Fish and Wildlife Program under the Plan.

FOREST PLAN MONITORING WORKSHEET

ISSUE: Range Condition and Trend

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

The forage resource will be managed for healthy range with satisfactory conditions. On suitable range, forage condition is at least fair with a stable or upward trend.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

All areas.

RISK ASSESSMENT: **COST OF ERROR** *2* **X LIKELIHOOD OF ERROR** *2* **= RISK INDEX** *4*

MONITORING QUESTIONS:

1. Are key areas in satisfactory condition with at least stable (no apparent) trend ?
2. Is allotment classified anything but PC (basic resource damage) or PD (other resource damage)?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

1. Are suitable range areas within prescribed condition class with upward or static trend in problem areas?
2. Allotment classified as satisfactory.

SUGGESTED SAMPLING METHODS (by question) **REPORT PERIOD (YEARS)**

Condition and trend transects, annual inspections (field observations) and photo point photography.

Allotment Analysis with REA (FSH R6 2209.12).

RESPONSIBILITY: Range, Wildlife, Watershed Staff Officer

ANNUAL COST OF MONITORING: Estimate $49,000 annually, 6 plans/year annually

REMARKS: *(Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)*

Procedures for monitoring to be guided by Forest Service Handbook R6 2209.21

FOREST PLAN MONITORING WORKSHEET

ISSUE: Range Allotment Management Plans

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

The Forest goal is to have a cost-effective management plan for each allotment to provide for healthy range consistent with other resources and uses.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

All areas containing suitable range.

RISK ASSESSMENT: COST OF ERROR *3* X LIKELIHOOD OF ERROR *2* = RISK INDEX *6*

Allotment planning is critical in obtaining proper range use and thus satisfactory conditions or healthy range. A lowering in range conditions and trend or allotment classification would have consequences that would be rated high for biological, economic, and political reasons and thus the three rating.

Effective administration and assuring that objectives are met is dependent to a large degree on the cooperation of the grazing permittee, is influenced by weather, but is reasonably well understood; thus is rated a two

MONITORING QUESTIONS:

1. Can the forage resource in an allotment area be grazed cost-effectively?
2. Can livestock graze an area and problem areas improve simultaneously?
3. Can a healthy range exist with minimal conflicts on other resources, uses, and demands utilizing livestock grazing?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

1. Allotment plan is cost-effective to implement (FSH 2209 11).

2,3. Downward trend arrested or static in problem areas.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
1. Cost-effective AMP's implemented (Allotment Management Plans).	Annually
2,3. Transects, inspections, photography.	Annual inspections of key areas Report on status of problem areas/5 years

RESPONSIBILITY: Range, Wildlife, Watershed Staff

ANNUAL COST OF MONITORING:

1. AMP preparation and maintenance - 6 Plans/Year = $36M
2. Monitoring inspection, photography - 60 Inspections/Year = $9M
   5/Year Intervals = $12M

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Range Annual Forage Use.

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

The forage resource will be managed for healthy range with satisfactory conditions. Utilization in an area not to exceed allowable use precentages from cumulative livestock and big game annual use to provide for plant phenology and provide soil cover for protection of watershed values. Forest to maintain 71,000 AUM's/year.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

1 Key areas and riparian.

2. All suitable range areas.

RISK ASSESSMENT: COST OF ERROR *3* **X LIKELIHOOD OF ERROR** *2* **= RISK INDEX** *6*

MONITORING QUESTIONS:

1. Are forage utilization levels consistent with applicable standards and guidelines in 1) suitable range areas and 2) riparian areas?

2. Are the annual outputs for commercial livestock being achieved as projected in the Forest Plan?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

1. Utilization within prescribed use.

2. Outside projected capacity or more than 10 percent deviation from projected AUM outputs.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
1. Sample key areas (production utilization) transects, photographs - FSH 2209 21 Percent utilization	1 Annually.
2 Compile actual use - permitted use reports	2 Annual report (FSM 2270).

RESPONSIBILITY: Range, Wildlife, Watershed Staff

ANNUAL COST OF MONITORING:

1 $2,000/year.

2. $1,000/year.

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Dispersion of openings and size of regeneration units.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: **COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___**

MONITORING QUESTIONS:

Are standards for size, dispersion, and state of vegetative conditions met?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Size and dispersion standards will be met, unless specifically addressed in NEPA documentation.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Review of project environmental analysis.	Every 3 years.

RESPONSIBILITY: Timber Staff and District Rangers

ANNUAL COST OF MONITORING: $1.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Allowable timber sale quantity.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: **COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___**

MONITORING QUESTIONS:

Is amount consistent with Plan for Management Area 5 and for combined total of other Management Areas?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

+/-10% of Plan.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Attainment reports, Annual Cut and Sell Report, 5-10 Year Timber Sale Program	Annual

RESPONSIBILITY: Timber Staff

ANNUAL COST OF MONITORING: $1.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

STARS database.

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Verification of the Silviculture growth and yield model.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5.

RISK ASSESSMENT: **COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___**

MONITORING QUESTIONS:

Are yield model projections for managed stands accurate within established tolerances?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

National standards.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Compare predicted growth with actual growth in benchmark plantations	Once per decade (Year 5)

RESPONSIBILITY: Timber Staff

ANNUAL COST OF MONITORING:

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Distribution of timber harvest (sell).

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Is volume harvest (sell) by type and method (clearcut, shelterwood, selection, and intermediate) *met*?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

+/-30% of Plan.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Summary of Timber Sale Reports (by Working Circle).	Annual

RESPONSIBILITY: Timber Staff and District Rangers.

ANNUAL COST OF MONITORING: $1.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Timber Management Suitability

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5, and reduced yield areas combined.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Are land allocation decisions for suitable timberlands correct within established tolerances?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

+/-5% of suitable acres.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Project EA Reviews, Sale Reviews, and Stand Exams.	Continuous (Report at year 5)

RESPONSIBILITY: Timber Staff and District Rangers

ANNUAL COST OF MONITORING: $2.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Ensure acceptable tree stocking.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5, and other areas combined.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Are stocking levels in regenerated stands within acceptable standards?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Thresholds established for minimum and optimum stocking levels.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Silvicultural Accomplishment Reports, Annual Survival and Growth Surveys, Program Reviews	Annual

RESPONSIBILITY: Timber Staff and District Rangers

ANNUAL COST OF MONITORING: $3 0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Fire, Insect and Disease damage levels.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

All management areas

RISK ASSESSMENT: **COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___**

MONITORING QUESTIONS:

Are objectives for forest health and acceptable damage levels being met for fire, insect and disease levels?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

More than 5% of the available and suitable forested areas

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
FPM Aerial Surveys and surveys as needed following catastrophic events or evidence of buildup.	Annual

RESPONSIBILITY: Forest Pest Management, Fire Staff, Timber Staff, and District Rangers.

ANNUAL COST OF MONITORING:

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

Entomology and pathology support

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Timber Stand Improvement program goals.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Are program objectives for precommercial thinning, plantation release, and protection being met?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Levels necessary to maintain Earned Harvest Credit.

SUGGESTED SAMPLING METHODS (by question)	***REPORT PERIOD (YEARS)***
Silvicultural Accomplishment Reports, Program Reviews, Stand Exams	Annual

RESPONSIBILITY: Timber Staff and District Rangers

ANNUAL COST OF MONITORING: $2.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Tree Improvement Program and seedling quality.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

'Management Area 5.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Are superior progeny being planted and Forest Tree Improvement Plan objectives being met?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Program objectives and activity schedule is established.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Silvicultural Accomplishment Reports and Program Reviews	Annual (Report year 3)

RESPONSIBILITY:

ANNUAL COST OF MONITORING: $1.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Allocation of lands to uneven-aged management.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Are criteria used to define appropriate stands for uneven-aged management and estimated acreage within acceptable tolerances?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

+/-25% of Plan.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Project EA's and Silvicultural Stand Exam and diagnosis.	Annual

RESPONSIBILITY: Timber Staff and District Rangers

ANNUAL COST OF MONITORING: $1.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Verify growth and yield effects; as well as soil and water, habitat and vegetative change related to uneven-aged management.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Can timber yield and other predicted resource effects related to uneven-aged management be better quantified locally?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

(Statistical error terms and study methodology established by PNW Station)

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Cooperative study by Fremont, Winema, Deschutes, and Ochoco National Forests	Progress Reports

RESPONSIBILITY: Timber Staff and PNW Research Station.

ANNUAL COST OF MONITORING: $24.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

Study to be administered by Bend Silviculture Lab.

FOREST PLAN MONITORING WORKSHEET

ISSUE: Timber

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Forest fertilization growth potential and economic viability.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management Area 5.

RISK ASSESSMENT: COST OF ERROR ___ X LIKELIHOOD OF ERROR ___ = RISK INDEX ___

MONITORING QUESTIONS:

Can the economic viability and criteria for timber stand priorities be better defined for the Fremont National Forest?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

(Criteria to be established)

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Administrative Study or Research Project	Progress Reports

RESPONSIBILITY: Watershed and Soil Staff, Timber Staff

ANNUAL COST OF MONITORING: (Unknown)

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

PNW Research Station and R6 Timber Management Support.

FOREST PLAN MONITORING WORKSHEET

ISSUE: Maintain soil productivity according to Regional standards

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

A minimum of 80% of an activity area must be left in a condition of acceptable productivity potential for trees and other vegetation following the land management activity.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Most monitoring will occur in MA 5 but the potential exists for some monitoring to occur in all other Management areas.

RISK ASSESSMENT: **COST OF ERROR** *3* **X LIKELIHOOD OF ERROR** *2* **= RISK INDEX** *6*

MONITORING QUESTIONS:

1) Are management constraints and mitigation measures as identified in the Forest Plan and Timber Sale Environmental Analysis adequate or sufficient to meet the standard?
2) What effects are management activities having on soil properties?
3) Are Regional standards as defined in FSM 6/87 R6 Supp. 50 adequate to maintain productivity as defined?

THRESHOLD OF VARIABILITY 20% (Provide for each Monitoring Question as needed)

The total acreage of all detrimental soil conditions should not exceed 20 percent of the total acreage within the activity area. This includes all system roads, landings, roads, and skid roads

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Sampling method will vary depending on the soil parameter being tested. These parameters are erosion, compaction, displacement, mass movement, and nutrient loss.	Selected projects on a yearly basis

RESPONSIBILITY:

Forest soil scientist and District resource assistants

ANNUAL COST OF MONITORING:

$6,000

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Cumulative effects on soil productivity.

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Maintain a minimum of 80 percent of an activity area in a condition of acceptable productivity for trees and other vegetation over the long term following repeated management activities.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

All management areas, but mostly with MA 5.

RISK ASSESSMENT: COST OF ERROR *3* X LIKELIHOOD OF ERROR *3* = RISK INDEX *9*

MONITORING QUESTIONS:

1) How rapidly do the various soils of the Forest recover from adverse impacts from management activities?
2) Are repeated entries over time resulting in cumulative effects on soil productivity which exceed Regional standards?
3) Will more stringent constraints be required to maintain productivity as a result of cumulative effects?

THRESHOLD OF VARIABILITY *20%* (Provide for each Monitoring Question as needed)

The total acreage of all detrimental soil conditions should not exceed 20 percent of an activity area over the long term.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Sampling method will vary depending on monitoring objective and specific *soil parameters in question.*	Selected projects on a yearly basis.

RESPONSIBILITY:

Forest soil scientist and District resource assistant.

ANNUAL COST OF MONITORING:

$6,600

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Soil and water restoration

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Evaluate existing soil and water restoration projects for effectiveness in protecting soil, water, and fisheries resources.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

Management area 15

RISK ASSESSMENT: **COST OF ERROR** *2* **X LIKELIHOOD OF ERROR** *2* **= RISK INDEX** *4*

MONITORING QUESTIONS:

1) Did the restoration measures utilized for a particular project meet the goal of protecting the soil, water, and fishery resources?
2) Could effective restoration be accomplished with a more cost-efficient method?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

1) Did the restoration project fail in improving watershed conditions?
2) Are changes in design warranted for future projects?

SUGGESTED SAMPLING METHODS (by question)	REPORT PERIOD (YEARS)
Field observations to review condition and effectiveness of project.	Selected projects monitored yearly.

RESPONSIBILITY:

Forest soil scientist and District resource assistants.

ANNUAL COST OF MONITORING:

$500

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Cumulative Watershed Effects

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

1. To meet or exceed State water quality standards and protect identified beneficial uses.
2. To maintain water quantity consistent with downstream needs and resource protection.
3 To improve and maintain trout habitat to support self-sustaining trout populations.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

All Management Areas, except MA 8, MA 9, MA 10, and MA 11.

RISK ASSESSMENT: COST OF ERROR *3* X LIKELIHOOD OF ERROR *2* = RISK INDEX *6*

MONITORING QUESTIONS:

1. What percent of the watershed is currently in an impacted condition?
2. Are activities currently being planned which will extend impacted condition beyond the thresholds of destabilization?
3. Are prescribed watershed impact limits valid? Does evidence exist that stream channel damage is occurring at predicted thresholds?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Exceeding the Forest Plan guidelines for limitations on watershed impact acreage. A +/-10% variation in impact acreage which initiates adverse cumulative effects will result in revision of the guidelines in the Plan.

SUGGESTED SAMPLING METHODS (by question)

1. Harvest activities will be monitored to determine when guidelines are being approached. Catastrophic timber loss (insects, disease or fire) will also be considered as impacts which contribute to the guideline limits established. Tracking will be done by the Districts using the Timber Stand Data Base, aerial photography or satellite imagery. During the Forest resource inventory update an assessment will be made to determine the current status of watershed with limits defined in Standards and Guidelines. This information can be displayed as watershed information in the Forest GIS database.

REPORTING PERIOD

1. Once the Forest update is completed, each timber sale or area analysis will be assessed during the scoping process to determine whether a detailed analysis of cumulative effects is necessary.

2. See answer to question #1.

3. Every detailed cumulative effects analysis will entail a stream channel stability inventory The findings will be documented both in the project file and in the watershed monitoring file Verification of cumulative effects impacts, or lack of, will be important in the adjustment of watershed impact guidelines, should that be necessary. Field monitoring should involve some quantitative measurements of stream morphological characteristics which can be replicated over time. Use of low elevation aerial photography would also be good particularly for the more important Forest streams like the Chewaucan River.

RESPONSIBILITY:

Tracking the harvest activity or other vegetative changes which equate to watershed impact acres is the Ranger District's responsibility. Field evaluation of channel conditions or making recommendations for adjustment of guidelines either higher or lower is the responsibility of the Forest Hydrologist.

ANNUAL COST OF MONITORING:

This is variable. Tracking harvest activity is Timber's responsibility. Sorting the information by watershed, inputting into GIS, conducting field work and making evaluations is estimated to cost $6,000 annually.

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Condition of Riparian Areas on the Forest

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

1. To restore and maintain all riparian areas in a condition which enhances riparian dependent resource values.

2. To re-establish channel stability (by re-establishing a good or better riparian ecological condition) and to improve water quality (decrease in sediment and late season water temperature) on the Chewaucan and Sycan Rivers and their Class I and II tributaries.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

MA 15

RISK ASSESSMENT: COST OF ERROR *3* X LIKELIHOOD OF ERROR *3* = RISK INDEX *9*

MONITORING QUESTIONS:

1. What is the current physical, biological and ecological condition of Forest riparian areas? Have they changed over the last 5 years?

2. What are the effects of various National Forest activities on our riparian areas?

3. Are Allotment Management Plans incorporating specific riparian objectives?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Failure to improve specific areas within agreed upon time frames or a downward trend.

SUGGESTED SAMPLING METHODS (by question) REPORT PERIOD (YEARS)

1. Since riparian area condition is the result of the interaction of a number of physical and biological elements, change normally is slow to occur They evolve over time. This being the case our monitoring systems will be designed to detect change over time. The Forest will establish a number of permanent riparian sample areas. At these sites the following data will be collected: photographs taken from permanent camera points; surveyed channel profile cross-sections; macroinvertebrate monitoring; and ecological surveys. Under Fish & Wildlife it is proposed that fish populations be monitored. This parameter would also be an indicator of riparian condition.

These surveys will be repeated every 5 years.

2. This will be addressed through continued education gained through research literature review and observations by Forest personnel Also riparian monitoring of specific project activities will be key to better understanding.

3. Review of Allotment Management Plans, in the office and the field, will be partially directed at determining the adequacy of riparian objectives These objectives should be specific and measurable with time schedules for improvement. Techniques to accomplish this project monitoring will be very similar to that described in #1.

RESPONSIBILITY:

Since riparian areas involve so many resource areas the responsibility for monitoring is widespread. The technical and financial support for the program will be jointly shared by Range, Wildlife and Watershed. Collection of data and interpretation will be performed by the Districts and Forest Headquarters.

ANNUAL COST OF MONITORING: $10,500

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Protection of Water Quality

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

1. To meet or exceed State water quality standards and protect identified beneficial uses.

2 To re-establish channel stability (by re-establishing a good or better riparian ecological condition) and to improve water quality (decrease in sediment and late season water temperatures) on the Chewaucan and Sycan Rivers and their Class I and II tributaries.

3 To improve and maintain trout habitat to support self-sustaining trout populations.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

MA 15 is where the majority of the monitoring will occur, however, the potential exists for water quality degradation to occur as a result of activities or events on all Management Areas

RISK ASSESSMENT: COST OF ERROR *2* **X LIKELIHOOD OF ERROR** *2* **= RISK INDEX** *4*

MONITORING QUESTIONS:

1. Are activities located on National Forest Lands adversely affecting water quality and interfering with the beneficial uses of water?

2. Are Best Management Practices (BMP's) being specified in project plans? Are BMP's being properly implemented? Are BMP's effective in achieving water quality objectives?

3. Are the sediment production estimates made in FORPLAN realistic?

4. Are high mountain lakes on the Forest being adversely impacted by surrounding activities?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Failure to comply with State water quality standards.

Failure to meet objectives designed to protect water quality

Acceleration in eutrophication of monitored lakes.

SUGGESTED SAMPLING METHODS (by question) **REPORT PERIOD (YEARS)**

1. Continue with the monitoring of water quality at established baseline stations. This will include as a minimum, streamflow data and temperature.

   Sampling at these stations will not be intensive enough to make sediment sampling meaningful.

   The frequency of evaluation and reporting should be included in the individual monitoring plan.

2. Inclusion of BMP's in all projects is critical in the Forest's goal of protecting water quality and its beneficial uses. At least once a year one or more projects will be reviewed by District and Forest Headquarters personnel to ascertain the adequacy of project planning and design with regard to specification of BMP's. Office reviews will be followed up by field review to determine whether measures have been properly implemented. To determine effectiveness of prescribed BMP's quantitative water data will be collected. The need for quantitative monitoring should be identified several years prior to activity occurring, to allow for the collection of baseline information. Monitoring should continue several years after the conclusion of activity to determine environmental consequences. An example would be the monitoring of water temperature in a Class I stream along which timber harvesting was conducted within the SMU.

   Field reviews will be done at least once per year. Documentation will be filed in the project folder and watershed monitoring file. Water quality data will be summarized and evaluated in accordance with the schedule established in the project monitoring plan.

3. Monitoring procedures need to be developed which test the validity of the assumptions that went into the sediment model that estimated total sediment production on the Forest for the preferred alternative. Soil loss rates for various capability areas will need to be verified (this will be coordinated with the Soil Scientist). Delivery rates to stream channels will also need to be validated as this is a critical element in the sediment production equation. To be most effective sediment traps should be installed below activity areas and then from measurements made accurate projections can be determined on sediment loss per unit basis.

   Sediment sampling in streams is not very reliable unless sampling occurs concurrent with sediment transport in the stream. This is very difficult to achieve. Sampling costs become very high due to frequency of sampling necessary to get representative data

   Data will be collected and findings evaluated for use during the next planning horizon.

4. High elevation lakes and reservoirs on the Forest will be sampled once every five years. Parameters measured will aid in the determination of trophic condition and trend.

RESPONSIBILITY:

Assurance that BMP's are identified and properly implemented into project activities is the responsibility of the District Ranger. The Forest Hydrologist and Soil Scientist are responsible for advising the Ranger and his staff. Field verification of BMP implementation and effectiveness will be a dual responsibility of the District and Forest Headquarters. Collection of water quality data will typically be a District responsibility. Evaluation of that data will be done by the Forest Hydrologist.

Validation of sediment loss and delivery will be the responsibility of the Forest Hydrologist and Forest Soil Scientist

ANNUAL COST OF MONITORING:

A significant cost for this monitoring will be the time devoted by both District and Forest Headquarter's people in reviewing activities on-the-ground to insure proper implementation and effectiveness. Quantitative data collection and analysis will also be a significant cost. Total annual cost of both qualitative and quantitative data collection for the Forest is estimated at $30,000.

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Fuel Treatment

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

MANAGEMENT AREAS AFFECTED . . . use if applicable.

RISK ASSESSMENT: **COST OF ERROR *1* X LIKELIHOOD OF ERROR *1* = RISK INDEX *1***

MONITORING QUESTIONS:

Are BD Funds being collected and expanded in the most cost efficient manner?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Are Fuels Analysis process regional guidelines being exceeded?

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Timber Sale BD reports	Continuous
BD Fund reports	Annual
Activity Reviews	Annual

RESPONSIBILITY: Fire Staff

ANNUAL COST OF MONITORING:

$3.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Prescribed Fire (underburning)

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

To insure the use of prescribed fire is responsive to management area direction

MANAGEMENT AREAS AFFECTED . . . use if applicable.

1-7 and 9, 14, 16

RISK ASSESSMENT: **COST OF ERROR *3* X LIKELIHOOD OF ERROR *2* = RISK INDEX *6***

MONITORING QUESTIONS:

Effects on 1) Deer Summer and Winter range (also thermal and hiding cover), 2) Dead trees (consumption, creation of standing and down), 3) Forage production +/-, 4) Soils long and short-term fertility, 5) Insect and disease, 6) Effects of burning on Fire Suppression efforts, 7) Water quantity and quality, 8) Air Quality, and 9) Visuals

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

The objectives on Fire Prescription are not met or not responsive to the standards and guidelines as set forth in the Plan.

SUGGESTED SAMPLING METHODS (by question)
As specified in the Fremont underburn Monitoring Plan as amended by the assigned Fire Scientist

REPORT PERIOD (YEARS)
Annual

RESPONSIBILITY: Fire Staff

ANNUAL COST OF MONITORING:

$50 0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

Basic research is needed on the long term effects of growth and yield on the timber stand

FOREST PLAN MONITORING WORKSHEET

ISSUE: Wilderness Fire Management Program

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Measure meeting goals of the Wilderness Fire Management Plan

MANAGEMENT AREAS AFFECTED . . . use if applicable.

10

RISK ASSESSMENT: **COST OF ERROR *2* X LIKELIHOOD OF ERROR *1* = RISK INDEX *2***

MONITORING QUESTIONS:

Is the use of appropriate Suppression Response meeting the goals of the Wilderness Fire Management Plan?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Is the expected fire intensity being exceeded?

SUGGESTED SAMPLING METHODS (by question) **REPORT PERIOD (YEARS)**

W-W 5100-29 T post fire review 3 years

RESPONSIBILITY: Fire and Recreation Staff

ANNUAL COST OF MONITORING:

$1.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Fire Management Program

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Measure the efficiency of the program.

MANAGEMENT AREAS AFFECTED . . . use if applicable.

All

RISK ASSESSMENT: **COST OF ERROR *3* X LIKELIHOOD OF ERROR *1* = RISK INDEX *3***

MONITORING QUESTIONS:

Is the Forest managing the Program at the most cost-efficient level?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Is the expected loss exceeded?

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
Fire Management Efficiency Index (FMEI)	Annual

RESPONSIBILITY: Fire Staff

ANNUAL COST OF MONITORING:

$5.0 m

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

FOREST PLAN MONITORING WORKSHEET

ISSUE: Budgets

FOREST GOALS, DESIRED FUTURE CONDITION, OUTPUTS. . .

Full funding of all resource programs and activities. Monitoring program is fully operational and financed.

MANAGEMENT AREAS AFFECTED . . . use if applicable. All

RISK ASSESSMENT: **COST OF ERROR** *3* **X LIKELIHOOD OF ERROR** *2* **= RISK INDEX** *6*

MONITORING QUESTIONS:

1. Are the annual programs and budgets projected in the Forest Plan being realized?
2. Are funds available for monitoring activities adequate to perform the needed monitoring tasks, and within Forest Plan projections?

THRESHOLD OF VARIABILITY ___ (Provide for each Monitoring Question as needed)

Plus or minus 10 percent.

SUGGESTED SAMPLING METHODS (by question)	**REPORT PERIOD (YEARS)**
1. Review budgets and programs of work annually in relation to Forest Plan projections Evaluate trends in relation to the remaining years of the Forest Plan.	3, 6, 9
2. Review monitoring budgets annually.	3, 6, 9

RESPONSIBILITY: Forest Supervisor

ANNUAL COST OF MONITORING: $1,000

REMARKS: (Describe Research Needs, Other Agency Coordination, Special Skills Needed, etc.)

These monitoring proposals will ensure that funding trends are consistent with Forest Plan projections, and allow timely adjustments, if needed.

APPENDIX 11

FOREST CONDITION AND OUTPUT TABLES

Land Classification

CLASSIFICATION	ACRES
1. Non-Forest Land (includes water)	340,478
2 Forest Land	857,830
3. Forest Land Withdrawn From Timber Production	31,257
4. Forest Land Not Capable of Producing Crops of Industrial Wood	---
5. Forest Land Physically Unsuitable: --Irreversible Damage Likely to Occur --Not Restockable Within Five Years	 1,697 8,544
6. Forest Land -- Inadequate Information(1)	---
7. Tenatively Suitable Forest Land (item 2 minus items 3, 4, 5 and 6)	816,332
8. Forest Land Not Appropriate for Timber Production(2)	111,380
9. Unsuitable Forest Land (items 3, 4, 5, 6 and 8)	152,878
10. Total Suitable Forest Land (item 2 minus item 9)	704,952
11. Total National Forest Land (items 1 and 2)	1,198,308

(1) Lands for which current information is inadequate to project responses to timber management. Usually applies to low site lands.

(2) In the Forest Plan, disaggregate the acreage of lands identified as not appropriate for timber production by. (a) minimum management requirements, (b) multiple-use objectives, and (c) cost efficiency (FSH 2409 13-23) Some of these lands could become suitable during the Plan Period if they become cost efficient

Vegetation Management Practices (Annual Average in First Decade for Suitable Lands)

PRACTICE	ACRES
Regeneration Harvest (1):	
Clearcut	6,400
Shelterwood and Seed Tree	
–Preparatory Cut	—
–Seed Cut	—
–Removal Cut	2,500
Selection	12,500
Intermediate Harvest	
Commercial Thinning (includes partial cutting)	5,500
Salvage/Sanitation	2,000
Timber Stand Improvement	8,000
Reforestation (2)	6,500

(1) FORPLAN solution will show 8,900 acres per year of clearcut regeneration harvest. Adjustment is made to display 2,500 acres per year of anticipated shelterwood-removal cut.
(2) Includes natural and artificial Total includes 2,500 acres of natural regeneration and 1,000 acres of fill-in planting of selection (unevenaged management) stands

Timber Productivity Classification

POTENTIAL GROWTH (Cubic Feet/Acre/Year)	Suitable Lands (Acres)	Unsuitable Lands (1) (Acres)
Less than 20	---	44,120 (2)
20 - 49	270,420	26,076
50 - 84	357,006	33,220
85 - 119	83,446	7,964
120 - 164	---	---
165 - 224	---	---
225+	---	---

(1) Productivity estimated for lands, such as wilderness, where data are not available.
(2) Some of these lands could become suitable during the Plan Period if they become cost efficient.

Allowable Sale Quantity and Timber Sale Program Quantity(1) (Annual Average for First Decade)

HARVEST METHOD	Allowable Sale Quantity (2) Sawtimber (MMCF)	Other Products (MMCF)
Regeneration Harvest.		
Clearcut	7 5	—
Shelterwood and Seed Tree		
–Preparatory Cut	—	—
–Seed Cut	—	—
–Removal Cut	4 9	—
Selection	9 5	—
Intermediate Harvest·		
Commercial Thinning	2 1	—
Salvage/Sanitation	7	—
Total	24 7	—
	ADDITIONAL SALES (3)	
Total for All Harvest Methods	7	3 3
	(MMCF)	(MMBF) (4)
Allowable Sale Quantity	24.7	135 9
Timber Sale Program Quantity (5)	28 7	154 8

(1) Expressed to nearest .1 MM board and cubic feet.
(2) Only includes chargeable volumes from suitable lands.
(3) Only includes nonchargeable volumes from suitable and/or unsuitable lands
(4) Based on local unit of measure
(5) Total of allowable sale quantity and additional sales· includes firewood, salvage, posts and poles, etc

Display of Long-Term Sustained Yield Capacity and Allowable Sale Quantity

DECADE	ALLOWABLE SALE QUANTITY (MMCF)
1	247 09
2	247 09
3	242 18
4	242.55
5	243.64
6	256 73
7	270 50
8	270 50
9	270.50
10	270 50
11	270 50
12	290.08
13	290 08
14	329.18
15	329.18

Long-Term Sustained Yield Capacity = 329.18 MMCF.

Present and Future Forest Conditions

CONDITION	UNIT	SUITABLE LAND	UNSUITABLE LAND
Present Forest:			
Growing Stock	MMCF	1,212.9	194.1
	MMBF	5,397.4	863.6
Live Cull	MMCF	100.0	16.0
	MMBF	445.0	71 0
Salvable Dead	MMCF	45.3	7.3
	MMBF	201.4	32.2
Annual Net Growth	MMCF	17.0	2.7
	MMBF	75.6	12.1
Annual Mortality	MMCF	6.0	1.0
	MMBF	26.8	4.3
Future Forest:			
Growing Stock	MMCF	1,415.4	
Annual Net Growth	MMCF	26.6	
Future Forest: Rotation Age	Years	80(1) to 130	

(1) Average rotation age for regenerated stands on lands with timber emphasis for major forest types. Ponderosa Pine, Pine-Associated, and Lodgepole Pine.

Age Class Distribution(1) (Suitable Lands), Present and Future Forest Conditions

AGE CLASS	PRESENT FOREST (MAcres)	FUTURE FOREST (MAcres)
10	43.5	167 6
20	15.0	127 6
30	10 0	34 9
40	10.0	52 1
50	16.3	31 1
60	13.8	38 8
70	8 0	33.1
80	8.0	33 0
90	8 0	46 3
100	16.0	46 0
110	19 4	50 7
120	30 0	26 8
130	45 9	3 4
140	30 0	2.7
150+	464 6	44 4

(1) At end of planning horizon (150 years)

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