APPENDIX A
TEN YEAR TIMBER SALE SCHEDULE

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	ESTIMATED VOLUME MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	PURCHASER ROADS MILES R	
1985	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1985	Loa	Neff's #1	7A T27S, R4E	100	110	.55	Spruce/fir: Group Selection	1.0	0	
1985	Loa	Small Sales	District Wide	40	60	.3	Varied	0	0	1/
1985	Beaver	Circleville #2	7A T30S, R5W	75	120	.6	Spruce/fir: Group Selection	.5	0	
1985	Beaver	Kent's Lake	7A T29S, R5W	75	80	.4	Aspen Clearcut	.5	0	
1985	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1985	Richfield	Forshea Aspen	4B T30S, R2-1/2W	200	130	.65	Aspen Clearcut	0	0	
1985	Richfield	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1986	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1986	Loa	Neff's #2	7A T27S, R4E	100	130	.65	Spruce/fir: Group Selection	1.0	0	
1986	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1986	Beaver	Betenson Flat	7A T30S, R5W	125	120	.6	Spruce/fir: Group Selection	0	0	

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	R	
1986	Beaver	Anderson Meadow	7A	75	80	.4	Spruce/fir: Group Selection	0	0	
1986	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1986	Richfield	Whooten Spring	7B T25S, R2W	100	100	.5	Spruce/fir: Progressive strip Selection	1.0	0	
1986	Richfield	Small Sales	District Wide	70	70	.35	Varied	0	0	1/
1987	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1987	Loa	Wiff's Pasture	7A T27S, R1E	120	130	.65	Spruce/fir: Two Step Shelterwood	.3	0	
1987	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1987	Beaver	High Hunt	7A T30S, R5W	125	300	1.5	Spruce/fir: CC Strips	1.5	0	2/
1987	Beaver	Circleville #3	7A T30S, R5W	50	140	.7	Spruce/fir: Group Selection	0	0	
1987	Beaver	Long Flat Aspen	7A T29S, R4W	100	60	.3	Aspen Clear-cut	.5	0	
1987	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	R	
1987	Richfield	Clover Flat	7B T22S, R2W	150	90	.45	Spruce/fir: Group Selection	1.0	0	
1987	Richfield	Small Sales	District Wide		80	.4	Varied	0	0	1/
1988	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1988	Loa	Hancock	7A T26S, R1E	120	130	.65	Spruce/fir: Two Step Shelterwood & Group Selection	1.0	1.0	
1988	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1988	Beaver	Sawmill Bench	6B, 4B T27S, R6W	35	50	.25	Ponderosa Pine, Douglas fir: Shelterwood	0	0	
1988	Beaver	Lake Peak	7A T28S, R4W	60	80	.5	Spruce/fir: Group Selection	.5	0	
1988	Beaver	Small Sales	7A District Wide	60	70	.35	Varied	0	0	1/
1988	Richfield	Whiteledge Aspen	4B T27S, R2-1/2W	100	120	.6	Aspen Clearcut	1.0	0	
1988	Richfield	Small Sales	District Wide	60	50	.25	Varied	0	0	1/
1988	Richfield	Convulsion	6B T22S, R4E	75	80	.25	Ponderosa Pine Shelterwood	0	0	
1989	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	ESTIMATED VOLUME MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	PURCHASER ROADS MILES R	
1989	Loa	Daniels	6B, 4B T24S, R2E	120	130	.65	Aspen Clear-cut	0	0	
1989	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1989	Beaver	Lousy Jim	6B, 7A T29S, R5W	75	160	.8	Spruce/fir: Strip CC	.5	2	2/
1989	Beaver	Forked Flat Aspen	7A T29S, R5W	100	80	.4	Aspen Clear-cut	0	0	
1989	Beaver	Round Flat	7A T29S, R5W	125	120	.6	Spruce/fir: Group Selection	0	0	
1989	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1989	Richfield	Doe Flat	7B T25S, R1W	150	100	.5	Spruce/fir: Progressive Strip Selection	.5	0	
1989	Richfield	Small Sales	District Wide	70	70	.35	Varied	0	0	1/
1990	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1990	Loa	Neff's #3	7A T27S, R4E	100	100	.5	Spruce/fir: Group Selection	1.0	0	
1990	Loa	Small Sales	District Wide	50	70	.35	Varied	0	0	1/
1990	Beaver	Anderson #2	7A T30S, R5W	75	80	.4	Spruce/fir: Group Selection	0	0	

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	R	
1990	Beaver	Kent's Lake #2	7A T30S, R5W	150	80	.4	Aspen Clear-cut	0	0	
1990	Beaver	Small Sales	7A	50	90	.45	Varied	0	0	1/
1990	Richfield	Farnsworth Aspen	4B T23S, R2E	120	120	.6	Aspen Clear-cut	.5	0	
1990	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0	1/
1991	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1991	Loa	Deep Creek	7A T27S, R4E	120	130	.65	Spruce/fir: Two Step Shelterwood	1.0	0	
1991	Loa	Small Sales	District Wide	40	40	.2		0	0	
1991	Beaver	Labaron #2	7A T30S, R5W	120	100	.5	Spruce/fir: Group Selection	0	0	
1991	Beaver	Anderson Meadow Resale	7A T30S, R5W	120	100	.5	Spruce/fir: Group Selection	0	0	
1991	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1991	Richfield	Annebella	7B T25S, R2W	140	120	.6	Spruce/fir: Group Selection	1.0	0	
1991	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0	1/
1992	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	R	
1992	Loa	Snow Bench	7A T27S, R4E	80	100	.5	Spruce/fir: Two Step Shelterwood	.5	0	
1992	Loa	Small Sales	District Wide	50	70	.35	Varied	0	0	1/
1992	Beaver	Fat Chance	2B, 7A T29S, R5W	100	100	.5	Spruce/fir: Shelterwood	1	1.5	
1992	Beaver	Peterson Flat Resale	7A T30S, R5W	196	100	.5	Spruce/fir Group Selection	0	0	
1992	Beaver	Small Sales	7A District Wide	50	50	.25	Varied	0	0	1/
1992	Richfield	Barney Lake	4B T27S, R2-1/2W	80	100	.5	Spruce/fir: Two Step Shelterwood	.5	0	
1992	Richfield	Small Sales	District Wide	70	70	.35	Varied	0	0	1/
1993	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1993	Loa	Neal's Flat	3A T24S, R2W	140	130	.65	Spruce/fir: Two Step Shelterwood	1.0	.5	
1993	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1993	Beaver	Straight Creek Aspen	7A	144	60	.3	Aspen Clear-cut	0	0	
1993	Beaver	Grindstone Salvage	7A T29S, R4W	150	60	.3	Spruce/fir Clear cut	0	0	

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	R	
1993	Beaver	Oak Basin	4B, 6B T30S, R4W	139	60	.3	Ponderosa Pine, Douglas fir, White-fir, Shelterwood	0	0	
1993	Beaver	Small Sales	7A District Wide	70	50	.35	Varied	0	0	1/
1993	Richfield	Indian Peak	4B T26S, R2W	100	120	.6	Spruce/fir: Group Selection	.5	0	
1993	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0	1/
1994	Fillmore	Small Sales	District Wide 4B, 6B, 9F	50	10	.05	Varied	0	0	1/
1994	Loa	Willies Flat	6B, 4B T25S, R3E		130	.65	Spruce/fir: Two Step Shelterwood	1.0	0	
1994	Loa	Small Sales	District Wide	40	40	.2	Varied	0	0	1/
1994	Beaver	Indian Creek	4B, 6B T27S, R6W	274	100	.5	Ponderosa Pine, Douglas fir Shelterwood	0	0	
1994	Beaver	Grindstone Aspen	7A T29S, R4W	200	60	.3	Aspen Clearcut	0	0	
1994	Beaver	Burnt Flat Aspen	7A	150	60	.3	Aspen Clearcut	0	0	
1994	Beaver	Small Sales	7A District Wide	50	40	.20	Varied	0	0	1/

FISCAL YEAR	DISTRICT	SALE NAME	AREA LOCATION MANAGEMENT AREA TOWNSHIP & RANGE	TREATMENT AREA (ACRES)	ESTIMATED VOLUME MCF	MMBF	PROBABLE HARVEST METHODS BY FOREST TYPE	PURCHASER ROADS MILES C	R	
1994	Richfield	Nielsen Canyon	4B T26S, R2W	140	120	.6	Spruce/fir Group Selection	1.0	0	
1994	Richfield	Small Sales	District Wide	50	50	.25	Varied	0	0	1/

1/ Small sales are unnamed timber sales sold under the District Rangers authority. Such sales are designed to respond to resource needs and demands on short notice. As such, they cannot be located at this time, but may occur anywhere on the Forest that is available for timber management.

2/ Dependent upon Regional financing for demonstration cable sale.

APPENDIX B

DETERMINATION OF LAND CLASSIFICATION

1. Non-Forest land (includes water)

Meadow	17,530 acres
Sagebrush	267,680 acres
Mountain brush	331,910 acres
Barren (includes water)	29,580 acres
Total Non-Forest land	646,700 acres

2. Forest Land:

Total National Forest	1,424,479 acres
Minus Non-Forest land (1)	- 646,700 acres
Total Forest Land	777,779 acres

3. Forest land withdrawn from timber production:
   Partridge Mountain Research Natural Area (RNA)
   162 acres

4. Forest land not capable of producing crops of industrial wood:
   Pinyon juniper 371,560 acres
   Not expected to be utilized for timber within the next ten years.

5. Forest land physically unsuitable:
   a. Irreversible damage likely to occur-14,448 acres.
      Criteria: soil - shallow (less than one foot), errodiable, arid (4,546 acres)
      landslide - landslide areas which are
      (1) on slopes over 40 percent
      (2) on North Horn formation
      (3) either almost 40 percent and on slide prone formations (e.g. Lousy Jim) or on known active unstable areas (9,902 acres)

   b. Not restockable within 5 years-8,143 acres.
      Criteria: Conifer stands with excessive surface rock where regeneration can not be established artifically or naturally. Aspen stands with similar rock content are excluded as they can be regenerated through coppice sprouting.

6. Forest land - inadequate information:

Non-commercial aspen*	853 acres
Non-commercial conifer*	13,978 acres
Total	14,831 acres

7. Tenatively suitable forest land: 386,635 acres

8. Forest land not appropriate for timber production:
   Acres by management emphasis

a.	Existing and proposed developed recreation sites	120 acres
b.	Semi-primitive non-motorized with timber harvest not allowed	14,783 acres
c.	Improved watershed	3,779 acres
d.	Proposed Research Natural Areas	1,751 acres
e.	Economically less suitable land (not utilized to meet timber objectives)	268,230 acres
	Total	288,663 acres

9. Unsuitable forest land: 697,807 acres

10. Suitable forest land:

a.	Softwood	67,972 acres
b.	Hardwood	12,000 acres
c.	Total	79,972 acres

11. Total national forest land: 1,424,479 acres

*Based on 20 cubic feet criteria in previous timber plans.

Summary of Changes in Timber Resource Inventory and Management Direction from The Previous Timber Management Plan

Area	Previous Plan Acres		This Plan Acres	% of Change
Net National Forest	1,415,700		1,424,479	+1
Forested Land	668,400		777,779	+14
Productive Deferred	18,800		0	-100
Productive Reserved	0		162	+100
Commercial Forest	332,600	Suitable	79,972	
Standard	65,200			
Special	20,300			
Marginal	246,100			
Unproductive Forest	318,000	Unsuitable	697,807	

APPENDIX C

RECREATION CONSTRUCTION
AND
RECONSTRUCTION

The following projects are listed in order of priority. Only the Johnson Valley project represents new construction. All other projects are reconstruction to restore worn out facilities. Funds for these projects are not included in the Forest constrained budget for recreation.

PRIORITY	DISTRICT	DESCRIPTION	LOCATION TOWNSHIP-RANGE MANAGEMENT AREA	UNITS (PAOT)	REMARKS
1.	All	Camp & picnic site water systems. Reconstruction	Forest Wide 1A		Upgrade systems not corrected with Jobs Bill funds. Meet State standards
2.	Fillmore	Oak Creek Campground Reconstruction $396M	Sec. 11, T27S, R4W 1A	395	Work partially completed.
3.	Loa	Johnson Valley Campground New Construction $734 M	Sec. 24, T25S, R2E 1A	280	40 unit CG to be built in coordination with Fremont River Road Reconstruction & paving
4.	Beaver	Kent's Lake Campground Reconstruction $246M	Sec. 31, T29S, R5W 1A	212	Improve layout to accommadate higher lake level.

PRIORITY	DISTRICT	DESCRIPTION	LOCATION TOWNSHIP-RANGE MANAGEMENT AREA	UNITS (PAOT)	REMARKS
5.	Fillmore	Maple Grove Campground Reconstruction $160M	Sec. 1, T21S, R2-1/2W 1A	185	Replace facilities-popular group & single unit facility.
6.	Richfield	Monrovian Picnic Area Reconstruction $200M	Sec. 25, T25S, R3W 1A	200	Replace old facilities-Popular site near communities.
7.	Beaver	Little Reservoir Campground Reconstruction $206M	Sec. 25, T29S, R6W 1A	67	Replace facilities to accommodate increased use due to dam reconstruction.

FISHLAKE NATIONAL FOREST

LAND MANAGEMENT PLAN

APPENDIX D

WILDLIFE AND FISH

Habitat improvement projects for wildlife; fish; and threatened, endangered, and sensitive species (T&E species) have been prioritized by District for each fiscal year based on budget levels identified in the preferred alternative. Fisheries projects are emphasized. Nonstructural wildlife projects are coordinated with range improvement projects.

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST ($)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1985							
Fillmore	Sam Stowe Crk.	Rock structures	4 str	1,000	T25S, R4W	4B	Bonn. CTT (T&E)
Fillmore	North Walker	Seed	300 ac	1,500	T17S, R3E	4B	Big game
Beaver	Pine Creek	Log & brush bank structures	6 str	2,000	T26S, R6W	4A	Bonn. CTT (T&E)
Richfield	Table Mtn.	Burn	500 ac	5,600	T17S, R3W	4B	Big game
FISCAL YEAR 1986							
Fillmore	Corn Creek	Reshape banks & revegetate	0.5 mi	50,000	T24S,R4-1/2W	4A	Also T23S, R5W
Fillmore	Corn Creek	Rock riprap	0.8 mi	50,000	T24S,R4-1/2W	4A	DWR coop project
Loa	Doctor Creek	Prairie dog exclosure	5 ac/1 str	7,500	T26S, R1E	7A	Prairie dog (T&E)
Richfield	Mud Springs	Chaining	400 ac	16,100	T27S, R1E	9F	Big game
FISCAL YEAR 1987							
Fillmore	Corn Creek	Reshape banks & revegetate	0.5 mi	50,000	T23S, R5W	4A	Also T24S,R4-1/2W
Fillmore	Corn Creek	Revegetation	30 ac	70,000	T23S, R5W	6B	DWR coop project
Fillmore	Dameron Canyon	Chaining	595 ac	23,800	T24S, R5W	5A	Big game
Loa	Frying Pan	Prairie dog exclosure	5 ac/1 str	7,500	T25S, R2E	2B	Prairie dog (T&E)
Beaver	N. Fk North Crk	Barrier dam	1 str	2,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	N. Fk North Crk	Reshape banks & revegetate	25 ac	17,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	N. Fk North Crk	Plant willows	25 ac	7,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Richfield	Hamilton Res.	Dam reconstruction	1 str	30,000	T23S, R2E	4A	Resident fish
Richfield	Gooseberry	Chaining	100 ac	4,000	T22S, R2E	5A	Range - 1000 ac
Richfield	Lost Creek	Burn	120 ac	2,200	T23S, R1E	4B	Range - 1160 ac
FISCAL YEAR 1988							
Fillmore	Mud Springs	Fence spring	0.25 mi	2,000	T18S, R3W	6B	Game and nongame
Fillmore	Buck Hollow	Fence spring	0.1 mi	500	T16S, R3W	4B	Game and nongame
Fillmore	North Walker	Fence spring	0.2 mi	1,000	T16S, R3W	4B	Game and nongame
Fillmore	Robins Valley	Fence spring	0.1 mi	500	T20S, R2W	6B	Game and nongame
Fillmore	Rockwood	Pothole & fence	1 str	1,000	T25S, R4W	4B	Waterfowl & other
Fillmore	Little Valley	Guzzler & fence	.1 mi/1 str	2,500	T23S, R3W	4B	Game and nongame
Fillmore	Sam Stowe Crk.	Rock structures	100 str	10,000	T25S, R4W	4B	Bonn. CTT (T&E)
Fillmore	Butler Spring	Fence spring	0.2 mi	1,000	T25S,R4-1/2W	6B	Game and nongame
Fillmore	Bridge Canyon	Raptor perches	5 str	750	T16S, R4W	5A/6B	Bald eagle, other
Fillmore	Mahogany Hollow	Raptor perches	5 str	750	T16S, R4W	5A/6B	Bald eagle, other
Fillmore	Corn Creek	Rock riprap	0.8 mi	50,000	T23S, R5W	4A	DWR coop project
Fillmore	Corn Creek	Reshape banks & revegetate	0.5 mi	50,000	T21S, R4W	4A	DWR coop project
Fillmore	Red Canyon	Chaining	100 ac	4,000	T22S, R2W	4B/6B	Range - 1000 ac.
Fillmore	Dameron Canyon	Chaining	595 ac	23,800	T24S, R5W	5A	Big game

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST ($)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1988 (CONT.)							
Loa	Lake Creek	Water development	1 str	1,000	T26S, R4E	9F	Game and nongame
Loa	Forsyth	Raptor perch	5 str	1,000	T26S, R3E	6B	Bald eagle, other
Loa	Sevenmile Crk.	Fence riparian area	4 mi	20,000	T24&25S, R2E	2B/6B	Riparian protec.
Loa	Sevenmile Crk.	Rock bank structures	100 str	30,000	T24&25S, R2E	2B/6B	Bank stab.
Loa	Mud Springs	Pond	1 str	1,000	T27S, R4E	7A	Waterfowl & other
Loa	Fish Lake	Waterfowl potholes	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Twin Creeks	Spawning channel	5 ac	5,000	T26S, R2E	2B	Fish Lake spawn.
Loa	Hilgaard Mtn	Ponds	2 str	2,000	T24S, R3E	6B	Waterfowl & other
Loa	Fish Lake	Waterfowl potholes	3 str	3,000	T25S, R2E	2B	Waterfowl & other
Loa	Johnson Valley	Raptor perches	5 str	1,000	T25S, R2E	2B	Osprey and others
Loa	Pelican Point	Prairie dog exclosure	5 ac/1 str	7,500	T26S, R2E	2B	Prairie dog (T&E)
Beaver	Beaver River	Reshape banks & revegetate	68 ac	31,300	T29S, R6W	2B	Flood rehab.
Beaver	Beaver River	Rock bank structures	60 str	18,700	T29S, R6W	2B	Flood rehab.
Beaver	Indian Creek	Reshape banks & revegetate	30 ac	10,000	T27&28S, R6W	4A	Flood rehab.
Beaver	Indian Creek	Rock & log bank structures	33 str	9,500	T27&28S, R6W	4A	Flood rehab.
Beaver	Pine Creek	Ponds	2 str	1,000	T30S, R5W	6B	Game and nongame
Beaver	Thompson Hollow	Pond	1 str	1,000	T30S, R6W	4B	Game and nongame
Beaver	N. Fk North Crk	Reshape banks & revegetate	15 ac	22,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	N. Fk North Crk	Log & rock bank structures	95 str	28,500	T28S, R5&6W	4A	Bonn. CTT (T&E)
Beaver	Oak Basin/ Belly Ache	Water development modification	7 str	2,500	T29S, R4W	6B	Game and nongame
Beaver	Sargent Lake	Burn or rail and seed	50 ac	1,250	T26S,R4-1/2W	6B	Prairie dog (T&E)
Beaver	Sargent Lake	Gully plugs and seed	5 str	2,500	T26S,R4-1/2W	6B	Prairie dog (T&E)
Beaver	Briggs Hollow	Chaining	300 ac	11,800	T27S, R6W	6B	Big game
Beaver	Pine Creek	Chaining	100 ac	4,000	T26S, R6W	6B	Range - 975 ac.
Beaver	North Cedar	Burn	30 ac	600	T26S, R5W	6B	Range - 300 ac.
Beaver	North Indian	Burn	50 ac	1,100	T27S, R6W	6B	Range - 500 ac.
Beaver	Baker Canyon	Burn	50 ac	1,300	T29S, R6W	6B	Range - 520 ac.
Beaver	Pine Creek	Logworm fence	2 mi	10,000	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Pine Creek	Plant willows	5 ac	1,500	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Bullion Past.	Wildlife pond	1 str	1,000	T28S, R5W	3A	Game and nongame
Beaver	Kane Canyon	Wildlife fence modification	1 mi	1,500	T30S, R6W	5A/6B	Big game
Richfield	Monroe Mtn	Water development	1 str	2,000	T27S, R2W	4B	Game and nongame
Richfield	Forshea Mtn	Raptor perch	5 str	1,000	T28S, R2W	4B	Raptors
Richfield	Niotche	Water development	1 str	1,000	T23S, R2E	4B	Game and nongame
Richfield	Farnsworth Res.	Dam reconstruction	1 str	80,000	T23S, R2E	4A	Resident fish
Richfield	Triangle Mtn.	Chaining	120 ac	3,300	T22S, R1E	9F	Range - 1200 ac
Richfield	Musinea	Elk wallow construction	1 str	1,000	T20S, R3E	9F	Big game (elk)
Richfield	Browns Hole	Water development	1 str	1,000	T22S, R2E	4B	Game and nongame
Richfield	Old Woman	Raptor snag management	5 str	1,000	T23S, R4E	6B	Raptors
Richfield	Cold Spr. Res.	Dam reconstruction	1 str	20,000	T23S, R2E	4A	Resident fish

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST ($)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1989							
Fillmore	First Spring	Fence spring	0.1 mi	500	T17S, R4W	9F	Game and nongame
Fillmore	Little Oak Spr	Fence spring	0.2 mi	1,500	T17S, R4W	9F	Game and nongame
Fillmore	Cummings Spr.	Fence spring	0.1 mi	1,000	T20S, R3W	6B	Game and nongame
Fillmore	Corn Creek	Log bank structures	50 str	25,000	T24S,R4-1/2W	4A	DWR coop project
Fillmore	Corn Creek	Plant seedlings	30 ac	20,000	T24S,R4-1/2W	4A	DWR coop project
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T21S, R4W	4A	Flood rehab.
Loa	Sevenmile Crk.	Fence riparian area	3 mi	15,000	T24&25S, R2E	2B/6B	Riparian protec.
Loa	Sevenmile Crk.	Log & rock bank structures	150 str	45,000	T24&25S, R2E	2B/6B	Adfluvial fish
Loa	Sevenmile Crk.	Plant willows	15 ac	5,000	T24&25S, R2E	2B/6B	Adfluvial fish
Loa	Sevenmile Crk.	Snag & perch management	5 str	1,000	T24S, R2E	2B/6B	Raptors
Loa	Fish Lake	Waterfowl potholes	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Beaver	N. Fk South Crk	Pothole development	4 str	2,500	T30S, R5W	4B	Waterfowl & other
Beaver	Beaver River	Rock & log bank structures	67 str	20,000	T29S, R6W	2B	Resident fish
Beaver	Indian Creek	Log drop structures	67 str	20,000	T27&28S, R6W	4A	Resident fish
Beaver	Wades Canyon	Chaining	320 ac	12,800	T30S, R4W	6B	Big game
Beaver	N. Fk North Crk	Log & rock bank structures	67 str	20,000	T28S, R5&6W	4A	Bonn. CTT (T&E)
Richfield	Abes Reservoir	Dam reconstruction	1 str	35,000	T23S, R2E	4A	Resident fish
Richfield	Twin Ponds	Dam reconstruction	1 str	15,000	T23S, R2E	4A	Resident fish
Richfield	Forshea	Prairie dog exclosure	5 ac/1 str	7,500	T29S, R2W	4B	Prairie dog (T&E)
Richfield	Lost Creek	Chaining	40 ac	16,000	T23S, R1E	4B	Big game
Richfield	White Mtn.	Elk wallow management	1 str	1,000	T23S, R2E	4B	Big game (elk)
Richfield	Gooseberry	Snag management	5 str	1,000	T23S, R2E	2B	Raptors
FISCAL YEAR 1990							
Fillmore	Clear Spot Spr.	Fence spring	0.1 mi	2,500	T17S, R3W	4B	Game and nongame
Fillmore	Leamington Pass	Wildlife guzzler	1 str	2,500	T15S, R3W	6B	Game and nongame
Fillmore	Corn Creek	Log bank & drop structures	120 str	60,000	T24S,R4-1/2W	4A	DWR coop project
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T21S, R4W	4A	Flood rehab.
Fillmore	Oak Creek	Reshape banks & revegetate	0.5 mi	50,000	T17S, R4W	4A/9F	Flood rehab.
Loa	Fremont River	Boulder placement	1000 str	35,000	T25&26S, R3E	2B	Resident fish
Loa	Fish Lake	Waterfowl potholes	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Mamoths Spring	Fence spring	0.15 mi	1,500	T25S, R2E	2B	Game and nongame
Beaver	Beaver River	Log & rock bank structures	67 str	20,000	T29S, R6W	2B	Resident fish
Beaver	Black Hollow	Modify fence for deer	1 mi	1,500	T24S, R6W	5A/6B	Big game (deer)
Beaver	Beaver Front	Raptor perches	8 st.	1,600	Varied	6B	Bald eagle, other
Beaver	Pine Creek	Log & rock bank structures	100 str	30,000	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Sargent Lake	Prairie dog exclosure	5 ac/1 str	7,500	T26S,R4-1/2W	6B	Prairie dog (T&E)
Beaver	S. Fk North Crk	Log bank structures	77 str	23,000	T28S, R5&6W	3A	Resident fish
Beaver	Clear Creek	Reshape banks & revegetate	0.1 mi	10,000	T25S, R5W	4A	Resident fish

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST ($)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1990 (CONT.)							
Richfield	Salina Creek	Fence riparian area	5 mi	25,000	T22S,R1,2&3W	2B/9F	Riparian protec.
Richfield	Willow Creek	Chaining	400 ac	16,000	T21S, R2E	5A/9F	Big game
Richfield	Soloman Basin	Chaining	230 ac	9,000	T25S, R3E	6B	Big game
Richfield	Gooseberry	Snag management	5 str	1,000	T23S, R2E	2B	Raptors
Richfield	Yogo Creek	Big game water development	1 str	1,000	T23S, R2E	2B	Big game & others
FISCAL YEAR 1991							
Fillmore	Cedar Ridge	Chaining	400 ac	16,000	T22S, R3W	6B	Big game
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T21S,R4-1/2W	4A	Flood rehab.
Fillmore	Oak Creek	Reshape banks & revegetate	25 ac	25,000	T17S, R4W	4A	Flood rehab.
Fillmore	Oak Creek	Rock bank structures	83 str	25,000	T17S, R4W	4A	Flood rehab.
Loa	Soloman Basin	Chaining	300 ac	12,000	T25S, R3E	6B	Big game
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T24S, R2E	6B	Waterfowl & other
Loa	Sheep Valley	Elk wallow	1 str	1,000	T24S, R2E	4B	Big game (elk)
Beaver	Upper City Crk.	Ponds	3 str	2,500	T29S, R4W	4B	Waterfowl & other
Beaver	Pine Creek	Log drop structures	100 str	30,000	T26S, R6W	4A	Bonn. CTT (T&E)
Beaver	Birch Creek	Barrier removal	10 str	3,000	T30S, R6W	4B	Bonn. CTT (T&E)
Beaver	Birch Creek	Logworm fence	1 mi	10,000	T30S, R6W	4B	Bonn. CTT (T&E)
Beaver	Clear Creek	Reshape banks & revegetate	20 ac	20,000	T25S, R5W	4A	Resident fish
Richfield	Salina Creek	Fence riparian area	5 mi	25,000	T21S, R3E	2B/9F	Riparian protec.
Richfield	Salina Creek	Plant willows	20 ac	6,000	T22S,R1,2&3E	2B/9F	Also T21S, R3E
Richfield	Monroe Mtn.	Elk wallow	4 str	1,000	T27S, R2W	4B	Big game (elk)
Richfield	Box Creek	Raptor snag management	5 str	1,000	T27S, R2W	4B	Raptors
FISCAL YEAR 1992							
Fillmore	Black Cedar	Chaining	50 ac	2,000	T22S, R3W	4B	Range - 500 ac.
Fillmore	Rockwood	Elk wallow & fence	.1 mi/1 str	1,000	T24S,R4-1/2W	4B	Big game & others
Fillmore	Bear Hollow	Fence spring	0.1 mi	750	T21S, R3W	4B	Game and nongame
Fillmore	Turner Timber	Fence spring	0.1 mi	750	T21S, R3W	4B	Game and nongame
Fillmore	Chalk Creek	Reshape banks & revegetate	0.6 mi	60,000	T22S, R3W	4A	Flood rehab.
Fillmore	Oak Creek	Log drop structures	100 str	30,000	T17S, R4W	4A	Resident fish
Loa	Round Spr. Draw	Chaining	400 ac	16,000	T24S, R4E	6B	Big game
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Geyser Peak	Elk wallow	1 str	1,000	T26S, R4E	7A	Big game (elk)
Loa	UM Creek	Log drop structures	100 str	30,000	T25&26S, R3E	6B	Adfluvial fish
Loa	UM Creek	Plant willows	5 ac	1,500	T25&26S, R3E	6B	Adfluvial fish
Loa	UM Creek	Boulder placement	100 str	3,500	T25&26S, R3E	6B	Adfluvial fish
Beaver	Birch Creek	Log drop structures	100 str	30,000	T30S, R6W	4B	Bonn. CTT (T&E)
Beaver	Clear Creek	Log bank & drop structures	100 str	30,000	T25S, R5W	4A	Resident fish

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST ($)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1992 (CONT.)							
Beaver	South Creek	Ponds	4 str	3,000	T30S, R6W	4B	Waterfowl & other
Richfield	Salina Creek	Log bank & drop structures	100 str	30,000	T22S, R2&3W	2B/9F	Resident fish
Richfield	Langdon Mtn.	Snag management	5 str	1,000	T28S, R2W	4B	Raptors
Richfield	Monroe Meadows	Wildlife water development	1 str	1,000	T26S, R2W	4B	Game and nongame
FISCAL YEAR 1993							
Fillmore	Elsinore	Burn and seed	450 ac	14,000	T24S, R4W	4B	Big game (elk)
Fillmore	Robins Valley	Pothole & fence	.1 mi/1 str	1,000	T20S, R3W	6B	Game and nongame
Fillmore	East Eight Mile	Raptor perches	5 str	500	T18S, R3W	6B	Raptors
Fillmore	Crazy Hollow	Fence spring	0.1 mi	1,000	T23S, R4W	6B	Game and nongame
Fillmore	Meadow Creek	Chaining	400 ac	16,000	T22S, R4W	6B	Big game
Fillmore	Chalk Creek	Reshape banks & revegetate	0.7 mi	70,000	T21S, R4W	4A	Flood rehab.
Fillmore	Meadow Creek	Reshape banks & revegetate	0.5 mi	50,000	T22S, R4-1/2W	6B	Flood rehab.
Fillmore	Pioneer Creek	Reshape banks & revegetate	0.2 mi	20,000	T20S, R3W	4A	Flood rehab.
Fillmore	Robins Vly Lake	Pipeline	1 str	10,000	T20S, R3W	6B	Resident fish
Fillmore	Robins Vly Lake	Fence	1 mi	10,000	T20S, R3W	6B	Resident fish
Fillmore	Robins Vly Lake	Aerator	1 str	2,500	T20S, R3W	6B	Resident fish
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T26S, R2E	2B	Waterfowl & other
Loa	Daniels Canyon	Big game water development	1 str	1,000	T26S, R2E	3A	Big game & others
Beaver	Bull Spring	Wildlife fence modification	0.2 mi	2,500	T27S, R7W	6B	Big game (deer)
Beaver	Mumford Res.	Dam reconstruction	1 str	20,000	T30S, R5W	4B	Resident fish
Beaver	Lower Kents Lake	Dam reconstruction	1 str	55,000	T29S, R5W	7A	Resident fish
Beaver	Fish Crk Meadow	Burn or rail and seed	50 ac	1,250	T27S, R5W	6B	Prairie dog (T&E)
Beaver	Fish Crk Meadow	Gully plugs and seed	5 str	2,500	T27S, R5W	6B	Prairie dog (T&E)
Beaver	Fish Crk Meadow	Prairie dog exclosure	1 str	7,500	T27S, R5W	6B	Prairie dog (T&E)
Richfield	Lost Creek	Log bank & drop structures	100 str	30,000	T23S, R1E	5A	Resident fish
Richfield	Magleby Pass	Snag development	5 str	1,000	T25S, R2W	7B	Raptors
Richfield	Old Woman	Fence modification	2 mi	1,500	T21S, R3E	6B	Big game

DISTRICT	SITE I.D.	PROJECT DESCRIPTION	NO. OF UNITS	COST ($)	LOCATION	MGMT AREA	REMARKS
FISCAL YEAR 1994							
Fillmore	Wildhorse	Guzzler	1 str	2,500	T15S, R4W	6B	Game and nongame
Fillmore	Meadow Creek	Reshape banks & revegetate	0.5 mi	50,000	T22S,R4-1/2W	6B	Flood rehab.
Fillmore	Pioneer Creek	Reshape banks & revegetate	0.2 mi	20,000	T20S, R3W	4A	Flood rehab.
Loa	Deep Crk. Lake	Dam reconstruction	1 str	35,000	T27S, R4E	7A	Resident fish
Loa	Crater Lakes	Prairie dog exclosure	1 str	7,500	T26S, R2E	4B	Prairie dog (T&E)
Loa	Fish Lake	Waterfowl pothole	1 str	1,000	T25S, R2E	2B	Waterfowl & other
Loa	Mill Meadow	Snag development	5 str	1,000	T26S, R3E	2B	Raptors
Beaver	Kents Lake	Snag development	5 str	1,000	T30S, R5W	7A	Raptors
Beaver	Little Res.	Snag development	5 str	1,000	T29S, R6W	2B	Bald eagle, other
Beaver	E Birch/Gold Crk	Chaining	450 ac	18,000	T30S, R4W	6B	Big game
Beaver	Twin Lakes	Dam reconstruction	1 str	50,000	T28S, R5W	3A	Resident fish
Beaver	Little Pine Crk	Fence and seed	0.5 mi	5,000	T30S, R5W	4B	Prairie dog (T&E)
Beaver	Little Pine Crk	Gully plugs and seed	5 str	2,500	T30S, R5W	4B	Prairie dog (T&E)
Richfield	Lost Creek	Fence modification	5 mi	2,500	T23S, R1E	5A	Big game
Richfield	Manning Creek	Fence riparian area	2 mi	10,000	T27S,R2-1/2E	4B/6B	Riparian protec.
Richfield	Manning Creek	Log drop structures	100 str	30,000	T27S,R2-1/2E	4B/6B	Resident fish
Richfield	Koosharem	Chaining	400 ac	16,000	T26S, R1W	4B/5A	Big game

APPENDIX E

RANGE MANAGEMENT

A list of range projects for the next 10 years is given by District and allotment. These projects will be done on a priority basis established on availablity of funds and the need to maintain a good mix of structural and nonstructural improvements. Some work will be accomlished on priority allotments on each District.

In addition to the new improvements, some reconstruction/retreatment will be accomplished. This is necessary to maintain previous investments.

Projects for the allotments within the Oak Creek Coordinated Management Area are listed separately. This area has had special funding to accomplish coordinated range management on a demonstration basis.

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Fillmore	Watt's Mtn	Unit Fences	6 mi	30,000	T25S.R4-1/2W	4B/6B	
Fillmore	Watt's Mtn	Trail Construction	2 mi	2,000	T25S.R4-1/2W	4B/6B	Driftways
Fillmore	Watt's Mtn	Revegetation	625 ac	25,000	T25S.R4-1/2W	6B	
Fillmore	Watt's Mtn	Water Developments	8str	12,000	T24S. R3W	6B/4B	
Fillmore	Watt's Mtn	Fencing	5 mi	25,000	T25S.R4-1/2W	6B/4B	Also R3W
Fillmore	Watt's Mtn	Revegetation	575 ac	23,000	T24S. R3W	6B/9F	
Fillmore	Cedar Ridge	Water Development	3str	3,900	T22S. R2W	3A/4B	
Fillmore	Cedar Ridge	Ponds	6str	5,760	T22S. R2W	3A/4B	
Fillmore	Cedar Ridge	Fencing	3 mi	15,000	T22S, R3W	6B	
Fillmore	Cedar Ridge	Revegetation	835 ac	33,450	T21S, R2W	6B	
Fillmore	Cedar Ridge	Fencing	3 mi	15,000	T21S, R2W	4B/6B	
Fillmore	Cedar Ridge	Water Developments	3str	5,200	T22S, R2W	4B/6B	
Fillmore	Cedar Ridge	Revegetation	525 ac	21,000	T22S, R2W	4B/6B	
Fillmore	Cedar Ridge	Revegetation	1,000 ac	40,000	T22S, R3W	6B	
Fillmore	Meadow Creek	Revegetation	825 ac	33,000	T22S, R4W	6B	
Fillmore	Meadow Creek	Reconstruct/Retreat					
Fillmore	Meadow Creek	Water Development	3str	2,500	T22S, R4W	6B	
Fillmore	Meadow Creek	Revegetation Retreat	275 ac	11,000	T22S, R4W	6B	
Fillmore	Center Fork Chalk Creek	Fencing	7 mi	35,000	T21S, R3W	4B	
Fillmore	Center Fork Chalk Creek	Water Development	1str	1,500	T21S, R3W	4B	
Fillmore	Center Fork Chalk Creek	Revegetation	500 ac	20,000	T21S, R4W	4B/6B	
Fillmore	Corn Creek	Fencing	4 mi	21,000	T23S, R3W	6B/9F	
Fillmore	Corn Creek	Trail Construction	3 mi	5,000	T24S,R4-1/2W	9F	Driftways
Fillmore	Corn Creek	Water Developments	12str	20,000	T23S,R4&3W	6B/9F	
Fillmore	Cottonwood	Water Development Reconstruct	6str	6,000	T23S, R3W	4B/6B	
Fillmore	Elsinore	Water Development Reconst.	3str	3,000	T24S, R4W	4B	
Fillmore	N Fk Chalk Cr	Water Development Reconst.	1str	1,000	T21S, R3W	4B	
Fillmore	N Fk Chalk Cr	Fence Reconstruction	2 mi	11,000	T21S, R3W	4B	
Fillmore	N Fk Chalk Cr	Revegetation Retreatment	275 ac	11,000	T21S, R3W	4B	
Fillmore	S Fk Chalk Cr	Water Development Reconst.	3str	2,200	T22S, R4W	6B	
Fillmore	S Fk Chalk Cr	Fences	2 mi	10,400	T22S, R3W	4B/6B	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Fillmore	Wildgoose	Revegetation Retreatment	280 ac	11,200	T19S, R3W	6B	
Fillmore	Wildgoose/Ebbs	Revegetation Retreatment	165 ac	6,600	T19S, R3W	6B	
Fillmore	Grass Creek	Water Development Reconst.	5str	4,400	T25S, R5W	6B	
Fillmore	Grass Creek	Pond Reconstruction	3str	3,000	T25S, R5W	6B	
Fillmore	Grass Creek	Fence Reconstruction	2 mi	11,000	T24S, R5W	6B	
Fillmore	Grass Creek	Revegetation Retreatment	275 ac	11,000	T25S, R6W	6B	
Loa	UM Common	Spray/Chain/Seed	1,900 ac	76,000	T26S, R3E	6B	
Loa	Um Common	Fencing	2 mi	14,000	T24S, R3E	6B	
Loa	UM Common	Mytoge/UM Boy Fence	3 mi	15,000	T26S, R2&3E	6B	
Loa	Um Common	Reconstruction/Retreatment					
Loa	UM Common	Rewire Fence	2 mi	7,000	T26S, R2E	6B	
Loa	UM COmmon	Spring/Trough Reconstruction	2str	1,000	T26S, R3E	6B	
Loa	UM Common	Clean/Treat Reservoirs	4str	3,000	T26S, R2&3E	6B	
Loa	UM Common	Rewire Pole Canyon Fence	1.5 mi	5,200	T26S, R2E	6B	
Loa	UM Common	Log Worm Boundary Fence	1 mi	7,000	T24S, R3E	6B	
Loa	UM Common	Log Worm Fence	1.5 mi	10,000	T25S, R3E	6B	
Loa	UM Common	Wire Fencing	1 mi	5,000	T24S, R3E	6B	
Loa	UM Common	Black Flat Fence & Corral	1mi/1str	7,000	T24S, R3E	6B	
Loa	Seven Mile	Sagebrush Spray	1,965 ac	50,000	T24S, R2E	6B	
Loa	Seven Mile	Fencing	2 mi	10,500	T24S, R2E	6B	
Loa	Seven Mile	Reconstruction/Retreatment					
Loa	Seven Mile	Spring/Trough Reconstruction	2str	1,100	T26S, R2E	6B	
Loa	Seven Mile	Corral & Fence	1str/1mi	7,000	T25S, R2E	2B/6B	
Loa	Thousand Lake	Sagebrush Spray	1,600 ac	40,000	T27S, R3&4E	6B/7A	
Loa	Thousand lake	Spray & Retreat	795 ac	15,000	T27S, R3&4E	6B/7A	
Loa	Thousand Lake	Reconstruction/Retreatment					
Loa	Thousand Lake	Fencing	1 mi	3,000	T28S, R4E	6B/7D	
Loa	Thousand Lake	Rehabilitate Spring/Trough	1str	1,000	T28S, R3E	6B	
Loa	Thousand Lake	Rehabilitate Stock Reservoir	3str	1,800	T27S, R3&4E	7A	
Loa	Thousand Lake	Log Worm Fence	1/2mi	3,000	T26S, R4E	6B	
Loa	Thousand Lake	Spring/Pipe	2str	1,000	T27S, R4E	6B/7A	
Loa	Thousand Lake	Reconstruct Pine Spring	1str	700	T27S, R5E	6B	
Loa	Thousand Lake	Wire Fence	1 mi	3,400	T27S, R3E	6B	
Loa	Solomon	Chain/Seed	1,495 ac	60,000	T26S, R4E	9F	
Loa	Solomon	Fencing/Springs	4mi/2str	22,000	T26S, R4E	9F	
Loa	Solomon	Reconstruction					

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Loa	Solomon	Wire Fencing	1 mi	4,000	T27S, R4E	9F	
Beaver	Pine Creek/ Sulpherbed	Chain & Seed	1,225 ac	49,000	T27S, R7W	6B	
Beaver	Pine Creek/ Sulpherbed	Fencing	6 mi	31,000	T27S, R7W	6B	
Beaver	Pine Creek Sulpherbed	Sulpherbeds Fencing	4-1/2mi	23,000	T26S, R7W	6B	
Beaver	Pine Creek Solpherbed	Fencing	4 mi	20,000	T26S, R6W	6B	
Beaver	Pine Creek Sulpherbed	Water Developments	10str	17,800	T26S, R6W	6B	
Beaver	Pine Creek Sulpherbed	Fencing	3 mi	14,500	T27S, R6W	4B/6B	
Beaver	Pine Creek Sulpherbed	Trough	1str	1,000	T27S, R6W	4B	
Beaver	Pine Creek Sulpherbed	Reconstruction/Retreatment					
Beaver	Pine Creek	Cove Creek Burn	350 ac	6,500	T26S, R6W	6B	
Beaver	Clear Creek	Sevier Canyon Water Develop	7str	15,000	T26S, R5W	6B	
Beaver	Clear Creek	Stock Trails	1.5 mi	5,000	T26S, R5W	6B	Driftways
Beaver	Clear Creek	Aspen Spring Development	5str	8,000	T26S, R5W	6B	
Beaver	Clear Creek	Fencing	4 mi	21,000	T26S, R5W	6B	
Beaver	Clear Creek	Reconstruction/Retreatment					
Beaver	Clear Creek	N. Cedars Burn or Spray	350 ac	6,500	T26S,R4-1/2W	6B	
Beaver	North Indian	Indian Creek Fence	1 mi	5,000	T29S, R6W	6B	
Beaver	North Indian	Fencing	9.5 mi	47,000	T28S, R6W	3A/6B	
Beaver	North Indian	Spring Development	4str	4,000	T28S, R6W	3A/6B	
Beaver	North Indian	Pond/Trough	4str	6,000	T28S, R6W	3A/6B	
Beaver	North Indian	Herbicide Treatment or Burn	500 ac	11,000	T28S, R6W	3A/6B	
Beaver	North Beaver	Baker Canyon Spray	520 ac	13,000	T29S, R6W	6B	
Beaver	North Beaver	Unit Fence Reconstruction	1-1/2mi	6,500	T29S, R6W	6B	
Beaver	North Beaver	Black Ridge Water Recons.	3str	2,000	T29S, R6W	6B	
Beaver		Additional Reconstruction/ Retreatment					
Beaver	Marysvale	Water System	5str	6,500	T28S, R4W	4B/6B	
Beaver	Marysvale	Allunite Water System	4str	4,500	T28S, R4W	4B/6B	
Beaver	Marysvale	Water System	3str	3,000	T28S, R4W	4B/6B	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Beaver	South Beaver	Big Twist Water System	6str	6,500	T30S, R6W	6B	
Beaver	South Beaver	Birch Lake Water System	3str	3,500	T29S, R6W	4B/6B	
Beaver	Ten Mile	Unit Fences	1-1/2mi	6,500	T29S, R4W	4B/6B	
Beaver	Circleville	Boundary Fence	1-1/2mi	6,500	T29S, R5W	3A/7A	
Beaver	Circleville	Oak Basin Water System	2str	2,500	T29S, R4W	6B	
Richfield	Brown's Hole	Triangle/Black Mtn Pipeline	2 mi	9,000	T22S, R1E	9F	
Richfield	Bown's Hole	Mud Spring Chain	1,500 ac	60,000	T22S, R1E	9F	
Richfield	Brown's Hole	Gooseberry Chain	1,000 ac	40,000	T22S, R2E	5A	
Richfield	Brown's Hole	Gooseberry/Brown Fence	4 mi	18,000	T22S, R2E	5A	
Richfield	Brown's Hole	Fencing/Gates	1.5 mi	12,000	T22S, R2E	5A	
Richfield	Brown's Hole	Brush Trail Reseeding	1,400 ac	56,000	T23S, R1E	4B	
Richfield	Brown's Hole	Triangle Mtn Chain Maintenace	1,200 ac	32,000	T22S, R1E	9F	
Richfield	Brown's Hole	Spring Range Fencing	6 mi	27,000	T22S, R1E	9F/5A	
Richfield	Brown's Hole	Devils Kitchen Fence	1 mi	5,500	T22S, R1E	4B	
Richfield	Lost Creek	Chaining Maintenance	2,200 ac	41,800	T23S, R1E	4B	
Richfield	Lost Creek	Kasov Chain Maintenance	1,700 ac	32,300	T23S, R1E	4B	
Richfield	Lost Creek	Niotche Fence	3 mi	27,000	T23S, R2E	4B	
Richfield	Lost Creek	Cold Spring Fence	1/2 mi	4,500	T23S, R2E	4B	
Richfield	Lost Creek	Humphry Fence	1 mi	9,000	T23S, R2E	4B	
Richfield	Lost Creek	Boobe Hole Fence	2 mi	18,000	T23S, R1E	4B	
Richfield	Lost Creek	Shoap Spring Pipe	1 mi	4,000	T23S, R1E	4B	
Richfield	Water hollow	Turner Pipeline	11 mi	40,000	T21S, R2E	9F	
Richfield	Water Hollow	Lower Cottonwood Pond	1str	1,000	T22S, R2E	9F	
Richfield	Water Hollow	Upper Mud Spring Pond	1str	1,000	T21S, R2E	9F	
Richfield	Water Hollow	Dry Hollow Trough	1str	1,500	T21S, R2E	9F	
Richfield	Water Hollow	Upper Bull Valley Fence	2 mi	18,000	T22S, R2E	9F	
Richfield	Water Hollow	North Steve's Pass Reveg.	1,000 ac	19,000	T21S, R2E	9F	
Richfield	Water Hollow	Wyethia Spray	200 ac	4,000	T21S, R2E	9F	
Richfield	Water Hollow	Tuner Pipeline (Addition)	11 mi	40,000	T21S, R2E	9F	
Richfield	Water Hollow	Beaver Cr Troughs Recons.	6str	6,000	T21S, R3E	9F	
Richfield	Water Hollow	Livestock Access Trail	10 mi	4,000	T22S, R2E	9F	Driftway
Richfield	Water Hollow	Mud Spring Pipeline	2 mi	9,000	T21S, R2E	9F	
Richfield	Water Hollow	Ridge Fence Reconstruction	4 mi	12,000	T21S, R2E	9F	
Richfield	Willow Creek	Dead Horse Fence	3.5 mi	31,500	T21S, R2E	9F	
Richfield	Willow Creek	Flat Top Trough	1str	1,000	T21S, R2E	9F	
Richfield	Willow Creek	Buck Flat Pond	1str	500	T21S, R2E	9F	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Richfield	Willow Creek	Mill Creek Pipeline	3 mi	13,500	T21S, R2E	9F	
Richfield	Willow Creek	Elbow Spray	700 ac	14,000	T21S, R2E	9F	
Richfield	Willow Creek	E. Flat Top Spray	1,000 ac	19,000	T21S, R2E	9F	
Richfield	S Water Hollow Moroni Peak	Sheep Valley Spray	600 ac	11,400	T24S, R3E	4B	
Richfield	S Water Hollow Moroni Peak	Moroni Peak Spray	600 ac	11,400	T23S, R3E	4B	
Richfield	S Water Hollow Moroni Peak	S Water Hollow Spray	1,000 ac	19,000	T22S, R4E	6B	
Richfield	S Water Hollow Moroni Peak	S Water Hollow Drill Maint.	1,000 ac	19,000	T22S, R4E	6B	
Richfield	Koosharem	Indian Flat Pipeline	4 mi	18,000	T26S, R1W	4B	
Richfield	Kooshareem	Indian Flat Spray and Seed	2,000 ac	80,000	T26S, R1W	4B	
Richfield	Koosharem	Big Flat Fence Reconstruction	3 mi	8,000	T26S, R1W	4B	
Richfield	Koosharem	Robison P. Fence Reconst.	1-1/2mi	12,000	T26S, R1W	4B	
Richfield	Koosharem	Rough Section Fence Reconst.	1 mi	8,000	T26S, R1W	4B	
Richfield	Koosharem	Ledge Rock Pipe Reconstr. Additional Reconstruction/ Retreatment	1 mi	7,000	T26S, R1W	4B	
Richfield	Salina Creek	Gunnison Valley Fence	2 mi	16,000	T21S, R3E	4B	
Richfield	Calina Creek	Bull Pasture Pond/Pipe	1str/1-1/2mi	8,000	T21S, R3E	4B	
Richfield	Quitchumpah	Salina/Beaver Fence	4 mi	8,000	T21S, R4E	4B	
Richfield	Quitchumpah	Snow Corral Fence	3 mi	24,000	T21S, R4E	9F	
Richfield	Glenwood	Christensen Spring Pipeline	6 mi	7,000	T25S, R2W	7B	
Richfield	Glenwwod	Porter Pasture Fence	1/2 mi	4,000	T24S, R1W	4B	
Richfield	Glenwood	Bell Rock Ponds	3str	5,000	T24S, R1W	4B	
Richfield	Monument/Glen-wood	Signal Peak Spring	1 mi	8,000	T25S, R2W	4B	
Richfield	Monument/Glen-wood	Indian Ranch Pond	1str	2,000	T24S, R2W	9F	
Richfield	Monument/Glen-wood	Dry Canyon Spring	1str	2,000	T24S, R2W	9F	
Richfield	Manning Creek	Little Table Pipe	3 mi	12,000	T28S,R2-1/2W	4B	
Richfield	Manning Creek	Dry Creek Fence	1-1/2mi	8,000	T28S,R2-1/2W	6B	
Richfield	Manning Creek	Big Table Fence	2 mi	6,000	T28S,R2-1/2W	4B	
Richfield	Manning Creek	Big Table Pond	1str	2,000	T28S,R2-1/2W	4B	

DISTRICT	ALLOTMENT	PROJECT DESCRIPTION	NO. OF UNITS	COST	LOCATION	MGMT AREA	REMARKS
Richfield	Kingston	Kingston Pasture Spring	1str	1,000	T29S,R2-1/2W	4B	
Richfield	Kingston	Kingston Ponds	8str	8,000	T29S,R2-1/2W	4B	
		******OAK CREEK COORDINATED RESOURCE MANAGEMENT AREA******					
Fillmore	Dry Creek	Long Canyon Chain	700 ac	25,000	T17S, R3W	6B	
Fillmore	Dry Creek	Unit Fence	1 mi	4,000	T17S, R3W	6B	
Fillmore	Dry Creek	Scipio West Pipeline	1 mi	5,000	T17S, R3W	6B	
Fillmore	Dry Creek	Whiskey/Dry Division Fence	2 mi	10,000	T17S, R3W	6B	
Fillmore	Dry Creek	Radford Canyon Spring	1str	2,000	T16S, R3W	6B	
Fillmore	Dry Creek	Hardscrab Fence Remove Reconstruction	1-1/2mi	1,500	T17S, R3W	6B	
Fillmore	Dry Creek	Dry Creek Fence	8 mi	40,000	T17S, R3W	6B	
Fillmore	Dry Creek	Dry/Wild Horse Fence	1 mi	5,000	T16S, R3W	6B	
Fillmore	Dry Creek	Oak Creek Drift Fence	1/4mi	1,000	T16S, R3W	6B	
Fillmore	Fool Creek	Wood Canyon Dixie harrow	300 ac	11,000	T15S, R3W	6B	
Fillmore	Fool Creek	Wild Horse Burn and Seed Reconstruction	100 ac	2,000	T16S, R3W	6B	
Fillmore	Fool Creek	Fool Cr/W. Horse Fence	1 mi	6,000	T16S, R3W	4B	
Fillmore	Fool Creek	Fool Cr. Pass Canyon Fence	1-1/2mi	7,500	T15S, R3W	6B	
Fillmore	Oak Creek	Oak Creek Dixie Harrow	300 ac	11,000	T17S, R4W	2/6B	
Fillmore	Oak Creek	Dry Creek Dixie Harrow	100 ac	4,000	T17S, R4W	6B	
Fillmore	Oak Creek	S Walker Spring Development Reconstruction	1str	3,000	T17S, R3W	4B	
Fillmore	Oak Creek	L. Aspen Drift Fence	1 mi	6,000	T17S, R4W	6B	
Fillmore	Wildhorse	Williams Spring Development Retreatment	1str	2,000	T16S, R3W	6B	
Fillmore	Wildhorse	Wide Canyon Burn	800 ac	12,000	T16S, R3W	6B	
Fillmore	Whiskey Creek	L. Whiskey Pipe & Pond	2 mi	8,000	T18S, R4W	6B	
Fillmore	Whiskey Creek	Cedar Ridge Spring Development	1str	2,000	T18S, R4W	6B	
Fillmore	Whiskey Creek	Upper Whiskey Spring Develop.	1str	2,000	T18S, R4W	6B	
Fillmore	Whiskey Creek	Scipio Pass Fence Remove Retreatment	2 mi	2,000	T18S, R3W	6B	
Fillmore	Whiskey Creek	Eightmile Burn	500 ac	8,000	T18S, R4W	6B	
Fillmore	Pass Canyon	Pass/Wringer Fence reconst.	1/2mi	2,000	T15S, R3W	6B	
Fillmore	Wringer Canyon	Boundary Fence Removal	4 mi	4,000	T15S, R3W	6B	

APPENDIX F

TRAIL CONSTRUCTION AND RECONSTRUCTION

The following trail projects are listed in order of priority. Some of the larger projects are planned for completion over a period of several years. Funds for completing the work are included in the Forest constrained budget for Alternative 11.

YEAR	DISTRICT	DESCRIPTION	LOCATION, TOWNSHIP & RANGE	UNITS	REMARKS
1986	Beaver	Skyline NRT #175. Spot Reconstruction $5 M	T29S, R4W	5.0	Bring trail up to National Standards.
1986	Fillmore	North Fork Chalk Creek #018 New Construction $10 M	T21S, R3W	2.0	Complete center portion of trail. Both ends completed by contract several years ago.
1987	Loa	Pelican #125 Reconstruction $9 M	T26S, R2E	3.5	Trail adjacent to Fish Lake Recreation Complex.
1987	Loa	Doctor Creek #124 Reconstruction $7.5 M	T26S, R1E	3.0	Trail adjacent to Fish Lake recreation complex.
1988	Loa	Tasha Creek #126 Reconstruction $20.0 M	T25S, R2E	8.0	Trail adjacent to Fish Lake recreation complex.
1989	Beaver	Skyline NRT #175 New Construction $13.5 M	T28S, R5W	2.7	Complete trail across Tushar Range.

YEAR	DISTRICT	DESCRIPTION	LOCATION, TOWNSHIP & RANGE	UNITS	REMARKS
1990	Beaver	Skyline NRT #175 New Construction $13.5 M	T28S, R5W	2.7	Complete trail across Tushar Range.
1991	Beaver	Skyline NRT #175 New Construction $13.5 M	T28S, R5W	2.6	Complete trail across Tushar Range.
1992	Richfield	Monrovian Trail Head Facility New Construction $23.5 M	T25S, R2-1/2W	36 (PAOT)	Serve 5 system trails originating in Monroe Canyon.
1993	Loa	Lake Shore NRT #162 New Construction $51.0 M	T26S, R2E	1.5	Complete paved trail.
1994	Richfield	Gooseberry Trails New Construction $30.0 M	T23S, R2E	6.0	Construct trails to connect walk-in fisheries.

APPENDIX G

ENERGY TRANSPORATION AND UTILITY CORRIDOR EVALUATION

TABLE OF CONTENTS

FISHLAKE NATIONAL FOREST

ENERGY TRANSPORTATION AND UTILITY
CORRIDOR EVALUATION

INTRODUCTION

There is an increased concern at the national, state and local levels for meeting future rights-of way needs while protecting the environment. The concern is founded upon a real demand for more utility and energy transportation facilities - especially pipelines, electric transmission lines, and railroads - to transport energy from the resource areas to the centers of consumption. The concern has led to legislation authorizing the Forest Service and other Federal land management agencies to designate utility and energy transportation corridors on Federal lands. Selecting routes for linear facilities is complicated by mixed ownership land patterns, conflicting land uses, and environmental and engineering constraints.

The Fishlake National Forest has evaluated and selected corridors by application of FSM and Regional Plan direction for energy transportation and utility corridor planning. Such direction has been written to assist National Forests in addressing the complications encountered in corridor evaluation and designation.

DEFINITIONS OF UTILITY DESIGNATION TERMS

1. Corridor - A linear strip of land which has ecological, technical, economic, social or similar advantages over other areas for the present or future locations of energy transportation or utility rights-of-way within the boundaries.

2. Rights-of-Way - Land authorized to be used or occupied for the construction operation, maintenance and terminous of a project facility passing over, upon, under or through such land.

3. Window - A critical segment of terrain through which rights-of-way could pass in traversing from points of origin to destination.

4. Exclusion area - An area where linear facilities would not be legally permitted to cross.

5. Avoidance area - An area that poses particular environmental impacts which would be difficult or impossible to mitigate or has characteristics which impose unusual engineering constraints.

OBJECTIVES

The objectives in applying the Servicewide and Regional direction for energy transportation and utility corridor/window planning are to: (listed in a planning sequence).

1. Inventory and field check existing pipelines, electric transmission lines, and major transportation routes which are located on the Forest; (Transportation routes are inventoried as potential corridors for electrical transmission and pipeline facilties; not for expansion of or addition to the State/Interstate Road/Highway System).

2. Identify criteria which will be used to evaluate potential corridors/windows;

3. Analyize suitability of routes or areas to handle new or additional facilities and the suitability of the routes or areas for overhead vs. underground vs. surface linear right-of-way facilities;

4. Evaluate and designate areas suitable for corridors/windows on the Fishlake National forest within the land management planning process;

5. Consolidate right-of-way alignments into designated corridors/windows to avoid the proliferation of separate linear rights-of-way.

MANAGEMENT DIRECTION FOR ACHIEVING OBJECTIVES

General Direction -

Generally where the purpose of the transportation, transmission, or pipeline route is to accommodate or service a particular end use on the Forest, the route they followed is not considered as a potential corridor. Where existing rights-of-way pass into or through Forest lands, within an identifiable strip of land, and where the probability exists that other energy transportation systems may be located within, the strip is considered for designation as a corridor.

Before new corridors/windows or widening of existing corridors/windows are approved, consideration will be given to wheeling, uprating or multiple circuiting of transmission lines; increasing pipeline capacity by addition of compressors or looping; or utilizing existing highway transportation rights-of-way.

Specific Direction -

Specific direction is related to utility sizes, existing rights-of-way, and restrictions on future corridor locations.

1. The description of general utility sizes, and rights-of-way to be used in the evaluation process are:

   a. Electric transmission lines 66 kv and above; 1/

   b. Oil, gas or slurry pipelines 10 inches in diameter or larger; 1/ and

   c. Federal, State, and Interstate Highways. 2/

1/ *Inclusion of lower rated transmission lines or smaller pipelines within designated corridors/windows would be permitted.

2/ Federal, State, and Interstate Highway routes are considered as potential corridors for energy transportation facilities.

2. Identification and designation of existing energy transportation rights-of-way as corridors that:

   a. Comply with evaluation criteria for determination of corridor/window suitability; and

   b. Are desirable for retention, but not capable of further widening; or

   c. Are desirable to retain and have widening potential for future uses; and

   d. Agree with the potential corridor/window designations on public or state lands and the corridor/window designations of adjacent National Forest.

3. Based on the most current planning information from utility and power administrations, the Fishlake National Forest has directed planning for future energy/transportation rights-of-way and associated corridors by:

   a. Designating planning windows; 3/ or

   b. Identifying constrained areas where future energy transportation rights-of-way will be discouraged or denied - such areas are identified as:

      1) Avoidance areas or; 4/

      2) Exclusion areas 5/

3/ Windows and avoidance areas are to be evaluated and designated upon application of evaluation criteria for determining corridor suitability.

4/ Application for linear rights-of-way within avoidance areas would be processed by the Forest if, after project evaluation, it was determined that proposed mitigation measures would meet the management standards and guidelines for the various resources within the areas.

5/ Applications for linear rights-of-way within exclusion areas would not be processed, due to the statutory prohibitions applicable to the area in question.

APPROACHES FOR CORRIDORS, EVALUATIONS, AND SELECTION

Three approaches for evaluating and designating corridors will be followed in this corridor evaluation report. These are:

1. Direct (where facilities can be placed)
   -Identification/evaluation of land areas for designation as long linear corridors or windows.

2. Indirect (where facilities can not be placed)
   - Identification/evaluation of land areas where facilities may not or will not be placed, by classifying the areas as avoidance areas or exclusion areas.

3. Direct and Indirect Combined
   - Combination of the above to: a) identify, evaluate, and designate important right-of-way areas; and b) identify, evaluate, and designate areas exhibiting important natural, cultural, and social values.

(Refer to Attachments, Exhibit 1, page G-43, for a detailed discussion on these three approaches.)

INVENTORY OF EXISTING RIGHTS-OF-WAY THAT MEET STANDARDS FOR POTENTIAL CORRIDOR DESIGNATION (See Energy Transportation and Utility Corridor Map.)

Electrical transmission lines and Federal, State, and Interstate highway rights-of-way currently existing on the Fishlake National Forest are displayed in Tables A and B, respectively.

(No rights-of-way exist on the Forest for oil, gas or coal slurry pipelines or for railroads.)

TABLE A

EXISTING ELECTRICAL TRANSMISSION LINES

NAME	LOCATION BEGINNING-ENDING	SIZE	R/W WIDTH (FEET)	LENGTH (MILES)	ACRES
Sigurd - Cedar City (UP&L)	From Sigurd sub-station to Cedar City via Clear Cr. Canyon Area.	128-kv	75	15.14	137.62
Sigurd - Nevada State Line	From Sigurd sub-station to Ely, Nevada via Round Valley and Scipio Pass	230-kv	120	7.83	113.89
Sigurd - Cedar City	From Sigurd sub-station to Cedar via Sevier Valley/Circleville	230 kv	110	8.34	111.18
Huntington Sigurd (UP&L)	From Huntington Power Plant at Huntington, Utah to Sigurd sub-station via Salina Canyon/Gooseberry Valley	345 kv	130	23.45	369.53
Hunter-Sigurd (UP&L)	From Hunter Power Plant at Castle Dale, Utah to Sigurd sub-station via Salina Canyon/Gooseberry Valley	345 kv	130	23.45	369.40
Lynndyl-Mona	From IPP Power Plant at Lynndyl,	345 kv	200	3.5	84.84
Lines 1 and 2	Utah to Mona sub-station via Leam-ington Pass	345 kv	200	3.5	84.84

SOURCE: 2720 Case File Folders

TABLE B

EXISTING FEDERAL, STATE, AND INTERSTATE HIGHWAYS

NAME	LOCATION BEGINNING-ENDING	R/W WIDTH (FEET)	LENGTH (MILES)	ACRES
Interstate 70 (I-70)	Salina Canyon	550	23*	1,533*
Interstate 70 (I-70) (Approximately 10.0 miles still under construction)	Clear Creek Canyon	550	13*	867*
State Highway (U-13)	Clear Creek Canyon	200	7*	170*
Interstate 15 (I-15)	Within one mile of National Forest for approximately 6 miles at Scipio Pass	---	---	---
State Highway (U-72)	I-70 (Salina Canyon) to U-24 at Loa, Utah	132*	15.4*	246*
State Highway (U-132)	Leamington, Utah to Nephi, Utah	132	0.34	5.45
State Highway (U-24)	Torrey, Utah to Fruita, Utah	132	0.7	11.2
State Highway (U-25)	Fishlake	400	6*	290*
State Highway (U-153)	Beaver, Utah to Junction, Utah	132	26.10	417.6

*Approximate figures

SOURCE: Forest Land Status and Road Atlas Records

INVENTORY OF PLANNING WINDOWS THAT WERE EVALUATED FOR POTENTIAL WINDOW DESIGNATION

An inventory of planning windows resulted in the following areas being identified for potential window designation: (These areas are shown on the Energy Transportation and Utility Corridor Map.)

1. Trough Hollow
2. Gooseberry Valley
3. Clear Creek Canyon
4. Scipio Pass
5. Salina Canyon

EXCLUSION AREAS

There are no areas on the Fishlake National Forest with legislation prohibiting transmission facilities. Thus, there are no exclusion areas on the Forest.

AREAS EVALUATED AS POTENTIAL AVOIDANCE AREAS

Seven general geographical areas have been identified as potential avoidance areas. These areas are as follows: (Refer to the Energy Transportation and Utility Corridor Map for location.)

1. Canyon Range
2. Pahvant Range
3. Tushar Mountains
4. Monroe Mountain
5. Gooseberry-Fishlake-Hilgard Areas
6. Old Woman-Willow Creek Areas
7. Thousand Lake Mountain Area
8. Research Natural Areas

EVALUATION CRITERIA

Factors used by the Forest to determine suitability of the inventoried rights-of-way, and planning windows as designated corridors/windows are as follow: (The same factors were also used to establish avoidance area designations.)

1. Compliance with Federal, State and local land-use plans and applicable Federal and State Laws.

2. Reasonable mitigation would prevent unacceptable impacts to natural resources, including soil, water, fish, wildlife, vegetation, cultural resources, and visual quality.

3. Few or no physical restrictions on corridor placement or rights-of-way placed therein would exist due to geology, hydrology, soil or land forms.

4. Existing and future right-of-way uses would be engineeringly and technologically compatible.

5. Reasonable mitigation would prevent unacceptable social and economic impacts to adjacent landowners and other groups or individuals.

6. Few if any potential health and safety hazards to National Forest users and the general public would result due to materials or activities within the right-of-way corridors.

7. Off-road-vehicle administrative costs for right-of-way corridors would not exceed Forest budget constraints for alternative management programs.

8. Economic efficiency would be achieved by placing a right-of-way within a corridor/window. Consideration would be given to costs of construction, operation and maintenance, and costs of modifying or relocating existing facilities in a proposed corridor/window.

9. National Security risks would be minimized by location of proposed corridors/windows.

10. Potential adverse impacts to threatened or endangered species or their habitats would occur.

11. Acceptable mitigation should be formulated for disturbances to wetlands, flood plains, and all riparian areas.

12. Maximum use of existing electric transmission, pipeline and transportation routes would occur.

EVALUATION PROCESS

Each right-of-way route (the right-of-way and terrain immediately adjacent to the right-of-way) and each planning window area was evaluated by analyzing how each of the 12 criteria would be met or affected under a corridor or window designation and eventual right-of-way use. This analysis is shown on Tables C through E. The listed Avoidance Areas were also evaluated by applying the 12 criteria.

EVALUATION PROCESS

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

Evaluation Criteria	a. Sigurd-Cedar City 138 kv	b. Sigurd-Scipio 230 kv	c. Sigurd-Circleville 230 kv	d. Huntington-Sigurd 345 kv	d. Hunter-Sigurd 345 kv	e. Lynndyl-Mona Lines 1 and 2 345 kv
1. Land-Use Plan and Laws	NO KNOWN CONFLICT					
2. Effect to Resource Values (Discussion on resource areas/values where considered critical or sensitive)	Sigurd to Clear Cr. Canyon is located off NF land. Adjacent NF land is characterized by shallow soils, high erosion and important visuals. Mitigation of impacts would be difficult.	Sigurd to Scipio Lake is located off NF land. Adjacent NF land is characterized by shallow soil, high erosion, and important visuals. Mitigation of impacts would be difficult.	Sigurd to Piute Res. located off NF land. Adjacent NF land is characterized by unstable shallow soils; impacts would be difficult to mitigate.	Plant site to Trough Hollow located off of NF land. Trough Hollow to Sigurd located mostly on NF land; impacts could be mitigated except for resources associated with two critical areas-Trough Hollow and Gooseberry Valley; these two areas are characterized by shallow soils or unstable landforms. Impacts could be mitigated in these critical areas by careful location of facilities. Adjacent NF land exhibits high density cultural resources and important visual quality.		No major problems. Impacts could be mitigated.
	Clear Cr. Canyon to Pine Cr. within NF land; impacts could be mitigated. Adjacent canyon slopes and bottom exhibits shallow soils, high erosion, high density cultural resources, & important visuals; impacts would be difficult to mitigate.	Scipio Lake to tip of Pavant is located partly on NF land. Impacts could be mitigated. Adjacent NF land exhibits shallow soils, high erosion and important visuals; impacts would be difficult to mitigate.	Piute Res. to I-15 located partly on NF land; impacts could be mitigated. Adjacent NF land to the north exhibits important visual resources.			

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

Evaluation Criteria	a. Sigurd-Cedar City 138 kv	b. Sigurd-Scipio 230 kv	c. Sigurd-Circleville 230 kv	d. Huntington-Sigurd 345 kv	d. Hunter-Sigurd 345 kv	e. Lynndyl-Mona Lines 1 and 2 345 kv
3. Geology, Hydrology, Soil and Landform Restrictions	Sigud to Clear Cr. Canyon-adjacent NF land is characterized by steep slopes and incised canyons.	Steep slopes and numerous rock outcrops exist on adjacent NF land from Sigurd to Scipio Lake.	Very steep slopes exist from Sigurd to Piute Res. on adjacent NF land.	Trough Hollow exists as a narrow V-shaped box canyon; adjacent NF land exhibits very steep slopes with numerous rock outcrops.		No major problems.
	Clear Cr. Canyon to Pine Cr. - the canyon area and areas north of canyon also characterized by steep slopes and numerous rock outcrops. Areas south of ROW route are on steep slopes; the route itself is located on gentle to moderately steep slopes.	Some steep slopes exist on the Scipio Lake to Tip of Pavant route portion. Terrain adjacent to route exhibits very steep rocky slopes.	Actual route from Piute Res. to I-15 located on gentle slopes; NF land adjacent to route exhibits steep and rocky slopes and numerous rock outcrops.	Gooseberry Valley is characterized by soil slides and slumps, i.e. the valley area is geologically unstable with a history of severe sliding and slumping.		
				Most of actual route is located on gently sloping terrain.		

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

Evaluation Criteria	a. Sigurd-Cedar City 138 kv	b. Sigurd-Scipio 230 kv	c. Sigurd-Circleville 230 kv	d. Huntington-Sigurd 345 kv	d. Hunter-Sigurd 345 kv	e. Lynndyl-Mona Lines 1 and 2 345 kv
4. New and Existing Uses Would be Engineeringly & Technologically Compatible	For the Sigurd to Clear Cr. Canyon portion, construction on adjacent NF land would cause problems with compatibiltiy of new uses.	Uses would experience compatability problem if located on NF land adjacent to existing ROW route --this applies to Sigurd to tip of Pavant route. Restrictive terrain would be the cause of incompatibility.	Same as for Route No. 2--applies to route from Sigurd to I-15 via Circleville.	Same as for Route No. 2--applies to route from Plant Site to Sigurd.		No major problems.
	No problems with compatibility with terrain route location from Clear Cr. Canyon to Pine Cr. There would be problems outside of route due to restrictive terrain features.					
5. Socioeconomic Impacts to Adjacent Landowners and other Groups or Individuals	Decisions to expand ROW's to private lands instead of on to adjacent NF land would affect private farm and ranch operations and some community developments.				No major problems.	
6. Health and Safety Hazards to National Forest Users and General Public.	Few hazards would exist beyond construction area associated with right-of-way facilities.					

TABLE C

RIGHTS-OF-WAY (ELECTRIC TRANSMISSION LINES)

Evaluation Criteria	a. Sigurd-Cedar City 138 kv	b. Sigurd-Scipio 230 kv	c. Sigurd-Circleville 230 kv	d. Huntington-Sigurd 345 kv	d. Hunter-Sigurd 345 kv	e. Lynndyl-Mona Lines 1 and 2 345 kv
7. Off-Road Vehicle Administrative Costs.	Costs would exceed Forest budget for all alternatives, if routes were expanded on to NF land characterized by steep rocky slopes and shallow soils or highly incised canyons.			No major changes would result in present off-road vehicle use.		
8. Economic Efficiency of Constructing, Operating and Maintaining ROW and Costs of Relocating Existing Facilities.	Questionable efficiency if ROW's were expanded to adjacent NF land which is characterized by steep rocky slopes and erosive soils. No major problems with economic efficiency or modifying or relocating facilities within existing route areas.			Poor economic efficiency and high costs of modifying or relocating existing facilities outside of Trough Hollow and the Gooseberry Valley areas. Existing slides and slumps in the Gooseberry Valley area would require careful location within the existing route.		No major problems.
9. National Security Risks	Existing routes would pose no major problems to energry security.					
10. Threatened or Endangered Species	No known major problems within existing routes or on areas of possible expansion.					
11. Wetlands, Flood Plains and Riparian Areas.	Clear Cr. Canyon area has important and critical riparian areas, i.e., important and critical wildlife and fish habitat. Mitigation would be difficult.	No major problems within routes or on NF lands immediately adjacent to routes.		Crosses flood plains and riparian areas in the Gooseberry Valley Area. Mitigation of impacts could be acceptable.		No major problems.
12. Maximum Use of Existing Linear Rights-of-Way	Approximately 1/2 percent of route is located along transportation ROW's.	Approximately 75 percent of route is located adjacent to existing transportation ROW's.	Approximately 50 per-percent of route is located adjacent to existing transportation ROW's.	Less than 33 percent of route is located adjacent to other linear ROW's.		Most of route is located adjacent to transportation ROW's.

EVALUATION PROCESS
TABLE D
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
	1. Land Use Plans and Laws
a. Interstate 70 (I-70) Salina Canyon b. Interstate 70 (I-70) Clear Creek	Approval and coordination would be required by State Department of Transportation (DOT) and Federal Highway Administration (FHA) during planning, design, construction and maintenance work for utilities and other transportation facilities within highway ROW.
c. State Highway (U-13) Clear Creek Canyon	Approval and coordination would be required from State Department of Transportation during planning, design, construction and maintenance work for utilities and other trasportation facilties within highway ROW.
d. Interstate 15 (I-15) Scipio Pass	Same as for I-70
e. State Highway (U-72) Fremont Junction - Loa	Same as for U-13.
f. State Highway (U-132) Leamington	Same as for U-13
g. State Highway (U-24) Torrey	Would conflict with management of Capitol Reef National Park.
h. State Highway (U-25) Fishlake	Would conflict with management of Fishlake Recreation Area. (Exclusion Areas).
i. State Highway (U-153) Beaver	Would conflict with Avoidance Area designation for the area being crossed.
	2. Effects to Resource Values (Discussion on resource areas/ values where considered critical or sensitive)

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
a. Interstate 70 (I-70) Salina Canyon	Critical wildlife, soil, and visual resources exist along most of route. Site specific mitigation could prevent unacceptable impacts to these routes.
b. Interstate 70 (I-70) Clear Creek	Adjacent slopes exhibit shallow soils with high erosion potentials. High density cultural resources exist in the area. Visual resources are important. Impact to the above resources within the ROW could be mitigated; mitigation would be difficult outside of ROW.
c. State Highway (U-13) Clear Creek Canyon	Critical soil, water, visual, fish, and cultural resources exist along ROW length and on adjacent canyon slopes. Impacts would be difficult to mitigate.
d. Interstate 15 (I-15) Scipio Pass	Same as for I-70
e. State Highway (U-72) Salina - Loa	Important cultural resources, visuals and wildlife habitat along ROW route; impacts could be mitigated. Adjacent slopes are characterized by erosive soils and critical visual resources.
f. State Highway (U-132) Leamington	No major impacts to resources within ROW; impacts to resources adjacent to ROW could be mitigated.
g. State Highway (U-24) Torrey	Impacts to critical soil and visual resources within and adjacent to ROW would be difficult to mitigate.
h. State Highway (U-25) Fishlake	Impacts to critical soil, water, wildlife, fish and visual resources within and adjacent to ROW would be difficult to mitigate.
i. State Highway (U-153) Beaver	
3. Geology, Hydrology, Soil and Landform Restrictions	
a. Interstate 70 (I-70) Salina Canyon	Canyon bottom very narrow in places; adjacent slopes steep with numerous rocky outcrops. Major streams along most of route.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
b. Interstate 70 (I-70) Clear Creek	Slopes adjacent to most of ROW are moderately steep. Several large drainages are crossed. Route is located within drainage bottoms on steep side slopes.
c. State Highway (U-13) Clear Creek Canyon	Canyon bottom, characterized by narrow widths and steep rocky side slopes, major stream along most of route. Slides evident on adjacent slopes.
d. Interstate 15 (I-15) Scipio Pass	Route crosses through narrow saddle with steep side slopes on east side and moderately steep to very steep side slopes on west side. Slopes are rocky with shallow soils.
e. State Highway (U-72) Salina-Loa	Route traverses area of gently rolling slopes. Adjacent terrain is steep with shallow soils.
f. State Highway (U-132) Leamington	Route confined to limited area between the Sevier River and steep slopes.
g. State Highway (U-24) Torrey	Adjacent terrain varies from gentle to steep slopes.
h. State Highway (U-25) Fishlake	Adjacent terrain varies from gentle to steep slopes.
i State Highway (U-153) Beaver	Route traverses area of steep to very steep slopes and numerous springs and streams. A variety of terrain features exist, i.e., from valleys to canyons & side slopes.
	4. New and Existing Uses would be Engineeringly and Technologically Compatible.
a. Interstate 70 (I-70) Salina Canyon	Uses and areas of use would be limited due to confined area and restrictive terrain features. Vehicle transportation flows would be disrupted for substantial periods of time during construction of utilities and transportation facilities.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
b. Interstate 70 (I-70) Clear Creek	No problem with compatibility within ROW location. There would be problems outside of route due to restrictive terrain features. Some disruption to vehicle transportation flow patterns would result during construction of utilities and transportation facilities.
c. State Highway (U-13) Clear Creek Canyon	Areas traversed would limit size, type and number of uses due to very restrictive terrain. Compatibility between uses would be a problem. Substantial disruption to vehicle transportation flows would result during construction of utilities and transportation facilities.
d. Interstate 15 (I-15) Scipio Pass	Same as for Clear Creek, I-70
e. State Highway (U-72) Salina-Loa	No problem with compatibility within area of gently rolling slopes. On adjacent slopes, compatibility problems would exist. Minor disruption to vehicle transportation flows would result during construction of utilities and transportation facilities.
f. State Highway (U-132) Leamington	Uses and areas of use would be limited due to confined area. Substantial disruption to vehicle transportation flow patterns would result during construction of utilities and transportation facilities.
g. State Highway (U-24) Torrey	Same as for Clear Creek U-13.
h. State Highway (U-25) Fishlake	Same as for Clear Creek U-13
i. State Highway (U-153) Beaver	Same as for Clear Creek U-13

5. Socioeconomic Impacts to Adjacent Landowners Other Groups or Individuals

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
a. Interstate 70 (I-70) Salina Canyon	No major problems other than the traffic delays that would result during construction of utilities--such delays could be substantial.
b. Interstate 70 (I-70) Clear Creek	No major problems. Some traffic delays would result during construction of utilities.
c. State Highway (U-13) Clear Creek Canyon	Adjacent private landowners would be adversely affected due to proximity of ROW to private dwellings. Traffic could be disrupted for long periods of time.
d. Interstate 15 (I-15) Scipio Pass	Same as for Clear Creek, I-70.
e. State Highway (U-72) Salina-Loa	No major problems. Minor delays to road traffic during construction of facilities.
f. State Highway (U-132) Leamington	Same as for Clear Creek U-13
g. State Highway (U-24) Torrey	Recreation users and general public would be adversely impacted during construction of utilities. Adjacent private land owners would be adversely affected due to proximity of ROW to private facilities.
h. State Highway (U-25) Fishlake	
i. State Highway (U-153) Beaver	Recreation users and general public would be adversely affected during construction of utilities.
6. Health and Safety Hazards to National Forest Users and General Public.	
a. Interstate 70 (I-70) Salina Canyon	Hazards would exist during utility construction period.
b. Interstate 70 (I-70) Clear Creek	Hazards would exist during utility construction period.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
c. State Highway (U-13) Clear Creek Canyon	Hazards would exist during utility construction period.
d. Interstate 15 (I-15) Scipio Pass	Hazards would exist during utility construction period.
e. State Highway (U-72) Salina-Loa	Hazards would exist during utility construction period.
f. State Highway (U-132) Leamington	Hazards would exist during utility construction period.
g. State Highway (U-24) Torrey	Hazards would exist during utility construction period.
h. State Highway (U-25) Fishlake	Hazards would exist during utility construction period.
i. State Highway (U-153) Beaver	Hazards would exist during utility construction period.
	7. Off-Road Vehicle Administrative Costs
a. Interstate 70 (I-70) Salina Canyon	No major changes would result in present off-road vehicle use.
b. Interstate 70 (I-70) Clear Creek	No major changes would result in present off-road vehicle use.
c. Interstate 70 (I-70) Clear Creek Canyon	No major changes would result in present off-road vehicle use.
d. Interstate 15 (I-15) Scipio Pass	No major changes would result in present off-road vehicle use.
e. State Highway (U-72) Salina-Loa	Increased off-road vehicle use could result due to non-restrictive terrain immediately adjacent to ROW.
f. State Highway (U-132) Leamington	No major changes would result in present off-road vehicle use.
g. State Highway (U-24) Torrey	Same as for Salina-Loa U-72.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)		EVALUATION CRITERIA
h.	State Highway (U-25) Fishlake	Same as for Salina-Loa, U-72. Administrative costs could be substantial.
i.	State Highway (U-153) Beaver	Same as for Salina-Loa, U-72. Administrative costs could be substantial.
	8.	Economic Efficiency of Constructing, Operating, and Maintaining ROW and Costs of Modifying or Relocating Existing Facilities
a.	Interstate 70 (I-70) Salina Canyon	Poor economic efficiency could result without careful planning and design of utilities. There would be a high cost of modifying existing highway facilities.
b.	Interstate 70 (I-70) Clear Creek	
c.	State Highway (U-13) Clear Creek Canyon	Poor economic efficiency and high costs of modifying or relocating existing ROW facilities and adjacent facilities on private land.
d.	Interstate 15 (I-15) Scipio Pass	No major problems within existing ROW.
e.	State Highway (U-72) Salina-Loa	No major problems.
f.	State Highway (U-132) Leamington	Same as for Clear Creek, U-13.
g.	State Highway (U-24) Torrey	Same as for Clear Creek, U-13.
h.	State Highway (U-25) Fishlake	Same as for Clear Creek, U-13.
i.	State Highway (U-153) Beaver	No major problems.
	9.	National Security Risks.
a.	Interstate 70 (I-70) Salina Canyon	Existing routes would pose no major problems to energy security.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
b. Interstate 70 (I-70) Clear Creek	Existing routes would pose no major problems to energy security.
c. State Highway (U-13) Clear Creek Canyon	Existing routes would pose no major problems to energy security.
d. Interstate 15 (I-15) Scipio Pass	Existing routes would pose no major problems to energy security.
e. State Highway (U-72) Salina-Loa	Existing routes would pose no major problems to energy security.
f. State Highway (U-132) Leamington	Existing routes would pose no major problems to energy security.
g. State Highway (U-24) Torrey	Existing routes would pose no major problems to energy security.
h. State Highway (U-25) Fishlake	Existing routes would pose no major problems to energy security.
i. State Highway (U-153) Beaver	Existing routes would pose no major problems to energy security.
10.	Threatened or Endangered Species and Habitats
a. Interstate 70 (I-70) Salina Canyon	No known major problems within existing routes or on areas of possible expansion.
b. Interstate 70 (I-70) Clear Creek	No known major problems within existing routes or on areas of possible expansion.
c. State Highway (U-13) Clear Creek Canyon	No known major problems within existing routes or on areas of possible expansion.
d. Interstate 15 (I-15) Scipio Pass	No known major problems within existing routes or on areas of possible expansion.
e. State Highway (U-72) Salina-Loa	No known major problems within existing routes or on areas of possible expansion.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
f. State Highway (U-132) Leamington	No known major problems within existing routes or on areas of possible expansion.
g. State Highway (U-24) Torrey	No known major problems within existing routes or on areas of possible expansion.
h. State Highway (U-25) Fishlake	No known major problems within existing routes or on areas of possible expansion.
i. State Highway (U-153) Beaver	No known major problems within existing routes or on areas of possible expansion.
11.	Wetlands, Flood Plains and Riparian Areas.
a. Interstate 70 (I-70) Salina Canyon	Important riparian areas exist along ROW --areas are important as wildlife and fish habitat. Mitigation would be difficult.
b. Interstate 70 (I-70) Clear Creek	Important riparian areas exists along a portion of the ROW--areas are important wildlife and fish habitat. Mitigation would be difficult.
c. State highway (U-13) Clear Creek Canyon	Same as for Salina Canyon, I-70.
d. Interstate 15- (I-15) Scipio Pass	No major problems within ROW or on National Forest lands immediately adjacent to route.
e. State Highway (U-72) Salina-Loa	Same as for Scipio Pass, I-15
f. State Highway (U-132) Leamington	Riparian area adjacent to ROW. Impacts could be mitigated.
g. State Highway (U-24) Torrey	Same as for Scipio, I-15.
h. State Highway (U-25) Fishlake	Same as for Scipio, I-15.

EVALUATION PROCESS
TABLE D (cont)
RIGHTS-OF-WAY (HIGHWAYS)

RIGHTS-OF-WAY (HIGHWAYS)	EVALUATION CRITERIA
i. State Highway (U-153) Beaver	Same as for Clear Creek, I-70.
	12. Maximum Use of Existing Linear Rights-of-Way.
a. Interstate 70 (I-70) Salina Canyon	Meets criterion since actual transportation ROW would be fully or partially utilized.
b. Interstate 70 (I-70) Clear Creek	Meets criterion since actual transportation ROW would be fully or partially utilized.
c. State Highway (U-13) Clear Creek Canyon	Meets criterion since actual transportation ROW would be fully or partially utilized.
d. Interstate 15 (I-15) Scipio Pass	Meets criterion since actual transportation ROW would be fully or partially utilized.
e. State Highway (U-72) Salina-Loa	Meets criterion since actual transportation ROW would be fully or partially utilized.
f. State Highway (U-132) Leamington	Meets criterion since actual transportation ROW would be fully or partially utilized.
g. State Highway (U-24) Torrey	Meets criterion since actual transportation ROW would be fully or partially utilized.
h. State Highway (U-25) Fishlake	Meets criterion since actual transportation ROW would be fully or partially utilized.
i. State Highway (U-153) Beaver	Meets criterion since actual transportion ROW would be fully or partially utilized.

EVALUATION PROCESS
TABLE E
WINDOW AREAS

WINDOW AREAS	EVALUATION CRITERIA
	1. Land-Use Plans and Laws
Trough Hollow	No Known Conflict
Gooseberry Valley	No Known Conflict
Clear Creek, I-70 Scipio Pass Salina Canyon	Approval and coordination would be required from State Department of Transportation and Federal Highway Administration during planning design, construction, and maintenance work for utilities and other transportation facilities that affected highway ROW's.
	2. Effects to Resources Values (Discussion on resource values/areas where considered critical or sensitive).
Trough Hollow Gooseberry Valley	See Table C, Hunter/Huntington-Sigurd 345 kv electric transmission lines.
Clear Creek, I-70	Analyzed as part of electric transmission and highway ROW's--see Table C, Sigurd-Cedar City, 138 kv and Table D, Clear Creek, I-70.
Scipio Pass	Analyzed as part of electrical transmission and highway ROW's--See Table C, Sigurd-Scipio 230 kv and Table D, Scipio I-15.
Salina Canyon	Analyzed as part of highway ROS; see Table D, Salina Canyon I-70.
	3. Geology, Hydrology, Soil and Landform Restrictions.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

EVALUATION PROCESS
TABLE E (cont)
WINDOW AREAS

WINDOW AREAS	EVALUATION CRITERIA
	4. New and Existing Uses Would Be Engineeringly and technologically compatible.
	5. Socioeconomic Impacts to Adjacent Landowners and Other Groups or Individuals.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.
	6. Health and Safety Hazards to National Forest Users and General Public.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.
	7. Off-Road Vehicle Administrative Costs.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.
	8. Economic Efficiency of Constructing, Operating and Maintaining ROW Costs or Relocating Existing Facilities.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

EVALUATION PROCESS
TABLE E (cont)
WINDOW AREAS

WINDOW AREAS	EVALUATION CRITERIA
	9. National Security Risks.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.
	10. Threatened or Endangered Species
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.
	11. Wetlands, Flood Plains and Riparian Area.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.
	12. Maximum Use of Existing Linear Rights-of-Way.
Trough Hollow	Same as for Criterion 2.
Gooseberry Valley	Same as for Criterion 2.
Clear Creek, I-70	Same as for Criterion 2.
Scipio Pass	Same as for Criterion 2.
Salina Canyon	Same as for Criterion 2.

EVALUATION RESULTS - PROCEDURES AND RECOMMENDED DESIGNATIONS

- Procedures

The analysis information from the EVALUATION PROCESS was used to:

1. Designate routes and areas as corridors, windows, or avoidance areas;

2. Establish widths of corridors and windows; and

3. Establish type of permitted energy right-of-way facility, i.e., underground, overhead, over-the-surface, or a combination of the three.

-Recommended Designations for Existing Linear Right-of-Way Routes and Planning Windows

A Summary of the recommendations is presented in Table F: Summary of Management Direction for Existing Electrical Transmission Line and Highway Routes and Planning Windows. The Summary is found on pages G-29 to G-32.

The narratives on corridor and window designations, including widths and type of right-of-way, are found on pages G-33 to G-42. These pages address the recommended designations for existing electrical transmission lines, Federal, Sate and Interstate Highway Routes, and Planning Windows.

TABLE F

SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILTIY	WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION
1. ELECTRICTAL TRANSMISSION LINE ROUTES				
a. Sigurd-Cedar City 138 kv				
Sigurd to Clear Creek Segment	Yes	Overhead and underground	Areas between private residential developments and NF boundary.	Canyon Range Avoidance Area.
Clear Creek to Pine Cr. Segment	Yes	Overhead and underground	One to three miles	Canyon Range and Tushars-Beaver Mtn. Avoidance Areas.
b. Sigurd-Scipio 230 kv				
Sigurd to Scipio Lake Segment	Yes	Overhead and underground	Areas between private residential developments and NF boundary.	Canyon Range Avoidance Area.
Scipio Lake to Pavant Mountains Segment	Yes	Overhead and underground	0.1 to 3.0 miles	Canyon Range and Avoidance Areas.
c. Sigurd-Circleville 230 kv				
Sigurd to Piute Reservoir Segment	Yes	Overhead and underground	Areas between existing line and National Forest boundary for portion north of Monroe, Ut.; Valley and foothills adjacent to NF boundary south of Monroe, Ut.	Monroe Mountain Avoidance Area.

TABLE F (Cont.)

SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILTIY	WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION
Piute Reservoir to I-15 Segment	Yes	Overhead and underground	0.25 to 3.0 miles	Tushars-Beaver Mtn. Avoidance Area.
d. Huntington/Hunter-Sigurd 345 kv				
Plant Site to Trough Hollow Segment	Yes	Overhead and underground	500 to 1000 feet (controlled by Trough Hollow area)	Old Woman-Willow Creek Avoidance Area.
Trough Hollow to Sigurd Segment	Yes	Overhead only	Lateral distance of Trough Hollow or lateral distance of most stable landforms in Gooseberry Valley, whichever is the least distance.	Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek Avoidance Area.
e. Lynndyl-Mona 345 kv				
Lines 1 and 2	Yes	Overhead and underground	1.5 to 2.0 miles	Canyon Range Avoidance Area.
2. HIGHWAY ROUTES				
a. I-70 Salina Canyon	Yes	Highway	Canyon bottom area	Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek Avoidance Areas.
b. I-70 Clear Creek	Yes	Highway	One to three miles	Canyon Range and Tushars-Beaver Mtn. Avoidance Areas.

TABLE F (Cont.)

SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILTIY	WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION
c. U-13 Clear Creek Canyon	Yes	Highway	Eastern 3.0 miles Areas between private residential developments and NF boundary	Remaining length (7.0 miles) located within Canyon Range Avoidance Area
d. I-15 Scipio Pass	Yes	Highway	0.1 to 3.0 miles	Canyon Range and Pavant Avoidance Areas.
e. U-72 Salina - Loa	Yes	Highway	1.0 mile average.	Gooseberry-Fishlake-Hilgard and Tousand Lakes Avoidance Areas
f. U-132 Leamington	Yes	Highway	0.1 to 0.5 miles	Canyon Range Avoidance Area.
g. U-24 Torrey	No			Within Thousand Lakes Avoidance Area.
Would also conflict				with Management of Capitol Reef National Park.
h. U-25 Fishlake	No			Within Gooseberry-Fishlake-Hilgard Avoidance Area. Would also conflict with management of Fishlake Recreation Area Exclusion Area.
i. U-153 Beaver-Junction	No			Within Tushars-Beaver Mountain Avoidance Area.

TABLE F (Cont.)

SUMMARY OF MANAGEMENT DIRECTION FOR
EXISTING ELECTRICAL TRANSMISSION LINE AND HIGHWAY ROUTES
AND PLANNING WINDOWS

	CORRIDOR DESIGNATION	TYPE OF FACILTIY	*WIDTH OF CORRIDOR	ADJACENT N.F. LAND DESIGNATION
3. PLANNING WINDOWS				
Trough Hollow	Yes	Overhead only	500 to 1000 feet	Old Woman-Willow Creek Avoidance Area
Gooseberry Valley	Yes	Overhead only	Lateral distance of most stable landform.	Gooseberry-Fishlake-Hilgard Avoidance Area.
Clear Creek Canyon-I-70 Route	Yes	Overhead and underground	1.0 to 3.0 miles	Canyon Range and Tushars-Beaver Mtn. Avoidance areas.
Scipio Pass	Yes	Overhead and underground	3.0 miles average underground	Canyon Range and Pavant Avoidance Areas
Salina Canyon	Yes	Underground and Surface	Canyon bottom area	Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek Avoidance Areas.

* See Transportation and Utilities Management Map of the Land Management Plan for boundaries of these areas.

EVALUATION RESULTS FOR AVOIDANCE AREAS

- Recommended Designation for Avoidance Areas

Application of the 12 Evaluation Criteria to the 7 geographical areas listed on page G-9 led to the following general statements concerning corridor and window designations:

> Most (and in some cases all) locations within these areas would conflict with or not meet the goals and objectives for any one criterion; and reasonable mitigation would (for the most part) not prevent unacceptable impacts to natural, physical, or social resources and values located within and adjacent to the areas.
>
> NOTE: There are presently no linear rights-of-way within these areas that meet the standards and guidelines for potential transportation and utility corridor designation.

The narratives on avoidance area designations are also found on pages G-32 to G-41.

In addition, Management Areas 3B and 10A within the general avoidance areas are designated for no surface occupancy. (See the Transportation and Utilities Management Map of the Land Management Plan for the location of these areas).

MANAGEMENT DIRECTION FOR EXISTING ELECTRICAL TRANSMISSION, FEDERAL, STATE, AND INTERSTATE HIGHWAYS, PLANNING WINDOWS AND AVOIDANCE AREAS

(The following serves as narrative backup to recommended Management Direction shown on table F.)

1. General Assumptions

   a. The concerned counties and communities would support Fishlake National Forest corridor designations; such counties and communities might not agree on corridor widths as specified on National Forest lands and might, through negotiation and applicable authorizing actions, set different corridor widths on county property or within community boundaries.

   b. State Department of Transportation and/or the Federal Highway Administration would approve of highway right-of-way encroachments proposed by project proponents.

   c. Most of the Forest Service System Roads would be part of Avoidance Area designations.

   d. Where applicable, Fishlake national Forest corridor and window designations would agree with such designations on adjacent BLM land.

2. Electrical Transmission Line Routes. (Assumptions, Recommendations, Mitigation, and Adjacent Lands)

a. Sigurd - Cedar City, 138 kv

Sigurd to Clear Creek Canyon

Assumption - Existing route would be within a designated corridor on BLM administered lands. (Existing line presently located on land administered by the BLM and on private lands.)

Recommendations

- Support corridor designation.
- Corridor suitable for both overhead and underground facilities.
- Expansion or widening should be limited to areas located between private residential developments and the National Forest boundary.

Adjacent Lands

Adjacent National forest lands are located in a designated Avoidance Area (Canyon Range), if overhead utility corridor proposals involve expansion onto National Forest land, helicopter construction would be required to protect critical natural resources. Underground pipeline proposals would be discouraged due to steep and highly dissected terrain and erosive soils.

Clear Creek Canyon to Pine Creek

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located both east and west of National Forest land.

Recommendations

- Designate as a corridor. 6/
- Corridor suitable for overhead and underground facilities. 7/
- Width of corridor to vary from one to three miles. (see Energy Transportation Corridor Map for corridor boundaries.)

General Mitigation Measures

- Helicopter construction would be required for overhead utilities on portions of the corridor.

Adjacent Lands

Adjacent National Forest lands are located in designated avoidance Areas (Canyon Range on the north and Tushars-Beaver Mountain on the south). Overhead and underground facility proposals would be discouraged due to very steep and highly dissected terrain, erosive soils, improtant visual resources and key wildlife habitat.

6/ Corridor area fits definition of a Window area due to the restrictive terrain located on both sides (north and south) of the corridor.

7/ Although there are presently no pipelines located within the corridor window area, terrain features within the one to three mile width could permit planning, design, and construction of pipelines.

b. Sigurd - Scipio, 230 kv

Sigurd to Scipio Lake

Assumption - Existing route would be within a designated corridor on BLM and State of Utah administered lands. (Existing line presently located on lands administered by the BLM and State and on private lands.)

Recommendations

- Support corridor designations.
- Corridor suitable for overhead and underground facilities. 8/
- Expansion or widening should be limited to areas located between private residential developments and the National Forest boundary

Adjacent Lands

Adjacent National Forest land is located in a designated Avoidance Area (Canyon Range); if overhead utility corridor proposals involved expansion onto National Forest land, helicopter construction would be required to protect critical natural resources. Underground pipeline proposals would be discouraged due to steep and highly dissected terrain and associated erosive soils.

Scipio Lake to Tip of Pahvant

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM and State lands located on both ends of this route segment.

Recommendations

- Support corridor designation on non-National Forest land and designate a corridor on National Forest land. 9/
- Corridor suitable for overhead and underground facilities. 10/
- Width of corridor to vary from 0.1 to 3.0 miles on National Forest land. 11/ (see Energy Transportation Corridor Map for corridor boundaries.)

8/ Terrain features east of the National Forest boundary would permit planning, design and construction of pipelines, i.e., the corridor is located on flat to gently rolling valley and foothill areas.

9/ Northern end of corridor area (Scipio Pass) fits definition of a Window area due to restrictive terrain features located on north and south sides of the Pass.

10/ Although there are presently no pipelines within the Corridor area terrain features (flat to gently rolling valley and foothill area) could permit planning design and construction of north/ south running pipelines systems.

Adjacent Lands

National Forest lands adjacent to the corridor boundary are part of designated Avoidance Areas (Canyon Range and); if overhead utility corridor proposals involved expansion onto these areas, helicopter construction would be required to protect critical natural resources. Underground pipeline proposals in the Avioidance Areas would be discouraged due to steep and highly dissected terrain and associated erosive soils.

c. Sigurd - Circleville, 230 kv

Sigurd to Piute Reservoir

Assumption - Existing route would be within designated BLM and State of Utah corridors. (Existing line presently located on lands administered by the BLM and State and on private lands.)

Recommendations

- Support corridor designations.
- Corridor suitable for overhead and underground facilities. 12/
- Expansion or widening along the Sigurd to Monroe portion of the route should be limited to areas located east of the existing line and west of the National Forest boundary. For the Monroe to Piute Reservoir route portion expansion or widening should be limited to valley and foothill areas located adjacent to the National Forest boundary.

Adjacent Lands

Adjacent National Forest lands are located in a designated Avoidance Area (Monroe Mountain). If overhead utility corridor proposals involved expansion onto National Forest land, helicopter construction would be required to protect critical soil resources. Underground pipeline proposals would be discouraged due to steep and highly dissected terrain and associated erosive soils.

11/ The southern end of the National Forest corridor portion could be part of a BLM corridor designation for the areas presently occupied by the 230 kv line. The corridor width on the National Forest portion is approximately 0.1 to 0.5 miles, becoming wider (1.0 to 3.0 miles) in the Scipio Pass area.

12/ There are presently no pipelines located within or adjacent to the route location.

Piute Reservoir to I-15

Assumptions - Fishlake National Forest corridor designatuon would agree with corridor designations of BLM and State lands located both east and west of National Forest land.

Recommendations

- Designate as a corridor.
- Corridor suitable for overhead and underground facilities. 13/
- Width of corridor to vary from 0.25 to 3.0 miles. (see Energy Transportation Corridor Map for corridor boundaries.) 14/

Adjacent Lands

National Forest land north of the corridor width is designated as an Avoidance Area, (Tushars-Beaver Mountain). If overhead utility corridor proposals involved expansion into this area, helicopter construction would be required to protect critical resource values. Underground pipeline proposals would be discouraged due to steep rocky and visually sensitive terrain.

d. Huntington/Hunter - Sigurd, 345 kv

Plant Site to Trough Hollow

Assumptions - Existing route would be within a designated BLM corridor. (Existing lines presently located on lands administered by the BLM; some State of Utah and private lands are also crossed.)

Recommendations

- Support corridor designations.
- Underground pipelines could utilize portions of this corridor, i.e., portions north of Trough Hollow, otherwise overhead utilities only.

-Expansion or widening of corridor would be controlled by design and construction limitations associated with Trough Hollow.

13/ There are presently no pipelines located within or adjacent to the route.

14/ The existing line is located on BLM, National Forest and State of Utah lands; expansion of the right-of-way on National Forest land would be acceptable; the width of the corridor on National Forest land would vary from 0.25 to 3.0 miles.

Adjacent Lands

Trough Hollow is a Window Area, located on National Forest land. Due to topographic constraints, this area could be the limiting factor for the width of the total corridor.

National Forest lands north of Trough Hollow are located approximately 3 to 8 miles from the existing transmission line route; expansion or widening of the corridor would not affect these lands.

Trough Hollow to Sigurd

Assumptions - Fishlake National forest corridor designation would agree with corridor designations on BLM lands located on both ends of this route segment.

Project proponents would consider the topographic constraints of Trough Hollow and the unstable landforms of Gooseberry Valley as limiting engineering factors for placement of overhead utilities.

Recommendations

-Support corridor designation on BLM lands and designate a corridor on National Forest land.
-Overhead utilities only.
-The width of the total corridor route would be limited to that lateral distance found within the Trough Hollow area or the lateral distance of most stable landforms in the Gooseberry Valley area, which ever is the least distance. (Lateral distance within the Trough Hollow area - from one side of the canyon to the other side - varies from 500 to 1000 feet. The lateral distance of most stable landforms along the Gooseberry Valley corridor route is subject to periodic geologic evaluation.

Adjacent Lands

National Forest lands north and south of the corridor windows, i.e., Trough Hollow and Gooseberry Valleys, are designated as Avoidance Areas, (Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek). The areas are characterized by steep sloped canyons with narrow canyon bottoms (Trough Hollow area) or by extremely unstable landforms (Gooseberry Valley area). Soils and visuals are the primary management concerns in the Avoidance Areas immediately adjacent to these Windows. Soils exhibit high erosion hazard ratings and low revegetation potential; visual quality objective is partial retention and visual absorption capabiltiy is low.

e. Lynndyl to Mona, 345 kv

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located on both ends of the Forest segment.

Recommendations

-Support corridor designations on BLM lands and designate a corridor on National Forest land.
-Corridor on National Forest land suitable for overhead and underground facilities. 15/
Width of corridor to vary from 1.5 to 2.0 miles (see Transportation Corridor map for corridor boundaries.)

Adjacent Lands

National Forest lands north and south of the corridor width are designated as an Avoidance Area, (Canyon Range). If overhead utility corridor proposals involved expansion into this area, helicopter construction would be required to protect soil resources. Underground pipeline proposals would be discouraged due to steep and moderately dissected terrain.

2. Federal, State, and Interstate Highways

a. Interstate 70 (I-70) - Salina Canyon

Assumptions - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located east and west of National Forest boundaries. Project proponents would consider the steep canyon slopes as topographic constraints to economic efficiency and engineering feasibility in regards to both overhead and underground construction proposals.

Recommendations

-Support corridor designations on BLM lands and designate a corridor on National Forest land. 16/
- Underground and surface facilities. 17/
- Width of corridor limited to canyon bottom only.

15/ Although there are presently no pipelines located within or adjacent to the corridor, the existing flat to gently rolling terrain would facilitate planning, design, and construction of east-west running pipeline systems.

16/ Corridor area on National Forest land fits definition of a Window area due to adjacent steep, rocky and highly dissected canyon slopes along approximately 80 percent of the route.

17/ There are presently no pipelines or railroads located within the Salina Canyon area. Terrain features within the canyon bottom area could permit planning, design, and construction of east-west running pipeline or rail systems, i.e., width is sufficient.

Adjacent Lands

Adjacent National Forest lands are located in designated Avoidance Areas, (Gooseberry-Fishlake-Hilgard and Old Woman-Willow Creek). The Avoidance Area terrain immediately adjacent to the corridor exhibits critical soil erosion problems, critical wildlife habitat, unstable landforms, and important visual qualities; encroachment on this terrain would be strongly opposed by the Forest.

b. Interstate 70 (I-70) - Clear Creek Canyon

Refer to writeup for EVALUATION RESULTS of Electrical Transmission Line Routes, item 1.a.. Clear Creek Canyon to Pine Creek.; the highway route is located within the designated corridor as described. The Assumptions and Recommendations for that corridor would also apply to this highway route.

c. State Highway (U-13) - Clear Creek Canyon

Eastern end of highway route is located within the Sigurd to Clear Creek Canyon Corridor as discussed under EVALUATION RESULTS for Electrical Transmission Line Routes, item 1.a. The Recommendations for that corridor would also apply to this highway segment. (The length of the highway segment within the designated corridor is 3.0 miles.)

The remaining highway length is located within a designated Avoidance Area, (Canyon Range). Proposals for overhead and underground facilities along the highway route would be discouraged. (See EVALUATION PROCESS, Table D for discussions on potential impacts from right-of-way proposals.)

d. Interstate 15 (I-15) - Scipio Pass

Refer to writeup for EVALUATION RESULTS of Electrical Transmission Line Routes, item 1.b., Scipio Lake to Tip of ; the highway route is located within a portion of the designated corridor as described. The Assumptions and Recommendations for that corridor would also apply to this highway route.

e. State Highway (U-72) - Salina to Loa

Assumptions - Fishlake National Forest corridor designation would agree with corridor designations and uses on BLM lands located both north and south of highway segment on National Forest land.

Recommendations

- Designate as a corridor.
- Corridor suitable for overhead, underground and surface facilities. 18/

- Width to average one mile; one half mile on either side off highway right-of-way. (See Transportion and Utilities Management Map for boundaries of these areas).

Adjacent Land

National Forest lands adjacent to the corridor boundaries are part of designated Avoidance Areas, (Gooseberry-Fishlake-Hilgard and Thousand Lakes). Both overhead and underground facility proposals in these areas would be discouraged due to the existance of important cultural and visual resources, erosive soils and key wildlife habitats.

f. State Highway (U-132) - Leamington

Assumption - Fishlake National Forest corridor designation would agree with corridor designations on BLM lands located on both ends of the Forest segment.

Recommendations

-Support corridor designations on BLM lands and deignate a corridor on National Forest land.
-Corridor on National Forest land suitable for overhead, underground and surface facilities.
-Width of corridor to vary from 0.1 to 0.5 miles (See Transportation Corridor Map for corridor boundaries.)

Adjacent Lands

National Forest lands south of the corridor width are designated as an Avoidance Area, (Canyon Range). If overhead utility corridor proposals involved expansion into this area, helicopter construction would be required to protect soil resources. Underground pipeline proposals would be discouraged due to steep and moderately dissected terrain.

g. State Highway (U-24) - Torrey

The highway portion on the Fishlake National Forest is located within a designated Avoidance Area (Thousand Lakes). Proposals for overhead and underground facilities would not be permitted due to proximity of Capitol Reef National Park. (See EVALUATION PROCESS, Table D for discussions on potential impacts from right-of-way proposals.)

h. State Highway (U-25) - Fishlake
The Fishlake National Forest highway portion is located within a designated Avoidance Area (Gooseberry-Fishlake-Hilgard Areas.) Proposals for overhead and underground facilities would conflict with important recreation and visual resources; the proposals would also conflict with management of adjacent designated Exclusion Area (Fishlake Recreation Area).

i. State Highway (U-153) - Beaver to Junction

The Fishlake National Forest highway portion is located within a designated Avoidance Area (Tushars-Beaver Mountain). Proposals for overhead and underground facilities would be discouraged, due to critical natural resources and potential engineering and administrative difficulties. (See EVALUATION PROCESS, Table D for discussions on potential impacts from right-of-way proposals.)

18/ The variation in terrain features within the corridor, i.e., north-south running ridges and flat to gently sloping terrain, would facilitate planning, design, and construction of overhead and underground and surface facilities.

3. Window Area

a. Trough Hollow

The Assumptions, Reccommendations, and Adjacent land discussions for the Huntington/Hunter - Sigurd, 345 kv transmission line apply to this planning window.

b. Gooseberry Valley

Same as above

c. Clear Creek Canyon

The Assumptions, Recommendations and Adjacent Land discussions for the Sigurd-Cedar City 138 kv transmission line apply to this planning window.

d. Scipio Pass

The Assumptions, Recommendations, and Adjacent Land discussions for the Scipio Lake to Tip of , 230 kv transmission line apply to this planning window.

e. Salina Canyon

The Assumptions, Recommendations, and Adjacent Land discussions for the Intestate 70 (I-70) - Salina Canyon apply to this planning window.

ATTACHMENTS

EXHIBIT NO. 1

APPROACHES FOR CORRIDOR/WINDOW SELECTION

Three approaches for designating corridor/window -

the direct (where facilities could go),
the indirect (where facilities could not go), and
the combination (mixture of direct and indirect) will be followed in the corridor/window evaluation report.

The direct and indirect approach both identify two categories of land: where facilities could go and where facilities could not go. The combination approach involves a mixture of the above two land categories.

In the following item presentations, each approach is evaluated according to the flexibility of the process.

1. Direct Designation (where to place facilities)

   a. Identification of land areas for designation as corridors

      1) Long linear, or

      2)Windows

   b. Positive and negative aspects of long linear corridor designations

Positive	Negative
1) Needed, to address existing utility and transportation rights-of-way located in constrained or physically restrictive land areas.	1) Reduces planning flexibility for location length, origin, and destination of proposed facilities.
2) Controls right-of-way proliferation.	2) Could require a lengthy amendment process if right of way needs change, requiring use of land areas outside the corridor.
	3) Directly affects property values of adjacent state and private land.
	4) Shifts planning responsibilities for facilities from industry to the Forest Service.

c. Positive and negative aspects of window designations

The concept of a "window" is valid only where there are geographical constraints to siting facilities. These constraints can be caused by designation of adjoining sensitive areas.

Positive	Negative
1) More planning flexibility in response to origin, destination, source, and market differences -- giving industry more freedom in selecting alternative routes and releasing Forest Service from the responsibility to have engineering expertise or familiarity with industry standards and design requirements.	1) Does not fit all physical land categories, where widths are constrained by environmental features.
	2) Does not recognize patterns of land ownership.
	3) Does not prevent right-of-way proliferation.

2. Indirect Designation (where not to place facilities)

a. Identification of land areas where facilities could not or should not be placed, by classifying the areas as:

1) Avoidance Areas, or

2) Exclusion Areas.

Avoidance areas could be crossed under strict conditions, although by definition, facilities should avoid these areas to the greatest extent possible.

Construction linear facilities would be prohibited in exclusion areas.

b. Positive and negative aspects of indirect corridor designations

Positive	Negative
1) Retain flexibility for planning, concentrating agency efforts on the protection of important natural, cultural, and social values. Eliminates premature application of right-of-way needs or assumption of industry's role in facility planning.	2) Critical right-of-way needs might not be preserved, if a comprehensive framework for corridor planning was not developed.

3. Combination of Direct and Indirect Designations

a. Identification of existing linear rights-of-way and windows to protect critical right-of-way areas, and identification of avoidance and exclusion areas to protect important natural, cultural, and social values.

b. Aspects of a combination approach

1) Should help to limit proliferation of rights-of-way and allow the Forest Service some flexibility in the planning process.

2) Recognizes the importance of existing linear rights-of-way and provides an opportunity to address expansion potentials.

3) Industry could continue to design its own routes to meet source-to-market needs.

4) Routing decisions would be speeded up because avoidance and exclusion areas would be identified prior to route selection process.

5) Window designations would better incorporate multiple use factors and would be less presumptive concerning uses of adjoining non-Forest lands.

6) Unavoidable adverse effects might be minimized by eliminating sensitive areas from further study at an early stage.

EXHIBIT NO. 2

TRANSPORTATION AND UTILITIES MANAGEMENT MAP - LOCATED IN MAP PACKET OF THE LAND MANAGEMENT PLAN.

APPENDIX H

STIPULATIONS FOR MINERAL ACTIVITIES

Provision for general protection of surface resources and prevention of conflict with other activities, plans, and programs of the Forest Service and other users is included in existing laws and regulations. More specific provision is contained in the form of standard stipulations, which the forest imposes or recommends be imposed upon mineral and energy resources activites. Such stipulations include the following: (Copies of documents at end of this appendix)

A. Oil and Gas Leases

1. Bureau of Land Management form 3109-3 - Stipulations for Lands Under Jurisdiction of Department of Agriculture.

2. Forest Service (Intermountain Region) Supplement A to form 3109-3 - Surface Disturbance Stipulation.

B. Common Variety Materials (Salable)

1. Forest Service form 2800-76 - Standard Terms and Conditions (Preference Right Lease or Mineral Materials Permit).

In addition, special stipulations are formulated and recommendations/consent/approval conditioned to cover those concerns, identified in the environmental analysis process, which are not covered by the standard stipulations or where protection is not otherwise provided. Examples of special stipulations the Forest uses are shown below:

1. All of the land in this lease is included in (recreation or special area, etc.). Therefore, no occupancy or disturbance of the surface of the land described in this lease is authorized. The lessee, however, may exploit the oil and gas resources in this lease by directional drilling from sites outside this lease. If a proposed drilling site lies on land administered by the Bureau of Land Management, or by the Forest Service, a permit for use of the site must be obtained from the BLM District Manager or the Forest Service District Ranger, before drilling or other development begins.

2. No access or work trail or road, earth cut or fill, structure or other improvement, other than an active drilling rig, will be permitted if it can be viewed from the (road, lake, river, etc.).

3. No occupancy or other activity on the surface of (legal subdivision) is allowed under this lease.

4. No occupancy or other surface disturbance will be allowed within feet of the (road, trail, river, creek, canal, etc.). This distance may be modified when specifically approved in writing by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.

5. No drilling or storage facilities will be allowed within feet of (live water, the reservoir, the archaeological site, the histrocial site, the paleontological site, etc) located in (legal subdivision). This distance may be modified when specificaly approved in writing by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.

6. No occupancy or other surface disturbance will be allowed on slopes in excess of _____ percent, without written permission from the appropriate District Manager of the BLM, with the concurrenc of the authorized officer of the Federal surface management agency.

7. In order to (minimize watershed damage,protect important seasonal wildlife habitat, etc) exploration, drilling, and other development activity will be allowed only (during the period from to _____, during dry soil period, over a snow cover, on frozen ground). This limitation does not apply to maintenance and operation of producing wells. Exceptions to this limitation in any year may be specifically authorized in writing by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.

8. In order to minimize watershed damage, during muddy and/or wet periods, the authorized officer of the Federal surface management agency, through the appropriate District Manager of the BLM, may prohibit exploration, drilling, or other development. This limitation does not apply to maintenance and operation of producing wells.

9. The _____(Trail/Road) will not be used as an access road for activities on this lease, except as follows: (No exceptions, weekdays during recreation season, etc.).

10. To maintain esthetic values, all semi-permanent and permanent facilities may require painting or camouflage to blend with the natural surroundings. The paint selection or method of camouflage will be subject to approval by the appropriate District Manager of the BLM, with the concurrence of the authorized officer of the Federal surface management agency.

11. Controlled or Limited Surface Use Stipulation. This stipulation may be modified when specifically approved in writing by the appropriate District Manager, BLM, with concurrence of the Federal surface management agency. Distances and/or time periods may be made less restrictive depending on the actual on-ground conditions.

The lessee/operator is given notice that all or portions of the lease area may contain special values, may be needed for special purposes, or may require special attention to prevent damage to surface and/or other resources. Any surface use or occupancy within such special areas will be strictly controlled or, if necessary, excluded. Use or occupancy will be authorized only when the lessee/operator demonstrates that the special area is essential for operations in accordance with a surface use and operations plan which is satisfactory to the Geological Survey and the Federal surface management agency for the protection of such special areas and existing or planned uses. Appropriate modifications to imposed restrictions will be made for the maintenance and operation of producing oil and gas wells; however, in extremely critical situations, occupancy may only be allowed in emergencies.

After the Federal surface management agency has been advised of specific proposed surface use of occupancy on these lands, and on request of the lessee/operator, the agency will furnish more specific locations and additional information on such special areas which now include:

(Legal land description to lot and/or quarter, quarter section.)

Reason for Restriction:

Duration of Restriction: (year-round, month(s))

12. Activity Coordination Stipulation. This lease includes lands within *_____which has resource values sensitive to high levels of activity. In order to minimize impacts to these resources, special conditions, such as unitization prior to approval of operations, and/or other limitations to spread surface disturbance activities over time and space may be required prior to approval and commencement of any operations on the lease.

*Wilderness Areas, Further Planning Areas, Areas of Threatened and Endangered Species.

13. Protection of Endangered of Threatened Species. The Federal surface management agency is responsible for assuring that the area to be disturbed is examined, prior to undertaking any surface-disturbing activities on lands covered by this lease, to determine effects upon any plant or animal species listed or proposed for listing as endangered or threatened species, some restrictions to the operator's plans or even disallowances of use may result.

The lessee/operator may, at his discretion and cost, conduct the examination on the lands to be distrubed. This examination must be done by or under the supervision of a qualified resource specialist approved by the surface managemnet agency. An acceptable report must be provided to the surface management agency idetifying the anticipated effects of the proposed action on endangered or threatened species or their habitat.

Form 3109–3
(June 1971)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

STIPULATION FOR LANDS UNDER JURISDICTION OF DEPARTMENT OF AGRICULTURE*

The lands embraced in this lease or permit being under the jurisdiction of the Secretary of Agriculture, the lessee or permittee hereby agrees

(1) To conduct all operations authorized by this lease or permit with due regard for good land management, not to cut or destroy timber without first obtaining permission from the authorized representative of the Secretary of Agriculture, and to pay for all such timber cut or destroyed at the rates prescribed by such representative, to avoid unnecessary damage to improvements, timber, crops, or other cover, unless otherwise authorized by the Secretary of Agriculture, not to drill any well, carry on operations, make excavations, construct tunnels, drill, or otherwise disturb the surface of the lands within 200 feet of any building standing on the lands and whenever required, in writing, by the authorized representative of the Secretary of Agriculture to fence or fill all sump holes, ditches, and other excavations, remove or cover all debris, and so far as reasonably possible, restore the surface of the lands to their former condition, including the removal of structures as and if required, and when required by such representative to bury all pipelines below plow depth

(2) To do all in his power to prevent and suppress forest, brush, or grass fires on the lands and in their vicinity, and to require his employees, contractors, subcontractors, and employees of contractors or subcontractors to do likewise Unless prevented by circumstances over which he has no control, the lessee or permittee shall place his employees, contractors, subcontractors, and employees of contractors and subcontractors employed on the lands at the disposal of any authorized officer of the Department of Agriculture for the purpose of fighting forest, brush, or grass fires on or originating on the lands or on adjacent areas or caused by the negligence of the lessee or permittee or his employees, contractors, subcontractors and employees of contractors and subcontractors, with the understanding that payment for such services shall be made at rates to be determined by the authorized representative of the Secretary of Agriculture, which rates shall not be less than the current rates of pay prevailing in the vicinity for services of a similar character *Provided*, that if the lessee or permittee, his employees, contractors, subcontractors, or employees of contractors or subcontractors, caused or could have prevented the origin or spread of said fire or fires, no payment shall be made for services so rendered

During periods of serious fire danger to forest, brush, or grass, as may be specified by the authorized representative of the Secretary of Agriculture, the lessee or permittee shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, subcontractors, and employees of contractors or subcontractors within the area involved except at established camps, and shall enforce this prohibition by all means within his power· *Provided*, that the authorized representative of the Secretary of Agriculture may designate safe places where, after all inflammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee or permittee, smoking may be permitted

The lessee or permittee shall not burn rubbish, trash, or other inflammable materials *except* with the consent of the authorized representative of the Secretary of Agriculture and shall not use explosives in such a manner as to scatter inflammable materials on the surface of the lands during the forest, brush, or grass fire season, *except* as authorized to do so or on areas approved by such representative

The lessee or permittee shall build or construct such fire lines or do such clearing on the lands as the authorized representative of the Secretary of Agriculture decides is essential for forest, brush, and grass fire prevention which is or may be necessitated by the

* This form of stipulation may be used in connection with leases and permits issued under the Acts of February 25, 1920, as amended (30 U S C 181 *et seq*), August 7, 1947 (30 U S C 351 *et seq*), February 7, 1927, as amended (30 U S C 281 *et seq*), April 17, 1926, as amended (30 U S C 271 *et seq*), June 28 1944 (58 Stat 483–485), September 1 1949 (30 U S C 192c), June 30 1950 (16 U S C 508b), or under the authority of any of the Acts cited in Section 402 of the President's Reorganization Plan No 3 of 1946 (5 U S C 133y–16, Note)

exercise of the privileges authorized by this lease or permit, and shall maintain such fire tools at his headquarters or at the appropriate location on the lands as are deemed necessary by such representative.

(3) In the location, design, construction, and maintenance of all authorized works, buildings, plants, waterways, roads, telegraph or telephone lines, pipelines, reservoirs, tanks, pumping stations, or other structures or clearance, the lessee or permittee shall do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the lands, pollution of the water resources and any damage to the watershed. Where construction, operation, or maintenance of any of the facilities on or connected with this lease or permit causes damage to the watershed or pollution of the water resources, the lessee or permittee agrees to repair such damage and to take such corrective measures to prevent further pollution or damage to the watershed as are deemed necessary by the authorized representative of the Secretary of Agriculture

(4) If in the opinion of the authorized representative of the Secretary of Agriculture, the lands are valuable for watershed protection, the lessee or permittee shall provide for control of surface runoff and return the affected area to as productive condition as practicable.

(5) To pay the lessor or permitter or his tenant or the surface owner or his tenant, as the case may be, for any and all damage to or destruction of property caused by the lessee's or permittee's operations hereunder; to save and hold the lessor or permitter or the surface owner or their tenants harmless from all damage or claims for damage to persons or property resulting from the lessee's or permittee's operations under this lease or permit.

(6) To recognize existing uses and commitments, in the form of Department of Agriculture grazing, timber cutting, and special use permits, water developments, ditch, road, trail, pipeline, telephone line, and fence rights-of-way and other similar improvements, and to conduct his operations so as to interfere as little as possible with the rights and privileges granted by these permits or with other existing uses

(7) To install and maintain cattle guards to prevent the passage of livestock in any openings made in fences by the lessee or permittee or his contractors to provide access to the lands covered by this lease or permit for automotive and other equipment

(8) If lessee or permittee shall construct any camp on the lands, such camp shall be located at a place approved by the authorized representative of the Secretary of Agriculture, and such representative shall have authority to require that such camp be kept in a neat and sanitary condition.

(9) To comply with all federally-approved rules and regulations of the Secretary of Health, Education, and Welfare governing the emission of pollutants into the air from activities which are embraced in this lease or permit.

(10) To comply with all the rules and regulations of the Secretary of Agriculture governing the national forests or other lands under his jurisdiction which are embraced in this lease or permit.

(11) Unless otherwise authorized, prior to the beginning of operations to appoint and maintain at all times during the term of this lease or permit a local agent upon whom may be served written orders or notices respecting matters contained in this stipulation, and to inform the authorized representative of the Secretary of Agriculture, in writing, of the name and address of such agent. If a substitute agent is appointed, the lessee or permittee shall immediately so inform the said representative

(12) To address all matters relating to this stipulation to

at

who is the authorized representative of the Secretary of Agriculture, or to such other representative as may from time to time, be designated, provided that such designation shall be in writing and be delivered to the lessee or permittee or his agent.

(Signature of Lessee)

GPO 850-292

STANDARD TERMS AND CONDITIONS

(Preference Right Lease or Mineral Materials Permit)

Section 1. *Good Operational and Conservation Practice* The lessee (permittee) shall:

(a) Conduct all operations authorized by this lease (permit) with due regard for good land management, not cut or destroy timber without first obtaining permission from the Forest Service, pay for all such timber cut or destroyed at the rates prescribed by it, and avoid unnecessary damage to improvements, timber, crops, or other cover.

(b) Not clear or use the land for roads, other works or structures necessary for the enjoyment of this lease (permit) until a plan of construction or development covering such use of the premises has been approved by the Forest Service. In the location, design, construction, and maintenance of all authorized roads, works or structures and in operations under this lease (permit), the lessee (permittee) shall do all things reasonably necessary to prevent or reduce to the fullest extent scarring and erosion of the land, pollution of the soil and water resources and any damage to the watershed. Where construction, operation, or maintenance of any of the facilities under this lease (permit) causes damage to the watershed or pollution of the soil or water resources, the lessee (permittee) shall repair such damage and take such corrective measures to prevent further pollution or damage to the watershed as are deemed necessary by the Forest Service.

Section 2. *Safety.* The lessee (permittee) shall carry on all mining operations in a good and workmanlike manner and in compliance with all Federal and State laws and the regulations of the Secretary of Agriculture, having due regard for the health and safety of miners and other employees; and safeguard with fences, barriers, fills, covers, or other effective devices, any shafts, pits, tunnels, cuts, and other excavations which otherwise would unduly imperil the life, safety, or property of other persons.

Section 3. *Fire Precautions.* The lessee (permittee) shall do all in his power to prevent and suppress fires on the lease (permit) area and in its vicinity, and require his employees, contractors, and subcontractors to do likewise. Unless prevented by circumstances over which he has no control and to the extent possible the lessee (permittee) shall place his employees, contractors, and subcontractors at the disposal of the Forest Service for the purpose of fighting fires, with the understanding that they may become employees of the Forest Service during such period and be paid for firefighting services at current rates of pay established by the Forest Service for the said national forest for services of similar character: *Provided,* That the lessee (permittee) shall reimburse the Forest Service for the cost of suppressing any fires which the lessee (permittee), his employees, contractors or subcontractors caused in any manner or the origin or spread of which he or they could have prevented. During periods of serious fire danger, as may be specified by the Forest Service, the lessee (permittee) shall prohibit smoking and the building of camp and lunch fires by his employees, contractors, and subcontractors within the lease (permit) area except at established camps, and shall enforce this prohibition by all means within his power. However, the Forest Service may designate safe places where, after all flammable material has been cleared away, campfires may be built for the purpose of heating lunches and where, at the option of the lessee (permittee), smoking may be permitted. When in the judgment of the Forest Service the fire danger is of such serious nature that fires may result from the operation, the lessee (permittee) will close down operations upon request of the Forest Service for the period of such emergency. The lessee (permittee) shall not burn rubbish, trash, or other flammable material except with the consent of the Forest Service and shall not use explosives during the fire season except as authorized to do so or on areas approved by the Forest Service. The lessee (permittee) shall build or construct such fire lines or do such clearing on the lease (permit) area as the Forest Service decides is necessary for fire prevention and shall maintain such fire tools at his headquarters on the lease (permit) area as are deemed necessary by the Forest Service.

Section 4. *Roads; Utility Facilities.*

(a) The lessee (permittee) shall fully and currently repair all damage, other than ordinary wear and tear, to national forest or project roads and trails caused by the exercise of the privileges granted by this permit. No transportation of mineral materials shall be permitted on roads until drainage acceptable to the Forest Service is installed.

(b) The Forest Service shall have the right to use any road constructed by the lessee (permittee) under this lease (permit) for any and all purposes in connection with the protection and administration of the national forest or other lands under its jurisdiction.

(c) Truck roads constructed by the lessee (permittee) under this lease (permit) may be used by other parties in connection with other authorized uses of national forest, national grassland, or other lands administered by the Forest Service. *Provided,* That on nonpublic roads, such use shall not materially interfere with the operations of the lessee (permittee). On truck roads which the lessee (permittee) constructed or is required to maintain, such other parties using the roads for heavy hauling purposes, such as logging and mining, shall pay a fair share of the cost of construction and shall perform a fair share of such maintenance based on their use, or shall pay to the lessee (permittee) the cost of such fair share, as may be agreed upon by the parties concerned, subject to final determination by the Forest Service if the parties disagree.

(d) In all phases of construction and operations the lessee (permittee) shall protect, so far as practicable, all telephone lines, ditches, fences, and other improvements and, if such improvements are damaged by his operations under this lease (permit), he shall restore them promptly. When necessary by reason of the lessee's (permittee's) operations under this lease (permit), the Forest Service may require the lessee (permittee) to move any such telephone line or fence from one location to another.

Section 5 *Cooperative Deposits.* All or portions of any work for fire prevention, road maintenance, restoration, or removal of improvements, revegetation or reforestation, control of erosion, for which the lessee (permittee) is responsible, may, upon written request of the lessee (permittee) and approval by the Forest Service, to be attached hereto and become a part hereof, be performed by the Forest Service on a basis of cooperation or assistance under Section 5, act of April 24, 1950 (64 Stat 83; 16 U S C 572) When the work is to be so performed the lessee (permittee) shall make advance deposits into the Cooperative Work Fund at such times and in such manner as requested by the Forest Service, the total deposits to be sufficient to cover the cost of the work, including necessary overhead charges *Provided,* That deposits for the control of soil erosion may be used to maintain proper drainage of roads until they have become stabilized.

Section 6. *Lessee's (Permittee's) Responsibility for Damages.* The lessee (permittee) shall pay the United States or its tenant, as the case may be, for any and all damage to or destruction of property caused by lessee's (permittee's) operations hereunder; and shall save and hold the United States or its tenants harmless from all damage or claims for damage to persons or property resulting from operations under this lease (permit).

Section 7. *Compliance With Regulations.* The lessee (permittee) shall comply with all the rules and regulations of the Secretary of Agriculture governing the national forests, national grass lands, or other lands under his jurisdiction.

Section 8. *Local Agent.* The lessee (permittee) shall, unless otherwise authorized, prior to the beginning of operations appoint and maintain at all times during the term of this lease (permit), a local agent upon whom may be served written orders or notices respecting matters contained in this lease (permit), and to inform the Forest Service in writing of the name and address of such agent. If a substitute agent is appointed, the lessee (permittee) shall immediately inform the Forest Service.

Section 9. *Prior Uses and Claims; Other Uses.* This lease (permit) shall be subject to all privileges and uses heretofore duly authorized and all prior valid claims. It shall also be subject to any other lawful uses by the United States, its lessees, permittees, licensees, and assigns, provided that such uses shall not prevent, obstruct or unduly interfere with the lessee (permittee) in the exercise of any privileges granted hereby.

Section 10. *Inspection and Records.* The lessee (permittee) shall hold open at all times for inspection by a duly authorized representative of the Forest Service any books of account covering the operations conducted under this lease (permit) and the sale of materials obtained therefrom and keep such additional records and submit such additional reports as may be required by the Forest Service in the interest of the United States. He shall permit at all reasonable times inspection by any duly authorized representative of the Forest Service of the lease (permit) area and all improvements, works, machinery, equipment pertaining to operations and surveys or investigations under this lease (permit).

Section 11. *Performance by Other than Lessee (Permittee).* The acquisition or assumption by another party under an agreement with the lessee (permittee) of any right or obligation of the lessee (permittee) under this lease (permit) shall be ineffective as to the Forest Service unless and until the Forest Service shall have been notified of such agreement and shall have recognized and approved it in writing; and in no case shall such recognition or approval

(a) Operate to relieve the lessee (permittee) of the responsibilities or liabilities he has assumed hereunder; or

(b) Be given unless such other party

(1) Is acceptable to the Forest Service as a lessee (permittee) and assumes in writing all of the obligations to the Forest Service under the terms of this lease (permit) as to the incomplete portion thereof, or

(2) Acquires the rights in trust as security and subject to such conditions as may be necessary for the protection of the public interests.

Section 12. *Suspension.* All or any part of the operations under this lease (permit) may be suspended by the Forest Service, by notice in writing, if the provisions of this lease (permit) are disregarded.

Section 13. *Termination.*

(a) The Forest Service may, upon reconsideration of the conditions existing at the date of this lease (permit) and in accordance with which the terms of this lease (permit) were fixed, and with the consent of the lessee (permittee), terminate this lease (permit), but in the event of such termination the lessee (permittee) shall be liable for any damages sustained by the United States arising from the lessee's (permittee's) operations hereunder.

(b) If the lessee (permittee) breaches any of the provisions of this lease (permit), the Forest Service may serve written notice of such breach upon the lessee (permittee) and if such breach is not remedied within thirty (30) days after such notice, the Forest Service may terminate this lease (permit).

Section 14. *Removal of Improvements.* Upon abandonment, relinquishment, termination, or cancellation of this lease (permit), the lessee (permittee) shall remove within a reasonable time all structures and improvements except those owned by the United States, and shall restore the site, unless otherwise agreed upon in writing or in this lease (permit). If the lessee (permittee) fails to remove all such structures or improvements within a reasonable period, they shall become the property of the United States, but that will not relieve the lessee (permittee) of liability for the cost of their removal and restoration of the site.

Section 15. *Officials not to Benefit.* No Member of, or Delegate to, Congress, or Resident Commissioner, shall be admitted to any share or part of this lease (permit) or to any benefit that may arise therefrom unless it is made with a corporation for its general benefit.

Section 16. *Covenant Against Contingent Fees.* The lessee (permittee) warrants that no person or agency has been employed or retained to solicit or secure this permit upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial agencies maintained by the permittee for the purpose of securing business. For breach or violation of this warranty, the Forest Service shall have the right to annul this lease (permit) without liability or, in its discretion, to require the lessee (permittee) to pay, in addition to the permit price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

Section 17. *Nondiscrimination in Employment.*[1]

[To be attached.]

[1] Does not apply to transactions not exceeding $10,000.

APPENDIX I

FACILITIES
SUMMARY LISTS

LMP FACILITIES LIST

D.1 FILLMORE DISTRICT

SOLITUDE GUARD STATION BUNKHOUSE
- BUILDING REPAIR
- WATER & SANITATION CONST.
- TRAILER FACILITY
- ROAD MAINTENANCE & RECONST.
- FENCING

FLAMMABLE STORAGE BLDG.

RADIO HOUSING & MAINTENANCE

FIRE CACHE - DOOR REPLACEMENT

ROCKWOOD GUARD STATION
- ROOF REPLACEMENT & BUILDING MAINTENANCE
- WATER & SANITATION CONST.
- TRAILER FACILITY
- ROAD MAINT. & RECONST.
- FENCING

FILLMORE WAREHOUSE SITE
- FLOOR RECONST.
- RANGE EQUIPMENT SHED
- BLDG. MAINTENANCE
- WAREHOUSE ADDITION

INDIAN SPRINGS GUARD STATION
- GENERAL REPAIR & MAINTENANCE
- WATER & SANITATION CONST. (OR REMOVE & SALVAGE EXISTING FACILITIES)
- ROAD MAINTENANCE
- FENCING
- TRAILER FACILITY

RED VIEW GUARD STATION
- GENERAL REPAIR & MAINTENANCE
- WATER & SANITATION CONST.
- TRAILER FACILITY
- FENCING
- ROAD MAINTENANCE & RECONST.

PAHVANT GUARD STATION
- GENERAL REPAIR & MAINTENANCE
- TRAILER FACILITY
- ROAD MAINTENANCE & RECONST.
- FENCING

D.2 LOA DISTRICT

ELKHORN GUARD STATION
- SANITATION SYSTEM - CONST.
- FENCING
- BUILDING REPAIR & MAINTENANCE
- HORSE CORRAL RECONST.

CLEAR CREEK GUARD STATION
- TRAILER PAD
- WATER & SANITATION SYSTEM CONST.

FISHLAKE ADMINISTRATIVE SITE
- UPGRADE ELECTRICAL SERVICE
- TRAILER FACILITIES

D.3 BEAVER DISTRICT

BEAVER WAREHOUSE SITE
- PAINT STORAGE BLDG-REMODEL-

INDIAN CREEK GUARD STATION
- BUILDING DISPOSAL
- SITE RESTORATION

BIG FLAT GUARD STATION
- INSULATION
- ROOFING
- WATER & SANITATON CONST.
- ELECTRICAL REWIRING
- FENCING
- ROAD MAINTENANCE & RECONST.
- TRAILER FACILITY

FA&O FACILITIES

D.4 RICHFIELD DISTRICT

GOOSEBERRY ADMIN. SITE
- ROAD MAINTENANCE & RECONST.
- BUILDING REPAIR
- BUILDING REMODELING-SHOWER & BATH HOUSE
- TRAILER FACILITY
- ELECTRICAL REWIRING
- STAIR BRACES

DRY CREEK GUARD STATION
- WATER & SANITATION CONST.
- TRAILER FACILITY
- ROAD MAINTENANCE & RECONST.

MT. TERRILL GUARD STATION
- WATER & SANITATION CONST.
- BUILDING REPAIRS-ROOF & FOUNDATION
- INSULATION
- ROAD MAINTENANCE & RECONST.
- BUNKHOUSE FLOOR REPLACEMENT
- TRAILER FACILITY

MUSINIA GUARD STATION
- TRAILER FACILITY
- WATER & SANITATION CONST.
- ROAD RECONST.
- CORRAL CONST.

BUILDING MAINTENANCE

WATER SYSTEM O & M

KOOSHAREM GUARD STATION
- BUILDING DISPOSAL
- TRAILER FACILITY
- WATER & SANITATION CONST.
- ROAD MAINTENANCE & RECONST.

APPENDIX J

ARTERIAL, COLLECTOR, AND LOCAL ROAD SCHEDULE

This table contains a summary of needed road projects that can not be funded as part of the regular budget. Construction of these projects will require funding from outside the Forest budget. Most timber sale roads will need supplementation to be economically viable.

LMP-10 YEAR ROAD CONSTRUCTION SUMMARY
ARTERIAL, COLLECTOR, AND LOCAL ROAD CONSTRUCTION/RECONSTRUCTION

FY	NAME	LOCATION	SIZE	REMARKS
1985	HOGAN PASS RD.	FREMONT/ FREMONT JTN.	15.4 MI.	FED. HIGHWAYS CONST.
	FREMONT RIVER RD.	FREMONT/ JOHNSON RES.	5.0 MI.	FED. HIGHWAYS CONST.
	MONROE MTN. #3		2.5 MI.	FINISH FINAL WRK
	CHALK CREEK		5.0 MI.	ERFO FLOOD REPAIR
	SALINA- WILLOW CREEK		20.0 MI.	ERFO FLOOD REPAIR
	ERFO PROJECTS (MISC)		20.0 MI.	ERFO FLOOD REPAIR
1986	HOGAN PASS/ FREMONT RIVER		$4.5 MM	FED. HIGHWAYS CONST.
	KENTS LAKE	LABARON	5.0 MI.	NO MONEY SET UP
	BIG LAKE	MONROE MT.	4.0 MI.	NO MONEY SET UP
1985	NEFFS RES. T.S.		1.0 MI.	NO MONEY SET UP
	CIRCLEVILLE #2 T.S.		0.5 MI.	NO MONEY SET UP
	KENT LAKE ASPEN T.S.		0.5 MI.	NO MONEY SET UP
1986	NEFFS RS. #2 T.S.		1.0 MI.	NO MONEY SET UP
	WHOOTEN SPGS. T.S.		1.0 MI.	NO MONEY SET UP
1987	HOGAN PASS		$3.7 MM	FED. HIGHWAYS CONSTR.
	FREMONT RIVER		$1.4 MM	FED. HIGHWAYS CONSTR.
	KENT'S LAKE	LABARON	5.0 MI.	
	BIG LAKE	MONROE MT.	4.0 MI.	
	FORSYTH	ELKHORN	4.0 MI.	
	WIFFS PASTURE T.S.		0.3 MI	
	H. HUNT T.S.		1.5 MI	
	LONG FLAT ASPEN T.S.		0.5 MI	
	CLOVER FLAT T.S.		1.0 MI	
1988	HOGAN PASS		$3.0 MM	FED HIGHWAYS CONST.
	FREMONT RIVER			FED HIGHWAYS CONST.
	KENTS LAKE UI53		5.0 MI	
	FORSYTH	ELKHORN	2.5 MI	
	SAND ROCK RIDGE		5.5 MI	
	HANCOCK T.S.		1.0 MI	
	LAKE PEAK		0.5 MI	
	WHITE LEDGE ASPEN		1.0 MI	

LMP-10 YEAR ROAD CONSTRUCTION SUMMARY (CONT)
ARTERIAL, COLLECTOR, AND LOCAL ROAD CONSTRUCTION/RECONSTRUCTION

FY	NAME	LOCATION	SIZE	REMARKS
1989	HOGAN PASS			
	GOOSE BERRY	SEVEN MI.	4.0 MI	
	SAND ROCK RIDGE		4.0 MI	
	SUN GLOW		1.0 MI	
	CASTLE ROCK		1.0 MI	
	BIG JOHNS FLAT		2.0 MI	
	LOUSY JIM T.S. (D.3)		0.5 MI	
	DOE FLAT (D.4)		0.5 MI	
1990	GOOSEBERRY	SEVEN MI	4.0 MI	RECONST.
	BIG JOHN'S FLAT		1.0 MI	RECONST.
	MAPLE GROVE CG		4.0 MI	REPAVE
	NEFF'S #3 T.S.		1.0 MI	
	FARNSWORTH ASPEN		0.5 MI	
1991	GOOSEBERRY	SEVEN MI	4.0 MI	RECONST.
	MONROE CANYON		3.0 MI	ART.
	MONROE CANYON		4.0 MI	COLL.
	DEEP CREEK T.S. (D.2)		1.0 MI	
	ANNABELLA T.S. (D.4)		1.0 MI	
1992	GOOSEBERRY	SEVEN MI	4.0 MI	RECONST.
	MONROE CANYON		8.0 MI	COLLECTOR RECONS.
	SNOW BENCH T.S. (D.2)		0.5 MI	
	FAT CHANCE (D.3)		1.5 MI	
	BARNEY LAKE (D.4)		0.5 MI	
1993	GOOSEBERRY	SEVEN MI	4.0 MI	
	BIG JOHN'S	MARYSVALE	9.0 MI	
	NEAL'S FLAT T.S.		1.0 MI	
	INDIAN PEAK (D.4)		0.5 MI	
1994	GOOSEBERRY	SEVEN MI	4.0 MI	
	WEST WILLOW CREEK		9.0 MI	ARTERIAL SPOT RECONST.
	WILLIES FLAT T.S.		1.0 MI	
	NIELSEN CANYON T.S.		1.0 MI	
1995	RICHFIELD PIONEER		4.0 MI	
	KOOSHAREM		5.0 MI	
	ASSORTED T.S.		2.5 MI	
1996	RICHFIELD PIONEER		4.0 MI	
	CORN CREEK	ADELAIDE	5.0 MI	
	ASSORTED T.S.		2.5 MI	

ROAD CLASS SUMMARY
RE-CONSTRUCTION SCHEDULE & PRIORITY LISTING

D1	ARTERIAL ROADS	MILES
2	RICHFIELD PIONEER	24.3
5	JOSEPH - ROCKWOOD	5.8
1	CHALK CREEK	15.3
3	WILLOW CREEK	9.1
6	OAK CREEK	7.0
4	CORN CREEK-ADELAIDE	5.4
7	LEAMINGTON PASS	16.9
		83.8

D1	COLLECTOR ROADS	MILES
3	ELSINORE	5.8
3	ROCKWOOD	8.2
4	WATTS MTN	9.8
1	SAND ROCK RIDGE	9.1
9	ROBINS VALLEY	9.5
2	MAPLE GROVE CG	3.9
6	EIGHT MILE	15.8
5	CORN CREEK- PAHVANT	14.7
		72.9

D2	ARTERIAL ROADS	MILES
5	FISHLAKE HWY	15.8
1	FREMONT RIVER	11.2
2	HOGAN PASS	26.9
3	SEVEN MILE (GOOSEBERRY)	6.6
4	FISHLAKE-JOHNSON VAL	5.8
		66.3

D2	COLLECTOR ROADS	MILES
5	POLK CREEK	4.8
1	FORSYTH-ELKHORN	6.4
2	SUNGLOW CG	1.0
6	FREMONT-LAST CHANCE	6.3
7	BAKER RANCH	5.7
3	MYTOGE MTN	14.9
4	HANCOCK FLAT	9.1
		48.2

D3	ARTERIAL ROADS	MILES
3	BIG JOHNS FLAT	3.1
2	U-153	36.3
1	KENTS LAKE-LABARON	13.8
		53.2

D3	COLLECTOR ROADS	MILES
1	INDIAN CREEK	10.1
2	BIG JOHNS/MARYSVALE	9.0
4	COTTONWOOD-BULLION	17.0
3	KIMBERLY-BEAVER	20.8
7	SHINGLE CREEK	6.2
5	SO. CREEK- COYOTE	17.4
8	TEN MILE	3.8
6	CASTLE ROCK CG	1.0
		85.3

D4	ARTERIAL ROADS	MILES
6	SUFCO-CONVULSION	10.4
4	SOLDIER CANYON	6.6
5	REX'S RESERVOIR	5.8
2	MONROE CANYON	3.0
1	GOOSEBERRY/SEVENMILE	19.2
3	WILLOW CREEK	30.2
		75.2

D4	COLLECTOR ROADS	MILES
6	WATER HOLLOW	8.9
8	DUNCAN MTN	10.2
7	OLD WOMAN	17.4
5	LOST CREEK-REX'S RES.	11.0
9	GATES LAKE	2.8
4	GREENWICH	7.2
3	KOOSHAREM	5.4
1	BIG LAKE (MONROE MTN)	38.4
2	MONROE CANYON	20.0
		121.3

APPENDIX K

LANDOWNERSHIP PLAN

Objectives

The primary purpose of this plan is to facilitate better management of the Forest resources through consolidation of both private and Federal lands within and adjacdent to the National Forest. Land adjustments in accordance with the plan will:

1. Improve the planning and layout of timber sales. In some cases landownership lines will be adjusted where they fall across timber types, drainages, or on slopes where it is not feasible to set up working units because of private lands.

2. Improve efficiency of livestock management. Allotment Management Plans will be set up without restriction in relation to topography, cover, and soil types. Also, better distribution of cattle on the range and implementation of intensive management systems of grazing will be facilitated.

3. Increase the feasibility of watershed treatment programs. Many flood-producing areas on acquired lands could be readily treated whereas with several landowners involved, cooperation in land treatment is difficult.

4. Improve the development of the transportation system for fire suppression and resource management. With benefit of land consolidation, Forest Service planning, location, and construction of roads will necessarily be carried out more effectively.

5. Increase recreation opportunities. Recreation planning will be keyed to public demand for camp and picnic sites in given areas. Most important, potential use of recreation areas will be realized with a better organized land net established through land exchanges and purchases.

Implementation of the Landownership Plan will greatly improve general Forest administration so that effective resource management may be carried out more adequately. Recreation and aesthetic values in drainages threatened by floods originating on private lands can be only partly protected at the present time. The need for coordination involving other soil, water, and land use relationships is also obvious. Consolidation of State of Utah and private lands will give the landowners more incentive to fence and properly manage their property, with promise of lower operating costs.

Attainable Goals

In the past 9 years, the Fishlake Forest land exchange program has had moderate success despite the complicated land pattern and many District administrative problems.

Annually, a few landowners express an interest in land exchanges in order to acquire lands adjacent to the Forest boundary or to group their holdings in a workable unit.

Based on indicated interest in land adjustments, an average of three or four cases can be negotiated annually. As the program gets better known and is accepted by some, others will become desirous of making exchanges. In a few years, the average number of exchange cases may increase.

Hopefully, within a fairly short time frame, funds will be available to conduct a land purchase program on the Forest. Land valuations remain moderate, but could accelerate within a few years as demand for summer homesites and other land uses increases. Some speculation is evident on the Richfield, Beaver, and Loa Ranger Districts where lands are being purchased for later subdivision and sale as cabin lots. These lands very likely will be lost for possible acquisition. Therefore, Government acquisition of recreation lands through purchase must be accomplished soon.

Transfers of certain lands from Bureau of Land Management to National Forest jurisdiction are being studied with the BLM. Most of these BLM lands are for grazing purposes and are used by the same permittees who hold permits to use adjacent National Forest System lands, with some allotments on both agencies' land administered either by Forest Service or BLM. The BLM lands would be best described as located from the Forest boundary west to Interstate 15 or east to U.S. 89, another major highway. Both highways run parallel to the Forest boundary lines. Although, when Interstate-70 through the Richfield area is completed, not much BLM acreage will remain between the new highway and the Forest boundary.

A tract of land south of Fish Lake is not isolated from other BLM holdings but is well suited for National Forest purposes because of terrain and topography. The same permittees graze both areas.

(These BLM jurisdictional transfers were submitted in November 1983, in answer to R.O. letter of 7/22/1983.)

Opportunities should be pursued to transfer these BLM lands to the Forest Service for administration.

Priorities

In most cases, the Priority I lands are those most desirable for purchase. However, Priority I acquisition was also given those lands currently "tied up" in land exchange cases; two cases in particular being near completion.

Many Priority III lands are those which probably cannot be acquired in the near future. Most of these lands are under cultivation, comprise an important part of a livestock operation, or belong to a larger block that lends itself to a private operation. Some State lands are currently leased to private entities.

Most State lands are classed under Priority II and III. They are quite uniform in importance as the more valuable lands have gone to patent. A large exchange transaction with the State of Utah would be desirable, and acquisition and consolidation of these State lands would greatly assist Forest administration.

Lands Proposed for Disposal

Most Forest lands offered for exchange will come from the lower areas, outside municipal supply watersheds. In some areas, lands will be offered that are bounded on two sides or more by private lands where serious administration problems exist, and blocking of private lands is desired. A large block of land in the Forshea Mountain area (T. 29 S., R. 2 and 2-1/2 W.) of the Richfield Ranger District is planned for possible disposal to the State of Utah in exchange for their scattered holdings throughout the Forest.

The block of National Forest lands at the southern tip (Garfield County) and on the western side of the Forest, on Beaver Ranger District, is also a possible disposal tract to the State of Utah in exchange for scattered State holdings.

Those disposal lands identified in the patented mining claims area of the Tushar Range, Beaver Ranger District, were also identified in the Assets Management Program, and are comparatively unimportant for resource production purposes. Mining and exploratory work on these claims are active, and the intermingled National Forest lands are difficult to locate and manage, many being of extremely small acreage. Some of these tracts may be disposed of under the authority of the Small Tracts Act.

The block of lands identified on the east side of the Beaver Ranger District could be administered by the BLM if the BLM lands are not transferred to the Forest Service (T. 29 S., R.3 & 4 W).

Lands identified for disposal in the far northeastern reaches of the Forest (T. 14, 15, & 16 S., R. 3 W.), near adjoining BLM lands, could best be administered by one Federal agency, the BLM, since they already administer the allotments which graze both National Forest lands and the BLM lands.

The objective will be to dispose of lands better suited to management and access by others. When Project Bold is completed, the State of Utah will be seeking additional lands south of the Forest, in the vicinities of Piute and Otter Creek Reservoirs, to help build up their recreation interests, both fishing and hunting. However, consideration will be given to reserving lower National Forest System lands which are keyed to the survival of deer herds.

LANDS PROPOSED FOR DISPOSAL

Acres	Projected Class of Use	
320 1/	Recreation	(State of Uteh, U-50511)
150 1/	Grazing	(Parker Ranches, Inc., U-50510)
5,806	Grazing	
1,236	Subdivision	
4,376	Grazing/subdivision	
5,473	Mining/subdivision/grazing	
6,460 2/	Grazing	
3	Commercial development	
21	Residential/agriculture	
2,743	Industrial development	
5,642	Grazing (BLM only)	
4,346	Grazing/agriculture/subdivision	
1,680	Grazing/agriculture	
12,391	Grazing/wildlife/recreation	(State of Utah only in exchange for State lands)
50,647		

1/ exchange case nearing completion

2/ to BLM, if adjoining BLM outside F.S. boundary not transferred to NFS

LANDS PROPOSED FOR ACQUISITION

ACRES	LANDOWNERSHIP	PROJECTED CLASS OF USE	PRIORITY
600	State	Recreation	I
640	State	Wilderness study area	I
640 1/	State	Grazing	I
3,360	State	Grazing	II
640	State	Timber	II
21,010	State	Grazing	III
480	State	Commercial development	III
(22,370)			
115,705 2/&4/	BLM	Grazing	II
7,520 3/&4/	BLM	Grazing	II
(123,225)			
1,200	private	Recreation	I
17	private	Agricultural/grazing	I
200 1/	private	Grazing	I
1,800	private	Grazing	II
960	private	Watershed	II
160	private	Wildlife	III
13,224	private	Grazing	III
160	private	Commercial development	III
(17,721)			
168,316	TOTAL ACRES		

1/ exchange case nearing completion

2/ BLM lands outside F.S. boundary for transfer to NFS

3/ BLM lands outside F.S. boundary if adjacent NFS lands not disposed of

4/ acreage determined from map; i.e., estimate

Total Priority I acres	3,297
Total Priority II acres	129,985
Total Priority III acres	35,034
Total All Acres	168,316

APPENDIX L

FISHLAKE NATIONAL FOREST
FIRE ACTION PLAN

I. INTRODUCTION

Following is a list of the desired objectives resulting from the use prescribed fire on the Fishlake National Forest.

1. Reduce fire suppression costs. (man-hrs/yr)

2. Increase forage production for livestock. (AUM's/yr)

3. Improve wildlife habitat. (acres/yr)

4. Increase forage production for wildlife. (lbs/acre/yr).

5. Reduce fuel loading in conifer.

Specific objective outputs will be located under each zone immediat following:

A. PINYON-JUNIPER-ZONE 1

1. Dwarf tree species predominate.
   a. Average height of woody plants is 6 feet or greater.
      (1) Woody plants occupy two-thirds or more of the site.
         (a) One-fourth or more of woody foliage is dead.

Permit low and high intensity fires to burn within the guidelines prescribed fuel and weather conditions. In the event that a fire threatening life or special situation Zone 4 or escape from the F suppression forces would consist of ground personnel with hand too pumpers, tractors, or air attack bombers.

Low intensity fires in PJ will consume foliage only on a few trees in close proximity of each other. The litter will be singed and o partially consumed with irregular and spotty burning.

High intensity fires consume foliage on numerous trees and only as remain on the soil surface.

With low intensity fires, the opening will be reoccupied by grasses, fo and/or brush species. The difference between the two intensities is t the high intensity fire will create a larger opening. The possibility t a future fire will maintain that larger opening is fairly high. Therefo the PJ monotype will be broken up and vegetative mosaic maintained.

but not ashed and some perennial grass crowns are killed. The burned are takes less of a mosaic pattern than it does with a low intensity fire. I is more uniform in shape but will still have some unburned islands inter spersed with the burned area.

The specific objective outputs for this fuel type are as follows:

1. Reduce Fire Suppression Costs by 63% (from 4689 average man hours/y to 1735 average man hours/yr).

2. Increase Forage Production for Livestock by 0.45 AUM's/acre the firs growing season following a burn.

3. Improve Wildlife Habitat by 1500 acres/yr.

4. Increase Forage Production for Wildlife by 4000 lbs./acre/yr (9000 lb /acre/yr with seeding).

C. SHORT NEEDLE CONIFER- ZONE 3

1. Conifer species predominate.
   a. Woody shrubs and/or reproduction dominate as understor fuels.
      (1) The understory seldom burns.
         (a) The needles are less than 2 inches.

Permit low intensity fires to burn within the guidelines of prescribed fue and weather conditions. In the event that the prescribed fuel and weathe conditions are exceeded or the fire is threatening life or specia situation Zone 4 or escape from the FMA, suppression forces would consis of ground personnel with hand tools, or pumpers, or air attack bombers Tractors would only be considered where the fire is threatening life o special situation Zone 4 or escape from the FMA.

A low intensity fire in short needle conifer would burn less than 4 percent of the canopy. The burning would also be irregular and spotty wit little scorching of the understory. There would be light sapling mortalit with 20 to 60% of the dead downed fuel 0 to 3 inches in diameter bein consumed.

The specific objective outputs for this fuel type are as follows:

1. Reduce Fire Suppression Costs by 35% (from 5037 average man-hours/y to 3224 average man-hours/yr).

2. Increase Forage Production for Livestock by 0.25 AUM's/acre the firs growing season following a burn.

3. Improve Wildlife Habitat by 250 acres/yr.

PINYON-JUNIPER- ZONE 1

Permit low and high intensity fires to burn within the guidelines o prescribed fuel and weather conditions.

The NFDRS fuel type F2P2 will be used to predict the BI for plannin purposes. It must be noted that this fuel type will usually overrate th fire behavior at low wind speeds due to a lack of continous ground fue between the pinyon and juniper trees. The maximum BI for this fuel typ recorded at Chalk Creek Weather Station (5760 feet) is 211. The maximum B for this fuel type recorded at Fish Lake Weather Station (8900 feet) i 110. The BI range for low intensity is 0 to 40. A fire with a BI of 4 burning on a 20% slope with the wind averaging 11 MPH would spread 13 fee per minute or 11.8 chains per hour. According to the fuel model the fir size in 3 hours would be 1267 acres. In a typical PJ stand it would be extremely unlikely that this would actually occur.

A high intensity fire would have a flame length of 12 feet or more.

An example of a high intensity fire in PJ with a BI of 110 burning on a 20 slope with a windspeed of 16 MPH would spread at 92 feet per minute or 8 chains per hour. The fire size is predicted at 2972 acres in 3 hours. This is unlikely since the largest PJ fire since 1951 in the Beehive Fire Management Plan area was 25 Acres in 1954. This is due primarily to the natural breaks in topography, noncontinous nature of the fuels, and lack of ground fuels to carry a fire from tree to tree at low wind speeds.

SAGE-GRASS, BRUSH, ASPEN - ZONE 2

Permit low and moderate intensity fires to burn within the guidelines of prescribed fuel and weather conditions. In the event that the prescribed fuel and weather conditions are exceeded or a fire is threatening life or special situation Zone 4 or escape from the FMA, suppression forces would consist of ground personnel with hand tools, or pumpers, or air attack bombers. Tractors would only be considered where the fire is threatening life, special situation Zone 4, or escape from the FMA.

A low intensity fire would be obtained with a BI of 40 or less. A fire burning on a 20 percent slope in sage-grass with a BI of 40 would have a spread of 16 chains per hour. The fire would be approximately 220 acres in size 3 hours after ignition.

A moderate intensity fire would have an ERC (Energy Release Component) between 11 and 19 and a BI between 41 and 80. A fire on a 20 percent slope, with a DB of 91, a RH of 10 percent, a 20-foot wind speed of 13, a BI of 80, and ERC of 19, and a projection time of 3 hours would have a speed of 40 chains per hour, a perimeter of 383 chains, an area of 1024 acres, and an ignition component of 56.

Historically, 87 percent of the days during the season would be within this prescription at Chalk Creek Weather Sation and 96 percent at Fishlake Weather Sation.

The next two tables indicate the percent safe levels for being at or below a BI of 80 and an ERC of 19 using the highest historical indices and components recorded since 1965 at Chalk Creek and Fishlake Weather Stations.

CHALK CREEK (5760 FEET)-BI AND ERC

PERCENT SAFE LEVEL	END	BEGIN
100%	JUNE 9	OCT. 29
93%	JUNE 23	OCT. 28
86%	JUNE 24	OCT. 27
79%	JUNE 27	OCT. 25
72%	JUNE 30	OCT. 24
65%	JULY 1	OCT. 23

FISHLAKE (8900 FEET)-BI AND ERC

PERCENT SAFE LEVEL	END	BEGIN
100%	Aug 5	Oct 21
93%	Aug 31	Oct 20
86%	Sept 2	Oct 19
79%	Sept 3	Oct 18
72%	Sept 21	Oct 16
65%	Sept 22	Oct 15

*Signal Peak Remote Automated Weather Station (RAWS) considered equivalent to Fishlake data.

SHORT NEEDLE CONIFER - Zone 3

Permit low and moderate intensity fires to burn within the guidelines of prescribed fuel and weather conditions. In the event that the prescribed fuel and weather conditions are exceeded or a fire is threatening life or special situation Zone 4 or escape from the FMA, suppression forces would consist of ground personnel with hand tools, or pumpers, or air attack bombers. Tractors would only be considered where the fire is threatening life, special situation Zone 4, or escape from the FMA.

A low intensity fire in short needle conifer would have an ERC of 30 or less and a BI of 40 or less. A fire on a 20% slope, with a DB of 81 F, an RH of 34%, a 20-foot windspeed of 20 MPH, and a projection time of three hours would have a spread of one chain per hour, a perimeter of 13 chains, an area of one acre, and an ignition component of 33.

Historically, 44 percent of the days during the season would be within this precription at Chalk Creek Weather Station and 74 percent at Fishlake Weather Station.

The next two tables indicate the percent safe levels for being at or bel a BI of 40 and an ERC of 30 using the highest historical indices a components recorded since 1965 at Chalk Creek and Fishlake Weather Stations.

CHALK CREEK (5760 FEET)- BI AND ERC

PERCENT SAFE LEVEL	END	BEGIN
100%	May 8	Oct 29
93%	May 9	Oct 28
86%	May 10	Oct 27
79%	May 11	Oct 25
72%	May 12	Oct 24
65%	May 13	Oct 23

FISHLAKE (8900 FEET) - BI AND ERC

PERCENT SAFE LEVEL	END	BEGIN
100%	June 1	Oct 22
93%	June 2	Oct 21
86%	June 3	Oct 20
79%	June 4	Oct 19
72%	June 9	Oct 18
65%	June 21	Oct 17

Normally, in late June or early July the ERC will exceed the prescribe limits for the Sage-Grass, and Conifer Zones (greater than 19 and 3 respectively) at the lower elevations (below 8000 feet). Once this occurs suppression action will be taken on all fires in the low elevatio Sage-Grass, Conifer Zones until September 1st. Management of fires in th lower elevation areas will resume on September 1st in accordance with th above mentioned prescriptive limitations.

IV. FIRE EVALUATION TEAM

The Fire Evaluation Team's responsibility is to initially classify an periodically evaluate FMA fires with significant management potential unti they are declared out. A team is not needed where fires obviously need t be controlled or with small fires less than one acre that will be manage for efficiency.

Each team will consist of a District Represenative, a Supervisor's Offic Representative, and a two person Monitoring Team.

Annually, qualified personnel will be documented and attached to thi plan. If additional resource expertise is necessary, the Evaluation Tea Leader will utilize members of the District Ranger's Staff or Supervisor' Office Specialists. There must be at least one qualified Sector Bos (under the National Interagency Fire Qualifications System - NIFQS), on qualified Fire Behavior Specialist and one Range Conservationist on th

Team to evaluate a Management Fire. It is possible for one Team Member to fill all three qualification requirements.

The Fire Evaluation Team Leader will be designated by the Forest Supervisor and documented in the file for that fire. The responsibilites of the Fire Evaluation Team Leader are as follows:

1. Make the final decision as to whether a fire is either within prescription and will be managed or is out of prescription and will be suppressed.

2. Report to the Forest Supervisor or Acting on the status of Management Fires.

3. Notify the news media of all newsworthy fires through the Forest P.I.O.

V. MONITORING TEAM

A monitoring team will be dispatched to the fire unless it is obviously out of prescription or has no management potential. The decision will be made by a line officer. Each Monitoring Team will have a number of premade fire monitoring file folders (one per fire) that will contain the following forms and work sheets:

1. Individual Fire Report Form, 5100-29
2. Fire Weather Special Forecast Request Form, WB 653-1
3. Escaped Fire Situation Analysis Form
4. Fire Behavior Work Sheets, June 1980
5. Decision Logic Chart Checklist
6. Copy of the Fishlake Fire Management Action Plan.

Each file folder will contain sections for documentation of chronological events, and photos.

In addition to the file folder, the Monitoring Team will have:

1. Packet of Topographical Maps of the Forest.
2. TI-59 Calculator
3. Belt Weather Kit
4. Camera, Film
5. Personal Portable Radio
6. First Aid Kit
7. All necessary Fire Fighting Gear (Hard Hat, Nomex Pants and Shirt, Gloves, Tools, Field Glasses, etc.)

It will be the monitoring team's responsibility to promptly initiate the documentation of pertinent data and information for each fire to which they are assigned. Each file must be regularly updated during the monitoring procedure until the fire is declared out.

There is a limit to the number of fires a monitoring team can monitor at a time. Only one fire that has potential to reach 10 acres or larger can be monitored by a team at a time. Fires of this potential must be monitored on the ground from 1200 Hr. to 1700 Hr. each day until declared out. This is a minimum requirement and can be increased if necessary.

A monitoring team can also monitor several fires that obviously have no potential for growing larger than 10 acres and at the same time monitor one fire with potential for growth larger than 10 acres. The limiting factor for the number of low potential fires they can monitor is that each fire must be initially classified by the team and then observed at least once a day until declared out. If the team cannot fill these requirements, either two monitoring teams will be utilized or suppression action taken on some of the fires.

Another requirement of the monitoring team is that they must verify what fuel type and zone each fire is burning in. This information will be relayed quickly to the other members of the Fire Evaluation Team.

Each monitoring team must include a qualified Fire Behavior Specialist.

VI. DAILY ASSESSMENT

The initial assessment of a fire will be made within the first burning period by the Fire Behavior Specialist or Fire Behavior Officer using the TI-59 calculator and Fire Behavior Fuel Models. This assessment will be studied by the Fire Evaluation Team. If a fire is determined to be within prescription during the next burning period, the team leader will schedule when the next day's assessment will be performed. The daily assessment will continue until the fire is either declared out or it is predicted that the fire will be out of prescription the next burning period. If the latter is the case suppression action will be taken on the fire.

VII. METHODS OF WEATHER MONITORING AND PREDICTION

Day-to-day weather monitoring will be done at the Chalk Creek Weather Station and at the Fishlake Signal Peak RAWS. The actual and forecasted NFDRS weather data will be received at the Richfield Interagency Dispatch, from AFFIRMS at approximately 1600 hour and posted on the fire bulletin board in the Supervisor's Office at 1630 hour. This information will also be broadcast over the Forest net radio to the four district offices at approximately 1615 hour.

As soon as this information is available a prediction will be made (approximately 1700 hour) as to whether a fire in any one of the zones will be in or out of prescription the following day. Also the actual BI and ERC for that day and forecasted for the next day will be compared to the respective dates on the Seasonal Plot (Seaplt). This will give an indica tion as to the long-range trend that can be expected in the next few days.

When a fire is detected in the FMA and determined to be in prescription through a correlation between on-the-ground fire behavior data and NFDRS data, it will be monitored each day until it is declared out.

At 1700 hour when the daily prediction is made for the next day, a decision will be made by the Fire Evaluation Team as to the management strategy for the following day. Here again, the Seasonal Plot for BI and ERC will be used to determine what the long range trend can be expected to do.

VIII. DETECTION REQUIREMENTS

Approximately 95% of all fires detected on the Fishlake are reported by the general public and the Utah Highway Patrol from local highways and towns. Also some fires are reported from aircraft passing over the area. The remaining 5% of the fires are detected by Forest Service employees in the field or Forest Service detection flights following lightning activity.

The District Ranger will determine if detection flights are necessary.

IX. CONTINGENCY PLAN

When an unplanned ignition is detected in the fire management area the monitoring team will be activated by the Richfield Interagency Dispatch Office. While the monitoring team is enroute the Dispatcher will assess the availability of the Forest and Regional suppression forces. The dispatcher will then notify the Fire Evaluation Team of the fire and what information is available at that time. The Fire Evaluation Team will already know what the forecasted BI values are for each Zone. Their final decision on management strategy will not be made until more complete information is received from the monitoring team. Upon receiving their report the Fire Behavior Specialist or Officer with the appropriate zone decision logic flow chart will determine if the fire is burning at the desired fire intensity. If the data indicate that the fire is burning out of prescription, the monitoring team will be directed to begin initial attack suppression action. If the initial attack effort cannot suppress the fire the Fire Evaluation Team will begin an escaped fire situation analysis. This process will continue until successful and the fire is declared out.

NOTE: The first time the ERC for the sage-grass or conifer zones is exceeded, there will be no more fires managed in those zones until September 1 and the respective ERC's and BI's are within the desired prescriptions.

If the fire is determined to be burning at the desired intensity and is expected to stay in prescription through the next burning period based on predicted fire weather and fire behavior system outputs, than the team will proceed to answer the next three questions:

1. Is the fire threatening public safety?

2. Is the clearing index less than 500 or could smoke affect a sensitive area?

3. And, is the fire threatening special situation Zone 4 or escape from the Fire Managment Area?

If any one of these questions is answered affimatively, then the Fire Evaluation Team must determine if the fire can be returned or maintained within criteria with project funds. A fire that cannot be returned or maintained within criteria with project funds must be suppressed with FFF funds.

X. FUNDING AVAILABLE FOR IMPLEMENTATION

Funding for management of fires within the FMA follows the guidelines as stated in FSM 6514.23C-1g:

> "All fire protection activities in connection with a fire burning within prescription (on National Forest System lands covered by an approved Fire Management Area Plan), including actions taken to contain the fire within prescription will be financed from FFP, or when applicable, from the benefiting project funds. Fire suppression in connection with fires burning outside the prescription will be finanaced from FFF."

In the event that FFP funds and Benefiting Project Funds are insufficient to monitor or maintain the fire within prescription, the fire will be considered out of prescription and suppression action will be initiated and financed from FFF. If a fire goes out of prescription for any one of the listed reasons it will be declared out of prescription and suppressed with FFF.

XI. INFORMATION AND INVOLVE PLAN

As was done during the formulation of the Beehive Peak Fire Management Plan, a news article will be run in the local papers. The article will describe the general area and intent of the management area. An explanation on how the public can assist in the detection and management of fires will be included, along with phone numbers and names of people to contact 24 hours a day.

The article will be run immediately following the approval of the Forest Plan, and will state the expected implementation date of the Plan.

In addition to the news article a written explanation and map of the FMA will be available to the public at the District Ranger and the Supervisor's Offices.

When any individual from the public sector calls a Forest Service Office to report an FMA fire, they will be given information as to why this fire is different from other fires outside the FMA.

XII. PUBLIC SAFETY

It will be the Fire Evaluation Team's responsibility to assess the possible danger to the public based upon the information provided by the monitoring team. If the monitoring team encounters individuals in the vicinity of the fire, it will be their job to professionally explain the management situation and ask them politely to move to a safer area.

XIII. FOREST TO REGION REPORTING AND NOTIFICATION

The Regional Dispatcher will be immediately notified by phone or computer terminal when fires occur in sensitive ares (Fire Management Areas) or in high value class areas (Region 4 Fire Mobilization Plan 22.2-1).

After the initial phone call the fire will be reported on the daily status report as follows:

7. Prescribed Fires

   a. planned
   b. natural (FMA)
   c. new ignition
   d. planned ignition today
   e. current activity
   f. acres burned
   g. acres burned year-to-date (planned & natural)

8. Air Quality

   a. good
   b. serious
   c. critical
   d. if serious or critical, list areas of concern.

Also, when an FMA fire is detected the following agencies will be contacted by the Richfield Interagency Dispatch Center:

Manti-LaSal National Forest, Price, Utah
Dixie National Forest, Cedar City, Utah
Richfield BLM, Richfield, Utah
Capitol Reef Naitonal Park, Fruita, Utah
Utah Highway Patrol, Richfield, Utah
Appropriate County Sheriffs

XIV. POST FIRE EVALUATION

Fire - It will be extremely valuable for future planning purposes to document the actual and predicted NFDRS indexes, components, and fire weather data so they can be correlated with the actual onsite fire behavior. In turn, this information will be compared with the immediate post burn results and each fuel type's objective fire intensity description. Photographs will be a valuable and necessary tool in the evaluation.

The Decision Logic Chart Check List will be used to collect and document this information.

In time, the prescriptions can be fine tuned so that desired results can be more accurately predicted.

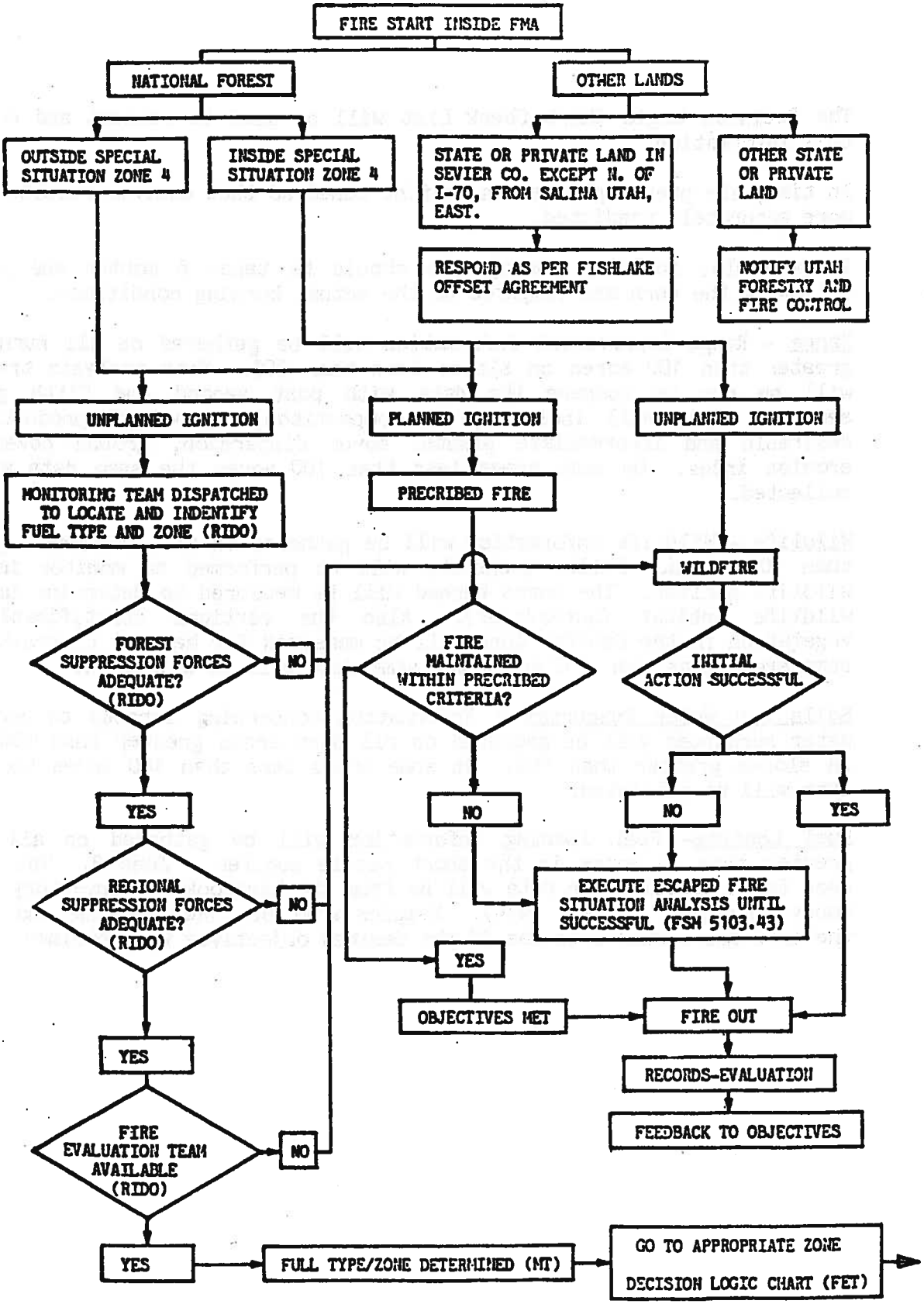
If possible, followup photographs should be taken 6 months and 3 years following the burn and compared to the actual burning conditions.

Range - Range improvement information will be gathered on all burn areas greater than 100 acres on slopes less than 30%. Site analysis transects will be run to compare the data with post second and fifth growing seasons. This will include plant compostiton, dry weight production of desirable and intermediate plants, cover dispersion, ground cover, and erosion index. On some areas less than 100 acres the same data will be collected.

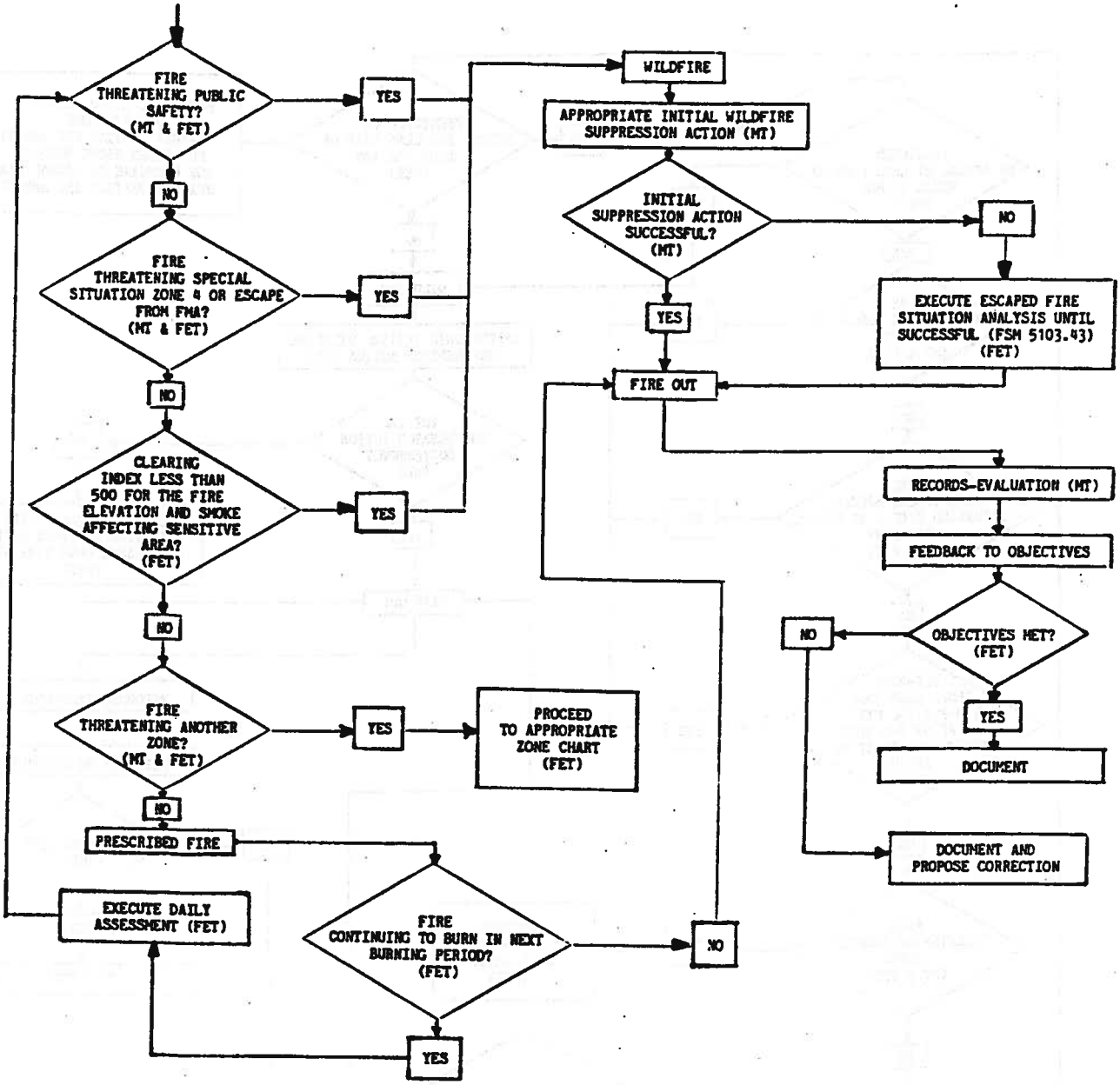
Wildlife - Wildlife information will be gathered on all burn areas greater than 100 acres. Pellet transects will be performed to monitor improved wildlife habitat. The acres burned will be measured to determine improved wildlife habitat (acres/year). Also the vertical stratification of vegetation in the Conifer Zone will be measured for habitat diversity. On some areas less than 100 acres the same data will be collected.

Soils and Water Resources - Information concerning impacts to soil and water resources will be gathered on all burn areas greater than 100 acres on slopes greater than 30%. On some areas less than 100 acres the same data will be collected.

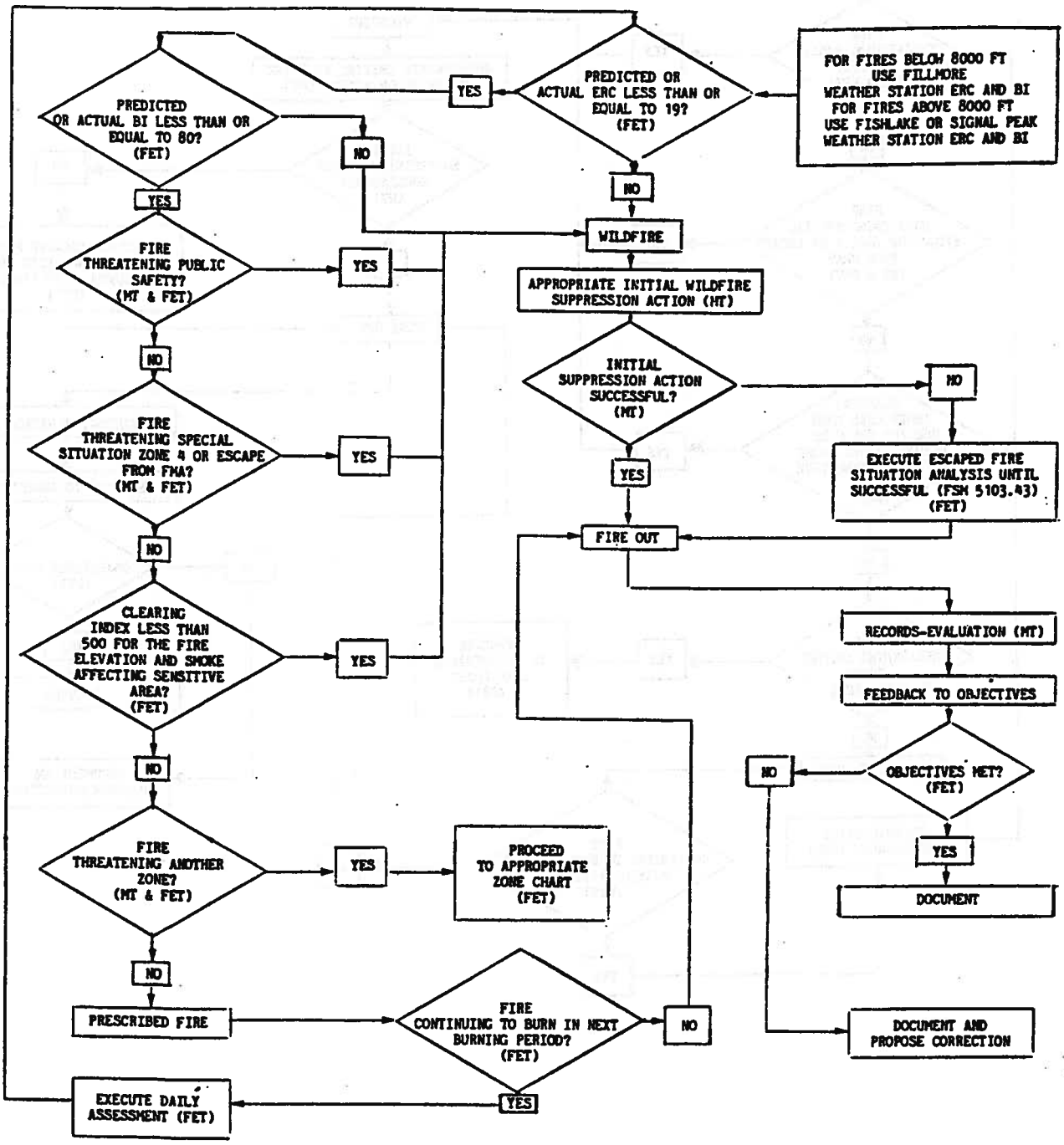
Fuel Loading- Fuel loading information will be gathered on all fires greater than 25 acres in the short needle conifer - Zone 3. The method used for collecting the data will be from the handbook for Inventory Downed Woody Material, (Brown, 1974). Samples will be taken outside and inside the burn and compared to see if the desired objectives was obtained.



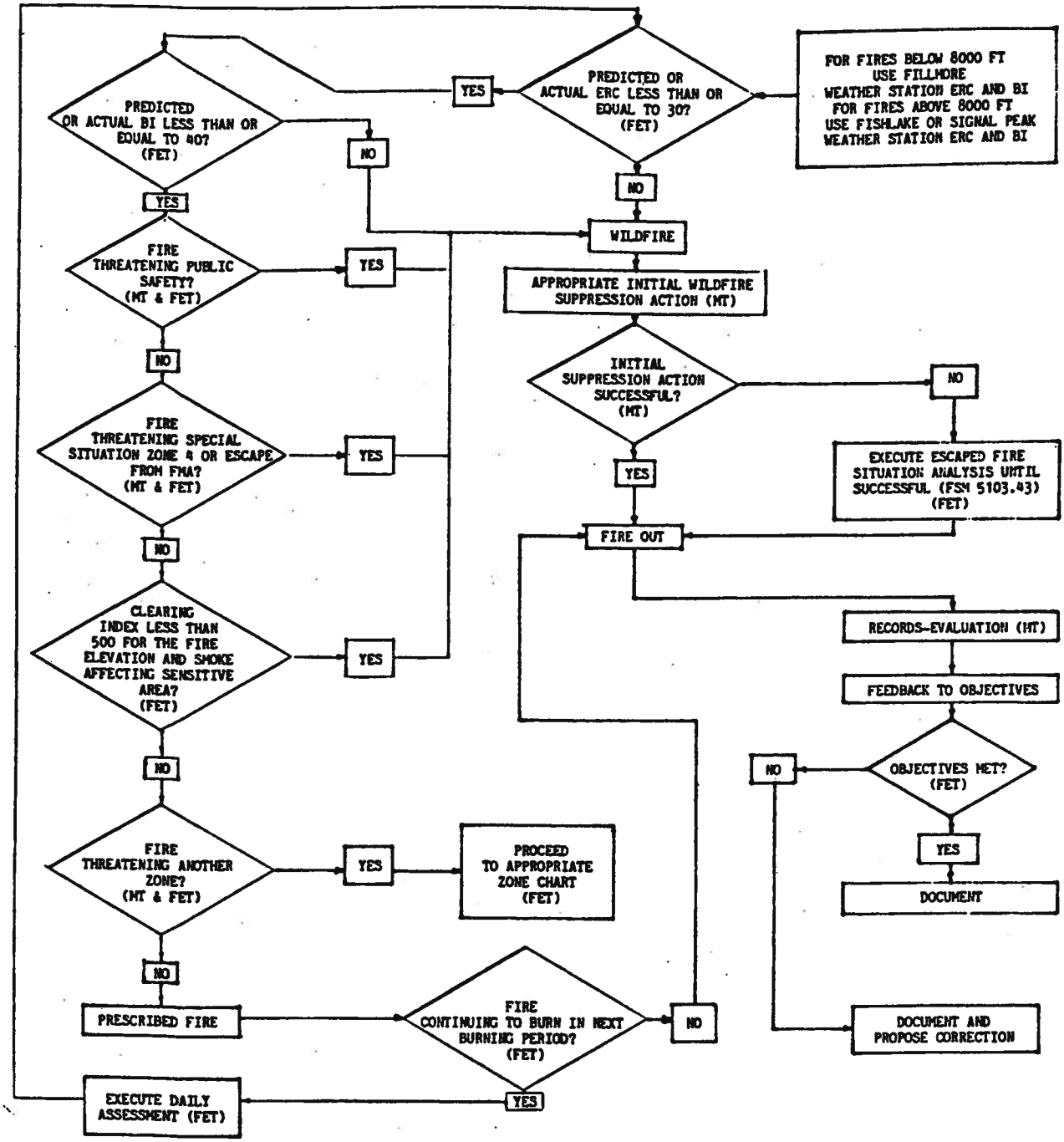
(FET)-FIRE EVALUATION TEAM (MT)-MONITORING TEAM (RIDO)-RICHFIELD INTERAGENCY DISPATCH OFFICE



PINYON-JUNIPER - ZONE 1 F2P2



SAGE-GRASS, BRUSH, ASPEN - ZONE 2 T2P2



SHORT-NEEDLE CONIFER - ZONE 3 H2P2

APPENDIX M
(Reserved)

APPENDIX N

LONG-RANGE
ROAD AND TRAIL
RIGHTS-OF-WAY ACQUISITION
(Map on File at Forest Supervisor's Office)

This document comprises the narrative section of the long-range Forest rights-of-way acquisition plan. The old Forest Road and Trail Rights-Of-Way Status Record, the new status records ond/or the Forest Transportation plan contain the basic inventory and plan maps from which this information was compiled and which are made a part of this plan by reference.

1. Objectives

   The general objectives for the acquisition of permanent public access to National Forest System lands administered by the Forest Service are outlined in FSM 5460.2. In accordance with those objectives, the purposes of this plan are:

   a. to provide for the acquistion of needed road and trail rights-of-way a systematic order one year in advace of planned construction schedules.

   b. to facilitate multiple use management by the acquisition of needed permanent public access over all roads and trails on the Forest transportation system by September 30, 2004. To meet this objective, the Forest plans to acquire no less than 5 percent of the right-of-way needs each year until the job is completed.

2. Annual action plans - shall be developed from the long-range plan and proposed in the program budgeting process.

3. Assignment of Personnel and Responsibilities

   a. Forest level. It is estimated that at least one person, exclusive of those needed for surveys, drafting, and clerical work, will be needed to handle the right-of-way coordination and workload at the Forest level. Primary duties will consist of securing and checking title evidence, researching county records, preparing related documents, recording deeds, assiting District Rangers in negotiations with landowners, arranging for and assistance to an appraiser, and, if needed, assisting in any drafting and/or clerical services.

   b. District level. Approximately one pay period annually of District personnel time for each of the four Ranger Districts will be required to implement the right-of-way program set forth in this plan. Items to be handled to a considerable extent at this level will include preliminary contacts with landowners, route selectons, property inspections, and negotiations.

c. Training needs. Personnel assigned to the Supervisor's Office will require a working knowledge and background of the right-of-way system. Periodic in-service training sessions will also be of value. Limited training should be made available to participating personnel at both District and Supervisor's Office levels. One individual from the S.O. and one from each of the four Districts should be a duly authorized Notary Public to expedite deed executions from landowners.

d. Other. Use and need of a Zone Appraiser should be maintained at a level no less than currently programmed -- one Zone Appraiser stationed in Cedar City, which services the Dixie, Manti-Lasal, and Fishlake National Forests. Engineering survey and drafting services at the Forest level will need to be maintained at a minimum of one Engineer Program Survey Leader and two survey crew personnel to accomplish the surveying and drafting jobs generated by the acquisition program.

4. Acquisiton Climate

a. Attitude of Public in General to Rights-of-way Acquisition by the Forest Service to Access National Forest System Lands. The attitude of the general public is favorable to the extension of the Forest road system. Public interest lies primarily in better access for hunting, fishing, and other recreational activities. There are some individuals who would prefer to have more development and/or space for 4-wheel and off-road vehicles, but this doesn't reflect the prevailing attitude.

b. Attitude of Public Road Agencies. Public road agencies have been very cooperative in granting rights-of-way to the United States. The Forest has recently completed negotiations with Sevier County Commissioners, with the result that 19 roads in the County were declared public. Negotiations are on-going with other county agencies to have more roads declared public.

c. Attitude of Major Landowners. The attitude of major private landowners has been quite good. Many are even willing to donate the right-of-way in a desire to improve access to their property or to elimintate an encroachment or trespass problem on other portions of their property.

d. Absentee Landowners. Absentee landowners are the usual situation on the Forest and are the class that must be dealt with in most cases.

e. Settlement of Estates. A small number of cases may be involved in settlement of estates but this should not present a big problem in the acquisition program. There have been no cases of this type in the recent past.

5. Particular Problems in Processing Acquisitions

a. Obtaining Title Reports and Policies. Service from the local title companies and abstractors has greatly improved within the past several years; occasionally, there is a "lengthy" delay, but on the whole service is quite good.

b. Outstanding Third-party Interests. To date, these have not been a problem on the Fishlake.

6. General Priority of Acquisitions

a. Areas in Which Exisiting Roads are Being Closed to General Public Travel. Although some landowners would rather not have public travel on roads through their lands because of vandalism, littering, gates left open, etc., no attempt is currently being made to prevent such travel.

b. Area in Which Subdivision Appears Probable. A high priority for right-of-way acquisiton exists where subdivision probabilities are highest. Some high mountain properties continue in the process of being subdivided for recreation homesites. Forest efforts continue to be directed toward being aware of potential subdivision sites so that emphasis can be placed on acquisiton from these properties.

c. Areas Planned for Disposal by County, State, and other Federal Agencies. The Forest keeps posted on any disposal transactions involving State, County, and other Federal lands. The Forest also continues to work with Counties in declaring public travel access over those roads deemed of a high priority.

d. Opportunity Cases. The greatest source of right-of-way at present is opportunity cases; although the greatest one-time amount would be by County declaration. Some opportunity case acquisitions are not as critical to the transportation system as other roads and trails may be, but the "ease" with which these cases can be completed makes them very desirable. Some cases will be given considerable attention because of the willingness on the part of current landowners which may not carry through to any subsequent owners. Donations from cooperative owners who favor extension and improvement of access are sometimes available, and will be encouraged.

7. Feasible and Desirable Cost-share Possibilities with Intermingled Landowners.

There are no known opportunities on the Forest where cost-sharing arrangements are appropriate. Very little commercial hauling of timber or other products is currently taking place, and it is not expected that cost-sharing has much application at this time.

8. Unique Problems Involving Appraisal of right-of-way, such as special types of properties.

Lack of transaction evidence in acreage volume and current market values pose a problem to adequately appraise rights-of-way to mountain lands for recreation potential. In some instances the owners are happy to have new or improved access to these areas, which is an enhancement to the Forest program. However, many times good public access is not desired and the landowners wish to maintain a considerable degree of privacy. Strong opposition to the program can be expected in some stiuations because landowners do not want to provide access, especially as noisy on- and off-road vehicles become more numerous.

9. Other Unique Problems

Any kind of a reduction of current level personnel would pose a definite problem to the program, as well as lack of sufficient funds to work a good landline location and corners records program.

ADDENDA. District and Forest Summary Sheets:

FOREST SUMMARY
(Fishlake National Forest)

Item	FOREST-WIDE No. Cases	No. Miles
1. Road and trail rights-of-way to be acquired.	139	68.56
2. Rights-of-way needed on existing roads and trails.	139	68.56
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	50	25.45
5. Rights-of-way to be acquired in the name of the United States.	89	43.11
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	6	4.52
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	78	34.59
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	5	4.0
b. Proposed roads and trails.	0	0

FOREST SUMMARY
(Fishlake National Forest)

Item	BEAVER CO. No. Cases	BEAVER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	26	10.6
2. Rights-of-way needed on existing roads and trails.	26	10.6
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	9	5.1
5. Rights-of-way to be acquired in the name of the United States.	17	5.5
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	16	4.6
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	1	0.9
b. Proposed roads and trails.	0	0

FOREST SUMMARY
(Fishlake National Forest)

Item	MILLARD CO. No. Cases	MILLARD CO. No.Miles
1. Road and trail rights-of-way to be acquired.	13	6.25
2. Rights-of-way needed on existing roads and trails.	13	6.25
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	10	4.0
5. Rights-of-way to be acquired in the name of the United States.	3	2.25
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	3	2.25
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

FOREST SUMMARY
(Fishlake National Forest)

Item	PIUTE CO. No. Cases	PIUTE CO. No.Miles
1. Road and trail rights-of-way to be acquired.	24	14.01
2. Rights-of-way needed on existing roads and trails.	24	14.01
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	14	5.40
5. Rights-of-way to be acquired in the name of the United States.	10	8.61
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	9	7.31
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	1	1.3
b. Proposed roads and trails.	0	0

FOREST SUMMARY
(Fishlake National Forest)

Item	SEVIER CO. No. Cases	SEVIER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	72	35.40
2. Rights-of-way needed on existing roads and trails.	72	35.40
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	17	10.95
5. Rights-of-way to be acquired in the name of the United States.	55	24.45
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	6	4.52
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	49	19.93
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

FOREST SUMMARY
(Fishlake National Forest)

Item	WAYNE CO. No. Cases	WAYNE CO. No. Miles
1. Road and trail rights-of-way to be acquired.	4	2.3
2. Rights-of-way needed on existing roads and trails.	4	2.3
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	0	0
5. Rights-of-way to be acquired in the name of the United States.	4	2.3
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	1	0.5
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	3	1.8
b. Proposed roads and trails.	0	0

FILLMORE
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	DISTRICT-WIDE No. Cases	No. Miles
1. Road and trail rights-of-way to be acquired.	28	17.75
2. Rights-of-way needed on existing roads and trails.	28	17.75
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	18	11.25
5. Rights-of-way to be acquired in the name of the United States.	10	6.5
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	10	6.5
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

FILLMORE
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	MILLARD CO. No. Cases	MILLARD CO. No.Miles
1. Road and trail rights-of-way to be acquired.	13	6.25
2. Rights-of-way needed on existing roads and trails.	13	6.25
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	10	4.00
5. Rights-of-way to be acquired in the name of the United States.	3	2.25
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	3	2.25
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

FILLMORE
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	SEVIER CO. No. Cases	SEVIER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	15	11.50
2. Rights-of-way needed on existing roads and trails.	15	11.50
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	8	7.25
5. Rights-of-way to be acquired in the name of the United States.	7	4.25
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	7	4.25
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

LOA
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	DISTRICT-WIDE No. Cases	No. Miles
1. Road and trail rights-of-way to be acquired.	6	3.60
2. Rights-of-way needed on existing roads and trails.	6	3.60
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	0	0
5. Rights-of-way to be acquired in the name of the United States.	6	3.60
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	3	1.80
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	3	1.80
b. Proposed roads and trails.	0	0

LOA
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	SEVIER CO. No. Cases	SEVIER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	2	1.30
2. Rights-of-way needed on existing roads and trails.	2	1.30
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	0	0
5. Rights-of-way to be acquired in the name of the United States.	2	1.30
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	2	1.30
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

LOA
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	WAYNE CO. No. Cases	WAYNE CO. No. Miles
1. Road and trail rights-of-way to be acquired.	4	2.30
2. Rights-of-way needed on existing roads and trails.	4	2.30
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	0	0
5. Rights-of-way to be acquired in the name of the United States.	4	2.30
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	1	0.50
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	3	1.80
b. Proposed roads and trails.	0	0

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	DISTRICT-WIDE No. Cases	No. Miles
1. Road and trail rights-of-way to be acquired.	54	26.50
2. Rights-of-way needed on existing roads and trails.	54	26.50
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	32	4.20
5. Rights-of-way to be acquired in the name of the United States.	22	12.30
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	20	10.10
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	2	2.20
b. Proposed roads and trails.	0	0

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	BEAVER CO. No. Cases	BEAVER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	26	10.60
2. Rights-of-way needed on existing roads and trails.	26	10.60
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	9	5.10
5. Rights-of-way to be acquired in the name of the United States.	17	5.50
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	16	4.60
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	1	0.9
b. Proposed roads and trails.	0	0

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	PIUTE CO. No. Cases	PIUTE CO. No.Miles
1. Road and trail rights-of-way to be acquired.	18	10.90
2. Rights-of-way needed on existing roads and trails.	18	10.90
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	14	5.40
5. Rights-of-way to be acquired in the name of the United States.	4	5.50
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	3	4.20
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	1	1.30
b. Proposed roads and trails.	0	0

BEAVER
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	SEVIER CO. No. Cases	SEVIER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	10	5.00
2. Rights-of-way needed on existing roads and trails.	10	5.00
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	9	3.70
5. Rights-of-way to be acquired in the name of the United States.	1	1.30
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

RICHFIELD
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	DISTRICT-WIDE No. Cases	No. Miles
1. Road and trail rights-of-way to be acquired.	51	20.71
2. Rights-of-way needed on existing roads and trails.	51	20.71
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	51	20.71
5. Rights-of-way to be acquired in the name of the United States.	6	4.52
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	45	16.19
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	45	16.19
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

RICHFIELD
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	PIUTE CO. No. Cases	PIUTE CO. No.Miles
1. Road and trail rights-of-way to be acquired.	6	3.11
2. Rights-of-way needed on existing roads and trails.	6	3.11
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	0	0
5. Rights-of-way to be acquired in the name of the United States.	6	3.11
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

RICHFIELD
RANGER DISTRICT SUMMARY
(Fishlake National Forest)

Item	SEVIER CO. No. Cases	SEVIER CO. No.Miles
1. Road and trail rights-of-way to be acquired.	45	17.60
2. Rights-of-way needed on existing roads and trails.	45	17.60
3. Rights-of-way to be needed on proposed roads and trails.	0	0
4. Rights-of-way to be acquired in cooperaton with, and in the name of, a public road agency.	0	0
5. Rights-of-way to be acquired in the name of the United States.	45	17.60
6. Rights-of-way to be acquired by purchases or exchange of land in accordance with the Forest landownership adjustment plan.	0	0
7. Rights-of-way to be acquired by easement deed to United States over private, county, or state owned lands.		
a. Existing roads and trails.	39	13.08
b. Proposed roads and trails.	0	0
8. Rights-of-way to be acquired across other Federal Lands.		
a. Existing roads and trails.	0	0
b. Proposed roads and trails.	0	0

APPENDIX O

COAL UNSUITABILITY

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FISHLAKE NATIONAL FOREST COAL LANDS REVIEW

I. INTRODUCTION

The Forest Service is a participant in the Department of Interior's Federal Coal Management Program (FCMP) which was designed in response to the President's May 1977 direction and a September 1977 Federal court order. An environmental impact statement which analyzed the options for managing Federal coal was completed in April 1979. In June 1979, the Secretary of Interior made a final decision and regulations (Title 43 of the Code of Federal Regulations, Part 3400) were issued in July 1979.

The FCMP incorporates the requirements of the Mineral Leasing Act of 1920, as amended by the Federal Coal Leasing Amendments Act of 1967 (FCLAA) (including 1978 supplements to this act), the Surface Mining Control and Reclamation Act of 1977, (SMCRA) and the coal production policies of the President.

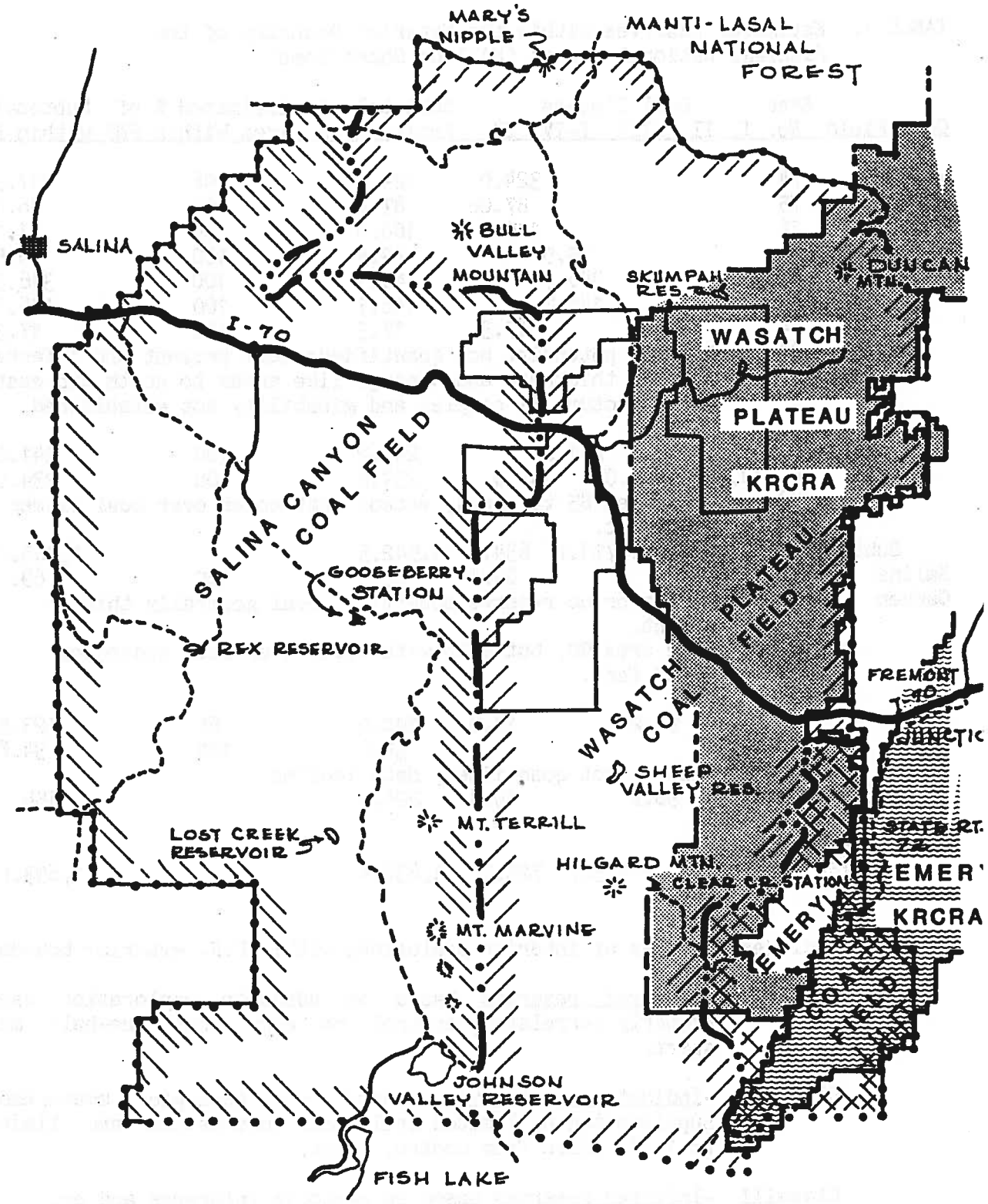
The FCLAA directs that "no lease sale shall be held unless the lands containing the coal deposits have been included in a comprehensive land-use plan and such sale is compatible with such plan." The SMCRA requires a Federal lands review be conducted to assess whether certain classes of Federal lands are unsuitable for all or certain types of coal mining operations, and to establish a process by which the public may petition to have Federal lands designated unsuitable for all or certain types of coal mining operations.

The Fishlake National Forest is presently in the process of developing its Land and Resource Management Plan as required by the National Forest Management Act of 1976. Until the new plan is finalized, the Forest is using its Multiple Use and Unit Plans, developed under the Multiple-Use Sustained-Yeild Act of 1960, as the bases for resource development decisions. The new plan will strengthen or redefine the management goals, objectives, and guidelines for actions and programs on lands under the Forest's jurisdiction.

As a part of its current planning effort and pursuant to the requirements of SMCRA and the FCLAA, the Forest has made a review of the coal-bearing lands within the Forest boundary. These lands include approximately 433,300 acres in Sevier County, Utah (including all interior exclusion lands), and are comprised of all of the Salina and the portion of the Wasatch and Emery Coal Fields which lie within the Forest (See Figures 1 &1a).

Using U.S. Geological Survey (USGS) source data it was derived these lands contain an estimated reserve of 1,693.6+ million tons of coal (See Table 1 and Figure 2). Only those coal beds that average 4 feet or greater in thickness and are covered by less than 3000 feet of overburden are included in the reserve data.

The review was conducted and documented using direction set forth in the Forest Service "Mineral Planning Handbook Coal Supplement" received by the Forest on April 23, 1982.



Known Recoverable Coal Resource Areas (KRCRA)
Also
Coal Review Area and Coal Fields

FIGURE 1

TABLE 1. Estimated Reserves Within the Exterior Boundary of the Fishlake National Forest (Million Short Tons)

Coal Field	Area No.	Coal Classess I	II	III	I-IV	IV	Subtotal of Entire Area	Estimated % of Area Within FNF	Subtotal Within FNF
Wasatch Plateau	74					324.0	324.0	98	317.5
	75					87.0c	87.0	99	86.1
	76					106.0	106.0	35	37.1
	81				39.5		39.5	100	39.5
	82				346.3		346.3	100	346.3
	83				146.7		146.7	100	146.7
	84					17.3	17.3	100	17.3
	85	Reserve potential not quantified; coal present and inferred to have thickness and tonnage like areas to north and east, but structure is complex and minability not established.							
	86				241.2d		241.2	100	241.2
	87	10.5		124.0		100.0	234.5	100	234.5
	88e	Like area 85 to north, except that cover over coal exceed 3000 feet.							
Subtotal		10.5		124.0	773.7	634.3	1,542.5		1,466.2f
Salina Canyon	89					69.1	69.1	100	69.1
	90	Little or no reserve potential, coal generally thin or absent.							
	91e	Like area 90, but also with cover over coal exceeding 3,000 feet.							
Emery	100	72.0		98.2		19.8	190.0	65	123.5
	101	34.8					34.8	100	34.8
	102	Reserve not quantified; data lacking.							
Subtotal		106.8		98.2		19.8	224.8		158.3
Total All Fields		117.3		222.2	773.7	723.2	1,836.4		1,693.6

a. Includes reserves of interior exclusions within F.F. exterior boundary

b. Class I -Measured reserves based on adequate exploration data; properly correlated; control no more than one-half mile apart.

Class II -Indicated reserves based on geologic measurement supplemented by limited drill-hole information and limited to 1-1/2 miles from control point.

ClassIII -Inferred reserves based on geologic inference and pro jection of the habit of the coal beyond 1-1/2 miles from control points.

Class IV -Potential reserves based on geographic and geologic position with little surrounding data; includes coal covered by no more than 3,000 feet of overburden.

Most of the coal reserve is based on surface measurements which ar not always as reliable as the drill. The reserve commonly i underestimated because surface measurements usually are smaller tha thickness penetrated by drilling. Class I and II figures are combine in these reports; no attempt was made to separate the more reliabl figure. The first three reserve classes constitute the principa reserve and more nearly reflect the current potential. The reserve include only coal beds that average four feet or greater thickness an are covered by less than 3,000 feet of overburden except wher otherwise noted. Less than 50 percent of the total reserves ar economically mineable. (The division of coal into four classe generally follows that described by Doelling, 1972, p.549.)

c. Recent drill hole data indicates that this estimate may be high.

d. Chiefly Classes II - IV.

e. Areas identified as not potentially mineable.

f. Plus noted unquantified amounts could possibly add 10-20 percent t the tabulated tonnage.

Information obtained from FEIS, Development of Coal Resources in Centra Utah, 1979, Figure II-9, USGS map and table showing coal resources i Central Utah.

Known Recoverable Coal Resource Area Boundary taken from Bureau of Lan Managment of "Uinta-Southwester Utah Coal Study Region," 1982.

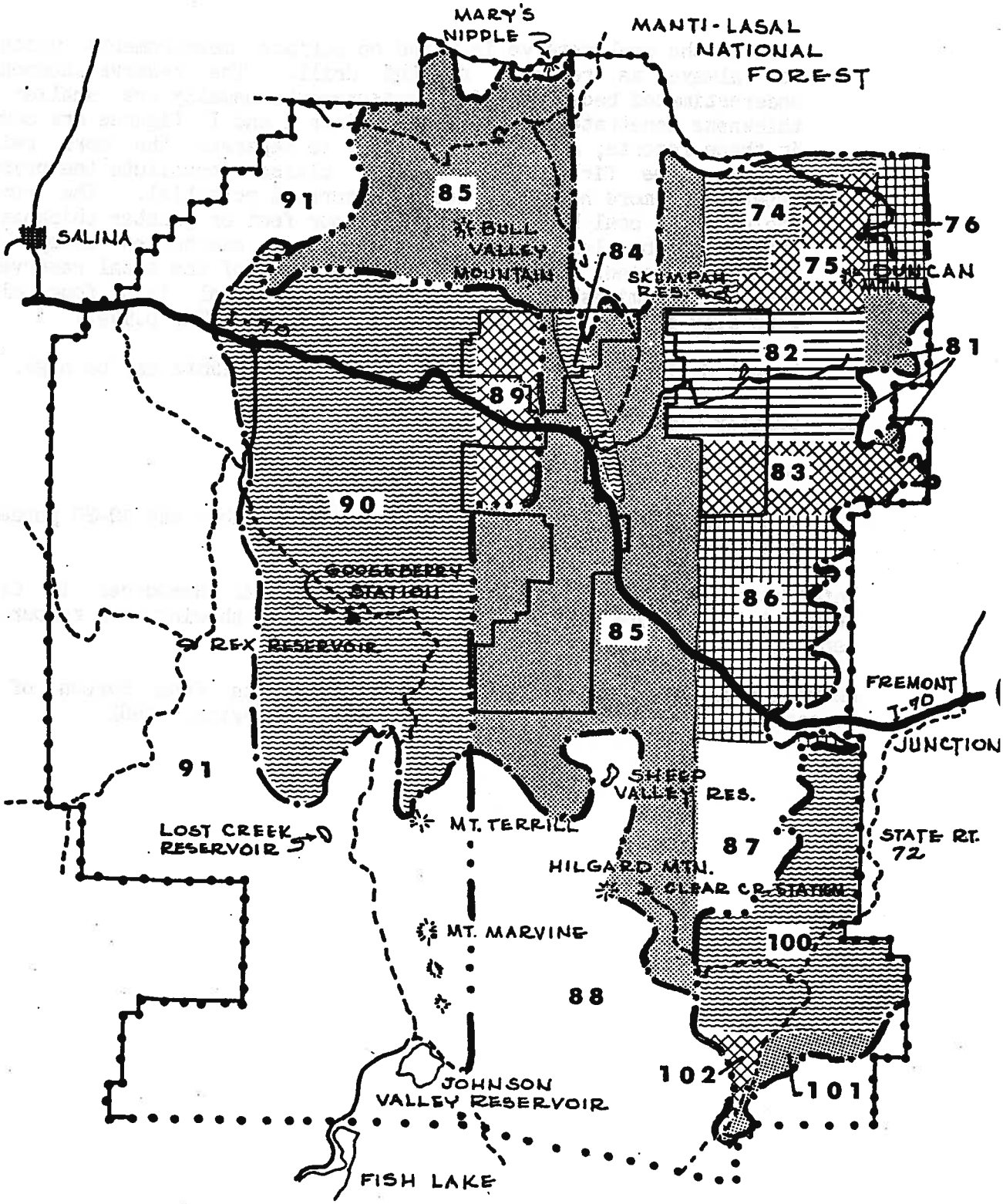


FIGURE 2 **Potentially Minable Coal Bearing Lands**

II. AREAS ACCEPTABLE FOR FURTHER CONSIDERATION FOR COAL LEASING

The principle land use planning decision concerning the coal resource is to determine which areas are acceptable for futher consideration for coal leasing. These areas are identified by placing all coal-bearing lands in the planning area through four screens integral to the planning process:

1) Areas are eliminated from further consideration for coal development if they do not have high to medium coal potential.
2) Additional coal areas are eliminated if they are judged unsuitable under the Department of Interior's unsuitability criteria.
3) Additional coal areas may be eliminated on multiple use grounds if other Federal resource values are determined to be superior to coal.
4) Additional coal areas where the Federal government owns the coal, the coal would be surface mined, and the surface is owned by ranchers or farmers may be eliminated after consultation with those surface owners.

The areas remaining after application of these screens are identified as areas acceptable for further consideration for coal leasing, subject to area wide contraints and multiple use coordination requirements to guide coal program activities.

The above 433,300 acres of coal-bearing lands contain 31,669 acres of interior exclusion lands which are eliminated from the above screening process since they are not a part of the Forest. Also within the 433,300 acres are ten Federal coal leases which include, among other lands, approximately 18,273 acres administered by the Fishlake National Forest. Additionally, there are three tracts of land included which are proposed for leasing in the Uinta-Southwestern Utah Coal Region's second round of leasing. These tracts contain 3,423 acres administered by the Forest and 120 acres of privately owned surface.

Since the existing and proposed lease areas have previously been determined as acceptable for coal leasing, they are eliminated from the screening process also. Data for these areas are provided in Table 2 and the locations are shown in Figure 3. Additional information is available in the appropriate environmental documents adressing each existing or proposed lease.

The above eliminated lands result in 379,815 acres available for the screening process as shown in Table 3.

TABLE 2
DATA PERTAINING TO FEDERAL COAL LEASES AND PROPOSED LEASE TRACTS
WHICH INCLUDE FISHLAKE NATIONAL FOREST SYSTEM LANDS

Existing Leases

	Lease no. or Tract Name	Effective Lease Issuance Date	Approximate Lease Acreage By Surface Jurisdiction: Fishlake N.F.	Manti-LaSal N.F.	Bureau of Land Mgt.	Non-federal	TOTAL
1.	SL-062583	09/12/41	2,203				2,203
2.	U.-062453	03/01/62	73	407			480
3.	U-0149084	06/01/66	240				240
4.	U-041171	03/01/67	1,825				1,825
5.	U-041176	03/01/67	436			1,109 1/	1,545
6.	U-041177	03/01/67	593			1,911 1/	2,504
7.	U-041178	03/01/67	1,896			80 1/	1,976
8.	U-5135	05/01/77	7,636		1,188		8,824
9.	U-28s97	01/01/79	2,213	255	164		2,632
10.	U-47080	01/01/81	1,158				1,158
	Subtotal		18,273	662	1,352	3,100	23,387
Proposed Lease Tracts							
1.	Skumpah		520			120	640
2.	Ivie		1,040				1.040
3.	Quitchupah		1,863	6,480	1,360	80 2/	9,783
	Subtotal		3,423	6,480	1,360	200	11,463
	TOTAL		21,696	7,142	2,712	3,300	34,850

1/ Interior Exclusion Lands - Private Surface.

2/ State Lands - Outside of Forest Boundary.

TABLE 3. Area Available for Screening Process.

Acres	Description
433,300	Coal-bearing lands
-31,669	Interior exclusion
-18,273	Existing leases
- 3,543	Proposed leases
379,815	Available for screening

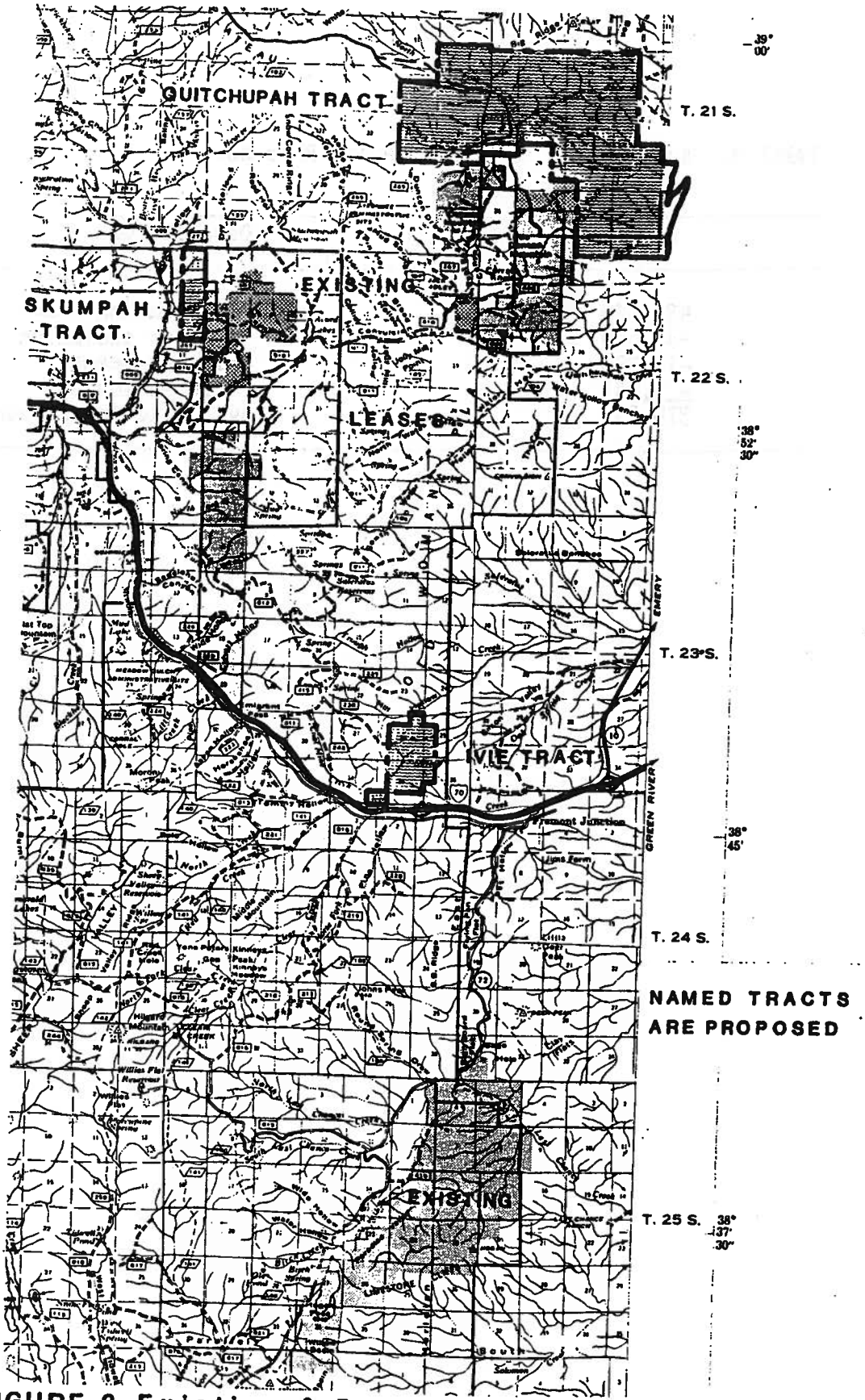


FIGURE 3 Existing & Proposed Federal Coal Leases

A. High to Moderate Potential Coal Lands

Only a portion of the uncommitted coal reserves within a land use planning area is likely to be potentially economic to mine or to become so over the life of the land use plan. Rather than apply all the screens in the planning process to uneconomic coal, the first screen is to identify coal with high or moderate potential for development. Lands with less than moderate development potential are dropped from further consideration until their potential for development is judged to be higher, perhaps the next land use planning cycle.

Using the USGS data shown in Table 1 and Figure 2 it was derived that, out of the 379,815 acres being placed through the screening process, approximately 190,957 acres have little or no reserve potential and thus drop out. They are areas where the coal is generally thin or absent and/or overlain by overburden exceeding 3,000 feet thickness. This results in approximately 188,858 acres which are within the area identified as potentially minable by the USGS. From these, approximately 107,324 acres have been identified as having a low potential for coal development and are thus eliminated. They include lands outside the Known Recoverable Coal Resource Areas established by the USGS where reserve potential is not quantified and minability has not been established. These lands also have generated no apparent interest by the coal industry. All of the Salina Coal Field is included as low potential since it has been predicted that mining is doubtful or will not occur until after 1992 (Doelling, p. 20).

The remaining 81,534 acres of potentially minable lands have been identified as having a high to moderate potential for development and are shown in Figure 4. They comprise the lands to be placed through the remaining three screens and are hereafter referred to as the "assessment area". Surface and mineral estate acreages are shown in Table 4.

TABLE 4. Surface and Mineral Estate Acreages for the Assessment Area.

Status of Jurisdiction Surface/Mineral	Acres
Federal/Federal	76,827
Private/Federal	120
Private/Private	4,547
Federal/Private	40
TOTAL	81,534

Estimated reserves for the assessment area total 1,450.8 million tons as shown in Table 5. Recoverability is estimated at 580.3 million tons using an average recoverability rate of 40% (Doelling, p. 131, 438, & 551).

All of the included coal has been determined to be minable by only underground methods (Doelling, P. 129, 438, 440). Those lands which are believed minable by surface methods are contained in existing leases U-5135 shown in Figure 3 and are not contained within the assessment area.

The identification of high to moderate potential coal lands (assessment area) was made using: 1) USGS data contained in the Final Environmental Impact Statement on the Development of Coal Resources in Central Utah, 1979 (Figure II-9, USGS map and table showing coal resource data); 2) Bureau of Land Management Map of Uinta-Southwestern Utah Coal Study Region, 1982 showing KRCRA boundaries; 3) H. H. Doelling's Monograph Series No. 3, 1972 on Central Utah Coal Fields; and 4) input from industry (Expressions of Leasing Interest - Round 1 & 2 for Uinta-Southwestern Utah Coal Region; and nominations under the Energy Minerals Activity Recommendations System).

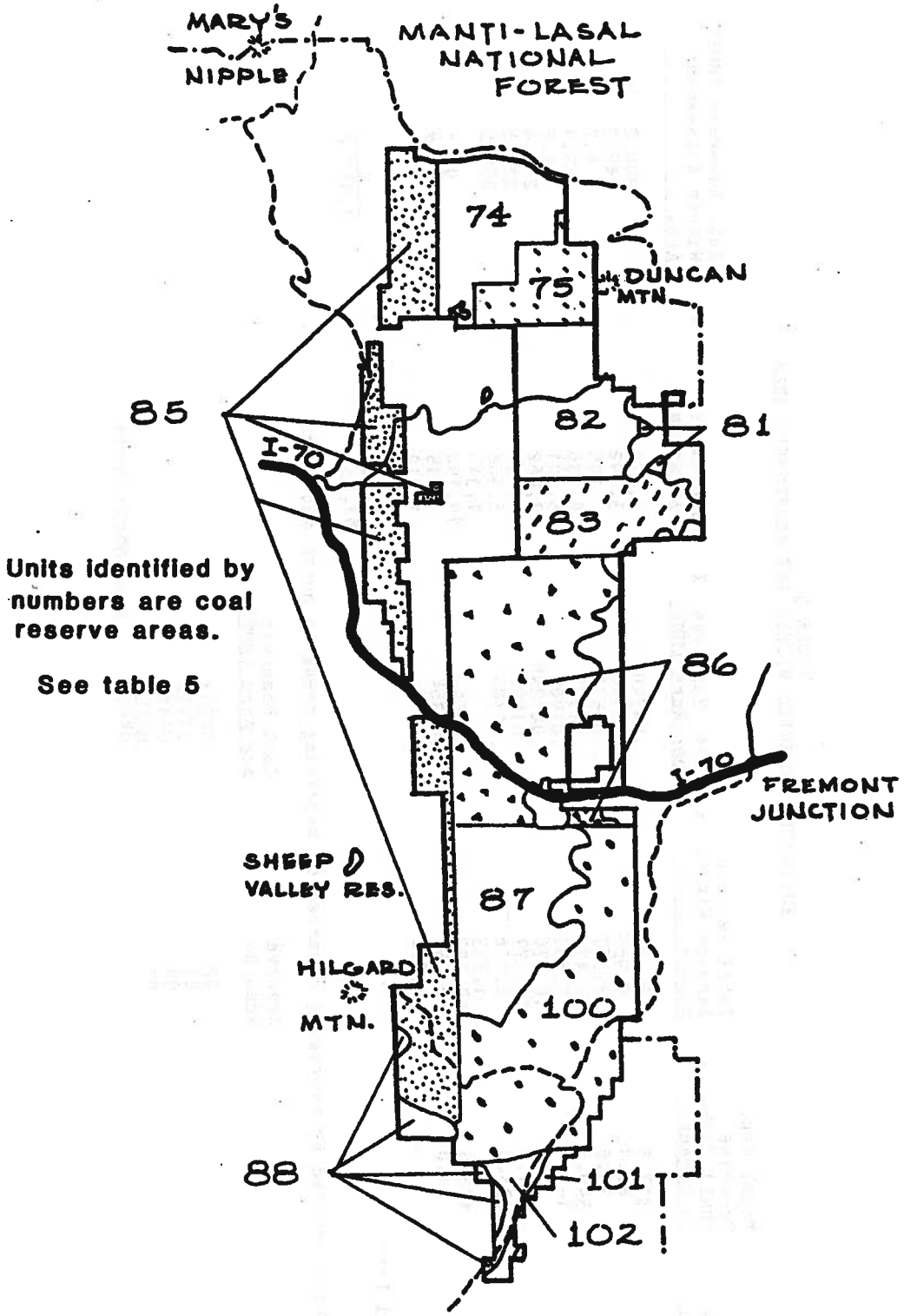


FIGURE 4 Assessment Area

TABLE 5
ESTIMATED RESERVES WITHIN THE ASSESSMENT AREA

Reserve Area No.	Total Est. Reserves (MMT) Within Forest	-	Total Reserve Acreage Within Forest	=	Est. Reserves per Acre (MMT)	X	Assessment Area Acreage	=	Est. Reserves (MMT) Within Assessment Area
74	317.5		6,698		.04740		6,334		300.2
75	86.1		5,955		.01446		3,342		48.3
81	39.5		2,567		.01539		305		4.7
82	346.3		14,471		.02393		6,496		155.4
83	146.7		7,661		.01905		5,101		97.7
85			18,376		.02124*		13,062		277.4
86	241.2		16,277		.01482		15,437		228.8
87	234.5		8,666		.02706		8,666		234.5
88			1,313				1,313		
100	123.5		19,192		.00643		19,192		98.1
101	34.8		2,552		.01364		415		5.7
102			1,292				1,212		
Non-coal Land							4,596		
							81,534		1,450.8

*Estimation derived by averaging reserves of adjoining areas to north and east:

Reserve Area No.	East Reserves per Acre (MMT)
82	.02393
83	.01915
86	.01482
87	.02706
	.08496 - 4 = .02124 MMT/A.

B. Unsuitability Criteria

On August 3, 1977, the President signed into law the Surface Mining Control and Reclamation Act (SMCRA). Section 522 of this act requires the secretary of Interior to review Federal lands to determine whether they contain areas which are unsuitable for surface coal mining operations. In May 1980, a Memorandum of Understanding (MOU) between the Departments of Agriculture and Interior was approved authorizing the Secretary of Agriculture to assess the unsuitability or acceptability of lands within the National Forest System boundaries for surface mining operations. Surface mining operations are defined as "activities conducted on the surface of lands in connection with a surface coal mine and surface impacts incident to an underground coal mine" (43CFR 3400.0-5).

Under the MOU, the Department of Agriculture's Forest Service has the responsibility to administer the Federal lands review on lands within its jurisdiction boundaries using the unsuitability assessment procedures and standards contained in 43 CFR 3400.

The unsuitability criteria have been applied to the assessment area. In the summer-fall of 1980, the Forest and Richfield District of the Bureau of Land Management jointly applied the unsuitability criteria to lands including T. 22s.,R. 3, 4 and 5E., and T. 23S., R.3 & 4E. The application results are recorded in the Forest Planning Unit Coal Unsuitability Study, October 1980. Unsuitability criteria were applied to additional lands including the remaining delineated high to moderate potential lands in 1981 and 1982. Application results for the lands included in the proposed lease tracts are recorded in the Final Environmental Impact Statement for Round Two of coal leasing in the Uinta-Southwestern Utah Coal Region, October 1983. This document combines the application results for 11 lands within the assessment area. The previously documented results have been updated where warranted, and carried forward into this report to include under one cover, the results for all the assessment area.

The criteria defined in the Federal Register, Volume 47, July 30, 1982, (effective August 30, 1982) are used. The complete write-up of each criterion is presented, followed by application results including what is unsuitable and why in those cases where the criterion applies. The recoverable coal involved in the unsuitable area is also shown. When an exception does not apply, application of the criterion is complete. Where an exception does apply, the complete write-up of the exception is presented. The recoverable coal is recorded in terms of coal made available through application of the exception.

Table 6 shows which criteria apply to the assessment area and the logic used in determining those which do not apply. The applicability of exceptions to the criteria are shown in Table 7.

Each criterion applied contains the phrase "shall be considered unsuitable" which is shorthand for "shall be considered unsuitable for all or certain stipulated methods of coal mining involving surface mining operations" (surface mining operations are defined earlier).

CRITERION 1 -- FEDERAL LAND SYSTEM

ALL FEDERAL LANDS INCLUDED IN THE FOLLOWING LAND SYSTEMS OR CATEGORIES SHALL BE CONSIDERED UNSUITABLE: NATIONAL PARK SYSTEM, NATIONAL WILDLIFE REFUGE SYSTEM, NATIONAL SYSTEM OF TRAILS, NATIONAL WILDERNESS PRESERVATION SYSTEM, NATIONAL WILD AND SCENIC RIVERS SYSTEM, NATIONAL RECREATION AREAS, LANDS ACQUIRED WITH MONEY DERIVED FROM THE LAND AND WATER CONSERVATION FUND, NATIONAL FORESTS AND FEDERAL LANDS IN INCORPORATED CITIES, TOWNS, AND VILLAGES.

RESULTS

There are no National Park Systems, National Wildlife Refuge Systems, National Systems of Trails, National Wilderness Protection Systems, National Wild and Scenic Rivers Systems, National Recreation Areas, lands acquired with money derived from the Land and Water Conservation Fund or Federal lands incorporated cities, towns, and villages within the study area.

However, 76,867 acres of the assessment area are National Forest System lands, and thus, unsuitable for surface and underground coal mining (see Fig. 4). Involved reserves are estimated at 1,387.3 million tons. Using the average recoverability rate of 40% an estimated 554.9 million tons of coal are associated with the unsuitable lands.

EXCEPTIONS TO CRITERION 1

(i) A LEASE MAY BE ISSUED WITHIN THE BOUNDARIES OF ANY NATIONAL FOREST IF THE SECRETARY FINDS NO SIGNIFICANT RECREATIONAL, TIMBER, ECONOMIC OR OTHER VALUES WHICH MAY BE INCOMPATIBLE WITH THE LEASE: AND (A) SURFACE OPERATIONS AND IMPACTS ARE INCIDENT TO AN UNDERGROUND COAL MINE, OR (B) WHERE THE SECRETARY OF AGRICULTURE DETERMINES, WITH RESPECT TO LANDS WHICH DO NOT HAVE SIGNIFICANT FOREST COVER WITHIN THOSE NATIONAL FORESTS WEST OF THE 100TH MERIDIAN, THAT SURFACE MINING MAY BE IN COMPLIANCE WITH THE MULTIPLE-USE SUSTAINED-YIELD ACT OF 1960, THE FEDERAL COAL LEASING AMENDMENTS ACT OF 1976 AND THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977. (ii) A LEASE MAY BE ISSUED WITHIN THE CUSTER NATIONAL FOREST WITH THE CONSENT OF THE DEPARTMENT OF AGRICULTURE AS LONG AS NO SURFACE COAL MINING OPERATIONS ARE PERMITTED.

RESULTS

As stated previously, none of the reserves within the assessment have been determined to be minable by surface methods (Doelling). Therefore, the underground mining exemption from criteria (included below) is applied and the above area is assessed as suitable for underground mining, making available the above 554.9 million tons of recoverable coal. Under exception (i) and (i) (A) to criterion 1, leasing may occur if no significant recreational, timber, economic or other values incompatible with leasing are found in the Forest planning process or the coal activity planning-leasing process (43CFR 3420.3), conducted after land use planning has been completed.

TABLE 6
APPLICABILITY OF UNSUITABILITY CRITERIA TO THE ASSESSMENT AREA

Criterion No.	Criterion Title	Criterion Applicable	Criterion Inapplicable	Rationale for Inapplicability
1.	Federal Lands Systems	X		
2.	Rights-of-Way, & Easements	X		
3.	Buffer Zones for Rights-of-Way, Cemeteries, Dwellings, etc.	X		
4.	Wilderness Study Areas		X	None within assessment area.
5.	Scenic Areas		X	None within assessment area.
6.	Lands Used for Scientific Studies		X	None within assessment area.
7.	Historic Lands and Sites	X		
8.	Natural Areas		X	None within assessment area.
9.	Federally Listed Threatened/ Endangered Species		X	None within assessment area.
10.	State Listed Threatened/ Endangered Species		X	Utah accepts as adequate the Federal list of T/E species and has no State listing.
11.	Eagle Nests	X		
12.	Eagle Roost/Concentration Areas	X		
13.	Falcon Cliff Nesting Sites		X	None within assessment area.
14.	Migratory Birds	X		
15.	State Resident Fish/Wildlife	X		
16.	Floodplains	X		
17.	Municipal Watersheds		X	None within assessment area.
18.	National Resource Waters		X	None within assessment area.
19.	Alluvial Valley Floors	X		
20.	State Proposed Criteria		X	No Criteria proposed by State.

TABLE 7
APPLICABILITY OF EXCEPTIONS TO CRITERIA TO THE ASSESSMENT AREA

Criterion No.	Criterion Title	Exception Applicable	Exception Inapplicable	Rationale for Inapplicability
1.	Federal Lands Systems	X		
2.	Rights-of-Way, & Easements	X		
3.	Buffer Zones for Rights-of-Way, Cemeteries, Dwellings, Etc.	X		
7.	Historic Land[and Sites	X		
11.	Eagle Nests	X		
12.	Eagle Roost/Concentration Areas	X		
14.	Migratory Birds	X		
15.	State Resident Fish/Wildlife	X		
16.	Floodplains	X		
19.	Alluvial Valley Floors		X	No exception provided.

UNDERGROUND MINING EXEMPTION FROM CRITERIA (43 CFR 3461.2)

(a) FEDERAL LANDS WITH COAL DEPOSITS THAT WOULD BE MINED B UNDERGROUND MINING METHODS SHALL NOT BE ASSESSED AS UNSUITABLE WHER THERE WOULD BE NO SURFACE COAL MINING OPERATIONS, AS DEFINED IN 43CF 3400.0-5 OF THIS TITLE, ON ANY LEASE, IF ISSUED.

(b) WHERE UNDERGROUND MINING WILL INCLUDE SURFACE OPERATIONS AN SURFACE IMPACTS ON FEDERAL LANDS TO WHICH A CRITERION APPLIES TH LANDS SHALL BE ASSESSED AS UNSUITBLE UNLESS THE SURFACE MANAGEMEN AGENCY FIND THAT A RELEVANT EXCEPTION OR EXEMPTION APPLIES.

CRITERION 2 -- RIGHTS-OF-WAY AND EASEMENTS

FEDERAL LANDS THAT ARE WITHIN RIGHTS-OF-WAY OR EASEMENTS OR WITHI SURFACE LEASES FOR RESIDENTIAL, COMMERCIAL, INDUSTRIAL, OR OTHE PUBLIC PURPOSES. FEDERALLY OWNED SURFACE SHALL BE CONSIDERE UNSUITBLE.

RESULTS

For the purpose of applying criterion 2, the Forest has include Forest Service Special Use Permits as a type of right-of-way o easement. Table 8 lists rights-of-way, easements and special us permits involving National Forest lands within the assessment area Figure 5 shows the locations. These encumbrances includ approximately 391 acres of Federal surface and are suitable fo surface and underground mining. An estimated 7.0 million tons o reserves and 2.8 million tons of recoverable coal are involved.

Using the above stated "underground mining exemption from criteria' (included with criterion 1) the Forest assessed the criterion 2 land as suitable for underground mining provided that no surface operation or surface impacts are allowed. As such the 2.8 million tons o: reverable coal are made available.

Where underground mining would include surface operations and surfac impacts, leasing and mining operations would be allowed only if following exception applied.

EXCEPTIONS TO CRITERION 2

A LEASE MAY BE ISSUED AND MINING OPERATIONS APPROVED IN SUCH AREAS I THE SURFACE MANAGEMENT AGENCY DETERMINES THAT:

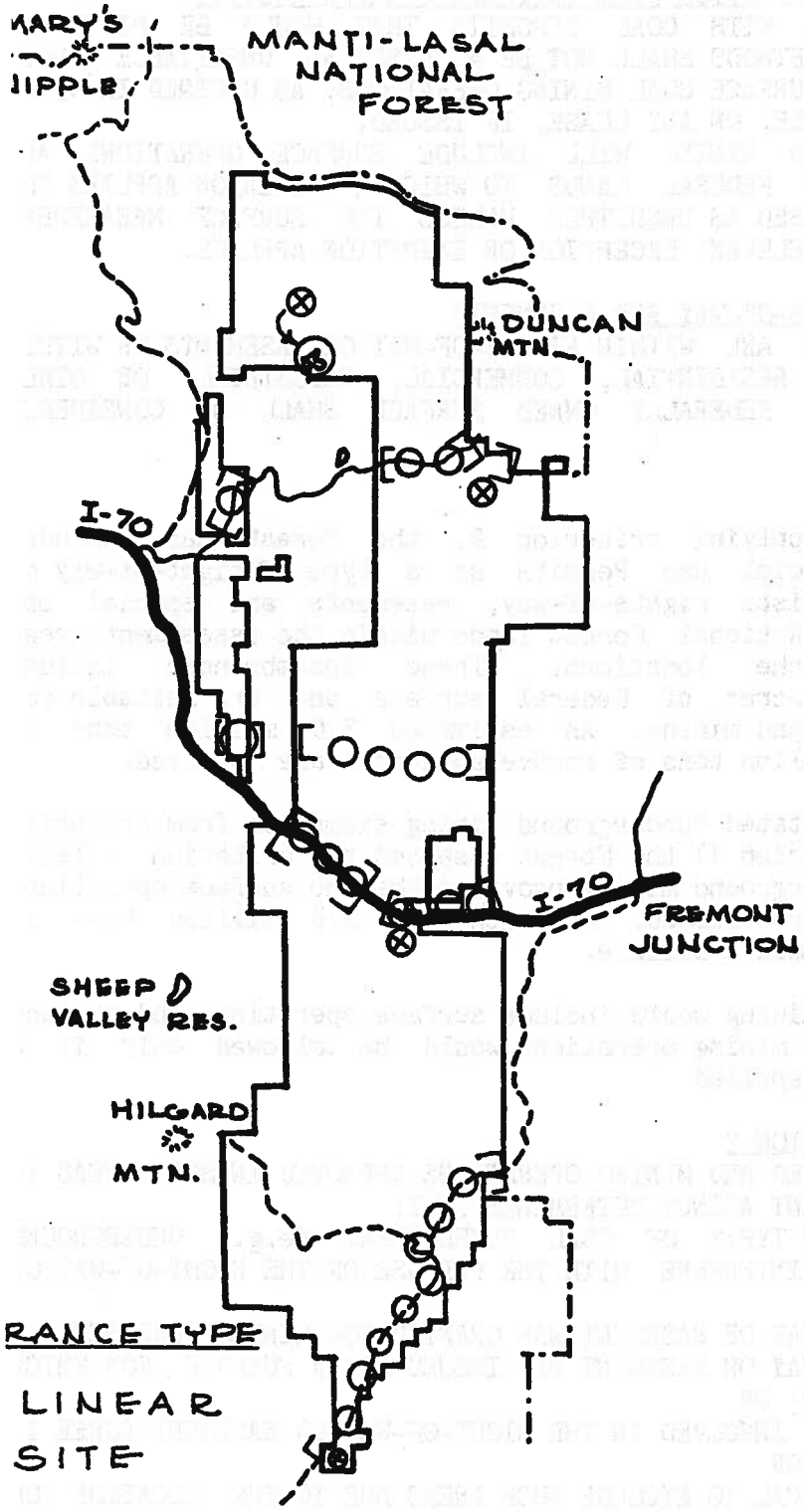
(i) ALL OR CERTAIN TYPES OF COAL DEVELOPMENT (e.g., UNDERGROUN MINING) WILL NOT INTERFERE WITH THE PURPOSE OF THE RIGHT-OF-WAY O EASEMENT; OR

(ii) THE RIGHT-OF-WAY OR EASEMENT WAS GRANTED FOR MINING PURPOSES; O

(iii) THE RIGHT-OF-WAY OR EASEMENT WAS ISSUED FOR A PURPOSE FOR WHIC IT IS NOT BEING USED; OR

(iv) THE PARTIES INVOLVED IN THE RIGHT-OF-WAY OR EASEMENT AGREE I WRITING TO LEASING; OR

(v) IT IS IMPRACTICAL TO EXCLUDE SUCH AREAS DUE TO THE LOCATION O COAL AND METHOD OF MINING AND SUCH AREAS OR USES CAN BE PROTECTE THROUGH APPROPRIATE STIPULATIONS.



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Rights-of-Way, Easements, &
Forest Service Special Use Permits

Gravel Pits	b. Coal Search Corp.	5	T26S, R4E, Sec 4.	
	a. Utah Dept. of Transportation			
TOTAL		28.0	Approx 391	

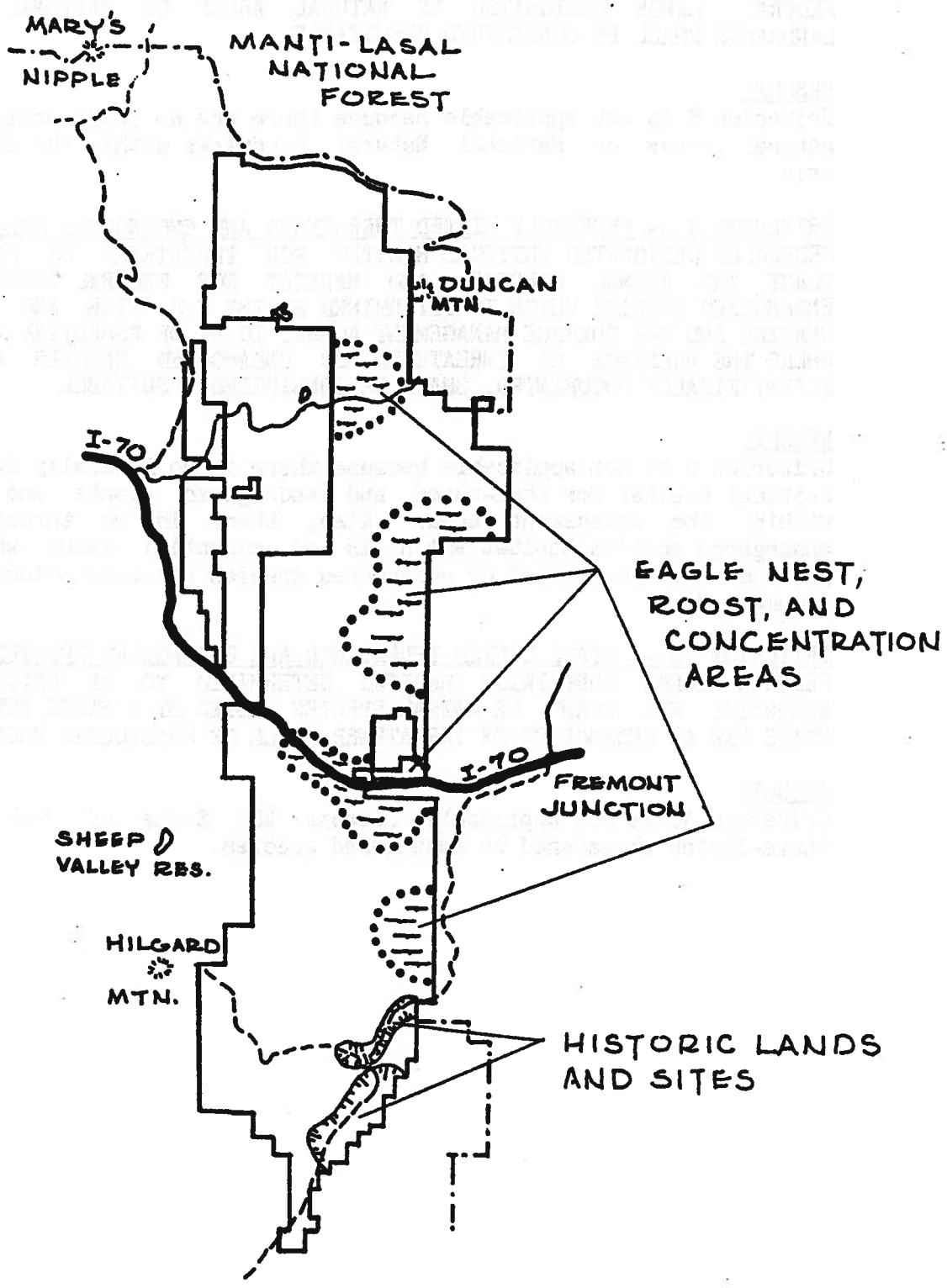

FIGURE 6 Eagle Areas and Historic Lands

CRITERION 8 -- NATURAL AREAS

FEDERAL LANDS DESIGNATED AS NATURAL AREAS OR NATIONAL NATURAL LANDMARKS SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 8 is not applicable because there are no lands designated as natural areas or National Natural Landmarks within the assessment area.

CRITERION 9 -- FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

FEDERALLY DESIGNATED CRITICAL HABITAT FOR THREATENED OR ENDANGERED PLANT AND ANIMAL SPECIES, AND HABITAT FOR FEDERAL THREATENED OR ENDANGERED SPECIES WHICH IS DETERMINED BY THE U.S. FISH AND WILDLIFE SERVICE AND THE SURFACE MANAGEMENT AGENCY TO BE OF ESSENTIAL VALUE AND WHERE THE PRESENCE OF THREATENED OR ENDANGERED SPECIES HAS BEEN SCIENTIFICALLY DOCUMENTED, SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 9 is not applicable because there is no Federally designated critical habitat for threatened and endangered plants and animals within the assessment area. Also, there is no threatened or endangered species habitat which is of essential value where the presence of threatened or endangered species has been scientifically documented.

CRITERION 10 -- STATE LISTED THREATENED AND ENDANGERED SPECIES

FEDERAL LANDS CONTAINING HABITAT DETERMINED TO BE CRITICAL OR ESSENTIAL FOR PLANT OR ANIMAL SPECIES LISTED BY A STATE PURSUANT TO STATE LAW AS ENDANGERED OR THREATENED SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 10 is not applicable because the State of Utah has no state-listed threatened or endangered species.

CRITERION 11 -- EAGLE NESTS

A BALD OR GOLDEN EAGLE NEST OR SITE ON FEDERAL LANDS THAT IS DETERMINED TO BE ACTIVE AND AN APPROPRIATE BUFFER ZONE OF LAND AROUND THE NEST SITE SHALL BE CONSIDERED UNSUITABLE. CONSIDERATION OF AVAILABILTIY OF HABITAT FOR PREY SPECIES AND OF TERRAIN SHALL BE INCLUDEDD IN THE DETERMINATION OF BUFFER ZONES. BUFFER ZONES SHALL BE DETERMINED IN CONSULTATION WITH THE FISH AND WILDLIFE SERVICE.

RESULTS

There are no bald eagle nests or sites on Federal lands within the assessment area. During June and July 1981, a helicopter survey for raptors was conducted and four active golden eagle nest sites and two tended nest sites were found within the assessment area. Appropriate buffer zones around the sites were determined by the Forest in consultation with the Fish and Wildlife Service. These criterion 11 lands within the assessment area, as shown in Figure 6, total approximately 11,315 acres and are unsuitable for mining operations under this criterion. An estimated reserve of 130.7 million tons and 52.3 million tons of recoverable coal are involved in the unsuitable area.

By applying the underground mining exemption from criteria, the above 11,315 acres are assessed by the Forest as suitable for underground mining provided that no surface operations or surface impacts are allowed within the criterion 11 areas. The involved 52.3 million tons of recoverable coal are thus made available.

Leasing criterion 11 areas would be allowed only where surface operations and/or surface impacts would be conditioned pursuant to the following exceptions:

EXCEPTIONS TO CRITERION 11

A LEASE MAY BE ISSUED IF:

(i) IT CAN BE CONDITIONED IN SUCH A WAY, EITHER IN MANNER OR PERIOD OF OPERATION THAT EAGLES WILL NOT BE DISTURBED DURING BREEDING SEASON; OR

(ii) THE SURFACE MANAGEMENT AGENCY, WITH THE CONCURRENCE OF THE FISH AND WILDLIFE SERVICE, DETERMINES THAT THE GOLDEN EAGLE NEST(S) WILL BE MOVED.

(iii) BUFFER ZONES MAY BE DECREAED IF THE SURFACE MANAGEMENT AGENCY DETERMINES THAT THE ACTIVE EAGLE NESTS WILL NOT BE ADVERSELY AFFECTED.

CRITERION 12 -- EAGLE ROOST AND CONCENTRATION AREAS

BALD AND GOLDEN EAGLE ROOST AND CONCENTRATION AREAS ON FEDERAL LANDS USED DURING MIGRATION AND WINTERING SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Within the assessment area, the Forest has identified one roost and concentration area used by bald and golden eagles during migration and wintering. This area, shown in Figure 6, includes approximatley 1,756 acres of Federal land (approx. 940 A. coal-bearing) and is unsuitable for surface and underground mining operations under this criterion. An estimated 13.9 million tons of reserves and 5.6 million tons of recoverable coal are involved.

The underground mining exemption from criteria was applied and the Forest assessed the above 756 acres of criterion 12 lands as suitable for underground mining provided that no surface operations or surface impacts are allowed. Application of the underground mining exemption makes the above 5.6 million tons of recoverable coal available.

A lease allowing surface operations and surface impacts within the criterion 12 lands may be issued only if it provides for mitigation of impoacts as specified in the following exception.

EXCEPTION TO CRITERION 12

A LEASE MAY BE ISSUED IF THE SURFACE MANAGEMENT AGENCY DETERMINES THAT ALL OR CERTAIN STIPULATED METHODS OF COAL MINING CAN BE CONDUCTED IN SUCH A WAY, AND DURING SUCH PERIODS OF TIME, TO ENSURE THAT EAGLES SHALL NOT BE ADVERSELY DISTURBED. (REFER TO FIGURE 6, FOLLOWING CRITERION 7).

CRITERION 13 -- FALCON CLIFF NESTING SITES

FEDERAL LANDS CONTAINING A FALCON (EXCLUDING KESTRAL) CLIFF NESTING SITE WITH AN ACTIVE NEST AND A BUFFER ZONE OF FEDERAL LAND AROUND THE NEST SITE SHALL BE CONSIDERED UNSUITABLE. CONSIDERATION OF AVAILABILITY OF HABITAT FOR PREY SPECIES AND OF TERRAIN SHALL BE INCLUDED IN THE DETERMINATION OF BUFFER ZONES. BUFFER ZONES SHALL BE DETERMINED IN CONSULTATION WITH THE FISH AND WILDLIFE SERVICE.

RESULTS

Criterion 13 does not apply because the assessment area is not known to contain a falcon cliff nesting site with an active nest.

CRITERION 14 -- MIGRATORY BIRDS

FEDERAL LANDS WHICH ARE HIGH PRIORITY HABITAT FOR MIGRATORY BIRD SPECIES OF HIGH FEDERAL INTEREST ON A REGIONAL OR NATIONAL BASIS, AS DETERMINED JOINTLY BY THE SURFACE MANAGEMENT AGENCY AND THE FISH AND WILDLIFE SERVICE, SHALL BE CONSIDERED UNSUITABLE.

RESULTS

The Bureau of Land Management and Fish and Wildlife Service have identified 21 migratory bird species of high Federal interest as being present within the Uinta-Southwestern Utah Coal Production Region -- a geographic region in which the assessment area is located. A list of these species is shown in Table 9 and is used for application of this criterion.

High priority habitat is defined as areas that: (1) are used regularly by one or more of the listed species, (2) are otherwise limited in availability for feeding, reproduction, wintering, or other uses or supportive of concentrations of one or more species, and (3) contain a combination of natural or man made factors that provide essential habitat requirements. No high priority habitat for the species listed in Table 9 has been identified within the assessment area except for eagles as discussed in criterias 11 and 12. However, because none of the assessment area is known to not meet the definition of high priority habitat, all 76,867 acres of Federal lands are considered unsuitable for surface and underground mining operations. An estimated 1,387.3 million tons of reserves and 554.9 million tons of recoverable coal are involved in the unsuitable lands.

By applying the underground mining exemption from criteria, the Forest assessed the above 76,867 acres as suitable for underground mining provided that no surface operations or impacts within the criterion 14 area are allowed. Thus, application of the underground mining exemption makes the above 554.9 million tons of recoverable coal available.

Leasing criterion 14 lands may be allowed only where surface operations and/or surface impacts would be conditioned pursuant to the following exception:

EXCEPTION TO CRITERION 14

A LEASE MAY BE ISSUED WHERE THE SURFACE MANAGEMENT AGENCY, AFTER CONSULTATION WITH THE FISH AND WILDLIFE SERVICE, DETERMINES THAT ALL OR CERTAIN STIPULATED METHODS OF COAL MINING WILL NOT ADVERSELY AFFECT THE MIGRATORY BIRD HABITAT DURING THE PERIODS WHEN SUCH HABITAT IS USED BY THE SPECIES.

TABLE 9
MIGRATORY BIRDS OF HIGH FEDERAL INTEREST FOUND IN THE UINTA-SOUTHWESTERN UTAH COAL PRODUCTION REGION AND OCCURRENCE RATING FOR THE ASSESSMENT AREA

	COMMON NAME	SCIENTIFIC NAME	OCCURRENCE KNOWN	POSSIBLE	UNLIKELY
1.	Great Blue Heron	ardea herodias		X	
2.	Cooper's Hawk	Accipiter cooperii	X		
3.	Ferruginous Hawk*	Buteo regalis			X
4.	Golden Eagle	Aguila chrysaetos	X		
5.	Bald Eagle	Haliaeetus leucocephalus	X		
6.	Osprey*	Pandian haliaetus			X
7.	Prairie Falcon	Falco mexicanus	X		
8.	Peregrine Falcon	Falco peregrinus		X	
9.	Merlin	Falco columbarius		X	X
10.	Long-billed Curlew	Numenius americanus			X
11.	Band-tailed Pigeon*	Columba fasciata			X
12.	Flammulated Owl	Otus flammedus		X	
13.	Burrowing Owl*	Speotyto cunicularia			X
14.	Spotted Owl	Strix occidentalis			X
15.	Black Swift*	Cypseloides niger			X
16.	Pileated Woodpecker	Dryocopus pileatus			X
17.	Lewis Woodpecker	Asyndesmus lewis		X	
18.	Williamson's Sapsucker	Sphycapicus thyroideus		X	
19.	Western Bluebird	Sialia mexicana	X		
20.	Grace's Warbler	Dendroica graciae	X		
21.	Scott's Oriole	Icterus parisorum		X	

*No habitat type present in the assessment area for these species as per Forest in consultation with Fish and Wildlife Service.

CRITERION 15 -- STATE RESIDENT FISH AND WILDLIFE

FEDERAL LANDS WHICH THE SURFACE MANAGEMENT AGENCY AND THE STATE JOINTLY AGREE ARE FISH AND WILDLIFE HABITAT FOR RESIDENT SPECIES OF HIGH INTEREST TO THE STATE AND WHICH ARE ESSENTIAL FOR MAINTAINING THESE PRIORITY WILDLIFE SPECIES SHALL BE CONSIDERED UNSUITABLE. EXAMPES OF SUCH LANDS WHICH SERVE A CRITICAL FUNCTION FOR THE SPECIES INVOLVED INCLUDE:

(i) ACTIVE DANCING AND STRUTTING GROUNDS FOR SAGE GROUSE, SHARP-TAILED GROUSE, AND PRAIRIE CHICKEN;

(ii) WINTER RANGES MOST CRITICAL FOR DEER, ANTELOPE, AND ELK; AND

(iii) MIGRATION CORRIDORS FOR ELK.

A LEASE MAY BE ISSUED IF, AFTER CONSULTATION WITH THE STATE, THE SURFACE MANAGEMENT AGENCY DETERMINED THAT ALL OR CERTAIN STIPULATED METHODS OF COAL MINING WILL NOT HAVE A SIGNIFICANT LONG-TERM IMPACT ON THE SPECIES BEING PROTECTED.

RESULTS

Resident fish and wildlife species of high interest to the State of Utah have been idenified by the Utah Division of Wildlife Resources (UDWR). Table 10 lists those species known to inhabit the assessment area.

Areas essential for maintaining the listed species have been jointly agreed upon by the Forest and UDWR. They include:

a. Water impoundments, all perennial and ephemeral stream channels riparian habitat, and associated wetlands along with a 0.5 mile terrestrial habitat buffer zone on each side of the riparian habitat.
b. All coniferous and aspen vegetation types.
c. Winter ranges most-critical for deer and elk.
d. Elk calving areas.
e. Cliff areas associated with raptor nests.

The above types of essential areas comprise virtually all 76,867 acres of Federal lands within the assessment area and are unsuitable for surface and underground mining operations (see Fig. 4). An estimated 1,387.3 million tons of reserves and 554.9 million tons of recoverable coal are involved in the unsuitable lands.

Through application of the underground mining exemption from criteria, the Forest assessed the above 76,867 acreas as suitable for underground mining provided that no surface operations or impacts within the criterion 15 lands are allowed. The above 554.9 million tons of recoverable coal are made available by application of this exemption.

Leasing criterion 15 lands may be allowed where surface operations and/or surface impacts will not have a significant long-term impact on the species being protected, as determined by the Forest in consultation with the UDWR.

TABLE 10: Resident Fish and Wildlife Species of High Interest to the State of Utah Which Are Known to Inhabit the Assessment Area.

COMMON NAME	SCIENTIFIC NAME
BIRDS	
Goshawk	Accipiter gentilis
Sharp-chined Hawk	Accipiter striatus
Red-tailed Hawk	Buteo jamaicensis
Ferruginous Hawk	Buteo regalis
Golden Eagle	Aguila chrysaetos
Marsh Hawk	Circus svaneus
Prairie Falcon	Falco mexicanus
Peregrine Falcon	Falcregrinus
American Kestrel	Falco Sparverius
Blue Grouse	Dendrapagus obscurus
Sage Grouse	Centrocercus urophasianus
Chukar Partridge	Alectoris chukar
Turkey	Meleris gallopavo
MAMMALS	
Black Bear	Ursus americanus
Mountain Lion	Felis concolor
Rocky Mountain Elk	Cervus canadensis
Mule Deer	Odocioleus hemionus
Pronghorn Antelope	Antilocarpra americana
Snowshoe Hare	Lepus americanus
Mountain Cottontail	Sylvilagus nuttallii
Desert Cottontail	Sylvilagus auduboni
Pigmy Cottontail	Sylvilagus idahoensis
Beaver	Castor canadesis
Bobcat	Lynx rufus
Kit Fox	Vulpes macrotis
Badger	Taxidea taxus
FISH	
Cutthroat Trout	Salmo clarki
Rainbow Trout	Salmo gairdneri
Brown Trout	Salmo Trutta
Brook Trout	Salvelinus fontinalis

CRITERION 16 -- FLOODPLAINS

FEDERAL LANDS IN RIVERINE, COASTAL AND SPECIAL FLOODPLAINS (100 YEAR RECURRENCE INTERVAL) ON WHICH THE SURFACE MANAGEMNT AGENCY DETERMINES THAT MINING COULD NOT BE UNDERTAKEN WITHOUT SUBSTANTIAL THREAT OF LOSS OF LIFE OR PROPERTY SHALL BE CONSIDERED UNSUITABLE FOR ALL OR CERTAIN STIPULATED METHODS OF COAL MINING.

RESULTS

Within the assessment area there are approximately 155 acres of Federal lands in special floodplains which the Forest determined are unsuitable for surface and underground mining operations. These lands are shown in Figure 7 and involve 2.8 million tons of reserves and 1.1 million tons of recoverable coal.

Through application of the underground mining exemption from criteria, the Forest has assessed the above 155 acres, invloving 1.1 million tons of recoverable coal, suitable for underground mining. Such suitability is based upon determination by the Forest that mining operations can be undertaken, through employment of adequate protective measures, without substantial threat of loss of life or property.

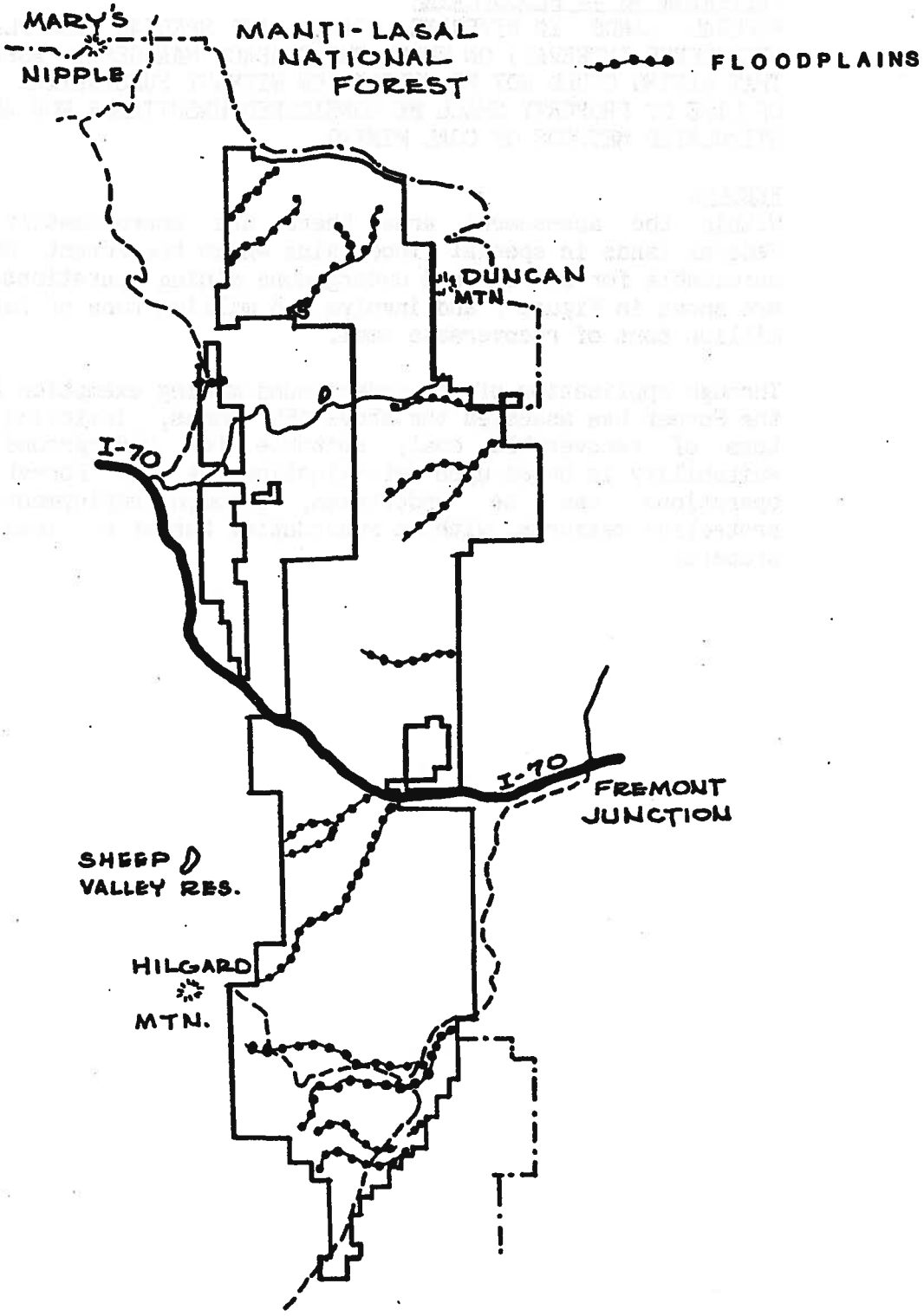

FIGURE 7 Special Floodplains

CRITERION 17 -- MUNICIPAL WATERHSEDS

FEDERAL LANDS WHICH HAVE BEEN COMMITTED BY THE SURFACE MANAGEMENT AGENCY TO USE AS MUNICIPAL WATERSHEDS SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 17 does not apply because there are no municipal watersheds within the assessment area.

CRITERION 18 -- NATIONAL RESOURCE WATERS

FEDERAL LANDS WITH NATIONAL RESOURCE WATERS, AS IDENTIFIED BY STATES IN THEIR WATER QUALITY MANAGEMENT PLANS, AND A BUFFER ZONE OF FEDERAL LAND 1/4 MILE FROM THE OUTER EDGE OF THE FAR BANKS OF THE WATER, SHALL BE UNSUITABLE.

RESULTS

Criterion 18 does not apply because no National Resource Waters have been identified within the assessment area by the State of Utah.

CRITERION 19 -- ALLUVIAL VALLEY FLOORS

FEDERAL LANDS IDENTIFIED BY THE SURFACE MANAGEMENT AGENCY, IN CONSULTATION WITH THE STATE IN WHICH THEY ARE LOCATED, AS ALLUVIAL VALLEY FLOORS ACCORDING TO THE DEFINITION IN 34--0.5 (A) OF THIS TITLE, THE STANDARD IN 30 CFR PART 822, THE FINAL ALLUVIAL VALLEY FLOOR GUIDELINES OF THE OFFICE OF SURFACE MINING RECLAMATION AND ENFORCEMENT WHEN PUBLISHED AND APPROVED STATE PROGRAMS UNDER THE SURFACE MINING CONTROL AND RECLAMATION ACT OF 1977, WHERE MINING WOULD INTERRUPT, DISCONTINUE, OR PRECLUDE FARMING, SHALL BE CONSIDERED UNSUITABLE. ADDITIONALLY, WHEN MINING FEDERAL LAND OUTSIDE AN ALLUVIAL VALLEY FLOOR WOULD MATERIALLLY DAMAGE THE QUANTITY OR QUALITY OF WATER IN SURFACE OR UNDERGROUND WATER SYSTEMS THAT WOULD SUPPLY ALLUVIAL VALLEY FLOORS, THE LAND SHALL BE CONSIDERED UNSUITABLE.

RESULTS

The Forest has identified no alluvial valley floors within the assessment area. Therefore the first part of this criterion does not apply.

Water from the assessment area does supply alluvial valley floors outside the assessment area. However, the Forest has determined that surface and underground mining operations are possible without materially damaging water quantity or quality, provided that performance standards defined in 30 CFR Parts 816 and 817 are met. Therefore, the lands within the assessment area are considered suitable for surface and underground mining.

CRITERION 20 -- STATE PROPOSED CRITERIA

FEDERAL LANDS IN A STATE TO WHICH IS APPLICABLE TO CRITERION (i) PROPOSED BY THAT STATE, AND (ii) ADOPTED BY RULEMAKING BY THE SECRETARY, SHALL BE CONSIDERED UNSUITABLE.

RESULTS

Criterion 20 is not applicable because the State of Utah has not proposed, nor had additional criteria adopted by the Secretary of Interior.

C. Multiple Use Resource Management Decision

Most conflicts between coal and other resources and uses have been addressed in application of the unsuitability criteria. However, the Clear Creek Administrative Site, comprised of approximately 202 acres in Lots 1-6, T.24S., R.4E., SLM, and the Lisonbe Administrative Site including 40 acres in SW1/4NW1/4 Sec 34, T.21S., R.4E., SLM, require protection. Surface operations and impacts related to mining would be restricted to safeguard the values present. These sites involve an estimated reserve of 5.1 million tons and 2.0 million tons of recoverable coal. The 2.0 million tons of recoverable coal would be available by underground mining methods which would not include significant impacts to the surface.

Additional conflicts may be revealed through the Forest Planning process. Adjustments to accomodate these conflicts will be made as needed.

D. Surface Owner Consultation

As stated earlier in this document, there are 160 acres of privately owned surface estate overlying Federal coal resources. These lands are located in T.22S., R.3E., Sec 13: SE1/4SE1/4, and Sec. 24: NE1/4SE1/4; and T.24S., R.4E., Sec. 29: N1/2NW1/4. Since these lands are minable only by underground methods, consultation with surface owner(s) is not required (see 43 CFR 3420.1-4(e)(4)(i) and therefore was not done. Availability of the coal resource is not affected.

III. DESIGNATION OF AREAS UNSUITABLE FOR MINING

It should be noted that the Federal lands review is not a program for the designation of lands as unsuitable for mining. Formal designation of Federal lands as unsuitable would occur only in response to a petition to designate under Section 522(c) of the SMCRRA. The office of Surface Mining Reclamation and Enforcement (OSM) has the responsibility to administer the statutory petition process.

Under the petition process, petitions would be filed with OSM. The petitioner must be adversely affected by potential mining of the lands in question. The petition must "contain allegations of facts with supporting evidence" to establish the truth of the allegations. On those petitions that do meet these requirements, designation as unsuitable, rejection of the petition, or termination of a prior designation would occur. The OSM would refer each petition to the appropriate land management agency for its review. The results of that review would be presented at or before a public hearing on the petition. The land management agency would also be able to petition OSM on its own behalf to designate Federal lands as unsuitable or to terminate a prior designation.

While the criteria applied in the Federal land review and the petition process are the same, it is important to note that OSM, not the land management agency, controls the outcome of the petition process. It

may be that certain lands which would not be found to be unsuitable in land use planning might be designated unsuitable upon petition, and conversely, lands deemed unsuitable by the land management agency might not be designated unsuitable upon petition. This is possible because the unsuitability criteria themselves, and their exceptions, are, in origin and function, designed to ensure environmental protection and establish mitigation of adverse impacts, while the formal designation process requires consideration of coal demand and the socio-economic impacts in carrying out the environmental purposes served by the criteria.

IV. CONCLUSIONS

Also it should be noted that the conclusions reached in this review and the land use planning process concerning the potential for coal leasing are not a commitment that leasing will take place. They merely identify lands that are acceptable for further consideration for leasing. Also, they do not end the process of evaluation. At a minimum, a potential lease area will still be evaluated as required by the National Environmental Policy Act and no mining will be allowed except as authorized by the Surface Mining Control and Reclamation Act (SMCRA). Environmental Analysis and Coordination with the BLM will be necessary before additional coal leasing occurs. Under the Federal Coal Management Program, even more evaluation is done through tract delineation, including a tract profile consisting of a site specific environmental inventory and preliminary analysis; ranking selection, and scheduling processes of tracts; and the regional sale environmental statement.

V. PUBLIC PARTICIPATION

The Forest invited public comment concerning application of the unsuitablility criteria through a notice published in the Federal Register dated January 23, 1981. Notices were published in newspapers of general circulation in the area. Written notice was also sent to the local Six County Commissioner's Organization and the Utah State Planning Coordinator (A-95 Clearing House). A public meeting was also held February 10, 1981 in Richfield, Utah to explain the procedure, answer questions, and receive comments concerning the assessment.

Comments regarding impacts on raptor nests along cliff areas, water quantity and quality, archeological values, and deer and elk winter range were received. Written responses are on file at the Richfield Ranger District Office, 115 East 900 North Richfield, Utah.

APPENDIX P
See Travel Map in Pocket

APPENDIX Q

SOIL AND WATERSHED IMPROVEMENT NEEDS

Appendix Q shows the soil and watershed improvement needs and the Forest soil monitoring plan. Existing instream flow recommendations and streams needing instream flow quantification are shown in Tables Q-1 and Q-2. Table Q-3 is a prioitized listing of watershed improvement needs. Table Q-4 is a prioritized listing of abandoned mine land restoration. The Forest soil monitoring plan is also contained in this appendix.

1. Water Resource Inventories

The water resource inventories provide for collection and assembly of information which defines and characterizes water resources. These inventories provide interpretations that are made for land and resource management plans. Water resource inventories usually include descriptions of climate, water quality, water quantity, watershed characteristics and water uses and developments. Better definition of water rights, including instream flow claims for "securing favorable conditions of flow" and description of past watershed improvement needs, as identified in the watershed improvement needs inventory, are two major goals of such inventories. The schedule for the next 10 years follows:

Year	Watershed ID	Costs	Acres
85	Kanosh (028)	$5,500	92,300
86	North Creek (025)/Sulphur(026)	5,500	99,400
87	Beaver River (024)/Fremont(030)	5,500	82,700
88	Fillmore (029)/Up. Salina (016)	5,500	103,200
89	Soldier (017)/L. Salina (016)	5,500	88,800
90	Clear Creek (011)	5,500	104,200
91	Fool Cr. (022)/Scipio (020)	5,500	79,400
92	Convulsion (001)/Koosharem (007)	5,500	87,500
93	Monroe (013)/Marysvale (012)	5,500	107,200
94	Otter Cr. (008)/Willow Cr (019)	5,500	91,700

Priorities are based on needs for water rights adjudications, completing instream flow quantifications, completing essential watershed restoration backlogs, the need to complete our watershed data bases and the seriousness of current watershed problems in terms of health, safety, and resource values.

2. Instream Flows

In the Forest Service Manual (FSM 2541.03), it states that "water, including instream flows and standing water, necessary for the development, use, and management of resources of the National Forest System will be obtained and used in accordance with the reservation principle, where applicable. Where the reservation principle is not applicable, water rights will be obtained in accordance with state law." Where neither the reservation principle nor state law can be used to secure a legal right to maintain instream flows, recognition

of values and quantification are necessary as a basis for lar management decisions in possible future proposals for wate diversions. Further direction along these same lines has been give by the Chief, in the President's Water Policy and in the Nationa Forest Management Act (NFMA) regulations. Evaluation for instrea flow values should recognize recreation, fish, and wildlife needs, an other uses as well as for activities and uses associated with timbe production and securing favorable conditions of water flow.

Streams and standing water bodies have been identified by th Districts on which instream flow values and minimum water leve determinations should be conducted. These streams, reservoirs, an lakes are listed by HRU's.

TABLE Q-1
STREAMS AND STANDING WATER ON WHICH
DETERMINATIONS SHOULD BE CONDUCTED

Beaver HRU

Birch Creek
Pine Creek
North Creek
Beaver River
South Creek
Indian Creek
Mill Creek

Fremont HRU

Seven Mile Creek
UM Creek
Fremont River
Clear Creek
Polk Creek

Fremont HRU

Sulphur Creek
Sand Creek
Cedar Creek
Reese Creek
Sweetwater Creek
Pole Canyon Creek
Salt Creek
Tasha Creek
Last Chance Creek
Round Spring Draw

Richfield HRU

Salina Creek
Willow creek
Niotche Creek
Little Lost Creek
Lost Creek
Gooseberry Creek
Gates Creek
Monroe Creek
Box Creek
Otter Creek
Fish Creek
Shingle Mill
Skutumpah Reservoir

Delta HRU

Oak Creek

Fillmore HRU

Corn Creek
Meadow Creek
South Fork Chalk Creek
North Fork Chalk Creek
Pioneer Canyon Creek
Maple Grove
Willow Creek
Second Creek
Three Creek
Pole Creek
Skunk Creek

Piute HRU

Manning Creek
City Creek
Bullion Creek
Beaver Creek
Tenmile Creek
Cottonwood Creek
Deer Creek
Birch Creek
Manning Reservoir

Richfield HRU (con't)

Twin Ponds Reservoir
Farnsworth Reservoir
Abes Reservoir
Harves Reservoir
Salina Reservoir
Hamilton Lake
Gates Lake
Rex's Reservoir
Box Creek Reservoir
Big Lake
Annabella Reservoir
Deep Lake

TABLE Q-2
WATERSHED IMPROVEMENTS

The following watershed improvements have been scheduled by priority for project work starting in 1985:

Project Name	District	Watershed ID	Acres	Cost
Na-Gah flat	D-2	003/03	3	$2,000
N. Lake Creek	D-2	002/18	20	8,000
Hancock Flat	D-2	007/01	3	1,500
Right Fk UM	D-2	004/04	3	3,000
Gold Gulch Rd	D-3	010/17	20	5,000
Price Spring	D-3	010/08	20	15,000
Brush Hollow Rd.	D-3	026/06	25	5,000
Beaver River	D-3	024/14	21	4,500
Brush Trail	D-4	017/23	5	2,000
Salina Landslides	D-4	016	80	4,000
Sunset	D-1	028/05	5	1,800
Hell Hole Can.#1/2	D-1	028/01	150	20,800
Indian Spring	D-1	028/03	5	1,800
Chokecherry Can.	D-1	029/04	120	20,500
Willow Basin	D-2	002/11	350	26,200
Salt Gulch 2	D-2	004/02	100	17,400
Riley Spring	D-2	004/01	100	15,400
Chokecherry	D-3	009/01	15	3,650
S.Fk So.Cr (CC Pk)	D-3	024/03	15	3,650
Tushar Alpine	D-3	024	80	5,100
Clear Creek	D-4	019/05	15	4,700
Flat Top	D-4	016/47	25	8,200
Gooseberry/Squaw	D-4	017/03	80	14,100
Upper Chokecherry	D-1	029/06	280	30,000
McDonald Basin	D-2	002/10	150	30,000
Tushar Alpine	D-3	024	150	27,000
Tushar Alpine	D-3	010	180	24,700
Big John Flat	D-3	024/05	10	5,000
Soldier Can. #1	D-4	017/12	200	30,000
Cottonwood Cr. Rd	D-1	028/21	5	2,000
Low Rose Hol Rd	D-1	028/15	2	1,000
Up Trail Sp B Rd	D-1	028/16	6	3,000
Grass Valley	D-1	028/13	100	44,000
Upper Sevenmile	D-2	003/05	15	8,000
Mamoit Spring	D-2	003/07	2	1,000
Merchant Hollow	D-3	025/03	30	2,000
Brush Hollow Rd	D-3	026/06	25	5,000
Soldier Canyon # 2	D-4	017/13	200	60,000

Project Name	District	Watershed ID	Acres	Cost
Al Gay Flat	D-1	028/19	30	13,000
N. Fk. Big Hollow	D-1	028/11	30	13,000
Garden Basin	D-2	002/14	150	15,000
Cork Rd. Barley	D-3	025/09	10	3,000
Soldier Canyon	D-4	017/11	200	60,000
Pavant GS	D-1	011/05	10	10,000
Mud Sp. Hollow	D-1	011/07	20	15,000
Marys Nipple	D-1	011/09	35	5,000
Meeks Lake	D-2	002/16	40	10,000
Beaver River	D-3	024/14	20	50,000
S. Fk So. Cr.	D-3	025/14	15	43,000
S. Fk Big Hollow	D-1	028/12	200	88,000
Tasha Spring	D-2	003/04	60	5,000
S. Fk Manning R. Rd	D-4	012/12	5	1,000
No. Coal Rd.	D-4	016/11	15	10,000
Mud Lakes	D-4	016/24	7	7,000
N. Fk. North Cr.	D-3	025/15	10	12,000
City Cr. Peak	D-3	010/04	70	8,000
Beaver River 2	D-3	024/14	20	51,000
Snow Corral	D-4	016/02	100	20,000
No Bull Valley	D-4	018/03	38	10,000
Bean Canyon	D-1	014/06	500	40,000
Pole Canyon	D-2	005/01	150	25,000
Bullion Canyon	D-3	010/15	9	32,000
Indian Creek	D-3	025/16	20	50,000
Little Duncan	D-4	001/03	140	15,000
Upper Rock Can	D-1	020/02	250	30,000
Rock Canyon	D-1	020/03	200	25,000
Fish Creek M.	D-3	011/22	5	4,000
Wilson Creek	D-3	011/23	10	5,000
Rosebud Cr.	D-3	011/24	5	4,000
Pine Hollow Spring	D-4	001/15	300	30,000
East Skutumpah	D-4	016/04	200	40,000

TABLE Q-3
ABANDONED MINE LAND RESTORATION

The following abandoned mine lands have been scheduled by priority fo project work starting in FY 1986:

PROJECT NAME	WATERSHED ID	DISTRICT	ACRES	DOLLARS
RAINBOW MINE	026-07	D-3	4	1.0
FULLMER CLAY MINE	011-26	D-3	12	7.0
WILD HORSE CANYON	022-07	D-1	3	2.0
MINE HOLLOW	022-06	D-1	13	6.0
HELL HOLE MINE	029-39	D-1	2	2.0
BEAR CANYON MINE	029-38	D-1	3	1.0
1ST LHF MONROE CR.	013-18	D-4	1	1.0
HOLT DRAW 1	006-05	D-2	2	1.0
HOLT DRAW 2	006-06	D-2	2	1.0
SAND CREEK	006-07	D-2	2	1.0
GREENWICH SHAFT	008-11	D-4	2	1.0
ALUNITE MINE	010-18	D-3	2	2.0
N DEER TRAIL MINE	010-19	D-3	5	1.0
UPPER S F MINE	001-20	D-3	5	2.0
RED CREEK	001-27	D-4	3	2.5
SEVENMILE	003-08	D-2	1	0.5
DRY WASH MINE 1	027-06	D-1	2	2.0
DRY WASH MINE 2	027-07	D-1	7	4.0
WRINGER CANYON	021-01	D-1	2	1.0
COTTONWOOD	018-26	D-4	2	1.0
MANNING CR SHAFT	012-15	D-4	1	1.0

3. FOREST SOIL MONITORING PLAN

A. Site Location

Five representative sites will be selected representing various portions of the Forest. These portions are as follows: 1. Canyon range, 2. Pahvant range, 3. Tushar range, 4. Monroe unit, and 5. Salina-Fremont unit. Specific area identification including name and location will be provided for each site with a map showing the location for each selected site. The sites selected will be representative of major habitat types found on the forest with soils typical of these sites.

B. Objectives

Five selected sites will be monitored once a year to evaluate the changes in percent bare ground over time. These sites will be selected in areas subject to management activities to show the related effect management has on soil loss and soil productivity using percent bare ground as an indicator and to ensure that soil loss tolerance limits are not being exceeded.

C. Type of Data to be Collected

Following the procedures as outlined in the Range Analysis Handbook, FSH 2209.21, 4.63 a-4.63 1, called Nested Frequency/Shrub Density Method, a 100 feet long baseline is established and staked along with a witness marker. Photographs are taken of the study site. Five beltlines are randomly selected perpendicular to the baseline and data is collected using a "nested frequency frame." The frame is placed at 5 feet intervals along the beltline. Data collection, gathered on ground cover, i.e., vegetation, pavement, rock, litter, and cryptogams verses bare soil will be obtained from the four points of the frame. Percent bare soil can then be calculated. This will provide 400 points of data per year per site to determine if ground cover is increasing or decreasing over time. This also establishes the "VM" factor used in the Modified Universal Soil Loss Equation to determine soil erosion rates. "VM" is explained in part G of this plan.

D. Timing of Collection and Date of Discontinuation

Data will be collected during the mid-summer each year for each site through the year 1995.

E. Estimated Cost of Total Monitoring Operations

The estimated cost of the total monitoring operation is 1200 dollars per year for all sites x 10 years = $12,000.

F. Estimated Person Time Involved

Estimated man days is 5 days per year x 10 years = 50 man days.

G. How Data will be Used

Data obtained from the soil monitoring sites will be analyzed as follows using changes in bare soil over time:

1. Plot percent bare soil vs. year of analysis, i.e., year 1, 2, 3 etc.
2. Develop a regression equation using percent bare soil (Y) as the dependant variable and year (X) as the independant variable, (Y=a+bX)
   with "a" representing the Y intercept and "b" the slope of the line.
3. Test the hypothesis that the slope of the line equals zero, which indicates there is no change in bare soil over time
   an example follows:

% Bare Soil	Year	Estimated Bare Soil	Deviation from Regression	Square of Deviation
Y	X	Y'	Y-Y'=dyx	dyx^2
21	1	23.6	-2.6	6.76
26	2	22.7	3.3	10.89
23	3	21.8	1.2	1.44
19	4	20.9	-1.9	3.61
20	5	20.0	0	0
				dyx^2=22.70

Degrees of freedom for the analysis would be 5-2=3, where 5 observations were made and 2 averages were used in the computation. We then have Syx^2= dyx^2/n-2=22.7/5-2=7.57 and Syx=$\sqrt{7.57}$=2.75.

This value furnishes a sample standard deviation of the regression coefficient, where Sb=Syx/ $\sqrt{}$ x^2. The value for x^2 refers to a value calculated by obtaining the mean value for X (called X) and subtracting X from each X value. Square and sum these values to obtain x^2. Then a significance test for b is given by t=b/Sb with n-2 df.

The calculated t value is compared with tabular t values given in any statistical text. If the calculated t value is greater than the tabular value, you assume the slope of the line is different than zero and that a change in bare soil has occured over time.

Using the Modified Universal Soil Loss Equation as described in "A Approach to Water Resource Evaluation of Non-Point Silvicultura Sources (A procedural Handbook)"1/ one can establish surface sheet an rill erosion rates as follows: A=RKLSVM

"A" is the estimated average soil loss per unit area in tons/acre fo one year.

"R" is the rainfall factor (values taken from the iso-erodant ma found in "Erosion Control during Highway Construction" Volume II 2/ expressed in units of rainfall-erosivity index, EI.

"K" is the soil erodibility factor expressed in tons/acre/EI units.

"L" is the slope length and is the ratio of soil loss from the fiel slope length to that from a 72.6-foot (22.1m) length on the same soil gradient, cover and management.

"S" is the slope gradient factor and is the ratio of soil loss from given gradient to that from a 9-percent slope with the same soil cover and management.

"VM" is the vegetation-management factor, and is the ratio of soi loss from land management under specified conditions to that from th fallow site. This must be the same site where the factor K i evaluated. This information is obtained from the on-site monitorin data as referred to in part C. of this plan.

Once erosion rates are calculated it can be shown whether soil los tolerance limits are being approached or exceeded. Soil loss tole rance limits are defined as the amount of erosion that can occur on soil in one year without lowering its productivity. They are a follows:

Rooting Depth Inches	Tons/Acre/Year
0-10	1
10-20	1
20-40	2
40-60	3
60+	5

If soil loss tolerance limits are exceeded, productivity is greatl reduced.

4. SOIL RESOURCE INVENTORY

The soil resource inventory for the Fishlake National Forest is part of the National Cooperative Soil Survey (NCSS) that is conducted under a Memorandum of Understanding with the Soil Conservation Service. The level of mapping intensity is dominantly Order 3. Included in the inventories are map preparation, interpretations, field reviews, correlation with the SCS, development and maintenance of legends and field soil notebooks, and publication in accordance with NCSS standards and guidelines. The 10 year schedule follows:

Year	Location	Cost	Acres
85	Pavant Range	$23,200	65,000
86	Pavant Range	23,200	65,000
87	Tushar Range	23,200	65,000
88	Tushar Range	23,200	65,000
89	Tushar Range	23,200	65,000
90	Tushar Range	23,200	65,000
91	Tushar/Monroe	23,200	65,000
92	Salina Unit	23,200	65,000
93	Salina Unit	23,200	65,000
94	Fremont Unit	23,200	65,000

The Pavant and Tushar Ranges are combined into one soil survey area (SSA) designated as SSA 649. During the first 6 to 7 years, priority will be placed on this area for completion and publication. Where soil resource inventories are needed on specific sites for management decisions, site inventories will be conducted. The Monroe, Salina, and Fremont units represent one survey area and are given second priority for completion.

APPENDIX R
CULTURAL RESOURCES

This appendix contains a listing of needed cultural resource activities tha are part of the Forest Plan.

1. Complete the Forest's cultural resources overview by 12/25/89.

2. Identify areas requiting more intensive inventories by 12/25/89.

3. Develop a plan for the interpretation of cultural resources for th education and enjoyment of the American Public by 12/25/89.

As each of the above items is developed, it will be included in this appendix.