

d. Recommended Wilderness Alternatives

Summary of Changes between the Draft and Final EIS

79,000 acres of wilderness are recommended in the Final Forest Plan (Alt. JF) an increase of 12,000 acres (18%) over the Proposed Plan (Alt. J). This 12,000 acre increase occurs on Pellick Ridge within the Scotchman Peak Roadless Area and was in response to the concern expressed by the public during the review period. This results in a total of 59,000 acres of recommended wilderness within the 83,700 acre Scotchman Peak Roadless Area (70%). 36,000 acres are now located on the Kootenai Forest while 22,500 acres (no change) are located on the Idaho Panhandle Forest. See Appendix C for more detail on the Scotchman Peak Roadless Area. No changes occurred on any of the two other recommended wilderness areas.

The above results are summarized in Table II-5 which is described next.

Table II-5 displays the acres recommended for wilderness in each roadless area in each alternative. Alternatives range from complete wilderness for inventoried roadless areas (Alt. H) to no wilderness other than the existing Cabinet Mountains Wilderness (Alternatives A, F, L, M, and N).

The remainder of the alternatives address resolution of the wilderness issue to varying degrees. Alternatives B, D and I (Current Direction), portray the original RARE II recommendations while Alternative C and O portray the Montana Wilderness Bill of June, 1984. The intent of Alternative E is to exceed the wilderness recommendation in the RARE II proposal. Alternative G recommends significant acres of wilderness while still maintaining or increasing commodity production on the other Forest lands. Alternative J is the proposed action which is a combination of parts of the RARE II recommendation and the June, 1984, Montana Wilderness Bill.

e. Changes in Roadless Areas Over Time

No Changes occurred between the Draft and Final EIS. There was no change between the Draft and Final EIS in the amount of area developed within the inventoried roadless areas. See Appendix C for the category changes that occurred in the Scotchman Peak area because of the recommended wilderness change mentioned above.

Table II-6 shows how the roadless resource will be managed under different alternatives. Management is summarized by "Management Emphasis" which is: (1) Wilderness and (2) Non-wilderness. The Non-wilderness is further broken out by "Roadless Management", "Some Development", and "Development". A summary of the Management Emphasis is displayed at the end of the table to interpret how the roadless resource will change over time. The "developed" category indicates the rate of access into roadless lands which are assigned to the "Development" (or timber harvest) emphasis. The "roadless" category is the sum of all the roadless area acres still in a roadless condition. This includes the "Roadless Management" acres plus the "Development" acres that have not yet been accessed. Many of these roadless areas are 5,000 acres or larger and will be available for future consideration for wilderness. Similar information for each individual roadless area is displayed in Appendix C.

The following charts compare the alternatives in terms of the acreages of the inventoried roadless areas designated for various categories of use.

FIGURE II-43

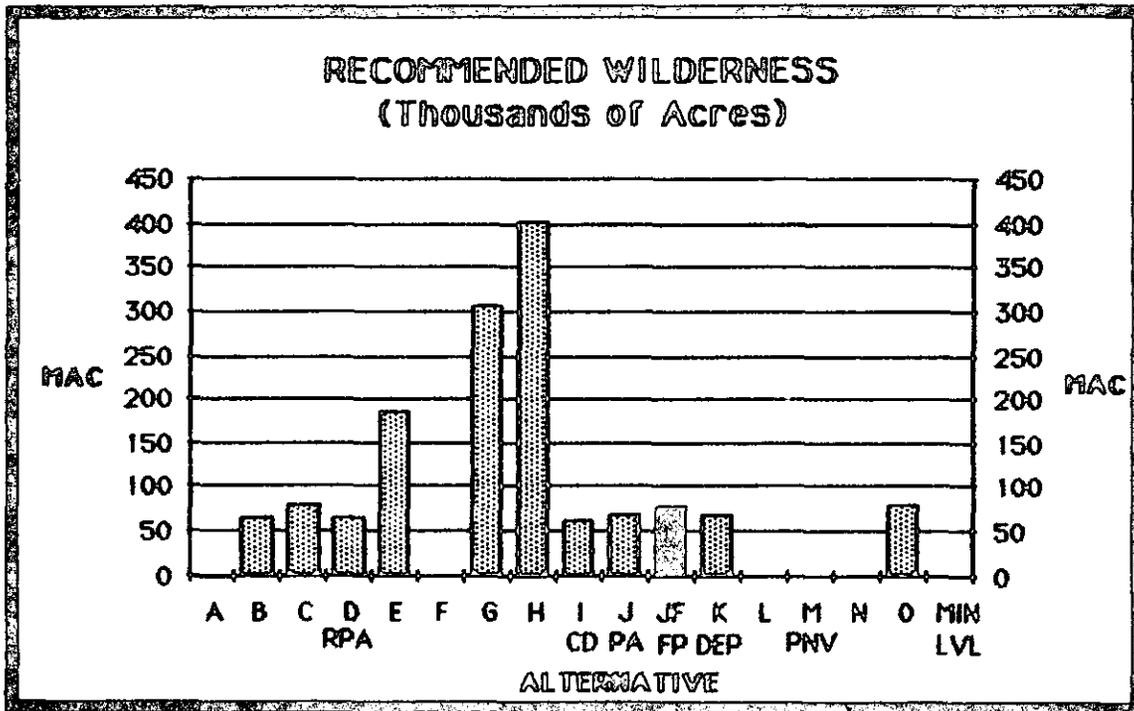


FIGURE II-44

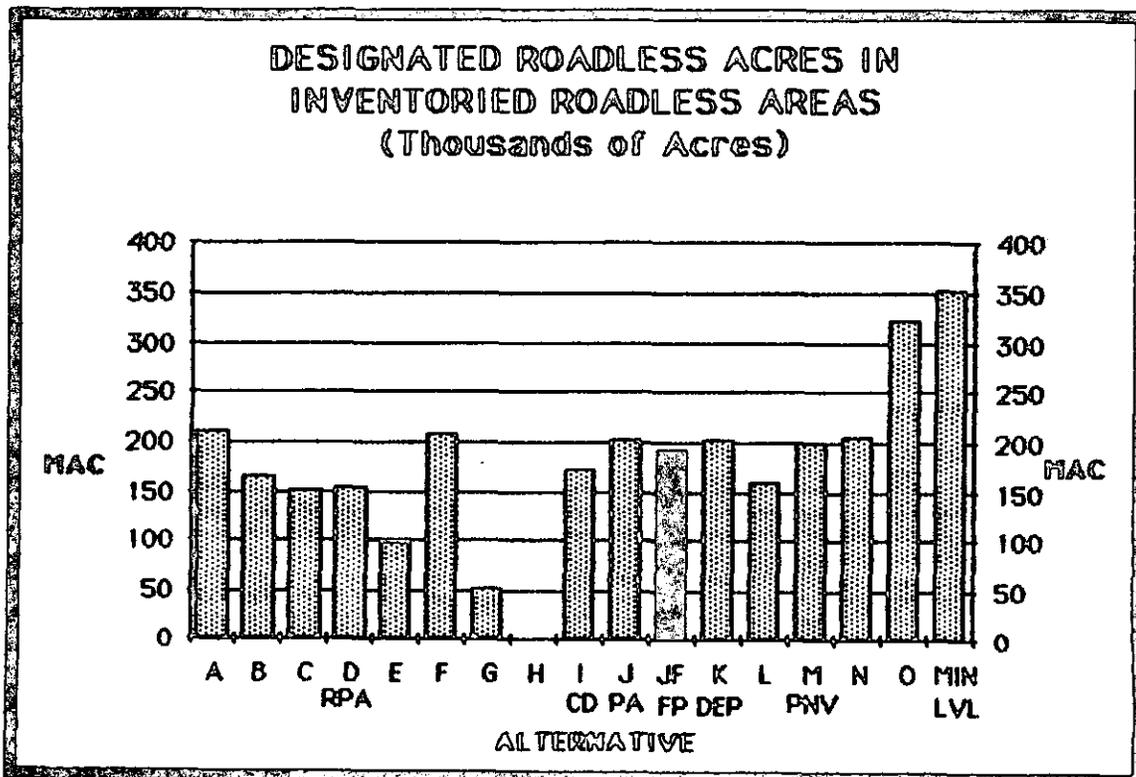


FIGURE II-45

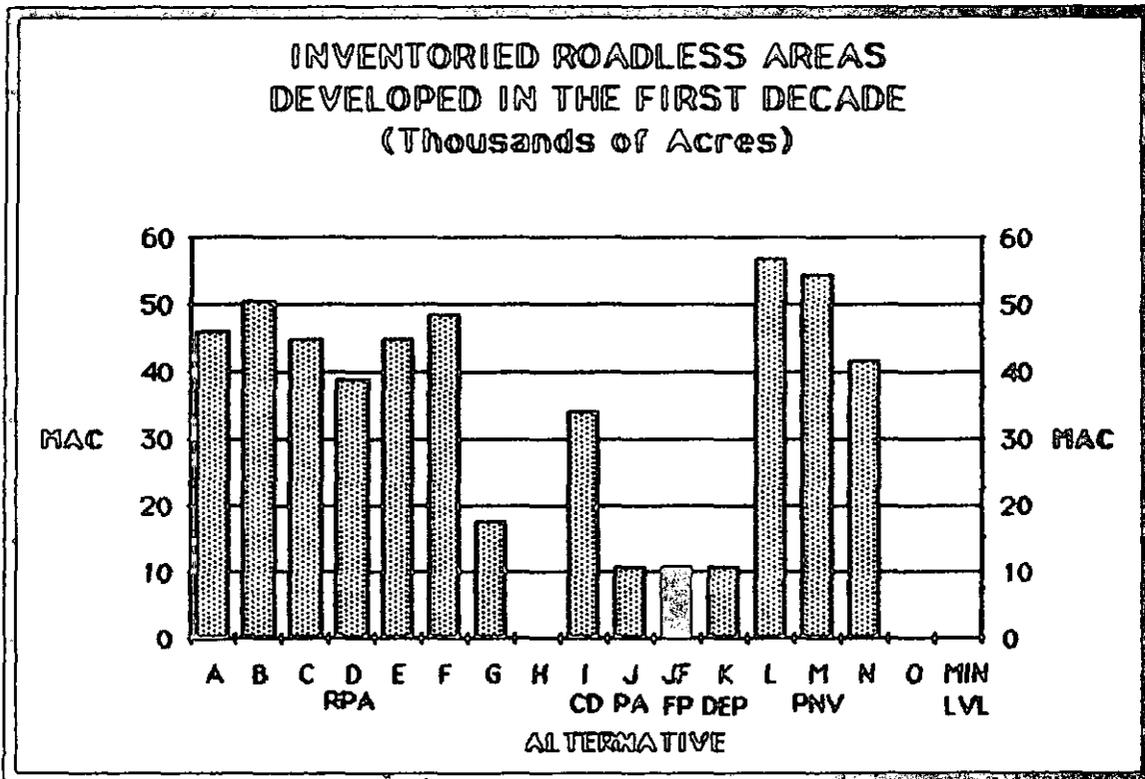
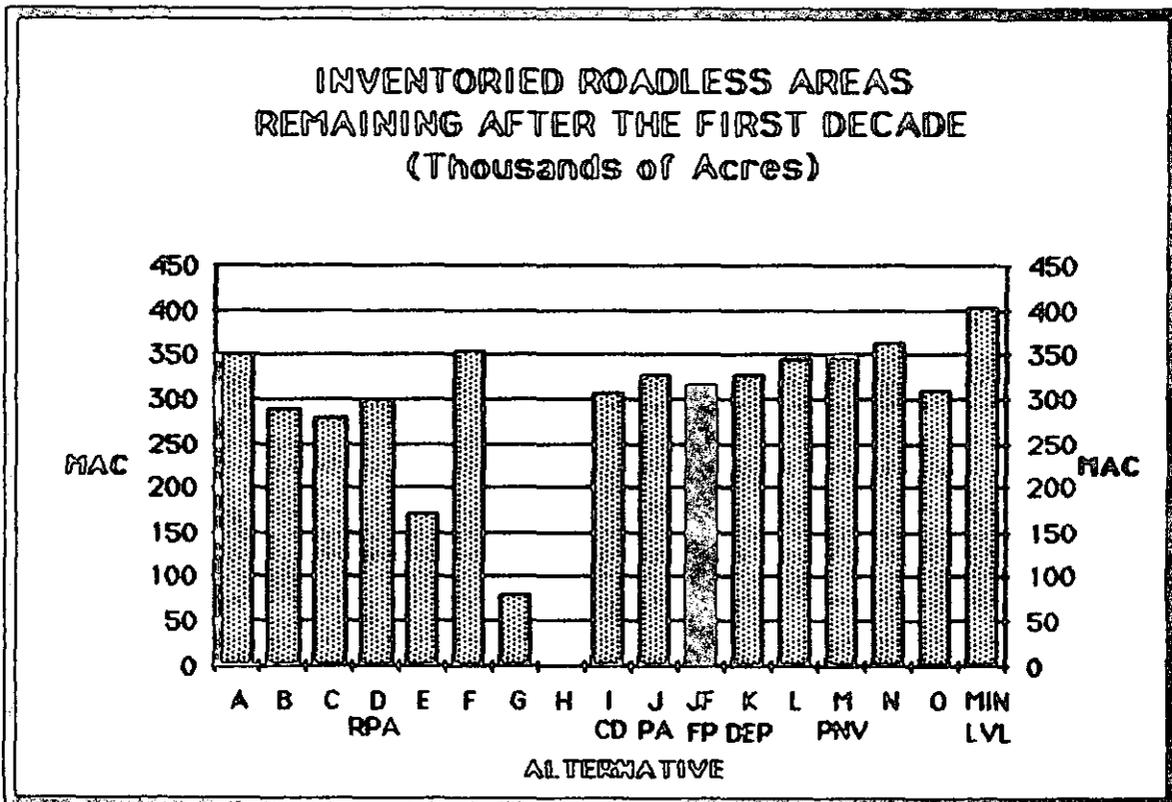


FIGURE II-46



4. Recreation

No Changes occurred between the Draft and Final EIS.

Each alternative provides varying amounts of the developed and dispersed recreation, both motorized and nonmotorized, expressed in Recreation Visitor Days (RVDs). According to demand projections, all alternatives, except Alternative F, provide enough RVD's to meet roaded recreation through at least 13 decades, but only 4 alternatives (I, J, K, and O) provide enough semiprimitive motorized recreation beyond the first decade (see following chart). All alternatives provide nonmotorized recreation opportunities (outside wilderness) and wilderness recreation opportunities sufficient to meet demand well beyond the fifth decade. Developed recreation would be met through decade eleven in all alternatives.

TABLE II-7

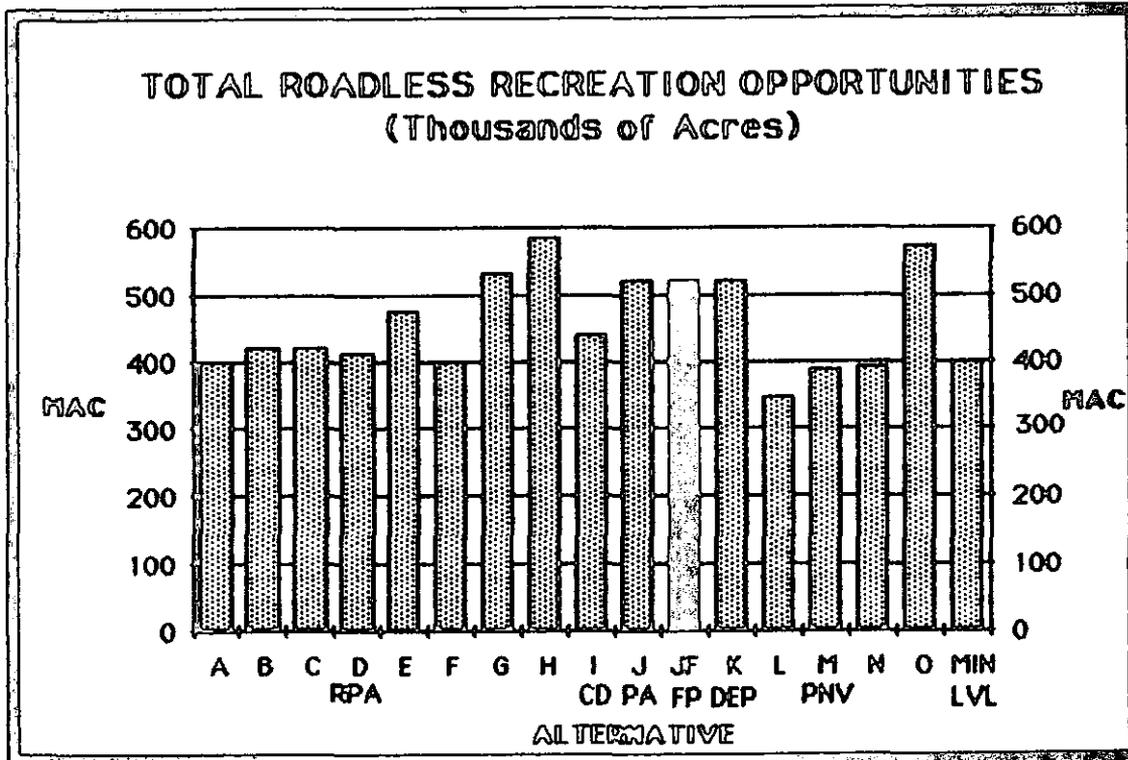
Decade When Recreation Demand Exceeds
Recreation Capacity

Alt.	Roaded Recreation	Semiprimitive Motorized	Semiprimitive Nonmotorized	Wilderness	Developed /1/ Recreation
A	14	1	beyond 20	19	11
B	14	1	beyond 20	beyond 20	11
C	14	1	beyond 20	beyond 20	11
D (RPA)	13	1	beyond 20	beyond 20	11
E	13	1	beyond 20	beyond 20	11
F	10	1	beyond 20	19	11
G	13	1	beyond 20	beyond 20	11
H	13	1	18	beyond 20	11
I (CD)	beyond 20	5	beyond 20	beyond 20	11
J (PA)	beyond 20	6	beyond 20	beyond 20	11
JF (FP)	beyond 20	6	beyond 20	beyond 20	11
K (Dep)	beyond 20	6	beyond 20	beyond 20	11
L	beyond 20	1	beyond 20	19	11
M (PNV)	13	1	beyond 20	19	11
N	14	1	beyond 20	beyond 20	11
O	beyond 20	4	beyond 20	beyond 20	11

/1/ At 75% of physical capacity.

The following graph displays the combined acreages of all land areas contributing to roadless recreation opportunities (wilderness and semi-primitive non-motorized recreation). The land areas include the existing Cabinet Mountains Wilderness (94,000 acres), the recommended wilderness areas, the designated roadless acres within the inventoried roadless areas, the designated roadless acres located in scattered parcels outside of the inventoried roadless areas, and the Ten Lakes Montana Wilderness Study Area (34,000 acres).

FIGURE II-47

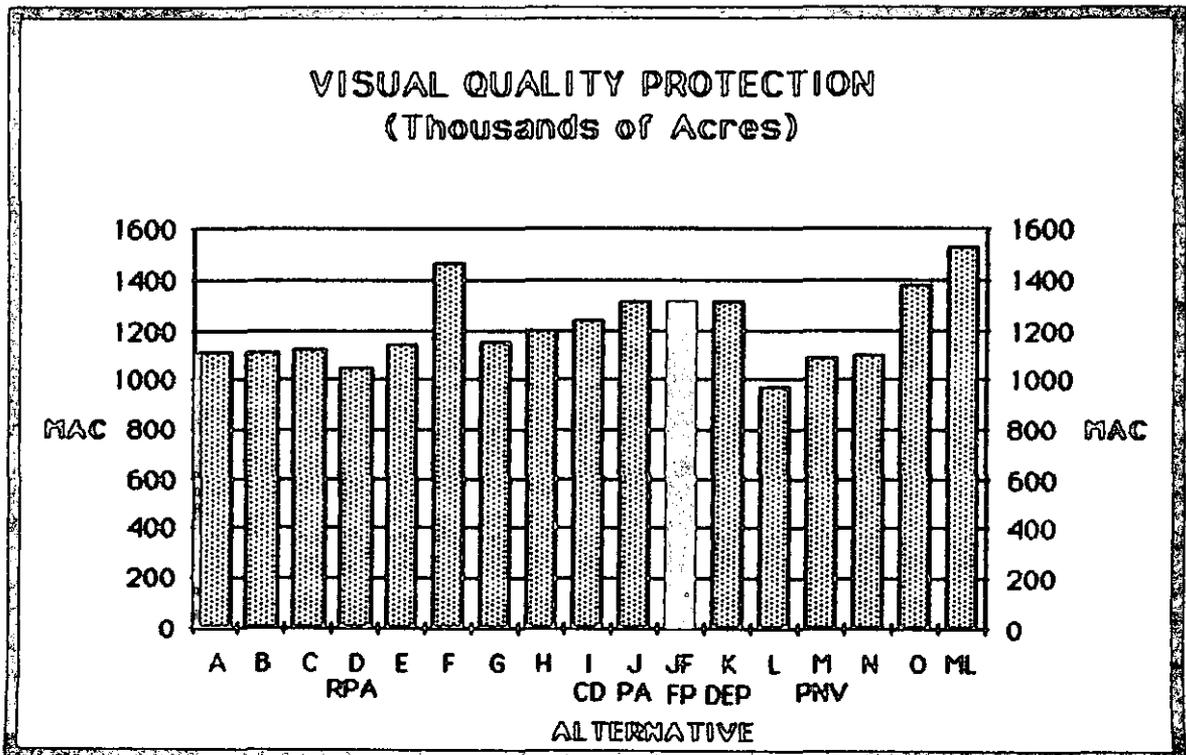


5. Visual Quality Protection (Viewing)

No Changes occurred between the Draft and Final EIS

Visual quality is measured in terms of "Visual Quality Objectives," (VQOs) which are standards that indicate how much sensitivity to the view should be applied while conducting Forest management activities. Each alternative allocates land that prescribes different amounts of certain VQOs. The sensitive VQOs include "Preservation," which applies to wilderness and other special areas where no development will occur; "Retention," which is where developmental activities are subordinate to the landscape; and "Partial Retention," which is where developmental activities should not be noticeable to the casual Forest visitor. The other VQOs are "Modification" and "Maximum Modification" which are applied to less sensitive areas where activities can be noticeable and/or dominate the landscape. The VQOs of Retention and Partial Retention are considered the most sensitive because of their association with important viewing areas that can be affected by Forest management activities such as timber harvesting and road construction. An inventory was conducted to determine a recommended baseline for visual quality. Alternative O was designed to meet the recommended visual quality objectives outside of identified grizzly bear habitat because visual management often requires frequent management activities which can be detrimental to recovery of the grizzly bear population. Other alternatives gave different emphasis to meeting the recommended VQOs depending on the intent of the alternative. The following chart displays the different amounts of visual quality protection resulting from the intent of the alternative.

FIGURE II-48



Alternative L had the least amount of visual quality protection because the goal of this alternative was to produce high timber yields with a significant amount of new road construction. Alternative O provided a high degree of protection because it was designed to protect visual quality outside of grizzly bear habitat. It also provided visual quality protection as an indirect result of providing roadless area protection. Alternative F resulted in a high degree of visual quality protection as an indirect result of managing for wildlife which involved only a limited amount of timber harvest and road construction. Alternatives J and K resulted in a high degree of visual quality protection because of a combination of managing for both wildlife and visual quality.

6. Wildlife and Fish Production

Summary of Changes between the Draft and Final EIS

The Final Forest Plan (Alt. JF) provides for a minimum of 10% Old-Growth Timber (Forest-wide) compared to the 8% provided for in the Proposed Plan (Alt. J). In addition, the old-growth timber designations are removed from the suitable (regulated) timber base. The Forest will, during the next ten years, attempt to better define the components of old-growth timber habitat and determine if a regulated yield can be anticipated in the future. Until that determination is made, the old-growth designation will remain unsuitable.

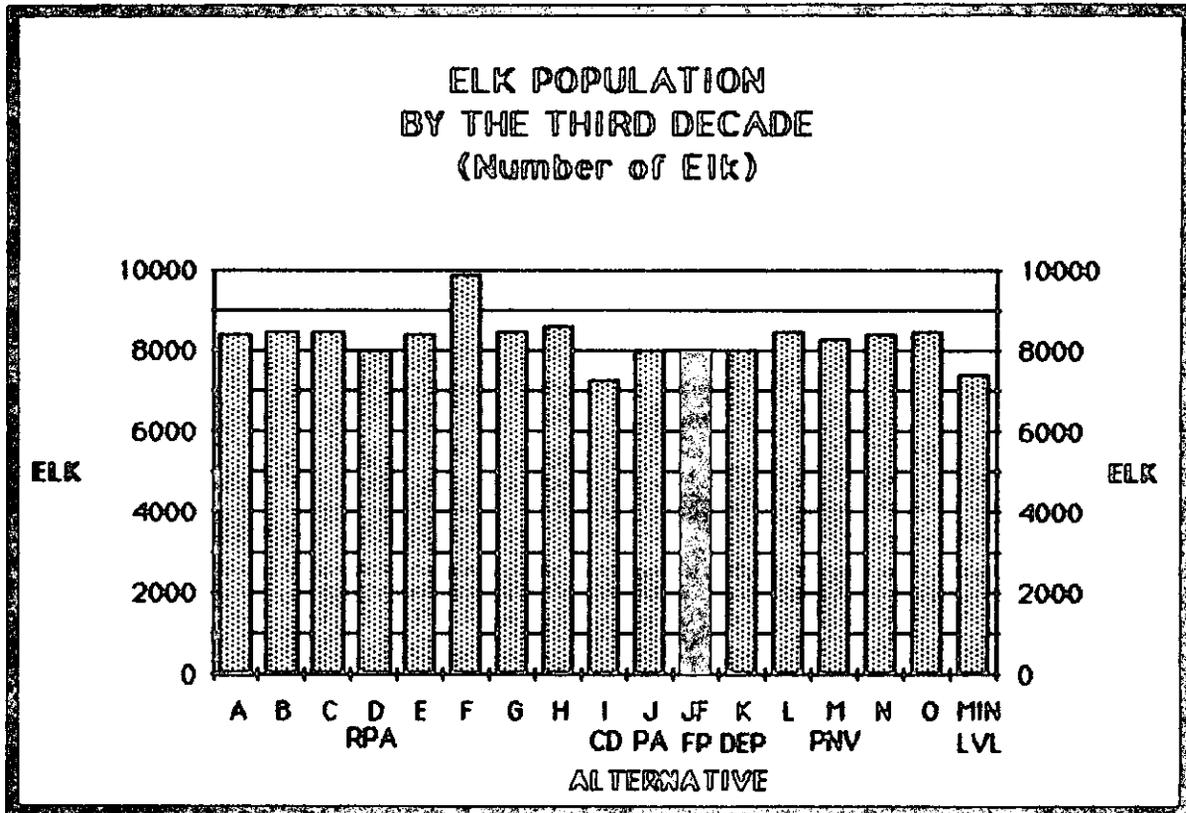
a. Big Game - Elk

No Changes occurred between the Draft and Final EIS

Increases in elk numbers are related to more acres being managed for big-game summer range and road use restrictions in elk habitat during critical periods. Summer range is the limiting factor on the Kootenai in relation to elk populations. Browse production estimates on winter range indicate that a four-fold increase in elk population is supportable. Because of the behavioral adaptations of the elk that tend to set a natural limit on densities in the summer range, an environment must be provided for them to utilize the available summer range effectively. A balance of the environmental requirements which elk need (cover, forage, security, etc.) is necessary to provide this habitat.

The following graph displays the expected elk population for each alternative by the third decade. The Regionally suggested goal for elk on the Kootenai is 6,400. The estimated population in 1983 was 5,500. The third decade is displayed because it is estimated that this is the time required for the existing population to reach its potential under the management scheme envisioned by each alternative. After the third decade, the population is projected to be relatively stable.

FIGURE II-49



All alternatives are projected to exceed the Regional goal of 6,400 elk. Many areas have been harvested on the Forest and are now providing forage for elk. The application of road use restrictions to provide security and scheduled timber harvest to maintain forage will allow the population to grow.

Because of the management requirements needed to recover the grizzly bear, security will be provided for elk indirectly on approximately 46% of the Forest under all alternatives. This is why the elk population increases under all the alternatives including the Minimum Level Benchmark.

All alternatives provide adequate security to increase the population at least 33%. Alternative F provides for a combination of forage production and security that results in an 80% increase in population.

b. Catchable Trout

The existing catchable trout population on the Kootenai National Forest is estimated at approximately 1,016,000 fish in 1980. This population consists of resident fish which inhabit the streams year-long and the migratory fish, those that move from the lakes, rivers and reservoirs into the streams to spawn. This does not include stocked fish numbers such as those in Lake Koocanusa or the high mountain lakes.

The resident population is estimated to be approximately 77% (784,000 fish) of the total population with the migratory fish constituting the remaining 23% (205,000 fish). Of these two fish populations, the migratory fish are considered to be the most sensitive to Forest management activities, particularly road construction. Roads have been identified as the most significant contributor of sediment to the streams which are necessary for successful spawning.

Summary of Changes between the Draft and Final EIS

No Changes occurred between the Draft and Final EIS in the first decade for the calculation of fish production potential. This is because the potential was calculated from a sediment model which is correlated to the acres disturbed by road construction and logging; and the final Forest Plan projects a similar amount of road construction and logging in the first decade. The sediment model was used as a risk indicator and Table IV-28 in this Final EIS displays the relative risk for degrading water quality for each alternative.

Public comment received during the review period expressed concern for the protection of water quality and fish habitat. They asked that the Monitoring and Evaluation Plan be strengthened to ensure that developmental activities such as road building and logging do not degrade the water and fisheries resource on the Kootenai Forest. The public also expressed concern about the statistical reliability of the sediment model. As a result of the public concern, soil and water conservation practices are to be used in all proposed activities to assure that they meet or exceed the State water quality standards. These practices are outlined in a handbook entitled "Soil and Water Conservation Practices" (FSH 2509.22) and will be a part of the basic functional land management direction for the National Forests. In addition, language is included in the Forest Plan Goals and Objectives that state that all projects are to be evaluated to ensure that State water quality standards are not

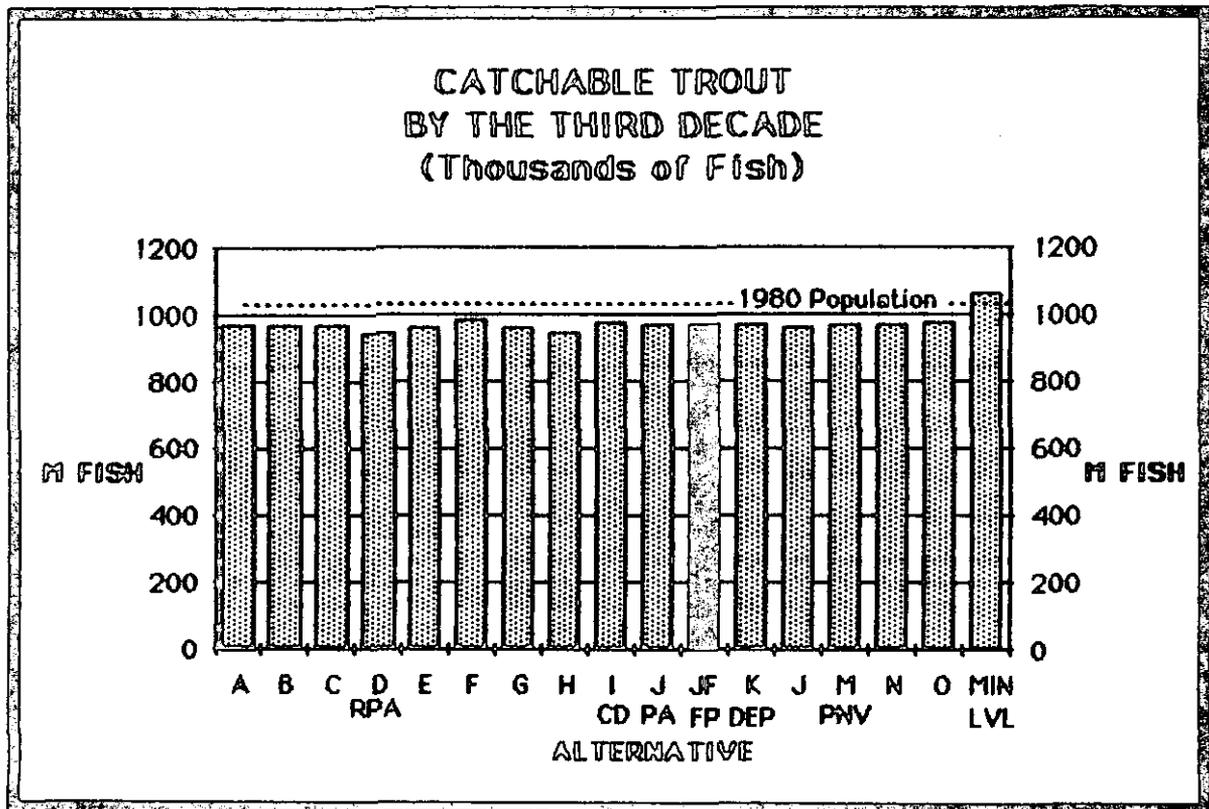
exceeded. Projects that can not meet these standards will be redesigned, rescheduled or eliminated. (Also see Chapter IV for mitigation changes and the Monitoring and Evaluation Plan in the Forest Plan document for water quality monitoring changes.)

Using the above-mentioned fish model, all alternatives except the Minimum Level Benchmark project a decline in the total fish population from approximately 4% to 7% and no alternative will meet the desired Regional goal of approximately 1,054,000 fish by the third decade. This projected decline is primarily the result of additional new road construction which will affect the migratory fish population mostly, although the resident fish population is also affected. The migratory fish population is projected to decline approximately 7% to 12% under all the alternatives.

Alternatives D and H will have the greatest effect on the fish population because of a combination of the miles of new road construction and the location of the road construction which results in higher sediment production. Alternative F will have the least effect on the fish population because of a combination of low road miles and location which yields lower sediment production.

The following chart displays the total fish population expected for each alternative in the third decade.

FIGURE II-50



c. Old-Growth Timber

Old-growth timber is known to be an important component of wildlife habitat for some species (pileated woodpeckers, barred owls, etc.) Roughly 58 wildlife species on the Kootenai (about 20% of the total) find optimum breeding or feeding in old growth timber stands. Since old-growth stands often have high wood-volumes per acre and are not producing new wood as fast as some of their younger counterparts, they have usually been considered a high priority for timber harvest. Once harvested, however, old-growth timber cannot be readily replaced.

Because of the predictable, eventual diminishing acreage of old growth timber in some areas, it is important to ensure beforehand that a certain amount is managed to ensure viability of timber-dependent species. On the Kootenai, the areas generally below 5,500 feet elevation appear to provide the conditions suitable for reproduction of old-growth-dependent species. Approximately 1,860,000 acres are located below 5,500 feet elevation. Within this area, approximately 149,000 acres, or 8%, have been identified as necessary for old-growth timber management. These areas will be maintained to ensure that a desirable distribution of old-growth timber is maintained.

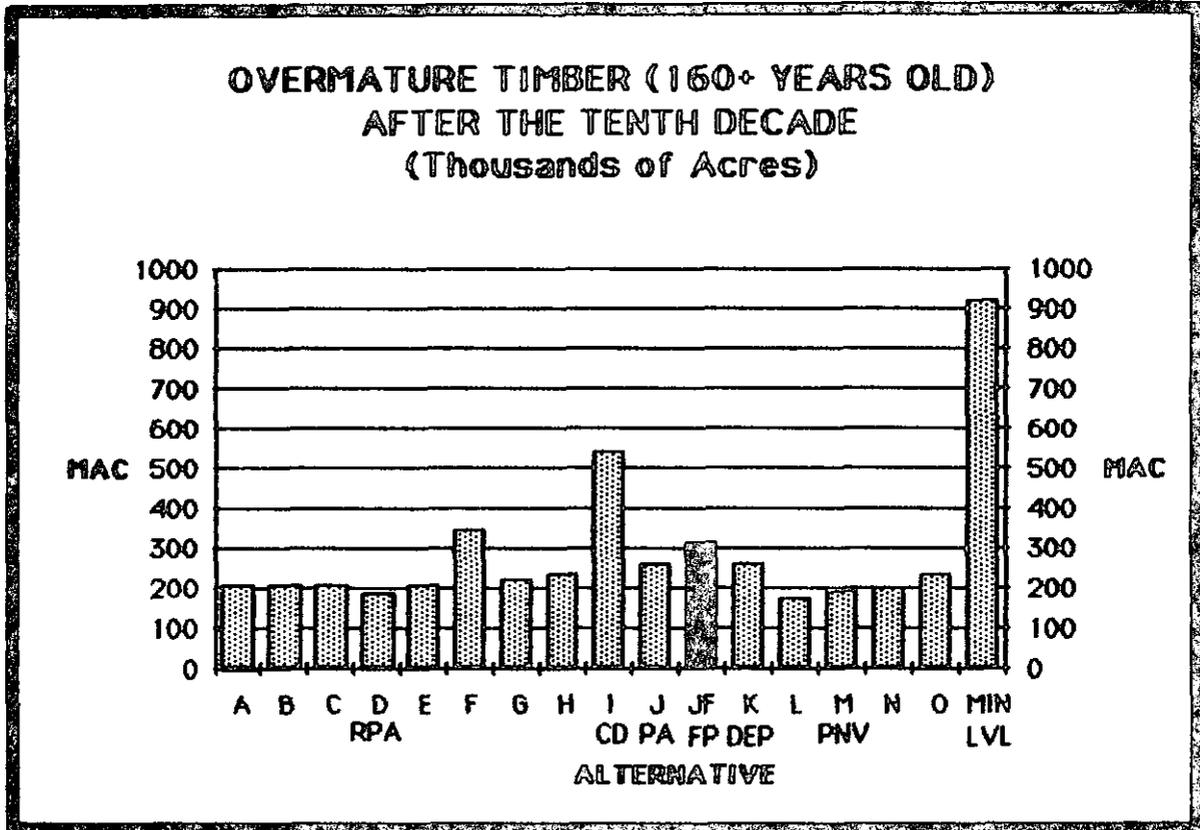
Summary of Changes between the Draft and Final EIS

The Final Forest Plan (Alt. JF) provides for a 10% level of old-growth timber compared to 8% for the Proposed Plan (Alt. J). This was in response to the public concern for the adequacy of the 8% level. It will provide for a total of 126,000 acres of designated old-growth timber (Management Area 13) in addition to the 60,000 acres identified within other non-developmental designations such as wilderness, roadless management, etc. In addition, the 126,000 acres of designated old-growth timber will be removed from the suitable timber base. This will provide for a 25% increase, and a total of 186,000 acres of old-growth timber compared to the 149,000 acres provided in the Proposed Plan (Alt. J). See Appendix B for more detail on the Old-Growth Timber analysis.

All alternatives provide for the minimum desired acreage of 149,000 acres of old-growth timber (8%). Some alternatives, because of their goals for providing wilderness and roadless opportunities, will provide more. Other alternatives, because of their goals to provide high timber yields, will tend to provide only the minimum.

The following chart displays the acreage of old-growth timber represented by stands of trees 160 years old or older on the commercial forest lands on the Kootenai for all alternatives after 100 years. 100 years is displayed because that is the calculated time that it will take to reach the lowest amount of old-growth timber acreage among all the alternatives.

FIGURE II-51



Alternative I provides the highest level of old-growth timber because this alternative is restricted by budget limitations to harvesting the least amount of timber of all the alternatives which indirectly provides for old-growth timber. Alternative F provides a high level of old-growth timber because of the low level of timber harvest associated with the goal of providing the maximum elk habitat. Alternative L, in contrast, harvests the greatest amount of timber and provides the lowest level of old-growth timber. Alternatives M, N, and D provide high timber yields and consequently a low acreage of old-growth timber. Alternatives H, J, K, and O provide a high level of old-growth timber because of the significant amounts of timberland that are designated for non-development such as wilderness and roadless recreation.

d. Grizzly Bears

The Kootenai National Forest is responsible, under provisions of the Endangered Species Act, for ensuring that Forest Management activities do not jeopardize the continued existence of grizzly bears or adversely modify their habitat.

Grizzly bears on the Kootenai occupy portions of two primary ecosystems, the Northern Continental Divide Ecosystem (NCDE) and the Cabinet-Yaak Ecosystem (CYE). The Kootenai contributes about 3%, or 207,200 acres, to the total NCDE. The Kootenai's contribution to the CYE is about 70%, or 828,400 acres. (See Appendix D for a detailed description of the grizzly situation on the Forest, ecosystem descriptions, and management guidelines.)

Grizzly management on the Kootenai has focused on habitat. Over most of the Forest a data base has been developed down to the habitat component level. Because of the difficulty in locating or trapping grizzly bears, little data on the actual number of grizzlies or any population characteristics exist. It is generally agreed among the appropriate agencies that suitable habitat exists in the CYE but that a low density, small population of grizzlies is present in that ecosystem. On the other hand, the Kootenai's portion of the NCDE supports a relatively high density of grizzlies and is intrinsically bound to populations of bears in the Flathead drainage, which have been relatively well-studied in the past 10 years.

All National Forests in the Northern Region have stratified their grizzly habitat along the guidelines established in the "Guidelines for Management Involving Grizzly bears in the Greater Yellowstone Area," otherwise known as the "Interagency Guidelines" (IG). A definition of the guidelines are contained in Appendix D and the Glossary, and summarized as:

- Situation 1 - Areas considered key to the survival of the species.
- Situation 2 - Areas which may be necessary for survival and recovery of the species, pending ongoing evaluation.
- Situation 3 - Areas where grizzly presence is possible and where management is necessary to exclude the bear (i.e., high human use areas such as resorts, campgrounds, etc.).

The following table displays the acres of Management Situations by Ecosystem on the Kootenai.

TABLE II-8

**Grizzly Bear Ecosystems and
Interagency Guideline Situation Acres**

	<u>Cabinet Yaak Ecosystem</u>	<u>Northern Continental Divide Ecosystem</u>	
Sit. 1	628,000	116,500	
Sit. 2	199,600	90,400	
Sit. 3	800	400	
Total	<u>828,400</u>	<u>207,300</u>	= 1,035,700

Following the jeopardy opinion rendered by the U.S. Fish and Wildlife Service on the November 1982 DEIS and Draft Forest Plan, the agreement was made to designate every acre of grizzly habitat (Situations 1 and 2) to either supportive or compatible management emphases. Management emphases considered supportive include existing and recommended wilderness and any other nondevelopmental management emphasis. Compatible emphases can include developmental designations, such as timber harvest while accommodating grizzly habitat, as long as the emphases includes compensation measures during and after project activities. Compensation measures include restricting use of roads upon completion of the activity and scheduling activities during periods of light or no use by the bears. Scheduling involves not only seasonal considerations but long-term, decadal scheduling as well. (See Proposed Forest Plan - Section III - Management Area 14).

Summary of Changes between the Draft and Final EIS

No Changes occurred in the grizzly bear's status between the Draft and Final EIS. The U.S. Fish and Wildlife Service has issued a non-jeopardy opinion on the Final Forest Plan (Alt. JF) and have made several on-the-ground suggestions that were accepted. Please refer to Letter #1 in Appendix E for further details on the U.S. Fish and Wildlife Service response. In addition, the "Yellowstone Guidelines" are now known as the "Interagency Guidelines."

Since all alternatives contain Minimum Management Requirements (MMRs) to ensure recovery of the grizzly bear, all alternatives are projected to meet the recovery goals. The following chart displays how each alternative manages the available grizzly habitat on the Kootenai, either through developmental land designations where compensation for impacts to the bear are included in the management emphasis, or by non-development (or limited development) where management activities do not occur. The ecosystems are broken down by Interagency Guideline Situations 1 and 2, shown as IG1 and IG2.

Table II-9

Acres of Management Category by Grizzly Ecosystem and Situation (thousands of Acres)

Management Category	Grizzly Ecosystem & Situation	Alt.			RPA					CD			PA : FP : Dep.			PNV			
		A	B	C	D	E	F	G	H	I	J	: JF	: K	L	M	N	O		
Developmental (Scheduled timber har- vest & road building on suitable timberland)	CY IG1	341	326	335	318	285	386	253	233	255	210	: 188	: 210	393	347	346	295		
	CY IG2	135	139	136	130	138	171	138	138	130	127	: 131	: 127	154	133	133	150		
	CY IG3	1	1	1	1	1	1	1	1	1	1	: 1	: 1	1	1	1	1		
	Total	477	466	472	449	424	558	392	372	386	338	: 320	: 338	548	481	480	446		
Non-Develop- mental (Occasional timber sal- vage & wild- life habitat burning on unsuitable timberlands)	NC IG1	62	64	50	50	64	56	57	45	29	40	: 34	: 40	55	49	64	72		
	NC IG2	67	68	68	64	69	85	69	70	67	69	: 65	: 69	75	67	66	71		
	NC IG3	0	0	0	0	0	1	0	0	0	0	: 0	: 0	0	0	0	0		
	Total	129	132	118	114	133	142	126	115	96	109	: 99	: 109	130	116	130	143		
Roadless & Undeveloped (Includes existing & recommended wilderness, wilderness study, & designated roadless management)	CY IG1	41	38	38	39	37	3	37	33	83	70	: 82	: 69	11	40	42	32		
	CY IG2	40	37	38	47	36	2	31	27	53	37	: 43	: 33	30	45	44	26		
	CY IG3	0	0	0	0	0	0	0	0	0	0	: 0	: 0	0	0	0	0		
	Total	81	75	76	86	73	5	68	60	136	107	: 125	: 102	41	85	86	58		
Total	NC IG1	8	7	4	5	7	0	5	6	13	7	: 6	: 7	1	6	7	3		
	NC IG2	24	21	20	24	20	3	20	18	22	18	: 21	: 18	14	21	23	16		
	NC IG3	0	0	0	0	0	0	0	0	0	0	: 0	: 0	0	0	0	0		
	Total	32	28	24	29	27	3	25	24	35	25	: 27	: 25	15	27	30	19		
Total	CY IG1	250	270	259	277	313	245	343	366	289	348	: 348	: 348	230	245	247	302		
	CY IG2	14	15	17	15	15	18	22	26	15	36	: 31	: 36	6	14	14	25		
	CY IG3	0	0	0	0	0	0	0	0	0	0	: 0	: 0	0	0	0	0		
	Total	264	285	276	292	328	263	365	392	304	384	: 379	: 384	236	259	261	327		
Total	NC IG1	46	44	61	60	45	60	54	66	75	69	: 74	: 69	60	61	45	37		
	NC IG2	2	2	2	2	2	2	2	3	1	4	: 4	: 4	2	2	2	3		
	NC IG3	0	0	0	0	0	0	0	0	0	0	: 0	: 0	0	0	0	0		
	Total	48	46	63	62	47	62	56	69	76	73	: 78	: 73	62	63	47	40		
Total		1,036*																	

CY = Cabinet Yaak Ecosystem

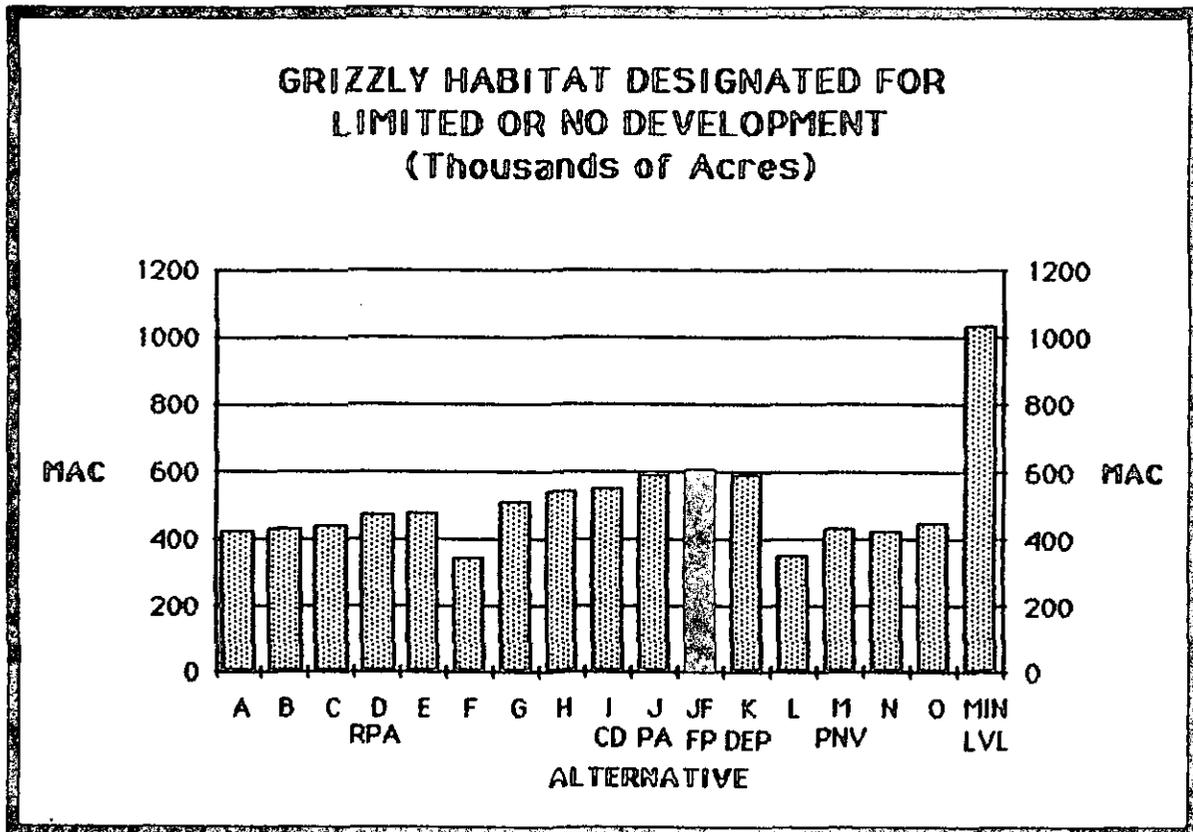
NC = Northern Continental Divide Ecosystem

IG = Interagency Guideline

* = Column totals do not always match because of rounding

The preceding table and the following graph show that Alternatives F and L designate the higher proportion of the available grizzly habitat (both ecosystems) to developmental management emphases where compensation must occur to assure no adverse impacts occur in grizzly habitat. Alternatives J, JF and K designate the higher proportion of the available grizzly habitat to limited, or non-developmental management emphases where no activities are scheduled.

FIGURE II-52



The following table shows the expected decadal timber harvest acres within the grizzly ecosystems, in each of the management situations. The table indicates the amount of human activity that will occur by alternative, in each ecosystem and grizzly management situation. The acres do not include the additional acres that could be affected by the normal amount of associated road building.

The table shows that through the first decade, Alternatives F, L, M and N would generate the most activity while Alternatives B and C would produce the least. Alternatives L, M, and N are high timber-producing alternatives which would require timber harvesting everywhere on the Forest, including in grizzly habitat. Alternative F has a goal to support high elk production, habitat for which is much the same as for grizzlies. Alternatives B and C are the RARE II and Montana Wilderness Alternatives, respectively, and postpone entry into grizzly habitat until the second and third decades.

Table II-10

Acres of Timber Harvest By Decade, by Grizzly Ecosystem & Situation (thousands of acres)

Grizzly Ecosystem & Situation	Alt. A	Alt. B	Alt. C	RPA		Alt. F	Alt. G	Alt. H	CD Alt. I	PA Alt. J	FP	Dep.	Alt. L	PNV		Alt. N	Alt. O
				Alt. D	Alt. E						Alt. K	Alt. M		Alt. P			
CY IG1																	
Decade 1	22.2	15.0	18.2	36.5	35.6	58.9	42.2	44.6	23.4	29.9	28.6	37.6	48.9	47.3	47.5	40.1	
2	59.4	60.1	64.8	62.3	48.5	42.4	39.8	32.4	18.5	44.4	21.8	39.9	55.0	47.3	48.5	36.7	
3	53.9	56.0	57.6	48.6	40.4	50.9	36.6	33.1	9.7	33.1	27.5	36.6	55.5	62.0	62.5	31.3	
4	25.9	23.5	22.9	65.9	22.4	56.0	22.6	21.8	14.8	25.2	4.0	25.9	62.5	43.1	27.3	27.6	
5	54.1	50.7	49.8	71.2	46.4	78.8	46.2	36.3	50.4	45.5	8.6	45.1	83.8	89.5	65.4	58.3	
CY IG2																	
Decade 1	19.3	17.3	17.3	17.8	18.2	23.3	18.8	18.2	15.4	24.2	19.5	24.2	19.0	21.0	19.0	24.1	
2	24.0	25.0	25.4	25.9	24.8	19.7	25.4	25.4	9.1	18.0	15.0	18.7	22.8	21.4	24.3	19.3	
3	19.1	18.4	18.8	21.1	17.4	18.1	17.3	18.8	16.8	15.0	16.4	17.0	20.2	20.9	20.9	20.0	
4	12.1	16.0	16.1	22.2	16.0	15.7	13.6	13.2	8.1	16.4	11.8	14.0	9.6	22.0	13.1	22.9	
5	27.9	27.3	27.5	28.1	27.2	19.4	27.2	27.1	14.8	26.2	17.0	26.2	15.7	28.4	27.4	29.5	
CY IG3																	
Decade 1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0.1	0.1	0.1	0.1	0.2	0.2	0.1	
2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0	0.1	0.1	0.1	0.2	0.2	0.2	0.1	
3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	
4	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0	0.1	0.1	0.1	0	0.1	0.1	0	
5	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0	0	0	
NC IG1																	
Decade 1	5.0	5.0	4.3	3.2	3.4	9.8	7.0	7.0	4.8	7.0	7.4	7.0	8.6	6.1	9.9	2.1	
2	5.8	7.6	5.2	9.0	8.1	1.7	7.3	3.9	5.3	3.6	3.2	3.6	4.5	3.3	6.0	8.2	
3	9.9	8.2	7.5	8.9	8.9	2.8	7.4	5.5	3.6	3.8	4.5	6.0	6.0	10.0	11.2	2.0	
4	2.6	2.6	1.4	6.4	2.5	6.3	1.6	1.3	0.6	2.6	1.6	2.6	5.7	2.1	2.8	2.5	
5	7.0	6.4	4.6	11.5	6.7	11.4	3.3	2.8	5.2	4.8	2.3	3.8	8.5	10.7	8.0	9.6	
NC IG2																	
Decade 1	8.4	8.3	8.3	8.5	8.3	8.5	8.3	8.3	8.4	8.2	7.7	8.3	9.0	8.5	8.5	8.2	
2	8.1	7.7	7.7	7.0	7.7	8.2	7.7	7.7	6.2	7.8	7.6	7.8	6.4	8.5	8.4	7.7	
3	6.9	7.0	7.0	8.7	7.0	6.4	7.0	6.7	6.6	6.5	7.3	6.5	5.9	6.9	7.0	6.8	
4	2.7	2.9	3.4	8.7	3.9	6.9	4.1	4.5	8.0	7.0	7.4	7.1	5.7	8.8	2.5	8.7	
5	10.7	10.7	10.7	11.7	10.7	5.8	10.7	10.6	5.0	7.4	7.6	7.4	10.7	11.1	10.7	10.6	
NC IG3																	
Decade 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0.1	0.1	0	0	0.1	0	0.1	0.1	0	0	0	0	0	0	0.1	0	
3	0.1	0.1	0	0	0.1	0	0	0	0	0	0	0	0	0	0.1	0	
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

CY = Cabinet Yaak Ecosystem

NC = Northern Continental Divide Ecosystem

IG = Interagency Guidelines 1, 2, & 3

7. Minerals

Forest lands were placed in four categories which generally depict the degree of operability or the conditions that will be necessary to meet legal or environmental requirements.

These categories are:

- Category A: - Areas that are withdrawn or proposed for withdrawal from mineral entry.
- Category B: - Administrative or environmental conditions that severely limit the operability for exploration.
- Category C: - Environmental conditions that require some special lease stipulations or plan of operation conditions to mitigate, such as timing of operations, etc.
- Category D: - Areas where standard lease stipulation and plan of operation conditions apply.

The geologic potential for locatable (hard rock) and leasable (oil and gas) resources have been evaluated.

Acreages for all of the operability categories are compared with the geologic potential rating in the main table (Table II-24).

Summary of Changes between the Draft and Final EIS

The land area on the Kootenai Forest that will be eventually withdrawn from oil/gas and locatable mineral exploration increased 5%. This is a direct result of the 12,000 acres of additional wilderness recommended on Pellick Ridge within the Scotchman Peak Roadless Area.

a. Leasable Minerals

The Final Forest Plan (Alt. JF) will result in a 12,000 acre increase in the acres proposed for withdrawal from oil and gas exploration. This will be 227,000 acres compared to 215,000 acres displayed in the Proposed Plan (Alt. J) in Table II-24. As stated above, all of the 12,000 acres are on Pellick Ridge within the Scotchman Peak Roadless Area which is considered to be of moderate potential for oil and gas.

Oil and gas leases generate revenues of \$1.00 per acre per year to the U.S. Treasury. Currently there are approximately 600,000 acres of oil and gas leases on the Kootenai Forest.

b. Locatable Minerals

The Final Forest Plan (Alt. JF) will result in a 12,000 acre increase in the acres proposed for withdrawal from locatable mineral exploration. This will be 264,000 acres compared to 252,000 acres displayed in the Proposed Plan (Alt. J) in Table II-24. As stated above, all of the 12,000 acres are on Pellick Ridge within the Scotchman Peak Roadless Area which is considered to be primarily low mineral potential. The exception is a 1,200 acre area within Star Gulch which is now considered to be of moderate potential. In the Draft EIS, the Star Gulch area was presented as a high mineral potential. See Chapter III, Minerals Section for more recent information about the Star Gulch mineral potential.

The following two tables display the results determined for each alternative in category A which is considered to be the most restrictive for mineral and energy (oil/gas) exploration.

The acres of projected withdrawals (Category A) in both the leasable and locatable minerals are directly correlated to the amount of recommended wilderness. Alternative H has the highest amount of recommended wilderness and displays the highest amount of projected withdrawals. In contrast, Alternatives A, F, L, M, and N do not recommend any additional wilderness and they display the lowest level of withdrawals. Other alternatives range in between depending on their recommended wilderness acreage. The other categories, B, C, and D, are considered operable, although Category B would be more restrictive than Category C, and C more restrictive than D. These different restriction levels would generally result in increased costs of exploration because of timing of operation, scale of operation, type of access, etc. Table II-24 displays the acreage of each category by the estimated mineral potential for each alternative.

FIGURE II-53

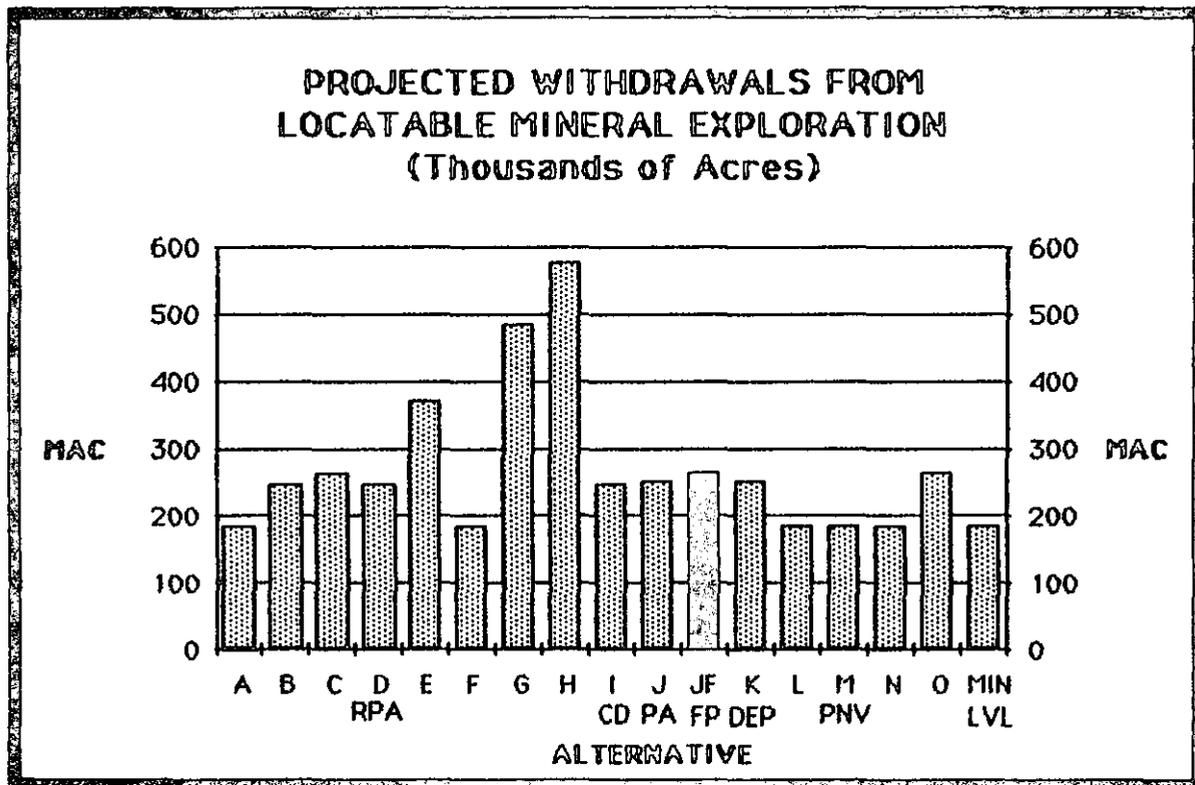
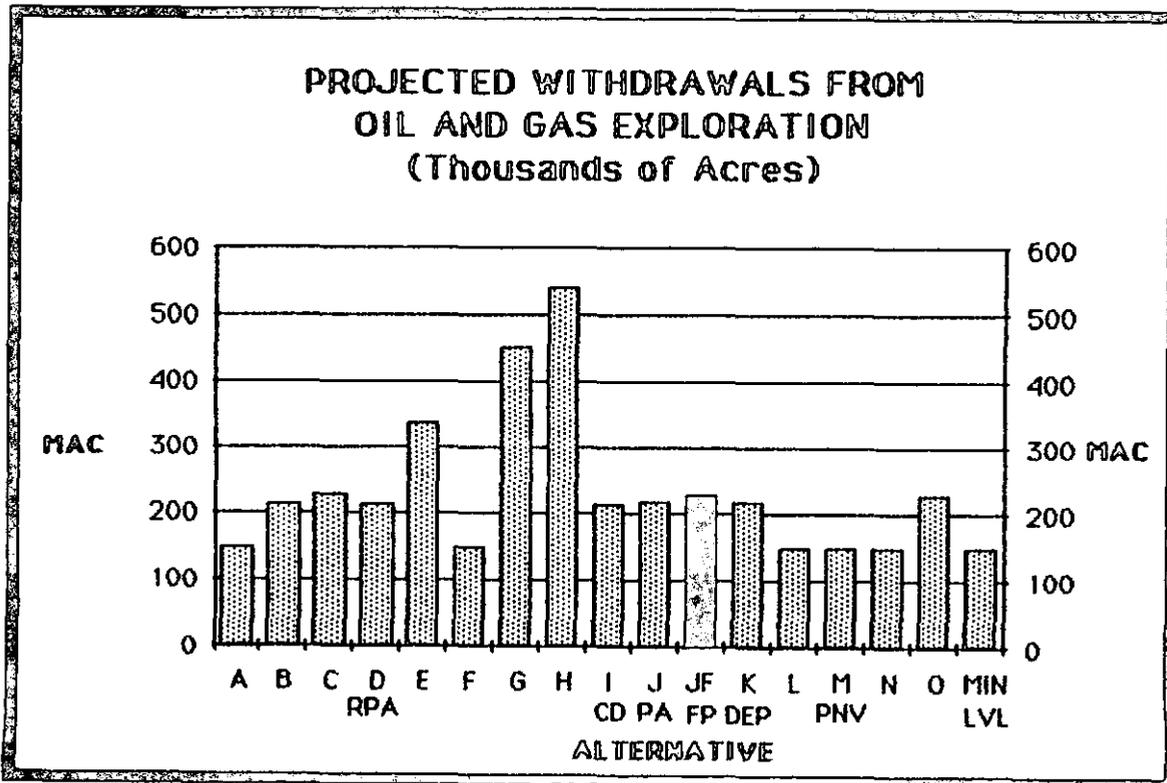


FIGURE II-54



8. Landownership Adjustment

No Changes occurred between the Draft and Final EIS (except for some acreage changes in Table II-11).

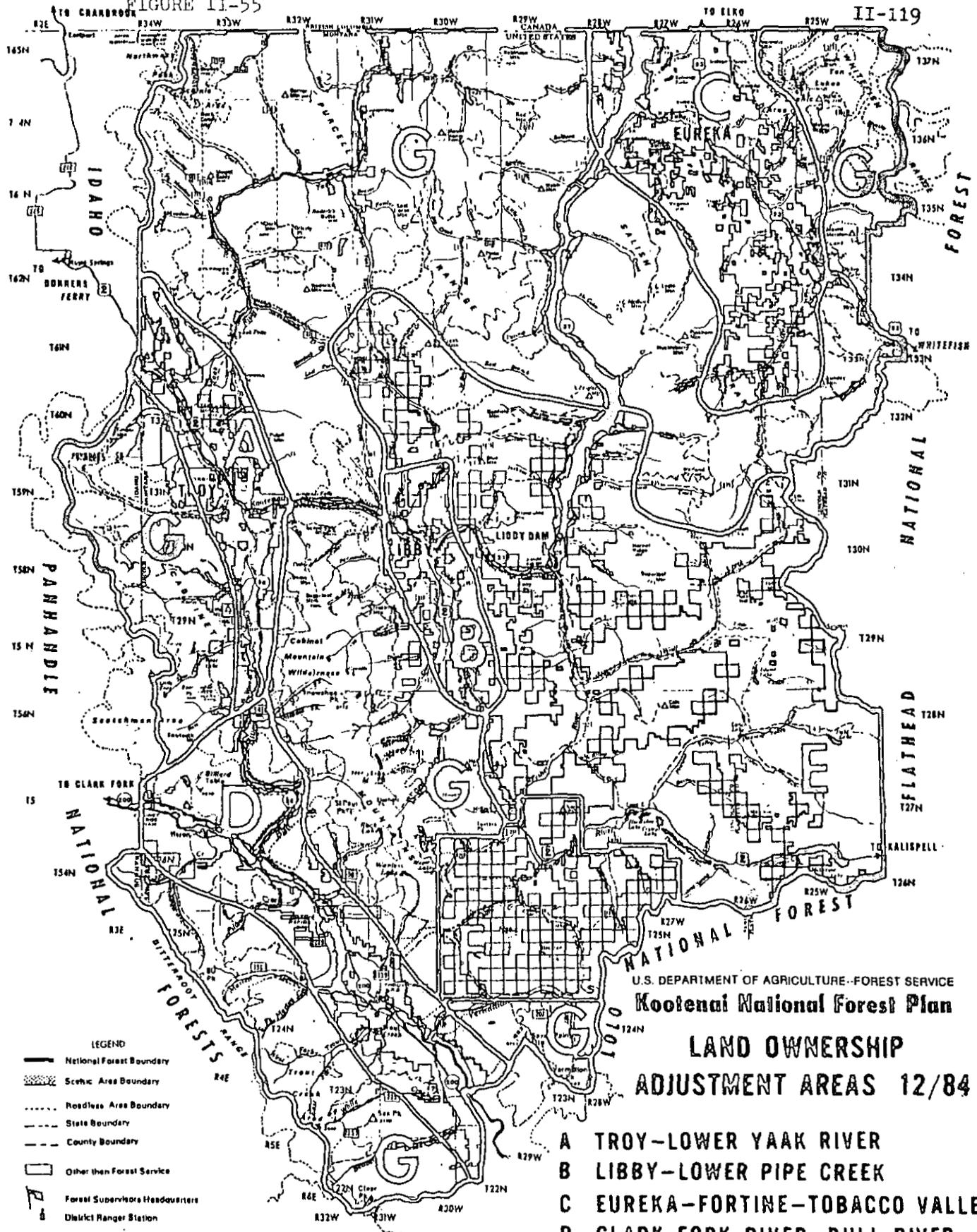
The Forest has identified about 90,990 acres of private land that would be desirable to acquire (by exchange) to permit more productive management of National Forest lands. (88,300 acres was the figure displayed in the DEIS.) This enhanced productivity would occur by providing desirable wildlife habitat for grizzly bear recovery and by providing areas needed for wilderness and roadless recreation management. This landownership adjustment plan represents the current land management direction and the total value of these proposed acquisition acres is about \$86,000,000. In return, the Kootenai has identified approximately 68,930 acres of National Forest land that should be disposed of, largely to rectify conflicting management objectives with private landowners and to resolve innocent trespass situations. (69,900 acres displayed in the DEIS.) This 68,930 acres of National Forest land is estimated to be worth about \$87,000,000 indicating that adequate value is available to achieve the desired land acquisition proposal. (It is important to understand that land is traded for equal value not for equal acreage.) (For a more detailed discussion of the Kootenai's land adjustment plan, see Appendix 9 of the Kootenai Draft Forest Plan).

The landownership adjustment plan addresses the acquisition and disposal of lands according to specific areas on the Forest (see map on next page). These areas are:

- A. Troy-Lower Yaak River: A complex pattern of intermingled National Forest and private lands.
- B. Libby-Lower Pipe Creek: Predominantly private land with some intermingled National Forest lands.
- C. Eureka-Fortine-Tobacco Valley: A complex pattern of intermingled National Forest and private land, similar to Area A.
- D. Clark Fork River-Bull River: A complex pattern of intermingled blocks of private and National Forest land.
- E. Upper Pipe Creek-Fisher River-Wolf Creek-Pleasant Valley: A complex pattern of intermingled National Forest and private lands as well as large corporate ownership blocks.
- F. Upper Fisher-Vermilion-McGinnis: Primarily a "checkerboard" ownership pattern with private and National Forest lands alternating.
- G. Rest of Forest: Predominantly National Forest land with some scattered parcels of private land.

FIGURE II-55

II-119



U.S. DEPARTMENT OF AGRICULTURE-Forest Service
Kootenai National Forest Plan

**LAND OWNERSHIP
 ADJUSTMENT AREAS 12/84**

- LEGEND**
- National Forest Boundary
 - Scenic Area Boundary
 - Roadless Area Boundary
 - State Boundary
 - County Boundary
 - Other than Forest Service
 - Forest Supervisor Headquarters
 - District Ranger Station
 - Recreation Site, Forest Service
 - Permanent Lookout Station
 - U. S. Highway
 - State Highway

SCALE
 1" = 10 Miles

- A** TROY-LOWER YAAK RIVER
- B** LIBBY-LOWER PIPE CREEK
- C** EUREKA-FORTINE-TOBACCO VALLEY
- D** CLARK FORK RIVER-BULL RIVER
- E** UPPER PIPE CREEK-FISHER RIVER-WOLF CREEK-PLEASANT VALLEY
- F** UPPER FISHER-VERMILLION-MCGINNIS
- G** REST OF THE FOREST

As can be seen in the following table, the largest proposed acreage of land acquisition would be in area "F" in the southern portion of the Forest. This area is in a "checkerboard" ownership pattern with alternate sections of land in large corporate ownership. Plum Creek Timberlands, Inc. is the major landowner. This area has identified grizzly habitat and large portions are roadless and undeveloped. Road construction and timber harvest will be expensive on much of the area. Consolidation into National Forest ownership would provide greater assurance for grizzly bear recovery.

TABLE II-11

**ESTIMATED ACRES AND VALUE OF LAND ACQUISITION AND DISPOSAL
BY LANDOWNERSHIP ADJUSTMENT AREA
(Current Direction and Final Plan)**

Landownership Adjustment Area	Estimated		Estimated	
	To Acquire (Acres)	Value (Million \$)	To Dispose (Acres)	Value (Million \$)
A	11,310	15.0	3,150	11.2
B	840	0.3	5,600	20.0
C	13,760	10.7	11,060	9.8
D	16,740	9.7	910	2.3
E	9,660	10.3	47,740	43.8
F	30,250	25.7	130	0.2
G	8,430	14.2	340	0
TOTAL	90,990	85.9	68,930	87.3

Area "E" is the largest proposed land disposal area. This large area is located within the southeast corner of the Forest and contains large blocks of corporate ownership. By trading out of this area, corporate timberland management would be facilitated. The remaining land adjustment areas would also be involved in exchanging lands to facilitate grizzly recovery and at the same time allow for the productive use of the concerned private lands.

Each alternative was compared to the Current Direction landownership adjustment plan. The comparison showed that the plan would be implementable in all alternatives; there is essentially no change in the landownership adjustment scheme by alternative. The primary emphasis for landownership adjustment, from the Forest standpoint, is to enhance existing grizzly bear habitat and to provide adequate roadless recreation opportunities where such opportunities exist.

9. Range

No Changes occurred between the Draft and Final EIS

Currently, there are 41 cattle allotments on the Kootenai. Many of these allotments occur on transitory range in timber areas. The only primary range is found in the northeast part of the Forest in the Tobacco Valley area.

Current use is about 13,000 AUMs per year, with about 3,100 animals being grazed. The Region has established a suggested goal of 20,000 AUMs for the Kootenai. All alternatives can exceed the Regional goal if demand exists. It should be noted that, based upon 1970-79 production figures for Lincoln and Sanders Counties, production trends for livestock show a gradual decline in numbers of livestock. It is not likely that the 20,000 AUM goal will be reached because the demand does not exist in this area.

The projected use of AUMs was a priced resource and was included in the calculation of the PNV.

10. Research Natural Areas

No Changes occurred between the Draft and Final EIS

The Forest has no established Research Natural Areas (RNAs) at this time but does have 7 proposed in Alternatives J and JF, and one in Alternative I. Total acreage involves approximately 3,320 acres in Alternatives J and JF, and 670 acres in Alternative I. These areas would be removed from the suitable timberland category and be proposed as RNAs in the Forest Plan. The small acreages involved make the differences between the alternatives negligible in terms of resource outputs and effects. The Regional goals for RNA designations would be satisfied by Alternative J. For further details refer to Chapter III, Section B.

11. Fire Management

No Changes occurred between the Draft and Final EIS

At present there are two approved fire action areas on the Kootenai Forest, one for the Cabinet Mountains Wilderness and one for the Troy Ranger District. It is the intent, regardless of the alternative, to develop fire action plans for the entire Forest. The fire action plan for the Cabinets allows fire to play as nearly a natural role as possible. Protection of life and property on areas adjacent to the wilderness will be taken into consideration if the fire comes close to the borders.

Prescribed burns are fires set deliberately to meet some management objective. Prescribed fire is used to burn underbrush in thinned stands as well as slash from logging operations. Some burning is done to enhance wildlife habitat. Between 1979 and 1983, an average of 11,570 acres were burned annually by prescription. Of that, 2,370 acres (or 20%) were burned annually to benefit wildlife.

Prescribed fires can result from planned and unplanned ignitions. Planned ignitions, such as those described above, are used to accomplish the goals of a specific land allocation. The only area where planned ignitions are not used is in the Cabinet Mountains Wilderness. Policy allows such ignitions only for the purpose of perpetuating the wilderness, but none are planned.

An unplanned ignition, such as one started by lightning, can be treated as a prescribed fire if it serves the purposes of the management area where it is located and if resources adjacent to it are not in danger. Unplanned ignitions are not appropriate in areas with high timber values or in developed recreation areas. Such fires are considered wildfires and are suppressed.

The type of suppression used depends on where the fire is occurring and the burning conditions. Response can vary from confinement (where natural barriers are used and suppression limited to surveillance), to containment and control whereby the fire is surrounded by line, completely checked and extinguished. The appropriateness of the suppression action is based on the Fire Action Plan which, in turn, is developed from land use designations for the area in question.

In the event a fire cannot be checked by initial suppression efforts and the fire "escapes", other strategies are used which take into account the fire situation, costs and damages, and land management objectives.

12. Cultural Resources

No Changes occurred between the Draft and Final EIS.

The Kootenai National Forest contains many historic and prehistoric sites that are known and probably many that have yet to be discovered. The implementation of any alternative calls for actions which are intended to prevent the loss of information that can be derived from these sites. To this extent the alternatives are the same.

The risk of loss of information from these sites tends to be higher where the site is subject to disturbance. Road building and timber harvesting are the two activities which generate the most ground disturbance because of their use of heavy equipment. The more timber and road building that is called for in an alternative, the greater the risk that some cultural site will be damaged. Alternative L requires the most roads and harvests the most timber over the 200 year analysis period thus it generates the most risk of losing cultural resource information. Alternatives F and I have the lowest roading needs and timber harvests thus generating a lower risk of damage to cultural resources.

13. Energy

No Changes occurred between the Draft and Final EIS

Energy consumption for each alternative was determined by multiplying Regional coefficients of energy use for various activities times 8 variable factors. Most of the factors were related to timber harvest volume, acres harvested, and road construction. Dispersed and developed recreation factors varied by RVD use and included energy expended by the user from home to recreation area or site.

As can be seen from the following table, nearly 75% of the energy consumed in each alternative is related to timber harvest activities. In general, the higher the timber volume in an alternative, the greater the energy consumption. Recreation uses vary only slightly among alternatives.

Table II-12

Average Annual Energy Consumption, Decade 1 (Billion BTUs)

Category	RPA								CD				PA : FP : Dep.			PNV			
	Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F	Alt. G	Alt. H	Alt. I	Alt. J	Alt. JF	Alt. K	Alt. L	Alt. M	Alt. N	Alt. O			
Recreation	36	35	35	35	35	36	34	34	36	36	:	36	:	36	36	36	36		
Administration	16	16	16	16	16	16	16	16	16	16	:	16	:	16	16	16	16		
Road Maintenance	15	15	15	15	15	15	15	15	15	15	:	15	:	15	15	15	15		
Road Construction/ Reconstruction	86	85	86	85	83	64	81	79	49	77	:	77	:	88	69	100	93	82	
Range	0	0	0	0	0	0	0	0	0	0	:	0	:	0	0	0	0	0	
Timber	122	120	122	121	117	89	111	112	83	107	:	107	:	122	140	140	132	114	

14. Comparison of Social Effects

No Changes occurred between the Draft and Final EIS

While employment and income are important to the quality of life, other social values such as maintaining aesthetic qualities or preserving community social ties are also important. The effects of Forest resource use on these latter activities are less quantifiable than employment or income estimates; however, they are important to the lifestyles of residents on the regional and local level, as well as at a National level.

Five social variables were used to compare the effects generated by Forest outputs and activities (see Appendix B, Chapter V). The variables include (1) population change, (2) community cohesion, (3) lifestyles, (4) attitudes, beliefs, and values, and (5) aesthetics. Comparisons were made to the current situation (1980) expressed by residents in interviews conducted as part of the Social Impact Assessment. The analysis is subjective (see Appendix B, Chapter V). Following is a description of what was identified as a desirable situation for the social variables:

Population change - Changes in population directly attributable to Forest Service activities. Change should be a steady, gradual increase, avoiding sharp, dramatic changes not exceeding plus or minus 20% in a decade.

Community cohesion - Promote cohesiveness of local interest groups and organizations with respect to local identification; seek to minimize polarization of issues.

Lifestyles - Provide "traditional" forms of employment (timber industry, mining, recreation), promote local use of Forest recreation opportunities and continuation of existing lifestyles.

Attitudes, beliefs, and values - Avoid rapid, drastic changes that would alter the perception the public has of the forest and their place in it.

Aesthetics - Provide for the recreation and other amenity features valued by the public; avoid drastic or sudden disruption of the existing recreation patterns.

a. Population Change

The population of the local area, represented by Lincoln and Sanders Counties, Montana, and the affected portions of Flathead County, Montana, and Bonner and Boundary Counties, Idaho, is expected to continue to increase slowly and steadily (approximately 10% per decade). Population increases (or decreases) in excess of 20% over a ten year period are considered to be disruptive to the social structure of the communities. Population increases that can be directly attributed to Forest Service activities are calculated for each alternative.

Each alternative projects a population increase based upon expected activities and programs that will occur. Alternatives with larger projected timber harvests and associated activities could be expected to project larger increases in population because of employment opportunities while in the less commodity oriented alternatives, the increase is not as large. No alternative projects population increases larger than 20% per decade.

b. Community Cohesion

Community cohesion is maintained or enhanced when local interest groups and organizations remain intact. This situation will occur as long as there are no large shifts in population or employment. Community cohesion also relates to the polarization that occurs over resource issues, particularly development versus nondevelopment.

All alternatives satisfy this variable insofar as the maintenance of local interest groups and organizations is concerned. Those alternatives that emphasize one aspect of the development/nondevelopment issue could widen the polarization that already exists. Alternatives G, H, and O emphasize wilderness or roadless management whereas Alternatives L and M emphasize the timber resource. These alternatives have the potential of weakening community cohesion.

c. Lifestyles

Traditional qualities of life such as individuality, freedom, and permanence, are important values to local residents. It is presumed that all alternatives will have only a minor effect on lifestyle and, in most cases, will help to reinforce these characteristics.

d. Attitudes, Beliefs, and Values

This variable relates to the way people perceive the Forest and how it should be used. Those alternatives which emphasize commodity production as a means of producing timber, wildlife benefits, and providing jobs, would encourage the "extractive" perception people have of the Forest. Alternatives which emphasize the nondevelopmental approach and protection of currently unroaded areas, would encourage the "nonextractive" perception.

Most alternatives do not project a re-emphasis of resource use that would produce significant effects on public perception of the Forest. Those alternatives which emphasize timber harvest (Alternatives L and M) and those alternatives which emphasize wilderness or roadless management (Alternatives G, H, and O), have the potential of producing a change in people's perception.

e. Aesthetics

This variable deals with the amenity values people attach to the Forest, primarily recreation opportunities that are available. Recreation on the Forest is characterized as motorized or nonmotorized with most participation usually associated with motorized. Nonmotorized, or roadless recreation, is increasingly important because of the perception that opportunities for this form of recreation are diminishing.

All alternatives provide a mix of motorized/nonmotorized recreation opportunities that do not deviate significantly from what is available now. However, because of emphasis on wilderness or roadless management, Alternatives G, H, and O provide for long term assurance that roadless recreation opportunities will be available in the future. Alternatives L and M project significant increases in timber harvest and roading which will lessen the roadless recreation opportunities but will emphasize motorized recreation.

15. Local Economic Impacts (Primary Market Areas)

Summary of Changes between the Draft and Final EIS

As a result of the public review, some errors were found in the calculation of the "Returns to the States" and are presented below in section b.

a. Employment and Income

No Changes occurred between the Draft and Final EIS

Changes in total personal income and employment resulting from the Forest Plan alternatives produce significant impacts on the primary market area of Lincoln and Sanders Counties, Montana. A larger five-county market area which is also affected by the Forest Plan includes Flathead County in Montana, and Bonner and Boundary Counties in Idaho.

The local economic impact resulting from timber, recreation, and grazing outputs is substantial in the primary market area, but limited within the total five county market area. This is due to the existence of the two rapidly developing rural growth centers of Kalispell, Montana, and Sandpoint, Idaho. Within the primary market area, Forest-related private sector job opportunities account for 1,670 person years of employment and \$23.4 million in personal income. By producing resources that are exported to the surrounding counties, the Kootenai contributes to their economic stability. Assuming that the current patterns of log flows continue, changes in the magnitude of local economic impacts are evident throughout the range of alternatives.

Table II-24 displays local economic impacts in relation to jobs and personal income by alternative for the primary market area. These impacts have been estimated using an input/output computer model (IMPLAN).

The following table displays the changes from the 1980 base year that would occur in the primary market area under each alternative for the first decade. The number of Forest-related private sector jobs for the 1980 base year is 1,666 and the portion of personal income for Lincoln and Sanders Counties is \$23,450,000.

TABLE II-13

- EMPLOYMENT and INCOME in the First Decade -
 AVERAGE ANNUAL FOREST-RELATED PRIVATE SECTOR JOBS
 and PERSONAL INCOME in LINCOLN and SANDERS COUNTIES

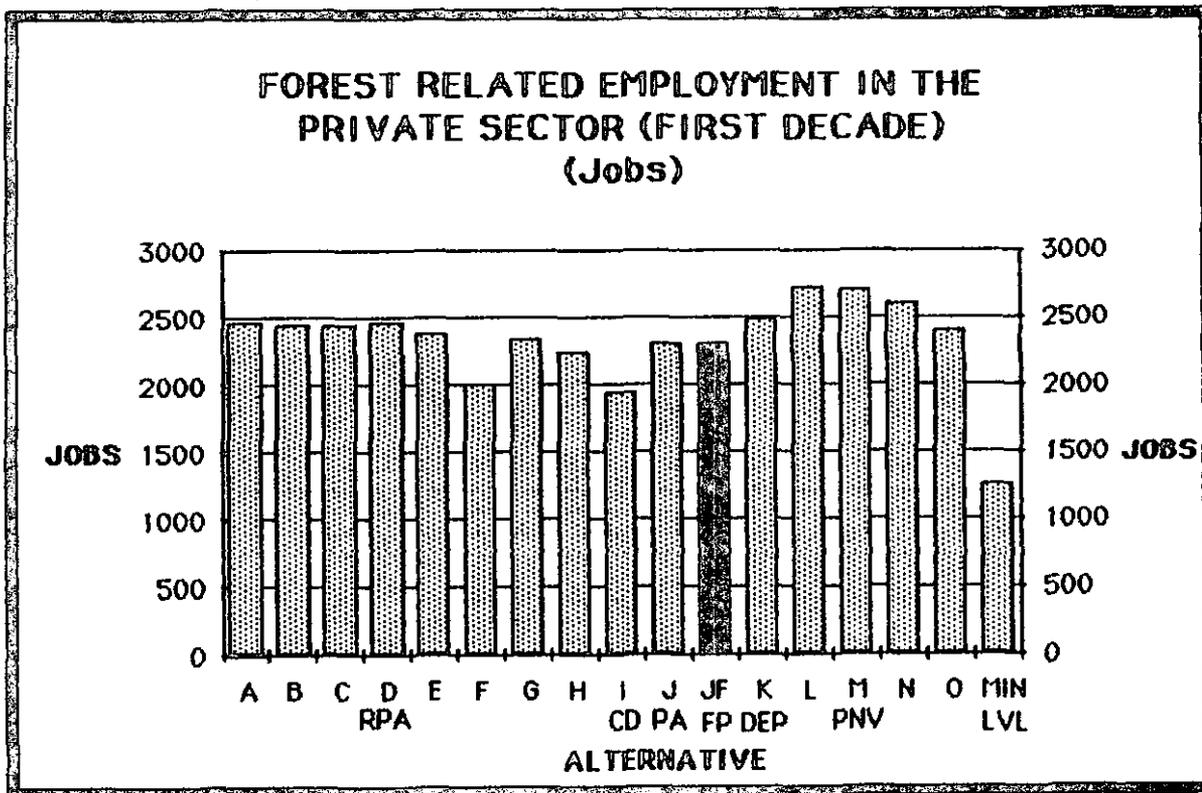
Alternative	Jobs		Income (\$MM)	
	Total	% Change	Total	% Change
In 1980	1666	0	23.4	0
A	2457	+47	43.2	+85
B	2436	+46	42.8	+83
C	2447	+47	43.0	+84
D (RPA)	2457	+47	43.2	+85
E	2391	+43	41.9	+79
F	2006	+20	34.1	+46
G	2343	+40	41.0	+75
H	2237	+34	39.5	+69
I (CD)	1931	+16	32.4	+38
J (PA)	2299	+38	39.9	+71

JF (FP)	2299	+38	39.9	+71

K (Dep)	2492	+49	43.8	+87
L	2727	+63	48.5	+107
M (PNV)	2706	+62	48.3	+106
N	2608	+56	46.2	+97
O	2401	+44	41.9	+79
MIN LVL	1256	-25	20.0	-15

All alternatives project an increase in the number of jobs and an increase in personal income. Alternatives L and M produce the largest projected increases because of the strong emphasis on timber harvest and road construction. The remaining alternatives generally follow the pattern of timber harvesting, i.e., increasing timber harvests generate the potential for increased employment and personal income. Alternative I produces the smallest projected increase because of the constrained timber harvest which was used to keep the budget at current levels. Where timber harvest is lower and recreation opportunities are higher there is less employment in timber-related jobs and more in recreation-related jobs. In general the increase in recreation jobs will not offset decreases in timber jobs.

FIGURE II-56



b. Returns to the States

Summary of Changes between the Draft and Final EIS

An error in this calculation was found during the public review period (See Letter #301 in Appendix E). The result was an average increase of 16% in the Returns to the States and is presented in the following Table. A 1% decrease occurred between the Proposed Plan (Alt. J) and the Final Plan (Alt. JF) because of the 4% increase in the amount of lodgepole pine harvested in the Final Forest Plan. Lodgepole pine is a lower-priced timber species. See Section II.1.c.

Table II-13a

Kootenai National Forest

Returns to the States in the First Decade (Million \$ per yr.)

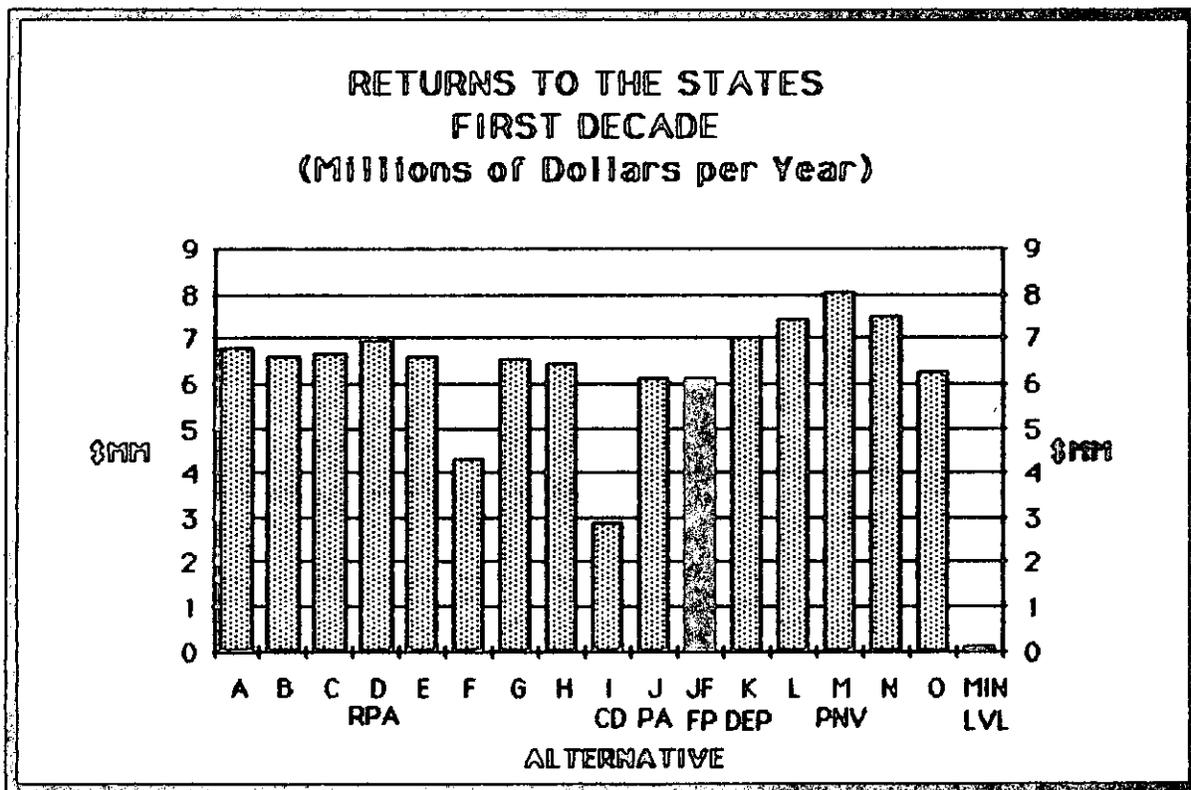
DEIS Alts.	Million \$	FEIS Alts.	Million \$
A	5.88	A	6.80
B	5.69	B	6.60
C	5.72	C	6.65
D - RPA	6.04	D - RPA	6.96
E	5.72	E	6.60
F	4.44	F	4.33
G	5.69	G	6.55
H	5.60	H	6.43
I - CD	2.30	I - CD	2.88
J - PA	5.33	J - PA	6.15

-	-	JF- FP	6.10

K - DEP	6.08	K - DEP	7.02
L	6.47	L	7.46
M - PNV	6.97	M - PNV	8.04
N	6.52	N	7.54
O	5.34	O	6.25
MinLvl	0.06	MinLvl	0.07

The following chart displays the total expected returns to the States by alternative for the first decade. These returns are significant because of their contribution to the funding base for local schools and roads. Table II-24 displays the total returns to the States beyond the first decade for all the alternatives. These estimates are heavily dependent upon projected, real, stumpage price increases, i.e., stumpage prices that are forecast to rise higher than inflation due to increased demand and finite supplies.

FIGURE II-57



These returns to the States are a result of 25% in-lieu tax payments that are calculated from the receipts to the U.S. Treasury. These receipts are greatly influenced by the amount of timber harvested because timber is the biggest contributor to the receipts to the Treasury.

As can be seen in the chart, Alternatives K, L, M and N produce the highest returns to the States. This is because of the high timber harvest levels associated with these alternatives. In contrast, Alternative I produces the smallest returns because of the lower timber harvest levels. The remaining alternatives are generally correlated to the amount of timber harvesting done in each alternative. All alternatives except Alternative I project increases in revenues over the 1980 level. Alternative I projects a decrease because the 1980 harvest level includes both regulated and unregulated harvest volumes.

16. Comparison of Alternatives for Response to Major Issues

Summary of Changes between the Draft and Final EIS

The Final Forest Plan (Alt. JF) is a modification of the Proposed Plan (Alt. J). It now contains more recommended wilderness acreage and provides for more old-growth timber. These two modifications result in several other changes which help to further resolve other issues such as operating budgets and miles of new road construction.

The following table presents some key indicators that display how the major issues, concerns and opportunities (ICO's) are addressed. The ICO's are outlined in Chapter 1 and Appendix A and are restated here for your convenience.

<u>ICO NUMBER</u>	<u>NAME</u>	<u>Indicator No. On Next Page</u>
1	Timber Volume	1, 2
2	Transportation Facilities	3, 4, 5, 12
3	Roadless Recreation	10
4	Threatened and Endangered Species	15
5	Special Wildlife Habitat	14
6	Local Economic Impact	21
7	Wilderness	6, 7, 8, 9
8	Minerals, Oil and Gas	19, 20
9	Wildlife and Fish Habitat	11, 12, 13
10	Esthetics	16
11	Landownership Adjustment	25
12	Diseases and Pests	17, 18
13	Fire Management	-

Table II-14. Part 1

COMPARISON OF ALTERNATIVES FOR RESPONSE
TO THE MAJOR ISSUES, CONCERNS, AND OPPORTUNITIES

No.	Indicator of Issues, Concerns, & Opportunities	RPA								CD	PA	PP	Dep.	PNV			
		Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F	Alt. G	Alt. H					Alt. I	Alt. J	Alt. K	Alt. L
1.	Decade 1 regulated tmbr. harv. (mmbf/yr)	226	223	225	227	218	164	213	208	150	202	: 202	: 230	255	262	247	215
	& % change from last 10-yr. average regulated harvest	+53	+51	+52	+53	+47	+11	+44	+40	0	+36	: +36	: +55	+72	+77	+67	+45
2.	Suitable tmbrland managed (MAcres) & % of total available	1470	1464	1466	1595	1425	1132	1386	1361	1422	1386	: 1263	: 1386	1788	1484	1481	1389
		82	82	82	89	80	63	78	76	80	78	: 71	: 78	100	83	83	78
3.	New road const. needed by Decade 5 (miles) and % change from exist. miles on 1/1/84	5270	5200	5150	5690	4950	3850	4750	4590	3840	4690	: 4050	: 4720	6360	5230	5270	4680
		+88	+87	+86	+95	+83	+64	+79	+77	+64	+78	: +68	: +79	+106	+87	+88	+78
4.	Miles of new road const. needed in 1st decade	2690	2660	2680	2670	2630	2020	2510	2480	1850	2440	: 2370	: 2760	3100	3150	2890	2560
	5. Total road system eventually required (mi.)	11270	11200	11150	11690	10950	9850	10750	10590	9840	10690	: 10050	: 10720	12360	11230	11270	10680
6.	Rec. wilderness (MAcres) & number of locations	None	64	81	64	187	None	305	404	64	66	: 78	: 66	None	None	None	81
		0	2	5	2	6	0	15	27	2	3	: 3	: 3	0	0	0	5
7.	Designated rdless acres in invent. rdless areas (M Acres) & % of total	211	164	151	155	99	209	53	0	174	202	: 192	: 202	159	200	205	322
		52	41	37	38	25	52	13	0	43	50	: 48	: 50	39	50	51	80
8.	Inventoried rdless acres developed in Decade 1 (MAcres)	46	50	45	39	45	49	17	0	34	10	: 10	: 10	57	55	42	0
	9. Inventoried rdless acres remain. after 1st decade (MAcres) & % of total	358	289	278	301	172	355	81	0	307	327	: 315	: 327	347	349	362	322
		89	72	69	75	43	88	20	0	76	81	: 78	: 81	86	86	90	80
10.	Total roadless rec. opportunities provided (MAcres) and % of the total Forest	399	428	419	410	476	401	534	583	441	518	: 521	: 518	349	389	393	574
		18	19	19	18	21	18	24	26	20	23	: 23	: 23	16	17	18	26
11.	Elk population by 3rd decade	8400	8500	8500	8000	8400	9900	8500	8600	7300	8000	: 8000	: 8000	8500	8300	8400	8500
	12. Additional road re- strictions needed by 5th decade (mi.)	3510	3510	3520	3170	3280	3360	3180	3130	2990	4480	: 4130	: 4480	4090	3500	3520	2700
13.	Migratory fish (smolts) prod. in Decade 1 (MM fish/ yr.) & % change	191	192	191	190	192	194	193	193	199	192	: 192	: 192	188	192	189	190
		-7	-6	-7	-7	-6	-5	-6	-6	-3	-6	: -6	: -6	-8	-6	-8	-7
14.	Old growth timber (160+ yr.) after Decade 10 (MAcres)	204	203	204	186	206	344	218	230	537	255	: 311	: 255	168	191	196	232

Table II-14, Part 2

COMPARISON OF ALTERNATIVES FOR RESPONSE
TO THE MAJOR ISSUES, CONCERNS AND OPPORTUNITIES

No.	Indicator of Issues, Concerns, & Opportunities	RPA								CD	PA	FP	Dep.	PNV					
		Alt. A	Alt. B	Alt. C	Alt. D	Alt. E	Alt. F	Alt. G	Alt. H	Alt. I	Alt. J	Alt. JP	Alt. K	Alt. L	Alt. M	Alt. N	Alt. O		
	Grizzly habitat design. for limited											:	:						
15.	or no development (M Acres) & % of total habitat	425	434	439	469	475	339	514	545	551	589	:	:	609	589	354	434	424	444
		42	42	42	45	46	33	50	53	53	57	:	:	59	57	34	42	41	43
	Visual quality protection (preservation, retention, & partial retent. VQOs) (MAcres)											:	:						
16.		1108	1114	1120	1046	1137	1465	1157	1199	1240	1311	:	:	1311	1311	976	1092	1102	1382
	Decade 1 lodgepole pine harvest (NMBF/yr) & % change from last 5 yrs.	69	70	72	67	64	56	59	51	77	75	:	:	78	79	42	93	85	75
		+38	+40	+44	+34	+28	+12	+18	+2	+54	+50	:	:	+56	+58	-16	+86	+70	+50
18.	Stagnated lodgepole pine stands covert. by Decade 5 (MAcres)	2	2	1	45	1	44	1	1	69	70	:	:	32	70	93	1	1	5
19.	Projected withdrawals from oil & gas exploration (MAcres)	148	212	228	212	335	148	453	540	212	215	:	:	227	215	148	148	148	228
20.	Projected withdrawals from locatable mineral explor. (M Acres)	185	249	265	249	371	185	484	579	249	252	:	:	264	252	185	185	185	265
21.	Forest-related employt. (jobs) in Decade 1 in private sector & % change from 1980	2460	2440	2450	2460	2390	2010	2340	2240	1930	2300	:	:	2300	2490	2730	2710	2610	2400
		+47	+46	+47	+47	+44	+20	+41	+34	+16	+38	:	:	+38	+50	+64	+62	+57	+44
22.	Decade 1 total aver. ann. budget needed (million dollars)	27.2	27.0	27.1	26.9	26.4	20.7	25.7	25.1	19.6	25.2	:	:	24.0	27.5	34.2	30.4	29.1	26.9
23.	Average annual capital investmt. road const. funding needed in Decade 1 (million dollars)	4.3	4.2	4.3	4.3	4.1	3.4	3.9	3.8	2.4	3.7	:	:	3.6	4.2	5.2	5.1	4.6	3.9
24.	Decade 1 appropriated budget needed: capital investments + operation & maint. (million dollars)	21.7	21.6	21.8	21.5	21.1	16.8	20.6	20.0	16.6	20.3	:	:	19.2	22.0	28.1	24.1	23.2	21.8
25.	Landownership Adjustment	All alternatives treated landownership adjustment similarly - Dispose of approximately 69,000 acres and acquire approximately 91,000 acres to meet grizzly recovery goal, recreation and wildlife needs, solve trespass, etc.																	

17. Projected Change From The Current Direction (Alt. I)

Summary of Changes between the Draft and Final EIS.

The Final Forest Plan (Alt. JF) recommends more wilderness and old-growth timber than the Proposed Plan (Alt. J) which results in several changes that helped resolve other issues, such as the miles of new road construction, etc. These changes are presented in the following Table II-15 that shows the projected change in the first decade for each alternative when compared to the Current Direction (Alt. I)

Table II-15

PROJECTED CHANGE from the CURRENT DIRECTION (Alt. I) in the First Decade (Percent)

Alternatives

Issue	Alternatives															
Indicator	A	B	C	RPA D	E	F	G	H	CD I	PA J	FP : JF	Dep. : K	L	PNV M	N	O
Lodgepole pine harvest volume	-10	-10	-6	-13	-17	-27	-23	-34	0	-3	: +3	: +3	-45	+21	+10	-3
Leasable mineral acres withdrawn	-30	0	+8	0	+58	-30	+114	+155	0	+1	: +5	: +1	-30	-30	-30	+8
Locatable mineral acres withdrawn	-26	0	+6	0	+49	-26	+94	+133	0	+1	: +5	: +1	-26	-26	-26	+6
Designated old growth timber	-4	-4	-4	+108	+17	+62	+30	+45	0	-1	: +20	: -1	+56	-4	-4	-6
Visual quality protection	-11	-10	-10	-16	-8	+18	-7	-3	0	+6	: +6	: +6	-21	-12	-11	+11
Number of jobs	+27	+26	+27	+27	+24	+4	+21	+16	0	+19	: +19	: +29	+41	+40	+35	+24
PNV	+148	+147	+145	+125	+142	+43	+133	+125	0	+99	: +59	: +98	+127	+153	+150	+131
Migratory fish	-4	-4	-4	-5	-4	-3	-3	-3	0	-4	: -4	: -4	-6	-4	-5	-5
Timber harvest in grizzly habitat	+6	-12	-5	+27	+26	+4	+47	+51	0	+33	: +32	: +48	+65	+60	+63	+43
Elk population	0	0	0	0	0	0	0	0	0	0	: 0	: 0	0	0	0	0
Total dispersed recreation RVDs	-1	-1	-2	-2	-3	-1	-7	-13	0	0	: 0	: 0	-2	-1	-1	0
Motorized Recreation RVDs	-1	-2	-3	-2	-4	-1	-6	-7	0	0	: 0	: 0	-2	-1	-1	0
Inventoried Roadless Acres Protected	+21	-6	-13	-11	-43	+20	-70	-100	0	+16	: +16	: +16	-9	+15	+18	+85
Recommended wilderness	-100	0	+29	0	+197	-100	+384	+541	0	+5	: +24	: +5	-100	-100	-100	+29
Miles of new road construction	+45	+44	+45	+44	+42	+9	+36	+34	0	+32	: +6	: +49	+68	+70	+56	+38
Suitable timberland	+3	+3	+3	+12	0	-20	-3	-4	0	-3	: -11	: -3	+26	+4	+4	-2
Timber harvest volume	+51	+49	+50	+51	+45	+9	+42	+39	0	+35	: +35	: +53	+70	+75	+65	+43

FIGURE II-58

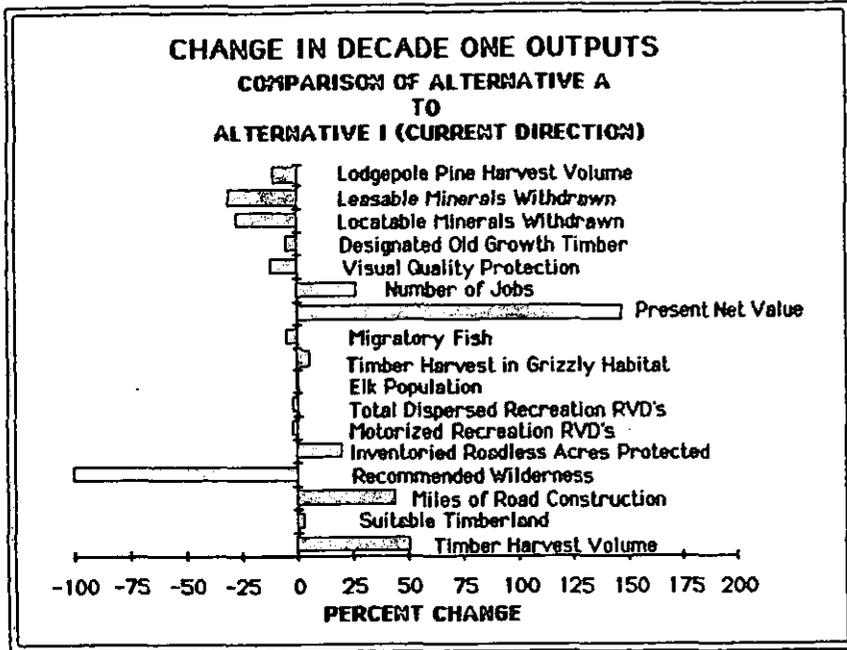


FIGURE II-59

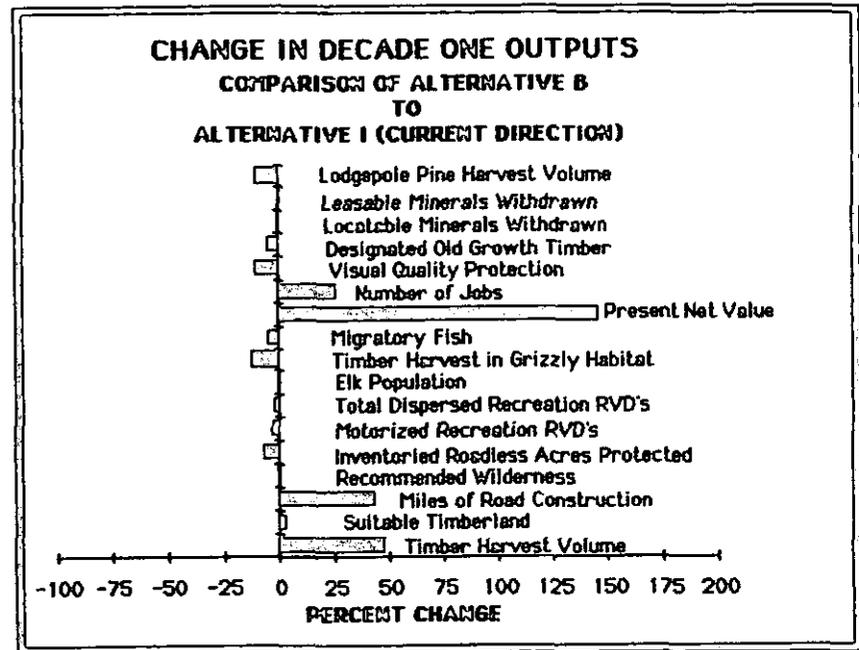


FIGURE II-60

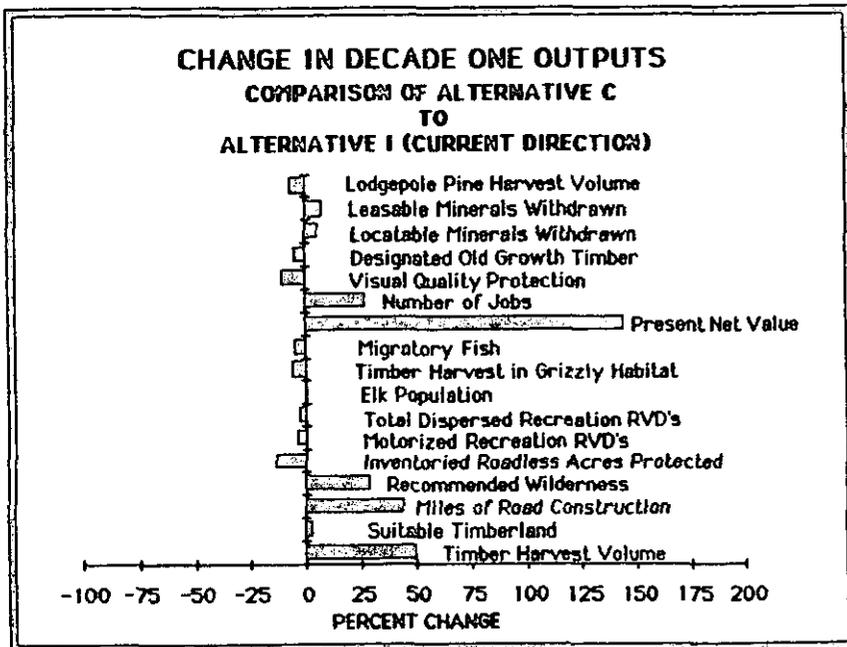


FIGURE II-61

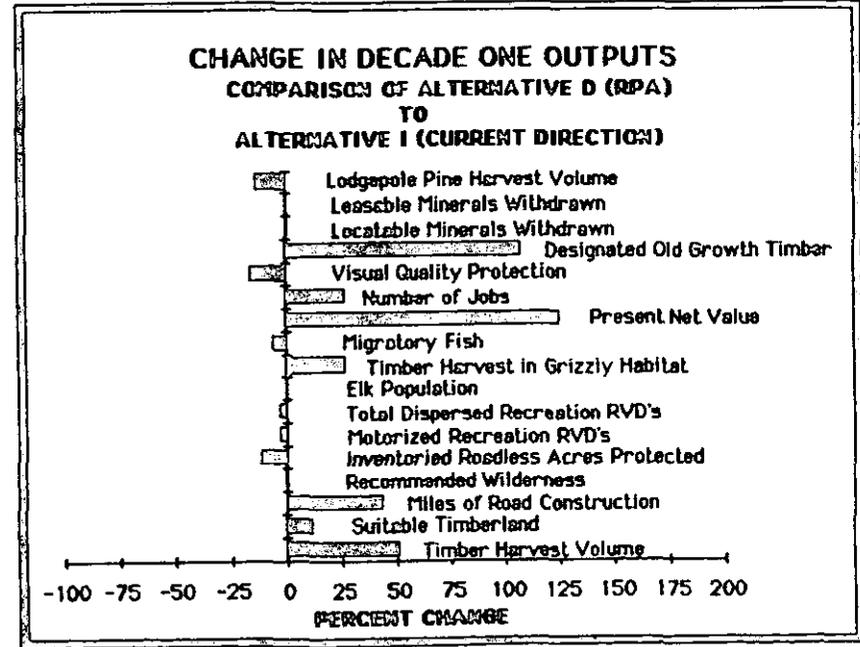


FIGURE II- 62

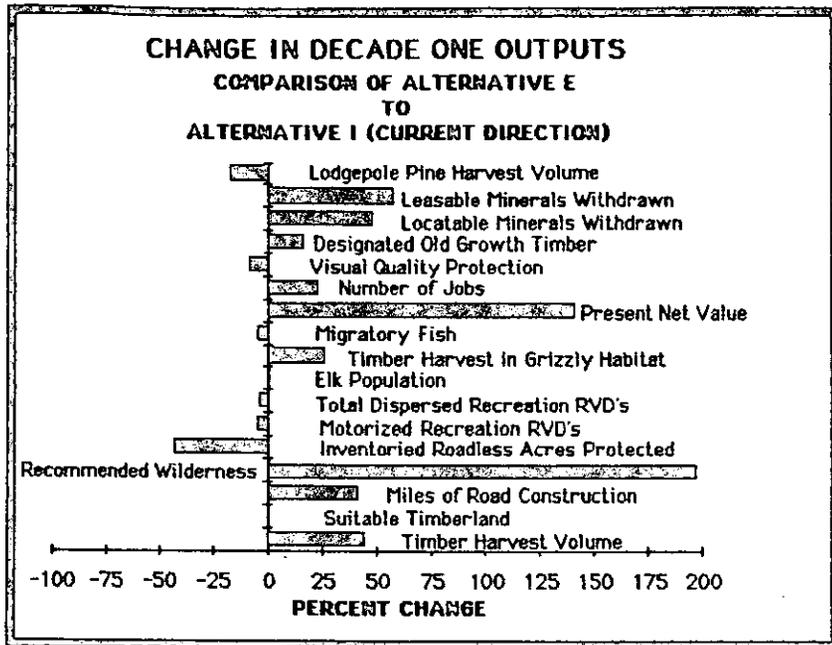


FIGURE II- 63

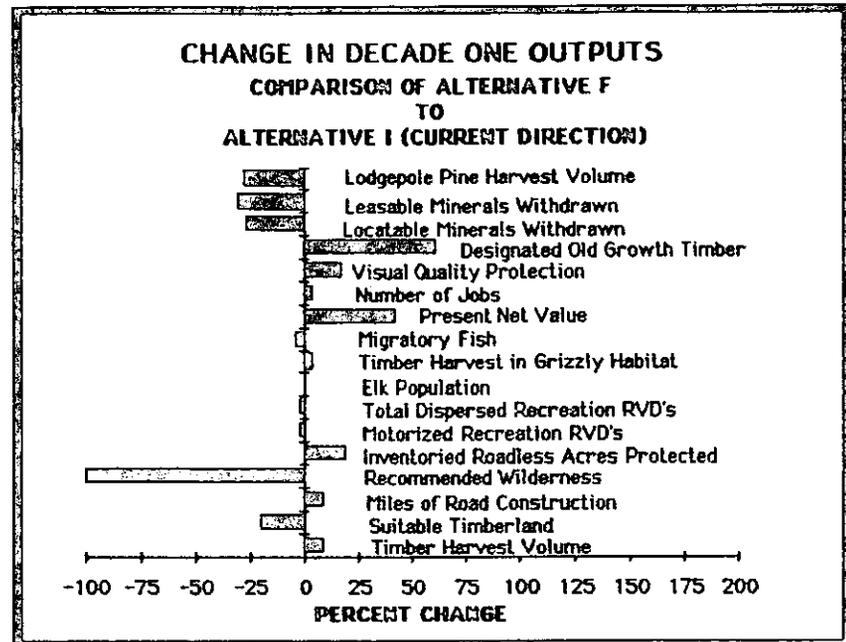


FIGURE II- 64

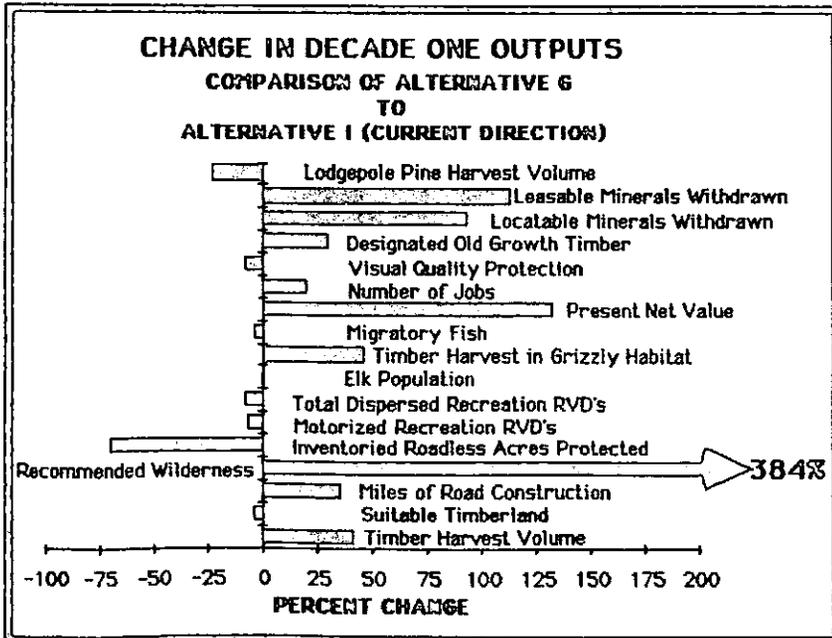


FIGURE II- 65

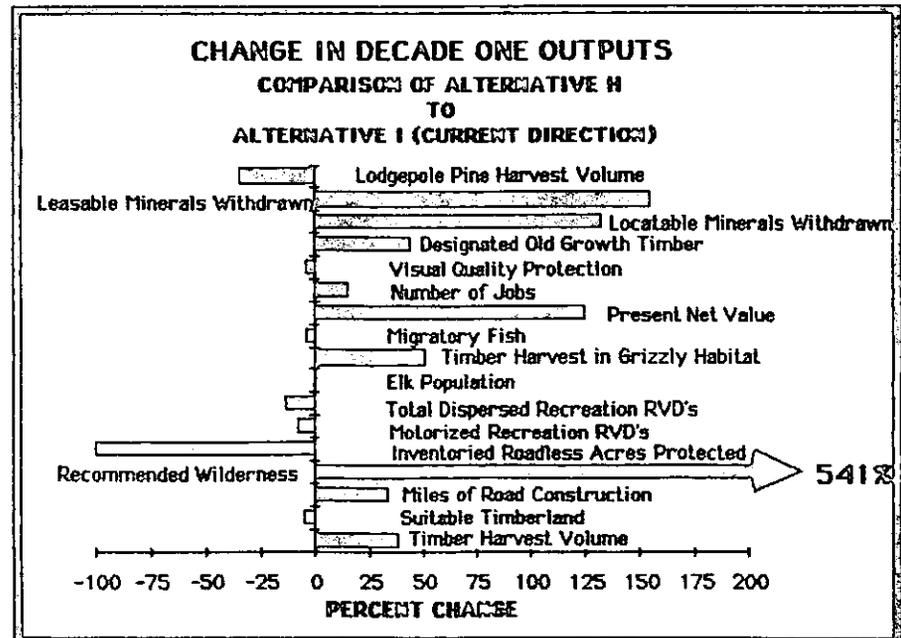


FIGURE II- 66

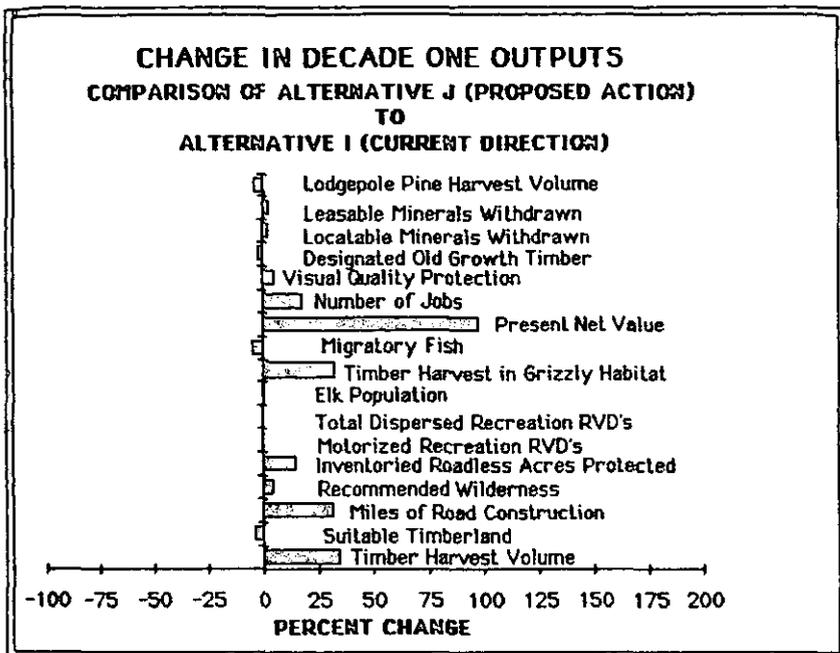


FIGURE II- 66A

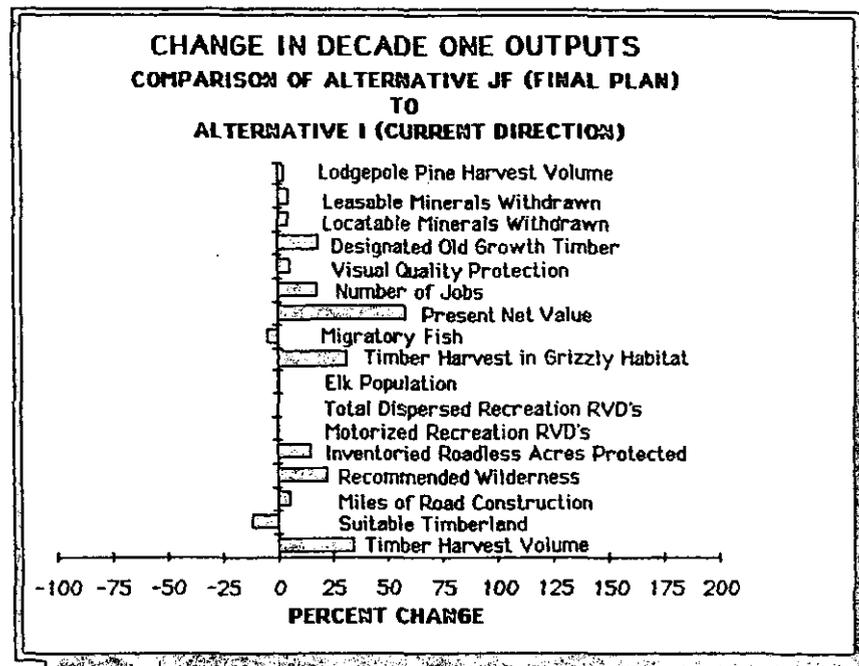


FIGURE II- 67

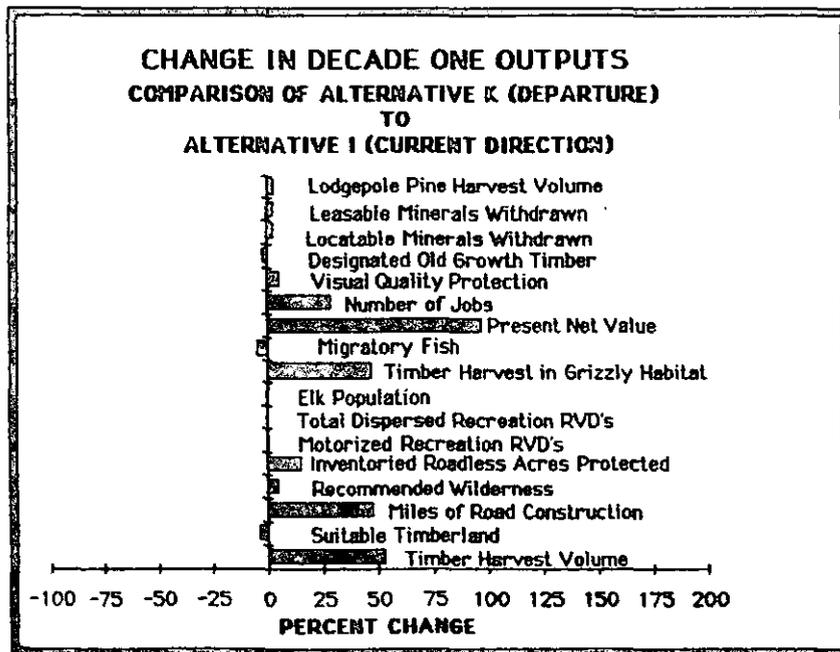


FIGURE II- 68

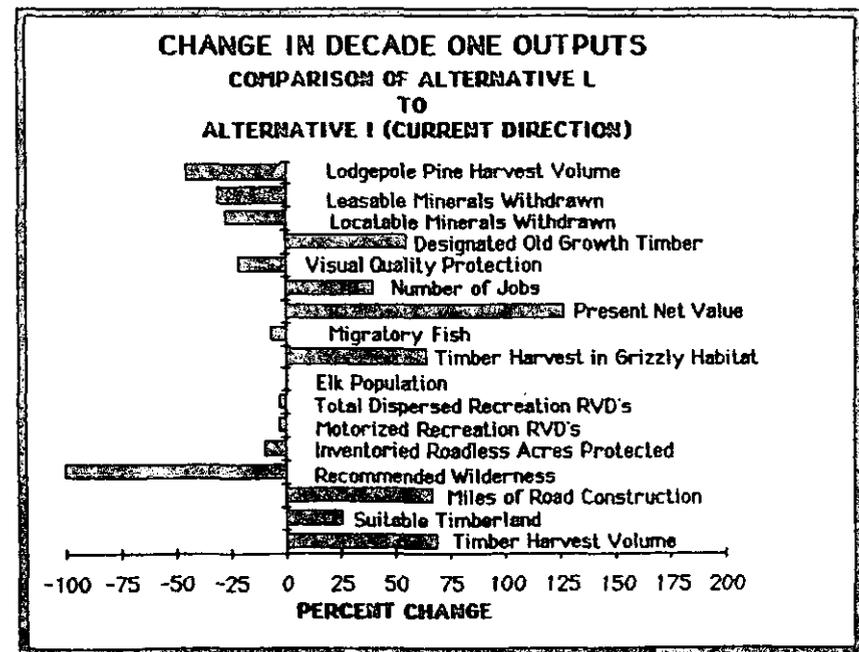


FIGURE II-69

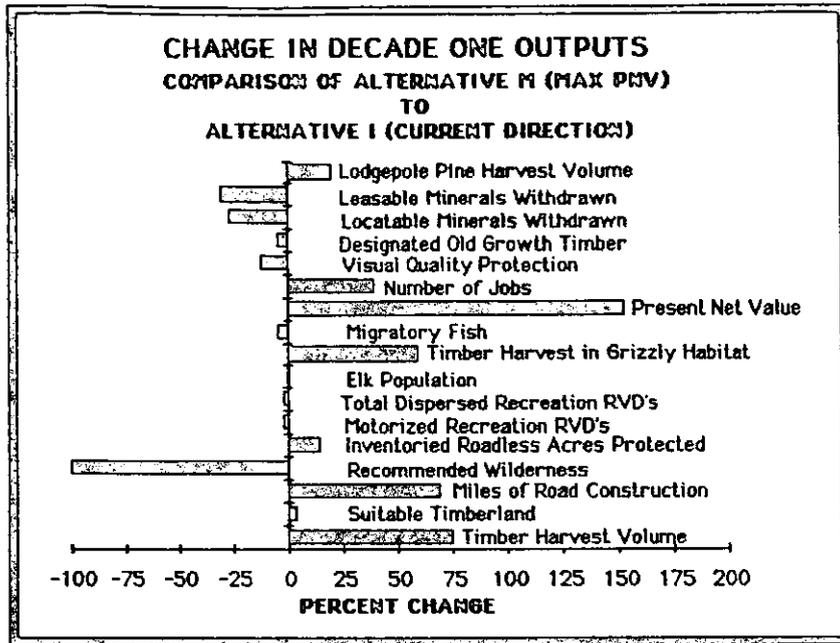


FIGURE II-70

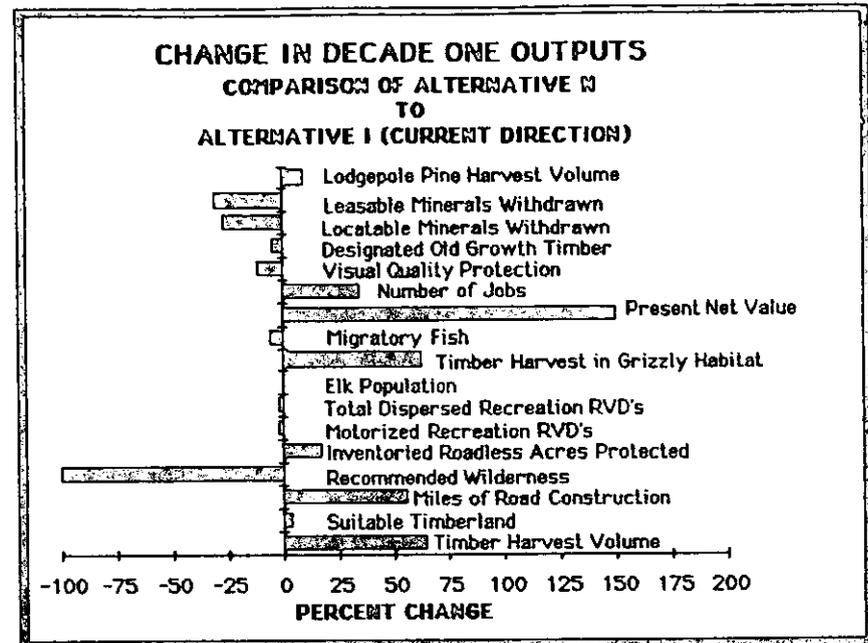
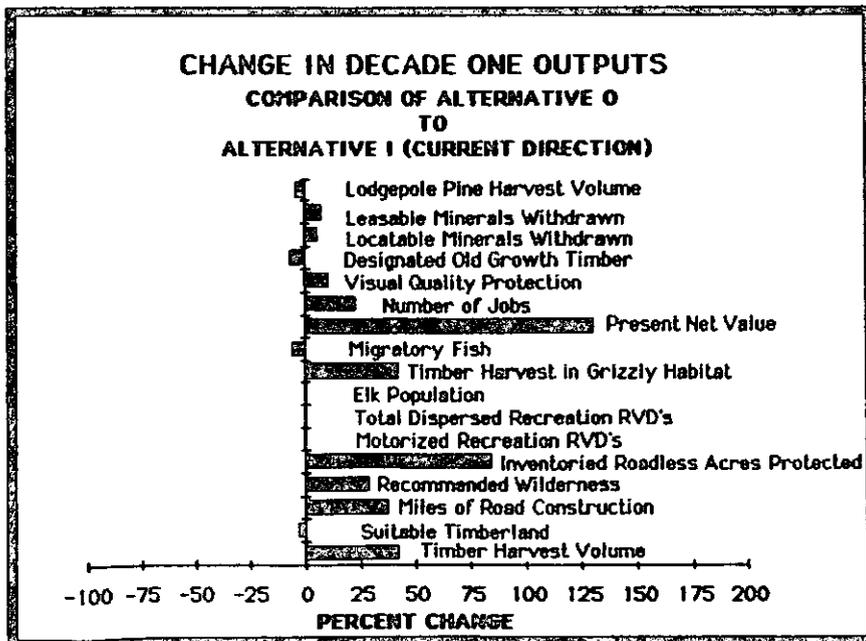


FIGURE II-71



18. Significant Differences in Economic Values Among Alternatives

This section explains tradeoffs that would occur among the quantified economic benefits and outputs. Additional tradeoffs involving outputs and benefits not quantified in economic terms by PNV together with community effects and different responses to Forest issues are explained in section 19 of this chapter.

Summary of Changes between the Draft and Final EIS

The Final Forest Plan (Alt. JF) recommends more wilderness and old-growth timber than the Proposed Plan (Alt. J) to respond to public requests for more balance in the management of the Kootenai. The additional wilderness recommendation did not significantly affect the total Present Net Value because the land area involved was already designated for roadless and other non-developmental uses.

The designation of more old-growth timber removed regulated timberland from the suitable timber base which lowered the total Present Net Value and caused a similar increase in the Opportunity Cost. The smaller suitable timber base also reduced the Discounted Costs because of the lower road mileage and future logging needed. The resultant lower future timber harvests caused a decrease in the Discounted Benefits.

Other attempts to satisfy public concerns, such as reducing the operating budgets, had some effect on the overall economics of the Final Forest Plan.

In addition, an error in calculating the Returns to the Treasury was found by a member of the public during the review period (See Letter #301 in Appendix E). This resulted in a 16% average increase for the Returns to the Treasury which also resulted in similar increases in the Net Returns. These corrections are presented in this section.

a. Differences in Present Net Values

The primary measure of economic efficiency is present net value (PNV) which is the sum of discounted benefits for both market and non-market priced benefits minus the total discounted costs of each alternative calculated over the planning horizon (200 years) and discounted at 4 percent. The PNV of the alternatives is displayed in Figure II-72, at the end of this sub-section, and Tables II-16 and II-17. The maximum PNV attainable from the Forest is \$1163 million as defined by the PNV benchmark (Alternative M). Most of the change in PNV among alternatives is due to changes in the net value of the timber resource.

In general, decreases in PNV are the result of reductions in net timber benefits, because timber benefits constitute approximately 77-88% of the priced resource values of each alternative. These decreases are caused primarily by two factors constraining timber production: prescriptions which preclude timber development on otherwise cost-efficient lands including those for wilderness and roadless area management, and increased costs in access roads and harvests on lands that are not usually cost-efficient, such as stagnated lodgepole, etc. where these lands are needed to increase the overall timber yields.

The alternatives are ranked by present net value in Table II-16, where PNV is defined to be the difference between the discounted benefits and the discounted costs of each alternative. The second column in Table II-16 shows the differences in PNV between pairs of alternatives. These figures are estimates of the net economic values that would be foregone if a lower ranked alternative rather than the preceding one were selected. Because timber values are the major component of PNV, these potentially forgone values are largely due to factors which limit timber production levels.

The changes in PNV are associated with achieving the particular objectives pertinent to the alternative. The PNV changes result from either increased costs or decreased benefits or both. Increased costs are the result of achieving nonpriced goals, such as visual quality, or from achieving priced goals that are set above the level which maximizes PNV (such as timber harvest levels that are set higher than the optimum indicated). Decreased benefits are the result of achieving priced goals that are set below the level which maximizes PNV, such as a reduced timber harvest level set below the optimum as indicated. Differences in alternatives can be analyzed in relation to the changes in PNV as displayed in the following Table II-16.

Table II-16 displays the alternatives in descending order of PNV along with the total discounted benefits and costs (present value benefits and present value costs). As can be seen in Table II-16 all alternatives have fewer present value benefits than Alternative M because Alternative M was able to optimize the harvest of timber (without the non-declining yield constraint) which accounted for approximately 88% of the total benefits. This resulted in the highest average annual timber harvest in the first decade. In contrast, Alternatives D and L have higher total costs than Alternative M because of their goal to achieve timber harvest levels which were set above the economically optimum 200 year total cut demonstrated by Alternative M.

Table II-16
 Kootenai National Forest
 Present Net Value, Discounted Costs and Discounted Benefits
 (Millions of dollars discounted at 4% over 200 years)

Alts.	PNV	Change	Discounted Costs	Change	Discounted Benefits	Change
M-PNV	1,163		698		1,861	
		- 15		- 9		- 23
N	1,148		689		1,838	
		- 5		- 14		- 19
A	1,143		675		1,819	
		- 7		- 2		- 10
B	1,136		673		1,809	
		- 7		0		- 6
C	1,129		673		1,803	
		- 16		- 14		- 31
E	1,113		659		1,772	
		- 40		- 12		- 52
G	1,073		647		1,720	
		- 9		+ 72		+ 62
D-RPA	1,064		719		1,782	
		0		- 30		- 29
O	1,064		689		1,753	
		- 18		+ 87		+ 70
L	1,046		776		1,823	
		- 11		- 146		- 160
H	1,035		630		1,663	
		- 119		+ 16		- 100
J-PA	916		646		1,563	
		- 5		+ 16		+ 11
K-Dep	911		662		1,574	
		- 178		- 51		- 230
JF-FP	733		611		1,345	
		- 75		- 71		- 145
F	658		540		1,199	
		- 198		+ 7		- 193
I-CD	460		547		1,006	
		- 457		- 351		- 807
MinLvl	3		196		199	

NOTE: Some numbers vary due to rounding.

Summary of Changes Between the Draft and Final EIS

The PNV of the Final Forest Plan (Alt. JF) is \$733,000,000 which is a 20% reduction from the Proposed Plan (Alt. J). This is a result of the lower projected outyear timber harvests which will occur because of the 9% smaller suitable timber base. The timber base was reduced to provide wildlife habitat for old-growth timber dependent species. See section II.D.6.c. and II.D.1.b. for more information on old-growth timber and suitable timberland. In addition, the requirement for substantial commercial thinning was removed. This is discussed in detail in Appendix B [sections VI.B.4.c, VI.C.3.e, VI.D.6.c and VIII.C.2.p(2)(a & b)]. Finally, the long range schedule of harvest was altered to maximize timber production in the first decade, thus reducing the PNV further (see Appendix B section VI.C.3.i.). The \$733,000,000 of PNV is a 59% increase over the Current Direction (Alt. I). See Table II-17 for a display of the PNV for all the alternatives.

Table II-17

PRESENT NET VALUE AND PNV CHANGE BY ALTERNATIVE INCLUDING
TOTAL DISCOUNTED BENEFITS AND COSTS FOR RESOURCE GROUPS IN DESCENDING ORDER OF PNV
(Millions of 1978 Dollars, Discounted at 4%)

Alternatives and Benchmarks	Present Net Value	Change in PNV from Previous Alt.	Discounted Benefits			Total (1) Discounted Benefits (PVB)	Discounted Costs					Total (1) Discounted Costs (PVC)
			Timber	Recreation/ Wildlife	Range		Timber	Recreation/ Wildlife	Range	Roads	Other	
M (PNV)	1163	0	1631	227	3	1860	251	80	2	204	161	697
N	1148	14	1603	231	3	1837	245	81	2	200	161	689
A	1143	5	1588	228	3	1819	236	81	2	195	161	676
B	1136	8	1575	231	3	1809	236	81	2	194	160	674
C	1129	7	1569	231	3	1803	236	81	2	194	160	674
E	1113	16	1538	231	3	1772	229	81	2	186	161	658
G	1073	40	1490	227	3	1720	222	80	2	183	160	647
D (RPA)	1064	8	1552	227	3	1782	267	81	2	205	163	718
O	1064	1	1514	236	3	1753	263	83	2	178	163	689
L	1046	17	1591	229	3	1823	300	81	2	227	166	776
H	1035	12	1441	219	3	1662	218	76	2	175	159	627
J (PA)	916	19	1328	232	3	1563	223	82	2	175	164	647
K (Dep.)	911	5	1339	232	3	1573	231	82	2	182	164	662

JF (FP)	733	178	1134	232	3	1369	220	81	2	170	163	636

F	658	75	962	234	3	1198	151	80	2	149	158	541
I (CD)	460	198	776	227	3	1006	169	82	2	125	169	547
MIN LVL	3	457	26	172	1	199	2	45	0	2	147	196

(1) Figures do not always add exactly because of rounding.

Note: The direct comparison of individual resource benefits and costs can be misleading because not all costs are allocated to each resource. The "other" cost category includes inseparable joint costs associated with several resources.

Note: Costs are limited to National Forest Expenditures and exclude payments to counties.

The following discussion describes the alternatives, individually, in relation to their respective PNVs and discusses the predominant reasons for their differences. Table II-16, which summarizes the discussion, shows the changing PNV, discounted costs and discounted benefits from one alternative to the next in order of decreasing PNV. (The changes in PNV do not always add exactly because of rounding.) Table II-17 shows the discounted benefits and costs by resource group. It reveals that, as mentioned above, timber values make up the majority of the PNV values. Most of the changes in PNV are due to changes in the net value of the timber resource. PNV declines because some cost efficient timber sales are forgone while increases in recreation related benefits are not sufficient to offset the decline in timber benefits. This occurs because timber has higher priced benefits than the other resources and management for some nontimber resources do not provide priced benefits.

Alternative M (Maximum PNV and PNV Benchmark)

PNV: \$1,163,000,000
Change in PNV from previous alternative: 0

Alternative M achieves the maximum PNV by being able to select the most cost-efficient timberlands under a schedule which is allowed to depart somewhat from non-declining flow. A departure of plus or minus 25% is allowed between any decade if PNV could be increased by so doing. The highest harvest level in the first decade is achieved and no additional wilderness is proposed.

Alternative N

PNV: \$1,148,000,000
Change in PNV from previous alternative: \$15,000,000

Alternative N achieves 99% of the PNV of Alternative M by also being able to select the most cost-efficient timberlands and by being able to depart from a non-declining flow of timber harvest. The \$15,000,000 reduction in PNV is the result of a more constrained upper and lower bound on the departure (plus 20% and minus 15% compared to plus/minus 25% in the PNV benchmark). The first decade harvest decreases by 6% compared to the maximum PNV benchmark and no additional wilderness is proposed.

Alternative A

PNV: \$1,143,000,000

Change in PNV from previous alternative: \$5,000,000

Alternative A represents a 2% reduction from the maximum PNV and is the result of the non-declining timber flow constraint. First decade timber harvest is reduced approximately 14% from the maximum PNV and 9% from Alternative N. No additional wilderness is proposed, similar to the PNV benchmark and Alternative N.

Alternative B

PNV: \$1,136,000,000

Change in PNV from previous alternative: \$7,000,000

Alternative B also represents a 2% reduction from the maximum PNV. This resulted from a combination of a 20,000-acre reduction in the suitable timberland base from Alternative M and the requirement of a non-declining timber flow constraint. Alternative B is similar to Alternative A except for the 64,000 acres of proposed wilderness, similar to the RARE II recommendation. The \$8,000,000 change in PNV from Alternative A is due entirely to the 6,000 fewer acres of suitable timberland available because of the RARE II wilderness recommendation. First decade timber harvest is 15% less than the maximum PNV and 1% less than Alternative A.

Alternative C

PNV: \$1,129,000,000

PNV change from previous alternative: \$7,000,000

Alternative C also represents a 2% reduction from the maximum PNV. This resulted from a combination of an 18,000-acre reduction in the suitable timberland base from Alternative M and the requirement of a non-declining timber flow constraint. First decade timber harvest is 14% less than the maximum PNV and similar to Alternative B. The \$7,000,000 change in PNV from Alternative B is primarily the result of reduced timber benefits occurring as a result of a different geographical location of the recommended wilderness. Alternative C recommends 81,000 acres of additional wilderness compared to 64,000 acres in Alternative B. The suitable timberland bases are similar.

Alternative E

PNV: \$1,113,000,000

PNV change from previous alternative: \$16,000,000

Alternative E represents a 4% reduction from the maximum PNV because of a combination of a 59,000-acre reduction in the suitable timberland base from Alternative M and the non-declining timber flow constraint. The \$16,000,000 change from Alternative C is the result of a 41,000-acre decline in the suitable timberland base. Alternative E recommends 187,000 acres of additional wilderness compared to 81,000 acres in Alternative C. First decade timber harvest is 17% below the maximum PNV and 3% below Alternative C.

Alternative G

PNV: \$1,073,000,000

PNV change from previous alternative: \$40,000,000

Alternative G represents an 8% reduction from the maximum PNV. This is the result of a combination of the non-declining timber flow constraint and a 98,000-acre reduction in the suitable timberland base from Alternative M. The \$40,000,000 change from Alternative E is a result of a 39,000-acre reduction in the suitable timberland base. Alternative G recommends 305,000 acres of wilderness compared to 187,000 acres in Alternative E. First decade timber harvest is 19% less than the PNV benchmark and 2% below Alternative E.

Alternative D (RPA)

PNV: \$1,064,000,000

PNV change from previous alternative: \$9,000,000

Alternative D represents a 9% reduction from the maximum PNV. This is a result of the timber flow constraint necessary to reach desired harvest levels in the first five decades and the cost of managing an additional 111,000 acres of suitable timberlands compared to the maximum PNV. This alternative also includes the conversion of 45,000 acres of stagnated lodgepole pine stands and a recommended wilderness proposal of 64,000 acres, similar to Alternative B. First decade timber harvest decreases by 13% compared to maximum PNV.

Alternative O

PNV: \$1,064,000,000

PNV change from previous alternative: \$0

Alternative O represents a 9% reduction from the maximum PNV. This is a result of a combination of (1) the non-declining timber harvest constraint, (2) a 95,000-acre reduction in the suitable timberland base from Alternative M, and (3) a visual quality constraint on 829,000 acres of suitable timberland. The reduction in the suitable timberland base is a result of a proposed 80,000 acres of recommended wilderness additions and 322,000 acres of designated roadless areas. The first decade timber harvest is 18% below the maximum PNV and similar to Alternative G.

Alternative L

PNV: \$1,046,000,000

PNV change from previous alternative: \$18,000,000

Alternative L represents a 10% reduction from the maximum PNV. This is a result of a combination of the non-declining timber flow constraint and the cost of managing an additional 304,000 acres of suitable timberland compared to the maximum PNV. This includes the conversion of 93,000 acres of stagnated lodgepole pine stands. First decade timber harvest is similar to the maximum PNV and no additional wilderness is recommended. The first decade budget is the highest of all the alternatives.

Alternative H

PNV: \$1,035,000,000

PNV change from previous alternative: \$11,000,000

Alternative H represents an 11% reduction from the maximum PNV. This is a result of a combination of the non-declining timber flow constraint and a reduction of 123,000 acres of suitable timberland base from Alternative M. Alternative H proposes 404,000 acres of recommended wilderness. First decade timber harvest decreases by 21% compared to the maximum PNV.

Alternative J (Proposed Action)

PNV: \$916,000,000

PNV change from previous alternative: \$119,000,000

Alternative J represents a 21% reduction from the maximum PNV. This is a result of a combination of (1) the non-declining timber flow constraint, (2) a reduction of 98,000 acres of suitable timberland base from Alternative M, (3) a visual quality constraint on 124,000 acres of suitable timberland, and (4) the conversion of 70,000 acres of stagnated lodgepole pine stands. The reduction in the suitable land base is the result of a proposed 66,000 acres of recommended wilderness and 324,000 acres of designated roadless areas. The first decade harvest is 23% below the maximum PNV and similar to Alternative H.

Alternative K (Departure on Proposed Action)

PNV: \$911,000,000

PNV change from previous alternative: \$5,000,000

Alternative K represents a 22% reduction from the maximum PNV. This is for the same reasons as Alternative J (Proposed Action) except for the timber flow constraint necessary to reach desired harvest levels in the first two decades. The \$5,000,000 drop in PNV is a result of higher timber management and road building costs in the first decade. The first decade harvest is 12% below the maximum PNV and similar to Alternative A.

Alternative JF (Final Plan)

PNV: \$733,000,000

PNV change from previous alternative: \$178,000,000

Alternative JF represents a 37% reduction from the maximum PNV benchmark (Alt. M) because of constraints similar to Alt. J. These constraints are a combination of (1) the non-declining timber flow constraint, (2) a reduction of 221,000 acres of suitable timberland base from Alt. M, (3) a visual quality constraint on 120,000 acres of suitable timberland, and (4) the conversion of 32,000 acres of stagnated lodgepole pine stands. The reduction in the suitable timberland base is the result of a proposed 79,000 acres of recommended wilderness, 314,000 acres of designated roadless areas, and 124,000 acres of old-growth timber management for wildlife habitat diversity.

In addition, Alt. JF removes commercial thinning as a required management technique. This reduces budgets, but was initially proposed because recent experience has shown that selling these type of sales will probably not be realistic in current markets. Thus, even though calculated PNV drops, it appears impractical to expect that that portion of PNV could actually be achieved under any alternative.

The final key change in the development of the Final Plan is that timber harvest levels in the first decade are maximized to contribute to local community stability. Increasing first decade harvest levels beyond the level that maximizes PNV (given all the other limiting factors) causes PNV to drop. These combined constraints produced a 20% reduction in PNV from Alt. J. The first decade harvest is 23% below the maximum PNV and the same as Alternative J.

Alternative F

PNV: \$658,000,000

PNV change from previous alternative: \$75,000,000

Alternative F represents a 43% reduction from the maximum PNV. This is a result of a combination of (1) the non-declining timber flow constraint, (2) a reduction of 352,000 acres of suitable timberland base from Alternative M, and (3) the conversion of 44,000 acres of stagnated lodgepole pine to improve big game (elk) habitat. The reduction in the suitable timberland base is the result of the goal to provide the combination of security and forage which can support the largest possible elk population. The first decade harvest is 37% below the maximum PNV.

Alternative I (Current Direction)

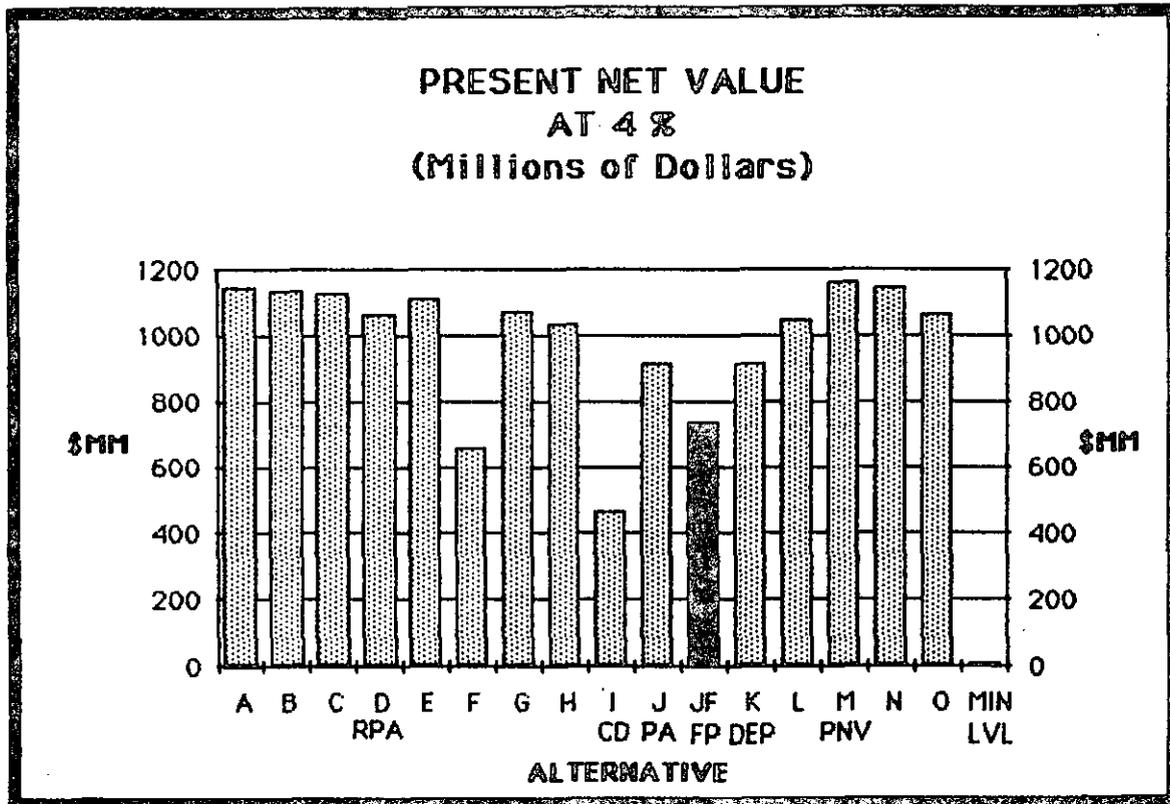
PNV: \$460,000,000

PNV change from previous alternative: \$198,000,000

Alternative I represents a reduction of 60% from the maximum PNV. This is a result of a combination of (1) the non-declining timber flow constraint, (2) a reduction of 62,000 acres of suitable timberland base, (3) a visual quality constraint on 243,000 acres of suitable timberland, (4) the conversion of 69,000 acres of stagnated lodgepole pine stands, and (5) a constrained budget equal to the average of 1980-1982 fiscal year expenditures which limited the timber offered for sale to match those years. The reduction in the suitable land base is the result of a proposed 64,000 acres of recommended wilderness and 250,000 acres of designated roadless areas. The first decade harvest is 43% below the maximum PNV.

Figure II-72 displays PNV by alternative. The maximum PNV is \$1,163 million as defined by Alternative M, the maximum PNV benchmark. The Figure shows that there are significant differences in economic values among the alternatives.

FIGURE II-72



b. U.S. Treasury Cash Flows and Non-Cash Benefits

Summary of Changes between the Draft and Final EIS

This section was combined with the section which followed it in the DEIS ("Income Transfer Benefits"). In addition, an error was found in the calculation of the Returns to the U.S. Treasury during the public review period (See Letter #301 in Appendix E). The error resulted in a 16% average increase for all the alternatives which is displayed in Table II-18. A 1% decrease in the Returns to the U.S. Treasury occurred between the Final Plan (Alt. JF) and the Proposed Plan (Alt. J) because of a 4% increase in the amount of lodgepole pine harvested. Lodgepole pine is a lower-valued timber species. See section II.D.1.c.(1).

TABLE II-18
 Kootenai National Forest
 Returns to the Treasury in the First Decade (Million \$ per yr.)

DEIS Alts.	Million \$	FEIS Alts.	Million \$
A	23.51	A	27.19
B	22.76	B	26.41
C	22.91	C	26.59
D - RPA	24.16	D - RPA	27.83
E	22.86	E	26.40
F	14.74	F	17.33
G	22.74	G	26.18
H	22.38	H	25.72
I - CD	9.20	I - CD	11.53
J - PA	21.31	J - PA	24.61

-	-	JF- FP	24.39

K - Dep	24.33	K - Dep	28.06
L	25.88	L	29.82
M - PNV	27.89	M - PNV	32.16
N	26.08	N	30.14
O	21.34	O	24.99
MinLvl	0.25		0.27

(1) Returns to the U.S. (Including Value of Purchaser Roads)

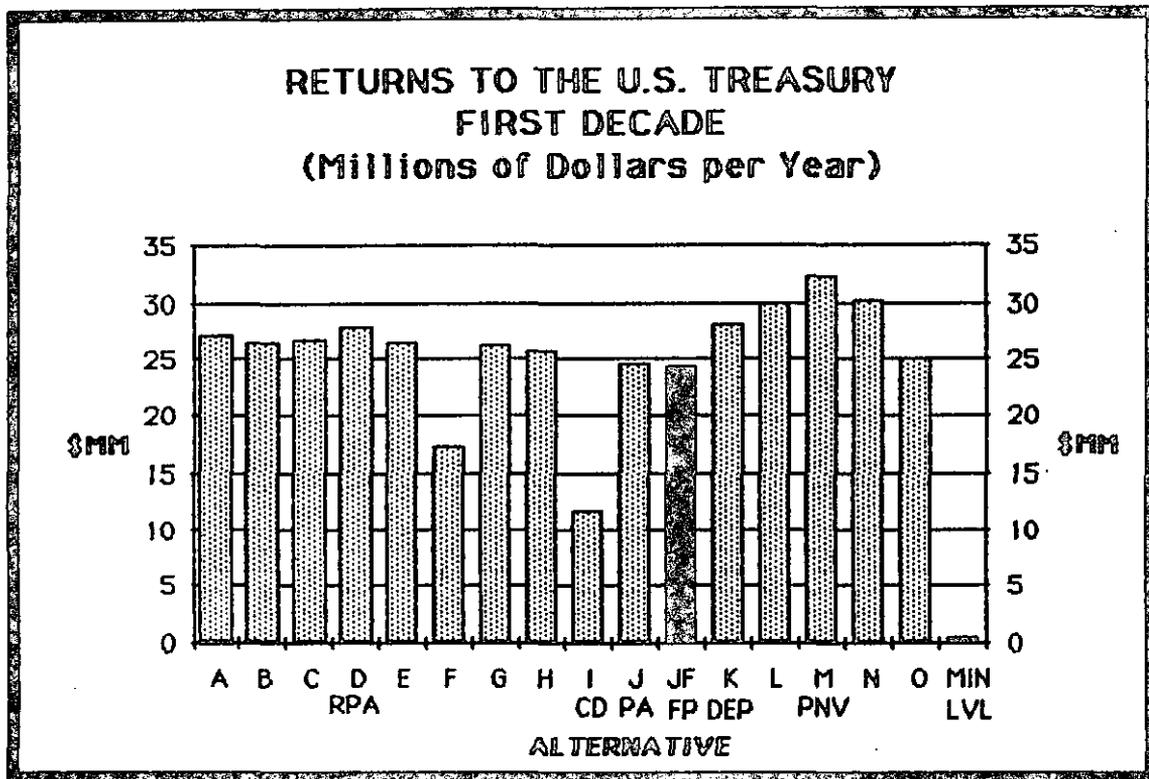
Average annual economic benefits associated with market and non-market resources are displayed by alternative in Table II-24 by decade. Market resources include timber, livestock grazing, campgrounds and special uses for which fees are collected. Non-market resource values are dollar values assigned to various types of recreation use (dispersed, Wilderness, hunting etc.). The purpose of assigning dollar values is to reflect the full economic value even though none or only part of the value associated with particular resources are actually collected as fees under current laws and policies.

Comparison of economic benefits to budget costs measure the overall economic efficiency of alternatives. Cash receipts and costs measure actual flows to and from the U.S. Treasury and the taxpayers. On this Forest, the major differences among both economic values and cash receipts are due to differing levels of timber production. Net cash flows for the first and fifth decade are displayed in Table II-20 by decreasing first decade net receipts.

The portion of the market benefits which are projected cash flows to the U.S. Treasury (total receipts) are displayed in Figure II-73 for Decade 1. Total receipts results primarily from the sale of timber and includes purchaser road credits. Other receipts are campground fees and special use fees and are estimated at less than \$100,000/year in all alternatives. Net receipts (total receipts minus total costs) are expected to increase by the fifth decade in all alternatives because of real stumpage price increases, because the timber harvest level increases, and because the roads will be in place by that time. The differences in net receipts among alternatives are due to differences in the value and amount of timber harvest. Receipts in the first decade for all alternatives except Alternative I are significantly higher than the 1980 returns of \$10.8 million. The total receipts (returns to the U.S. Treasury) by category for Decades 1-20 are displayed in Table II-24. Twenty-five percent of the receipts are returned to the States for payment in-lieu of taxes, and are also displayed in Table II-24.

FIGURE II-73

FIGURE II-73



(2) Net Returns to the Treasury (Excluding Purchaser Credit Road Values)

The returns discussed above and listed in Table II-18 include the value of purchaser credit roads even though this item does not directly contribute cash to the U.S. Treasury. Net returns are the actual cash returns to the U.S. Treasury (which exclude purchaser road credits in this discussion) less total Forest Service appropriated-budget costs (this does not include purchaser road credits because these are not considered appropriated-budget costs). This represents the net cash flow to or from the U.S. Treasury as a result of managing the Forest under each alternative. Forest Service appropriated-budget costs exceed cash returns to the U.S. Treasury in half of the alternatives for the first decade (Table II-19). By the second decade, a positive cash flow to the U.S. Treasury occurs in most alternatives except the Current Direction and the Minimum Level benchmark because the volume of timber harvested and its associated value has risen sufficiently to cover the costs of most capital investment road construction work. By the fifth decade (Table II-20) all alternatives are generating positive cash flows.

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:
: Table II-19
: Kootenai National Forest
:
: Net Returns to the U.S. Treasury (Millions of 1978 dollars)
: First Decade
:
:
: Cash Returns to U.S. Treasury (excludes Purchaser Credits) Total Appropriated Budget (Operation & Maintenance plus Capital Investments) Net Cash Flow Difference to the Treasury (plus or minus)

Alts.	Cash Returns to U.S. Treasury (excludes Purchaser Credits)	Total Appropriated Budget (Operation & Maintenance plus Capital Investments)	Net Cash Flow Difference to the Treasury (plus or minus)
A	21.8	21.8	0
B	21.0	21.6	- 0.6
C	21.2	21.7	- 0.5
D-RPA	22.4	21.5	+ 0.9
E	21.2	21.1	+ 0.1
F	13.4	16.8	- 3.4
G	21.1	20.6	+ 0.5
H	20.7	20.1	+ 0.6
I-CD	8.5	16.6	- 8.1
J-PA	19.7	20.3	- 0.6

JF-FP	19.6	19.2	+ 0.4

K-Dep	22.6	22.0	+ 0.6
L	23.7	28.1	- 4.4
M-PNV	25.9	24.1	+ 1.8
N	24.2	23.2	+ 1.0
O	19.8	21.7	- 1.9
MinLvl	0.3	5.6	- 5.3

.....

(3) Non-Cash Benefits to Users

The non-cash benefits to users as shown in Table II-20 are the non-market resource benefits which are also displayed in Table II-24. This includes all recreation benefits, except developed recreation for which fees are charged, and the difference between RPA grazing values and the fees collected. The non-cash benefits to forage users (grazing) amounts to about \$94,000 per year based upon returns of \$1.38 per AUM and benefits of \$8.61 per AUM. The balance is a non-cash benefit to recreationists (hunters, campers, firewood gatherers, etc.) for which no returns are collected and benefits ranging from \$3.00 to \$21.00 per Recreation Visitor Day are estimated. As of April 1, 1985 a charge for firewood collection was assessed which reduced non-cash benefits by increasing returns to the treasury. The income from firewood collections amounted to \$17,415 in Fiscal Year 1986 and was insufficient to affect the figures shown above.

c. Budget

The annual appropriated budget costs for Decade 1 by alternative are displayed in Figure II-21 by two cost categories: capital investment and operation and maintenance. Capital investment costs are appropriated dollars (not purchaser credits) used primarily for road construction. Operation and maintenance costs are all other costs, exclusive of purchaser credit road costs. For a detailed breakdown of cost categories, see Appendix B, Section IV. The annual budget costs for all alternatives are the same or higher than the average 1980-1982 expenditure level of \$16.6 million. This occurs because there is a significant potential to increase PNV on the Forest if adequate investments are made. Alternative I (Current Direction) was restricted by the historic budget level.

Fifteen to twenty-five percent of the costs in all alternatives are for activities which are not significantly influenced by the objectives of the alternatives (overhead costs). These costs are approximately \$5.6 million/year and include general administration, fire control, law enforcement, threatened and endangered species habitat maintenance, planning and inventory, firewood administration, and other programs. The other 75-85% of the costs are for resource management activities which are determined by the objectives of the alternatives.

Alternatives with emphasis on market resources have higher road and timber management costs while alternatives with emphasis on nonmarket resources have higher recreation and wildlife costs. The exception is Alternative H which provides high wilderness acreages which reduce recreation costs. Total costs decrease in all alternatives after Decade 3 because most of the roads are constructed. The annual costs for decades beyond Decade 1 are displayed in Table II-24.

FIGURE II-74

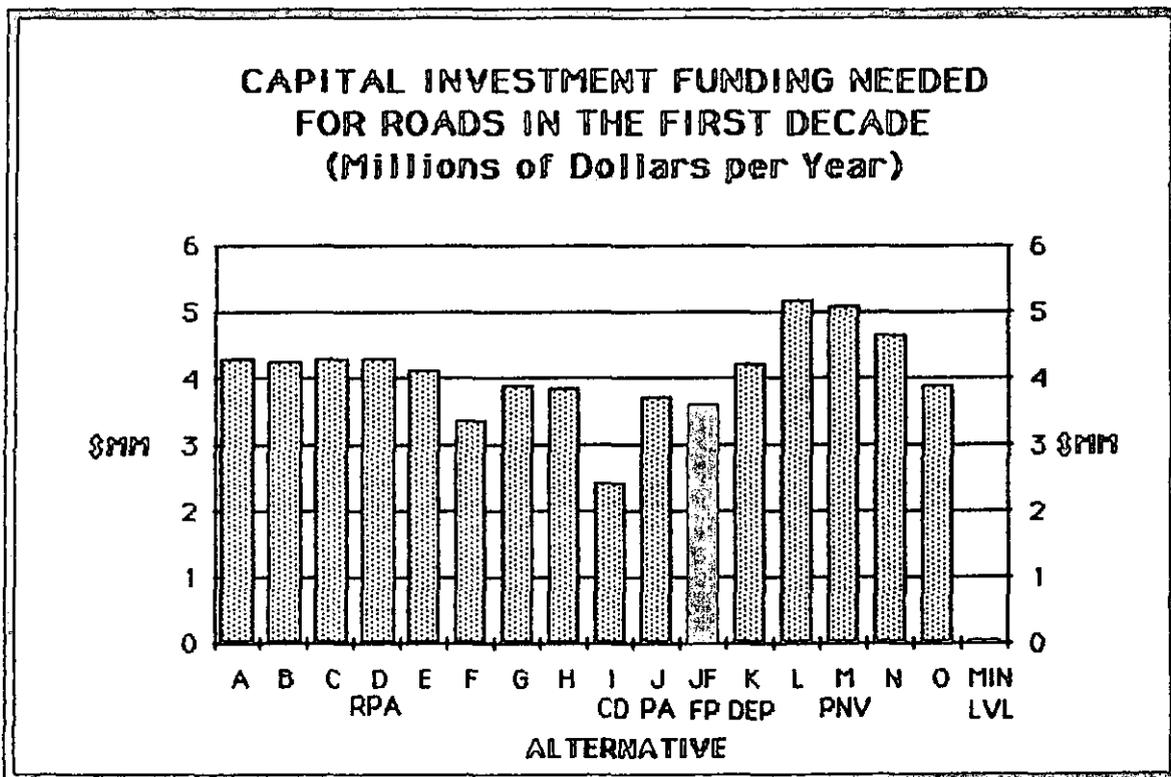
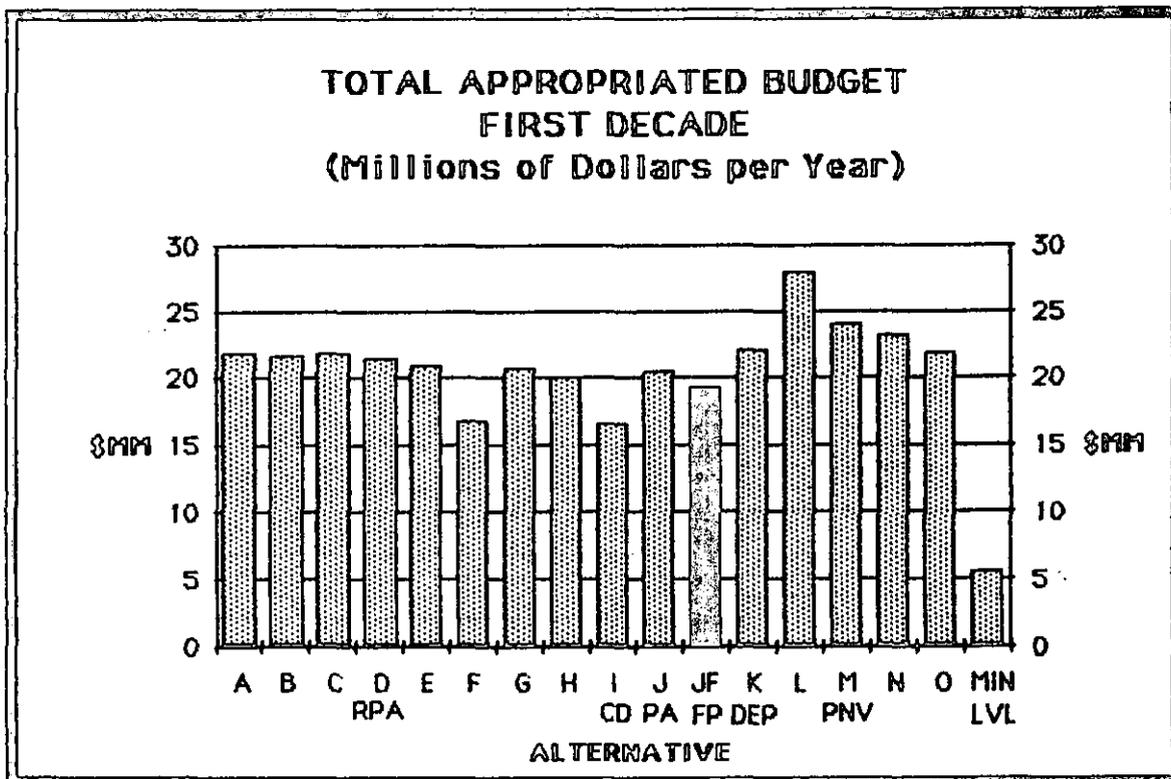


FIGURE II-75



d. Present Value Costs

Summary of Changes between the Draft and Final EIS

The Final Forest Plan (Alt. JF) has a 6% lower Total Discounted Cost compared to the Proposed Forest Plan (Alt. J). This is the result of a 9% reduction in the suitable timber base. This reduced the needed roads by 6% which also lowered the projected future logging needed. In addition, less commercial thinning is planned to reduce the total operating budget. See sections II.D.1.b. for a discussion of the suitable timber base and Appendix B for the analysis of commercial thinning.

The discounted costs for 200 years by major resource group by alternative are displayed in Tables II-22 and II-24. The discounted cost is the sum of all expenditures (discounted at 4%) for 200 years. The minimum discounted cost for Federal ownership of the Forest is \$196 million as defined by the Minimum Level Benchmark (MIN LVL). The maximum discounted cost is \$776 million from Alternative L. All alternatives include costs to provide both priced and nonpriced outputs.

TABLE II-22

TOTAL DISCOUNTED COSTS (4%) BY MAJOR RESOURCE GROUP BY ALTERNATIVE (Millions of 1978 Dollars)

Alternative	Timber	Recreation/ Wildlife	Range	Roads	Other	Total ¹
A	236	81	2	195	161	676
B	236	81	2	194	160	674
C	236	81	2	194	160	674
D (RPA)	267	81	2	205	163	718
E	229	81	2	186	161	651
F	151	80	2	149	158	541
G	222	80	2	183	160	647
H	218	76	2	175	159	627
I (CD)	169	82	2	125	169	547
J (PA)	223	82	2	175	164	647
JF (FP)	197	82	2	163	167	611
K (Dep.)	231	82	2	182	164	662
L	300	81	2	227	166	776
M (PNV)	251	80	2	204	161	697
N	245	81	2	200	161	689
O	263	83	2	178	163	689
MIN LVL	2	45	0	2	147	146

¹Total is not exact because of rounding.

NOTE: The "other" cost category includes inseparable joint costs associated with several resources.

e. Annual Priced Benefits

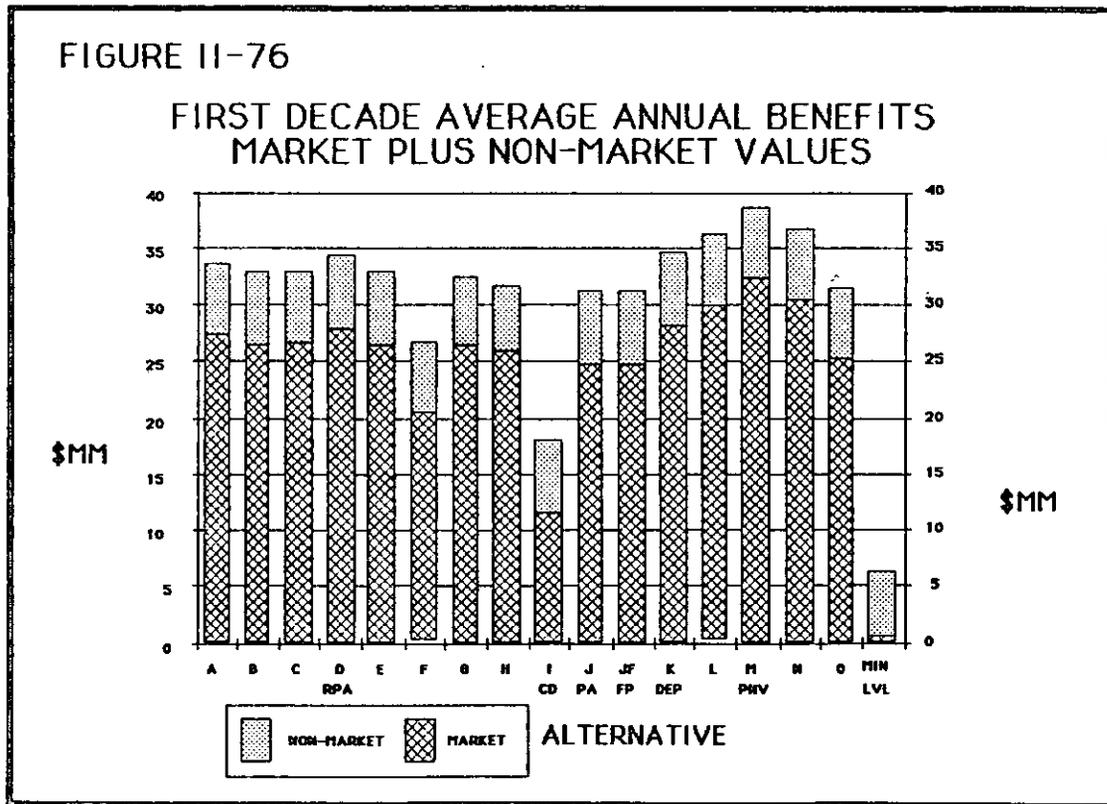
This section describes the values associated with outputs that can be measured in dollars. (See Section D.19. of this chapter for a discussion of nonpriced output benefits.) Values may be derived from market activity (timber, grazing and developed recreation) or from studies of willingness-to-pay or other approaches (roadless recreation, hunting and wilderness use). Only these priced benefits can be included in calculations of PNV or discounted benefits. The non-priced benefits, which will be discussed later, can not be included in these calculations and must be assessed in a subjective manner.

Average Annual Benefits for the First decade are displayed in the following Figure. They are the sum of market and non-market benefits and are both displayed to indicate the relative proportion of each category. Market values are the total of all the dollars received for timber sale stumpage receipts, grazing fees, special land-use fees, and recreation fees paid at campgrounds, etc. These receipts are displayed in Table II-24. The non-market values are the dollar values assigned to dispersed recreation and wilderness use, big-game hunting, and the difference in the grazing value above the cash cost of grazing on the National Forest. (Appendix B has a detailed discussion of both the market and non-market values.)

Dollar values, or market values, contribute 64-83% of the total benefits on the Kootenai National Forest. Timber stumpage receipts are the predominant contributor of the market value portion (98%). The non-market values are similar among all the alternatives because of the limited demand for the resources involved.

Alternative M (PNV) has the largest market value (83%) in the first decade as a result of the highest possible timber harvest. Alternative I (Current Direction) has the smallest market value (64%) because the timber harvest is limited by a budget constraint that limits timber sale offerings to the average harvested during the period 1980-1982. The Final Plan (Alt. JF) has a market value of 79% and will be a significant increase over the Current Direction and similar to the Proposed Action in the Draft EIS (Alt. J).

Figure II-76 indicates that there is no change in relative ranking among the alternatives when the total values are compared. This is because of the significant difference in the market value of timber in relation to the non-market values of dispersed recreation, wilderness, etc.



f. Present Value Benefits

Discounted benefits are the sum of market and nonmarket values (discounted at 4%) for 200 years. The timber benefits contain only the timber stumpage values. Appendix B, Section IV, includes a detailed discussion of priced (market and nonmarket) and nonpriced benefits. Discounted benefits by major resource group are displayed in Tables II-23 and II-24. The discounted benefits resulting from custodial level management activities are \$199 million as defined by the Minimum Level Benchmark. The minimum benefits are: \$172 million from recreation use and \$27 million from timber sales and livestock grazing permits currently under contract. Under the minimum management benchmark, only timber currently under contract would be harvested.

The maximum discounted benefits result from managing for maximum present net value as defined by Alternative M and totals \$1860 million.

Dollar values associated with market resources contribute 77% to 88% of the discounted benefit value in all alternatives.

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: TABLE II-23
: TOTAL DISCOUNTED BENEFITS (4%) BY MAJOR
: RESOURCE GROUP BY ALTERNATIVE
: (Millions of 1978 Dollars)
:
:
: Recreation/
: Alternative Timber Wildlife Range Total¹
:
: A 1588 228 3 1819
: B 1575 231 3 1809
: C 1569 231 3 1803
: D (RPA) 1552 227 3 1782
: E 1538 231 3 1772
: F 962 234 3 1198
: G 1490 227 3 1720
: H 1441 219 3 1662
: I (CD) 776 227 3 1006
: J (PA) 1328 232 3 1563
: -----
: JF (FP) 1109 233 3 1345
: -----
: K (Dep.) 1339 232 3 1573
: L 1591 229 3 1823
: M (PNV) 1631 227 3 1860
: N 1604 231 3 1837
: O 1514 236 3 1753
: MIN LVL 26 172 1 199
:
: ¹Total is not exact because of rounding.
:

g. Average Costs

Summary of Changes Between the Draft and Final EIS

This section was not included in the DEIS. It is provided here to help address public concerns about the size of the Forest budget displayed in the DEIS and to compare the relative production costs of the various alternatives.

(1) Introduction

The DEIS discussed costs in terms of their totals or their discounted totals. Sometimes it is helpful to view costs in terms of units of production. In the Forest Plan, the production of the various amenity products occurs without much variation in cost. The level of domestic livestock grazing remains constant across the alternatives. Thus, timber production is the major item affecting variable costs. The more timber production and associated activities (such as road building), the more the total cost of operating under the Forest Plan. We can look at the cost of operating the Forest in terms of volume of timber by expressing the costs on a per unit timber basis (\$/MBF). In the following discussion, no attempt is made to separate timber program costs from other related costs. Instead the total Forest Service cost (including purchaser credit) is divided by the total first decade average annual timber volume (ASQ).

(2) Discussion

The Forest Service costs come from Table II-24 at the end of this chapter. The timber volume is equal to the Allowable Sale Quantity (Table II-24). Table II-23a shows the total timber volume, short-run average cost and long-run average cost for each alternative. The short-run average cost is the total cost minus \$5,160,000, the estimated fixed costs, divided by the total timber volume. The long-run average costs is simply the total cost again divided by the total timber volume.

.....

Table II-23a			
TIMBER VOLUME AND AVERAGE COSTS			
(Decade 1 - 1978 dollars)			
<u>Alternative</u>	<u>Timber Volume</u> <u>MMBF/yr</u>	<u>Short-Run</u> <u>Avg Cost</u> <u>\$/MBF</u>	<u>Long-Run</u> <u>Avg Cost</u> <u>\$/MBF</u>
A - No Wilderness	254	87	107
B - RARE II	250	87	108
C - MT Wilderness	253	87	107
D - RPA	255	85	106
E - RARE II+	245	86	108
F - Maximum Elk	184	84	112
G - RARE II++	240	86	107
H - Max Wilderness	234	85	107
I - Current Direct	168	86	117
J - Proposed Action	227	88	111
JF - Final Plan	227	83	106
K - PA Departure	258	87	107
L - Maximum Timber	286	102	120
M - Maximum PNV Dep	294	86	103
N - No Wilder Dep	278	86	105
O - Max Roadless/View	242	90	111

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Figures II-77 and II-78 display this data in the form of scatter diagrams along with a fitted curve. For details on the significance of the fitted curve and other aspects of this analysis see the Planning Records (Cost Analysis - Alternative Forest Plans, Haugen, September 5, 1986).

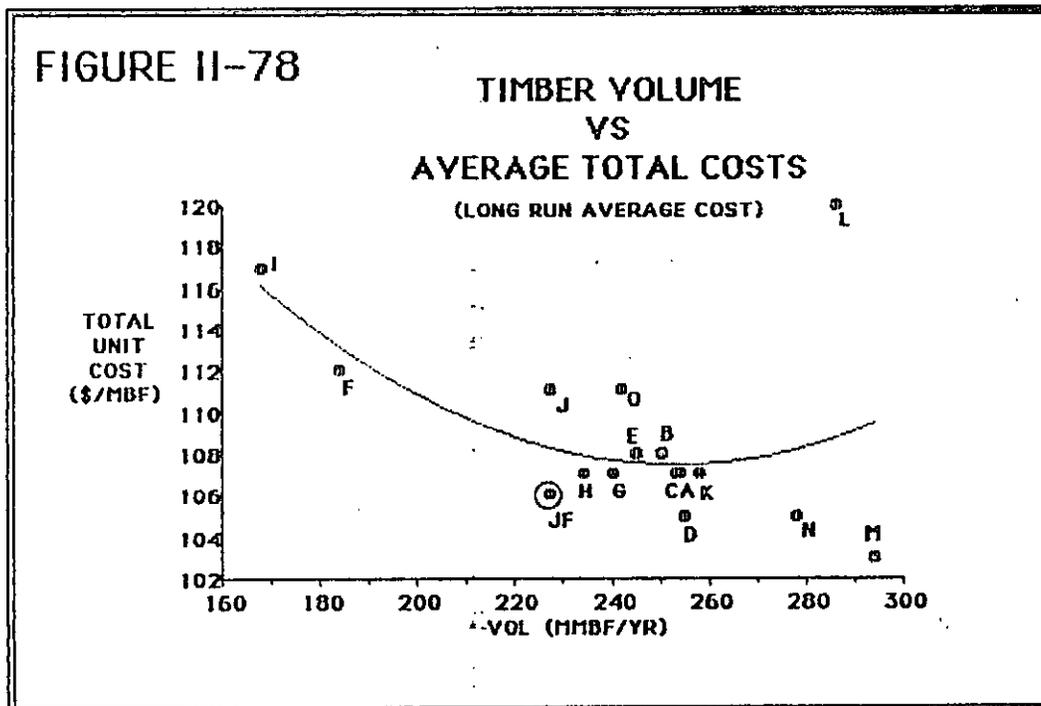
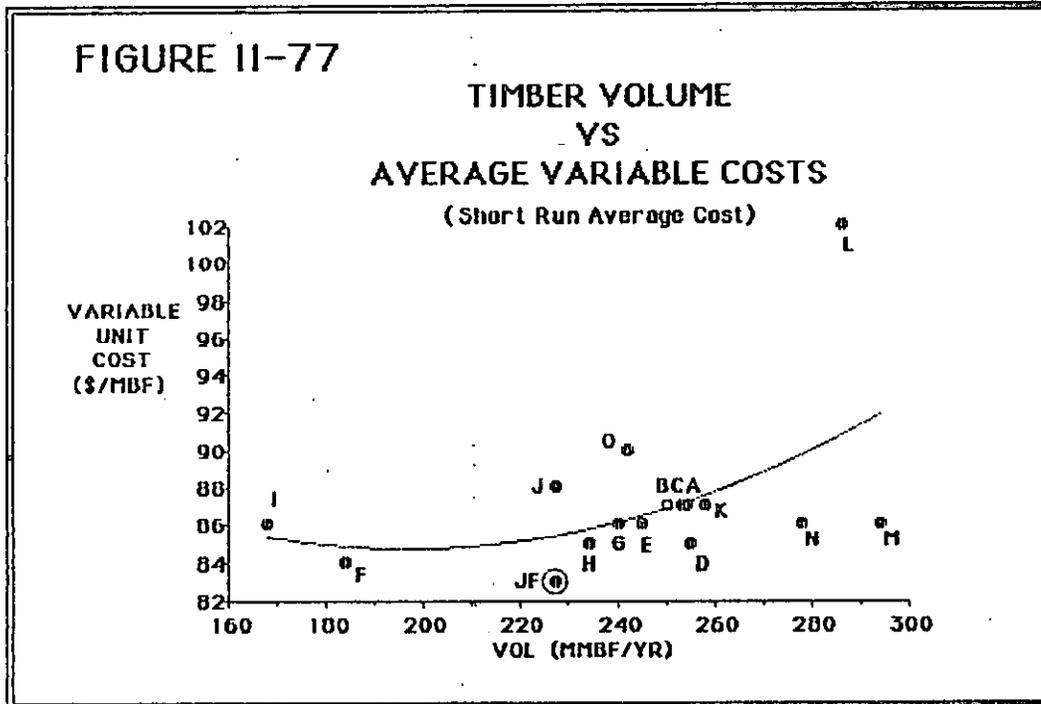


Figure II-77 displays the average variable costs on a unit timber volume basis. This is sometimes referred to as the short-run average cost curve. Fixed costs can not be changed in the short run, thus those costs are not included here. The variable costs can be changed relatively quickly by altering management of the Forest. The trend is for increasing cost per MBF as the harvested volume increases after a decline in those costs between 165 and 200 MMBF. In a classic variable cost relationship such as displayed in Figure II-77, the first few units of production tend to be costly, the mid-range levels of production tend to be cheaper, and the very high production levels again become more expensive. At the lower production levels certain base costs are necessary to generate outputs, but the output levels can be increased without much increase in those costs. Thus the initial decline in short-term average unit costs. Figure II-77 shows that between about 190 and 210 MMBF the average short-run costs are lowest. It is in this range that costs and production levels are well balanced and those costs are the lowest on a unit production basis. Beyond 210 MMBF, the unit costs tend to rise because the higher production levels tend to decrease the efficiency of the operation. The alternatives do not all fall on the regression line because they represent different ways of managing the Forest as well as different production levels.

In comparing the alternatives in terms of their position on the scatter diagram, we can see that Alternative L is the most costly. This was the maximum timber benchmark. In maximizing timber, all the tentatively suitable timber base is put into production. This includes lands that can produce timber, but that require large infusions of money to make that production possible. Steep and unroaded ground which requires expensive road construction drives up the average cost of this alternative. Alternative M produces slightly more timber volume in the first decade than does alternative L, but it is done on lands which are cheaper to manage. Alternative M is the maximum PNV benchmark. It gets more volume than Alternative L in the first decade (but not over the 200 year time horizon) because a departure sequence is followed.

Alternative I (Current Direction) has a low volume and slightly higher costs because harvest levels are kept low even though most of the initial costs which would be needed for higher production levels are already being expended.

Alternatives O and J are more costly than other alternatives which produce similar volumes because shelterwood cutting is stressed.

Alternative J (Proposed Action) and Alternative JF (Final Plan) produce the same timber volume, but the Final Plan does it at a considerably lower cost. In response to public concerns about the budget presented in the Proposed Action, the Final Plan was modified to reduce costs. The major modification was elimination of commercial thinning as a means to produce timber volume. By getting the volume from final harvests rather than from expensive intermediate cuts, the costs drop on a unit volume basis. The unit cost is the lowest of all the alternatives due to this difference.

Figure II-78 displays the timber volume vs the average total costs. This curve is sometimes called the long-run average cost curve. Figure II-77 differs from Figure II-78 because the fixed costs are included in Figure II-78. Typically at higher production levels the average total costs will decline as the fixed costs are divided over more units of production. Alternative L is an outlier in this analysis because in maximizing timber production the variable costs rise so much that they override the decrease in fixed cost per unit of production.

Alternatives I and F, which had low variable unit costs, have much higher total unit costs because the fixed costs are divided over fewer units of production than the other alternatives. The scale of production isn't sufficient to bring the total unit costs down.

Alternatives O and J produce more timber than Alternative I, but the costs are as high because shelterwood cutting is stressed.

Alternative L has high total unit costs because the variable costs associated with roading and managing the steep and unroaded lands overrides the declining unit contribution of the fixed costs.

Alternative M has the lowest total unit costs because the scale of production reduces the unit contribution of the fixed costs while the variable costs are also relatively low as discussed above.

Alternative JF (Final Plan) has essentially the same relationship to Alternative J (Proposed Action) as when only variable costs are considered. The fact that the fixed costs are divided by the same timber volume causes this. Again, the Final Plan is considerably cheaper than the Proposed Action because commercial thinning is not used.

The Final Plan falls near the bottom of the cost scale regardless of whether total or variable costs are considered. As noted by several people that commented on the DEIS, Alternative J resolved most of the issues fairly well, but was rather costly. The elimination of commercial thinning as a standard practice in the Final Plan reduces the costs significantly. This allows the Final Plan to be in a favorable position among all the alternatives when Forest Service costs are the prime consideration.

19. Net Public Benefit and Non-Priced Benefits Addressed in the Alternatives.

Summary of Changes between the Draft and Final EIS

Old-growth timber habitat management has been added as an indicator of Net Public Benefit as a result of comments received on the DEIS.

a. Introduction

Net public benefit is the overall long-term value to the nation of all outputs and positive effects (benefits) less all associated Forest inputs and negative effects (costs) of producing priced and non-priced outputs from Kootenai National Forest lands. Thus, net public benefit represents the sum of present net value (PNV) plus the value of non-priced outputs (See Appendix B, Section IV). A goal of Forest planning is to provide analysis-derived information that helps decision-makers maximize the net public benefits of managing the National Forest. The previous section discussed the relationships among the alternatives with respect to the priced benefits which are summarized by PNV. This section will address the non-priced benefits which are handled subjectively. The final section of this chapter will discuss the combination of priced and non-priced factors and the tradeoffs between them.

Net public benefit is maximized by the alternative which has the greatest excess of benefits over the costs. The choice of the alternative that maximizes net public benefit is a subjective decision because many of the benefits are not quantifiable in dollar terms.

The numeric portion of the net public benefit is described as Present Net Value. Recall that Present Net Value (PNV) represents the net discounted value of the benefits and costs which have been assigned a monetary value. PNV is the basis for the economic comparisons among the alternatives and is closely correlated to the level of timber harvest.

The non-numeric portion of net public benefit is the perceived value of outputs which can not be given monetary value. Market transaction evidence or other methods are not available to develop prices for these benefits thus they must be valued subjectively. Benefits which do not have dollar values are simply called non-priced benefits.

If the selection of a Final Plan were based only upon priced benefits and costs, the alternative with the highest PNV would normally be proposed for implementation. Since non-priced benefits do have value, a series of alternatives with different approaches to supplying packages of non-priced benefits were developed. In general, supplying more of some non-priced benefit either costs more in budget dollars or causes a reduction in some priced benefit or both.

The most important non-priced outputs in this analysis, along with the issues to which they are related, are as follows:

- Jobs and Community Stability (Local Economic Impacts Issue)
- Visual Quality Protection in Sensitive Areas (Esthetics Issue)
- Wilderness and Roadless Quality (Wilderness & Roadless Recreation Issues)
- Mineral Accessibility (Minerals, Oil and Gas Issue)
- Grizzly Bear Recovery (Threatened & Endangered Species Issue)
- Lodgepole Pine Risk Management (Disease and Pests Issue)
- Miles of Road Needed for Management (Transportation Facilities Issue)
- First Decade Appropriated Budget (Management Concern)
- Old Growth Timber habitats (Special Wildlife Habitat Issue)

This section describes these major non-priced outputs, who is affected by changes in output levels, generally how these outputs relate to PNV and what indicators were used to measure them. non-priced outputs are addressed more fully in Appendix B and are discussed, as issues, in Appendix A.

b. Jobs and Community Stability

Jobs and community stability, which are linked, are major non-priced benefits. Their value is associated with the value of life satisfaction to individuals. Life satisfaction of individuals is, in turn, linked to satisfaction with work and standard of living. The ability to have a job is, of course, directly related to these elements of life satisfaction.

JOBS. Jobs in the private sector which are related to Kootenai National Forest activities are estimated at 1,666 jobs (1980) of the 6,380 total jobs (26%) in the Lincoln and Sanders County region. In addition there were about 600 Forest Service jobs thus about 36% of the total employment in the region is associated with Kootenai National Forest activities.

Another segment of the employment situation is related to mining. These activities are not directly related to Forest Service activities even though they often occur on or adjacent to National Forest lands because they are dependent upon private sector initiative. It is estimated that about 10% of the jobs in the region (1980) are related to mining activities.

The forest products sector has been dependent on the Forest for about half (1974-1983) of the raw materials harvested in the region. Changes in the timber harvest program on the Forest will influence jobs, incomes, and lifestyles directly in the forest products industry as well as indirectly in all sectors.

In general, the PNV of the Forest increases as the level of private sector Forest related employment in the first decade increases, because more timber is harvested. An exception to this rule occurs when harvests are forced to occur on lands which do not have a positive return. This causes a decline in PNV, but a higher timber harvest level and more jobs.

As the level of harvest decreases it is generally the case that roadless types of recreation opportunity increase thus to some extent timber related jobs are replaced by jobs in industries which service the increased number of recreation users. The relationship between the decline in timber harvest and increase in roadless sorts of recreation is such that a net decline in jobs occurs as timber harvest declines. In addition recreation related jobs which are generally in the service industries tend to be lower paid than those in the manufacturing of lumber.

COMMUNITY STABILITY. Community stability is best served when drastic and rapid changes in population are avoided. The number of available jobs is a fair predictor of population. Thus, a gradual increase in jobs is seen as more desirable because this would allow at least a portion of new job hunters (both new comers and young adults just entering the job market) to stay in the area. A constant or gradually declining number of jobs would be preferable to a rapid decline because lifestyles could be gradually adjusted causing less of an overall impact on community services and allowing time to develop plans to deal with foreseen difficulties. Likewise a gradual increase provides more opportunity for mitigation than would a rapid increase.

The measurable indicator of stability in the local community is the number of Forest-related jobs in the private sector for the two-county area (Lincoln and Sanders) and its relationship to population change.

It is assumed that a change in the population of more than 20% in a decade would produce social disruption. This rate of change can be compared to the 44% increase from 1950 to 1960 and from 1960 to 1970 caused by the spruce logging activities and the Libby Dam construction respectively. Both of these decades saw rapid expansion and associated community growing pains which could be avoided with a slower rate of change.

c. Visual Quality Protection in Sensitive Areas

Visual quality is a major issue because over 50 percent of the non-wilderness area is visible from major travel corridors and population centers. Changes in the visual quality of the Forest may affect the people who live in or visit the area as well as those who travel through the Forest. The dollar value of visual quality to people who hike and drive in the Forest is partially included in the value assigned to recreation. However, these assigned prices do not reflect the total value of scenery on the Forest. The value of visual quality to the people who live in the area, as well as the people who visit the area was not assigned a monetary value in the planning process.

Visual quality is maintained or enhanced as more of the Forest is managed to satisfy recommended visual quality objectives (VQO's).

As the level of visual quality is increased from maximum modification to preservation, the PNV tends to decrease because cost-efficient timber management activities are replaced with more costly practices. Visual quality generally increases or is maintained as the timber cut is decreased and the acres of roadless management and wilderness increases. The indicator of visual quality is the area in the VQO categories of preservation, retention and partial retention in visually sensitive areas on the Forest.

d. Wilderness and Roadless Quality

A major issue on the Forest is how to allocate 403,700 acres of inventoried roadless area made up of 32 areas on the Forest. While an average monetary value has been assigned to wilderness and dispersed recreation, these prices do not account for the total value of an above-average-quality wilderness and roadless recreation experience on the Forest. The benefactors are recreationists who desire undeveloped, roadless recreation even though they may never use it and those that want areas reserved for the future or just to know they are there.

The measurable indicator is acres of wilderness and/or roadless land. Present net value decreases as the availability of valuable timberlands decreases and the recreation budget generally increases.

Visual quality, wildlife diversity, water quality, old-growth timber and non-motorized recreation-related employment increase with an increase in wilderness and/or roadless areas. Timber harvest, forests products industry employment, and motorized recreation-related employment will normally decrease as wilderness and roadless lands increase.

The indicator of wilderness and roadless quality is the acreage of all the potential roadless recreation opportunities which include the existing Cabinet Mountains Wilderness (94,000 acres), any recommended wilderness, any designated roadless areas including inventoried and other roadless areas and the Ten Lakes Montana Wilderness Study Area (34,000 acres).

e. Accessibility for Minerals, Oil and Gas Exploration

The preservation of the option to explore for minerals, or oil and gas deposits has a social value even though it was not assigned a monetary value in the analysis. This value can be forgone by designating land to management prescriptions which preclude such exploration. These prescriptions include Wilderness, recommended wilderness, wilderness study, developed recreation and administrative sites (Management Areas 7, 8, 9, 6 and 20 respectively) which would be withdrawn from mineral entry.

Existing withdrawals include 16,000 acres for oil and gas and 53,000 acres for locatable minerals. The existing withdrawals include portions of some of the management areas noted above plus some special withdrawals for items such as the Burlington Northern railroad tunnel and Koochanusa Reservoir.

Accessibility for exploration decreases with increases in lands designated to the noted management prescriptions. On a site-by-site basis, as the land which would be withdrawn increases, commercial timberland is eventually withdrawn. As commercial timberland is withdrawn, the PNV will decrease. One technical point is important to note here: exploration is not precluded for locatable minerals until and unless the area actually receives Congressional designation as Wilderness. The analysis here addresses the situation under the assumption that the noted acres will receive Congressional approval under the respective alternative.

The unit of measure for the accessibility concern is total acres that will be withdrawn if the alternative is implemented. This includes both the specified management areas and the existing withdrawals outside those areas.

f. Grizzly Bear Recovery

All alternatives and benchmarks have been designed to include a minimum management requirement intended to assure recovery of the grizzly population. This is a minimum requirement that will satisfy the letter of the Endangered Species Act of 1973. Any effort to retain a dynamic yet irreplaceable asset such as a grizzly population entails some level of risk.

There are many factors which can affect the grizzly population and many of these are beyond the control of any manager. Some may be beyond the level of knowledge defined as the current state-of-the-art. Any effort to accommodate the known needs of the grizzly bear beyond those that will minimally satisfy the requirements of law reduces the risk of losing the population.

The existence of the Endangered Species Act is evidence that retaining the population has value. The opportunity cost of the minimum management requirement is one way of monetarily valuing the population. Any other effort which reduces the risk of losing the population has additional value. It is this additional value, which is not quantified, that is of concern here.

The minimum management requirement that is modeled in FORPLAN involves removing timber harvest options from grizzly habitat unless due consideration is given to grizzly habitat needs. In addition the model is constrained so that only a limited amount of acreage in grizzly habitat is harvested each decade. Beyond this minimum management requirement the alternatives provide varying amounts of land designated to uses with no scheduled timber harvest in grizzly habitat.

These designations provide reduced potential for human/grizzly encounters and reduced potential for grizzly (and human) mortality. As more land in grizzly habitat is designated to uses with no scheduled timber harvest, the risk of losing the population is decreased as is the PNV.

The unit of measure for reducing the risk to grizzly bear recovery is the amount of land in identified grizzly habitat that will have little or no development. Development is defined as scheduled timber harvest and its associated road building which causes the increased risk of human/grizzly encounters even though road restrictions would be a normal management practice.

g. Lodgepole Pine Risk Management

The costs and values associated with managing lodgepole pine are priced benefits. There are other values associated with managing lodgepole pine stands which are not quantified but which are addressed here.

(1) Stagnated Lodgepole Pine

A stagnated stand is a stand which due to excessive stocking has essentially stopped growing at a size that is not merchantable. Lodgepole pine is associated with conditions that result in stagnation more than other species.

The typical way of returning these stands to a condition where merchantable timber can be produced is to remove the existing trees then start a new stand, usually with a mix of species, and manage the new stand through precommercial and/or commercial thinning to prevent stagnation. Thinning in a stand which has already stagnated usually does not help much.

The PNV associated with management of a stagnated stand is very low, and usually negative, because of the high costs associated with removing the existing trees and starting a new stand and the long delay before the trees are large enough to be sold. For this reason the FORPLAN model will not usually convert these stands unless forced to by other resource objectives (maximizing timber or wildlife).

There is a non-priced value in converting these stands. This value derives from the improvement in big game and grizzly bear habitat quality along with reductions in fire hazards and potential for mountain pine beetle infestation. Elk and other big game are often restricted from even travelling through these stands because of the quantity of dead and down material and the density of the stand. A stagnated lodgepole pine stand will provide no forage and only low quality cover to these species.

The dead materials in these stands are generally associated with blowdown and mountain pine beetle activity. This dead material provides excellent fuel and increases the risk of forest fire. Removing the stand would reduce this risk.

A stagnated stand is generally less healthy than a similar but non-stagnated stand and thus can not survive a pine beetle attack as well. The question of mountain pine beetle will be discussed in the next section.

As the acres of stagnated lodgepole pine converted increases, the PNV tends to decrease but the unquantified values discussed above tend to increase.

The indicator of measure are the acres of stagnated lodgepole converted by the fifth decade.

(2) Mountain Pine Beetle

Mountain pine beetles are endemic to the Forest and there is no reasonable way to eliminate them. Losses related to infestation of this beetle are considered in the FORPLAN model to some extent because the lodgepole pine timber yield tables take into account the associated mortality.

The primary non-priced value associated with harvesting dead or high risk lodgepole pine is the reduced risk of catastrophic fire. Fires destroy much of the value of standing timber and are generally expensive to fight. Harvesting lodgepole pine directly reduces the risk of fire by removing those trees which are likely to die and produce fuel concentrations.

Indirectly, the harvest of mature lodgepole pine removes the food source for the beetles and tends to slow their impacts upon adjacent stands.

The lodgepole pine that is merchantable now provides the largest element of risk. The indicator of reduced risk is the lodgepole pine volume harvested in the first decade. As the lodgepole pine volume harvested goes up the PNV tends to increase because more stands are brought into solution and most have a positive contribution to PNV.

h. Miles of Road (Access)

Roads are considered in the FORPLAN model in terms of their construction, reconstruction and maintenance costs, but there is a value to having fewer roads beyond the reduced costs associated with fewer roads. The unquantified values associated with fewer roads come from several sources.

First, roads impact the soils upon which they are built and contribute to increased sedimentation and reduced water quality which impact fisheries.

Second, the construction of roads effectively removes options for future non-roaded management. Primitive, semi-primitive and wilderness recreation categories are most directly affected.

Third, fewer roads implies greater assurance of improved security for wildlife. The assurance is greater because access is non-existent rather than simply closed to use.

Road construction is directly linked to timber volume harvested, so, as noted earlier, when PNV increases with increased harvest - road miles also increase.

The indicator for this value is the number of miles of new road construction needed.

i. First Decade Appropriated Budget

The first decade appropriated budget is a direct function of the activities which are necessary to produce the outputs from any alternative. Most of the budget costs are included in the FORPLAN model. In as much as a lower budget involves lower costs it can be seen as a benefit and can be quantified.

The unquantified benefit of a lower budget is associated with the added options that the Federal government has when deciding how to allocate funds to competing agency needs. At issue is not the increase in funds that would be available for other uses, because that can be quantified, but rather the added value in being able to divide the total funds differently.

The indicator of this value is the first decade appropriated budget. This excludes purchaser credit because unused purchaser credit is essentially trees that are left to grow and this value is quantified in the FORPLAN model.

PNV tends to decrease with decreases in budget except where activities which do not contribute to increased PNV are pursued.

j. Old-Growth Timber Habitat Management

Old-growth timber is known to be an important component of wildlife habitat for some species on the Kootenai (e.g. pileated woodpeckers). Since many old-growth timber stands have high wood-volumes per acre and are ready for harvest, they are considered a high priority for harvest scheduling. Because of this high scheduling priority, an eventual reduction or harvest of much of the old-growth timber is predictable.

All alternatives and benchmarks have been designed to include a minimum management requirement intended to ensure the perpetuation of an assigned level of old-growth timber acreage. This is a minimum acreage to satisfy the state-of-the-art knowledge and recommendation made by recent research on old-growth timber-dependent species.

The minimum management requirement that is modeled in FORPLAN involves assigning certain timber stands to a specific management prescription that perpetuates old-growth timber. This results in a removal of this acreage from timber harvest options. The timber acreage removed can be measured by FORPLAN and the present net value decreases as the suitable timber acreage decreases.

What isn't measured in FORPLAN is the risk that the minimum levels provided for old-growth timber habitat will not remain in-place and be further reduced through fires or windthrow. Any provision which could reduce this risk would have value.

The unit of measure for decreasing the risk that adequate amounts of old-growth timber habitat will not be provided is the percentage of the total Forest land acreage below 5,500 feet elevation that is assigned to an old-growth management designation. The higher the percentage of old-growth timber management provided, the less the risk of loss of the habitat component.

20. Major Tradeoffs Among Alternatives

Summary of Changes between the Draft and Final EIS

The Final Forest Plan (Alt. JF) is a modification of the Proposed Forest Plan (Alt. J). As a result of the Public's concern expressed during the review period, a change was made to provide for an increase in the amount of wilderness recommended. In addition, an increase in the minimum amount of old-growth timber habitat for timber-dependent wildlife species was also provided. Changes were also made to reduce the appropriated budget because of the current budgetary climate, and to strengthen the Monitoring Plan to protect water quality and fisheries.

a. Introduction

The tradeoff concept is useful in describing the differences between alternatives. The net quantified benefits are described in section 18 and the non-priced benefits are described in section 19 of this chapter. This section compares the alternatives in terms of the tradeoffs between these two types of benefits. Except for the quantified economic outputs, the adequacy of each alternative's attempt to address the Issues, Concerns and Opportunities is subject to the values individual reviewers attribute to the different resource mixes and degrees of response.

(1) National, Regional and Local Demand Outlook

This subsection briefly describes the projected long term demand for resources from this National Forest. This will provide a framework for assessing responses to the issues, concerns and opportunities which are described in detail in Appendix A. More details on projected demand for specific resources are provided in Appendix B.

The RPA analysis projects increases in total national demand for all outputs of National Forests. These outputs involve timber, minerals, forage, outdoor recreation opportunities, wildlife, wilderness, water supply and many amenity uses of the forest. There is also a strong desire to protect and enhance the quality of the environment while meeting these demands. The nation benefits when these resources can be efficiently supplied. In general the Kootenai National Forest has these resources and can supply them to the region and nation efficiently.

Generally users of National Forest outdoor recreation, wildlife and wilderness are local people or people from the region adjacent to the National Forest. In Montana, for example, about 84% of the recreation use comes from those who are residents of the state (SCORP, 1983). Nationwide, over 90% of hunters travelled less than 100 miles from their residences for hunting opportunities. Salmon fishing in Lake Kootenai has drawn visitors from longer distances, but these users are predominately from the region composed of eastern Washington, northern Idaho, western Montana and parts of Canada. Projections of recreation demand and available capacities are described in section B.3.a,b,c,d and e of this chapter.

The local communities are quite dependent on National Forest activities for the jobs and income they produce. In 1980 it is estimated that about 36% of the total jobs in the Lincoln/Sanders counties area were associated with activities on the Kootenai National Forest. In addition about 10% of the total jobs are associated with the mining industry which is not directly related to Forest Service activities although mining often occurs on or adjacent to National Forest lands.

(2) Economic Values and Responses to Major Issues, Concerns and Resource Use/Development Opportunities

Relationships between priced and non-priced outputs illustrate the interactions between various alternative objectives and constraints. It is clear that competitive public issues, management concerns, and resource opportunities exist and that it is impossible to fully meet all wants and desires at the same time. By examining an array of priced outputs and indicators of non-priced outputs it becomes possible to see more clearly what is actually given up and what is actually achieved as a range of alternatives is explored. An understanding of the tradeoffs between alternatives is required to help decision-makers determine which alternative maximizes net public benefits. The mixes of priced and non-priced outputs resulting from each alternative are a direct result of the varied attempts to resolve the issues described in Chapter I.

Appendix A fully discusses each of the issues, concerns and opportunities. The 10 major issues with the greatest influence on the alternatives and their indicators of responsiveness are:

1. Timber Volume
 - 1st decade timber harvest
 - available timberlands
 - lodgepole pine harvest (also Insect and Disease Issue)
 - stagnated LPP stands converted (also Insect and Disease Issue)
2. Transportation Facilities
 - New road construction needed
 - First decade new road miles
 - Total eventual size of the road network
 - Additional road use restrictions needed

3. Roadless Recreation
 - Lands from the inventoried roadless areas that are designated to remain roadless
 - Lands from the inventoried roadless areas that are to be developed in decade 1
 - Inventoried roadless lands that will still be roadless at the end of decade 1
 - Total roadless recreation opportunities provided
4. Threatened and Endangered Species
 - Grizzly habitat with little or no development
5. Special Wildlife Habitat
 - Acres of overmature timber (approaching or existing "old-growth") at the end of 100 years
 - Percent of key land in old-growth condition
6. Local Economic Impacts
 - Forest related private sector jobs
7. Wilderness
 - Recommended Wilderness acres
 - Number of areas recommended for Wilderness designation
8. Minerals, Oil and Gas
 - Acres withdrawn from exploration
9. Wildlife and Fish Habitat
 - Elk forage potential
 - Migratory fish produced in the first decade
10. Esthetics
 - Acres with preservation, retention and partial retention as visual quality objectives

In addition, the nation as a whole has an interest in ensuring that the Forest is managed in a financially prudent manner while the quality of the physical environment is protected and enhanced. The indicators associated with this are:

- Present net value
- cash receipts to the treasury
- non-cash benefits to Forest users
- Appropriated Budget items

The mixes of priced and non-priced outputs resulting from each alternative are a direct result of the varied attempts to resolve the broad public issues discussed above. Other issues that were defined in Chapter 1 have been resolved through KNF policy or standards and guidelines, and include landownership adjustment, and fire management. All of these issues are discussed in Appendix A. As can be seen, the issues identified during public participation, including the Draft EIS review period, cover the entire range of priced and non-priced resources.

b. Differences and Similarities of Individual Alternatives

The following table and discussion identify the tradeoffs between monetary goals (returns to the Treasury and PNV) and addressing the issues. The alternatives are listed in order of decreasing PNV. For a more detailed discussion of tradeoffs, see Appendix B, Section IV.C and Section VIII.

In general PNV tends to decline with increases in grizzly bear habitat security, retention of over-mature timber, conversion of stagnated lodgepole pine, visual quality protection and roadless management. PNV tends to increase with increases in timber harvest. Road construction, jobs and accessibility for mineral, oil and gas exploration also are linked to increases in PNV because they are directly associated with timber harvest levels and the size of the land area managed for timber. These relationships are described in more detail in Appendix B section IV.C.

Increased grizzly habitat security, retention of over-mature timber (and old-growth) and increased roadless management generally reduce PNV by excluding timber harvest from areas where it can be profitable. Visual quality protection and conversion of stagnated lodgepole pine stands tend to decrease PNV by making timber management more costly. Converting stagnated stands is costly and there is a long time span before returns are generated so PNV tends to drop when more of this activity is planned. A portion of the decline in PNV associated with improved visual quality is linked to the exclusion of timber management from potentially profitable areas. The remainder is associated with the increased costs associated with shelterwood harvests which are less visually impacting but which do not remove all the saleable timber. In this last situation, the costs of logging may be only slightly higher, but the returns generated on a per-acre basis are lower because not as many trees are removed.

Table II-23b displays the indicators discussed above. It shows the degree of response of each alternative to the issues, concerns and opportunities. The following sections discuss the tradeoffs between alternatives in more detail.

Table II-23b (Part 1)

INDICATORS OF RESPONSIVENESS OF ALTERNATIVES
TO THE MAJOR ISSUES AND NATIONAL CONCERNS

	PNV		RPA								PA	FP		CD		
	Alt.															
	M	N	A	B	C	E	G	D	O	L	H	J	K	JF	F	I
<u>QUANTIFIED COSTS AND BENEFITS</u>																
Present Net Value (\$MM)	1163	1148	1143	1136	1129	1113	1073	1064	1064	1046	1035	916	911	733	658	460
Average Annual Net receipts (\$MM/yr)																
Decade 1	1.8	1.0	0.0	-0.6	-0.5	0.0	0.5	0.9	-1.9	-4.4	0.6	-0.6	0.6	0.4	-3.4	-8.1
Decade 5	130.8	92.6	100.9	100.8	100.4	100.7	96.4	107.0	95.2	93.8	95.1	72.3	71.1	61.2	47.8	38.1
Average Annual Non-Cash Benefits (\$MM/yr)																
Decade 1	6.5	6.5	6.5	6.5	6.5	6.5	6.4	6.5	6.6	6.4	6.1	6.5	6.5	6.6	6.5	6.6
Decade 5	12.3	12.5	12.4	12.7	12.7	12.5	12.4	12.4	12.9	12.4	12.5	12.4	12.4	12.5	12.8	12.0
Average Appropriated Budget (\$MM/yr)																
Decade 1	24.1	23.2	21.8	21.6	21.7	21.1	20.6	21.5	21.7	28.1	20.1	20.3	22.0	19.2	16.8	16.6
Average Total Budget - Including purchaser Credit (\$MM/yr)																
Decade 1	30.4	29.1	27.2	27.0	27.1	26.4	25.7	26.9	26.9	34.2	25.1	25.2	27.5	24.0	20.7	19.6
Average Capital Investment Road Construction (\$MM/yr)																
Decade 1	5.1	4.6	4.3	4.2	4.3	4.1	3.9	4.3	3.9	5.2	3.8	3.7	4.2	3.6	3.4	2.4
<u>ISSUE RESPONSE INDICATORS</u>																
<u>Timber Issue</u>																
Regulated (live green) Timber Harvest (MMBF/yr)																
Decade 1	262	247	226	223	225	218	213	227	215	255	208	202	230	202	164	150
Suitable Timberland Managed																
M Acres	1484	1481	1470	1464	1466	1425	1386	1595	1389	1788	1361	1386	1386	1263	1132	1422
Total Lodgepole Pine Harvest - Including dead (MMBF/yr)																
Decade 1	117	107	87	88	90	80	74	84	94	53	64	94	99	98	70	97
Stagnated LPP Stands Converted by Decade 5																
M Acres	1	1	2	2	1	1	1	45	5	93	1	70	70	32	44	69
<u>Transportation Facilities Issue</u>																
Total New Roads needed after 1/1/84																
Miles	5230	5270	5270	5200	5150	4950	4750	5690	4680	6360	4590	4690	4720	4050	3850	38400
Miles of new road (decade total)																
Decade 1	3150	2890	2690	2660	2680	2630	2510	2670	2560	3100	2480	2440	2760	2370	2020	1850
Total Road System Eventually Required																
Miles	11250	11270	11270	11200	11150	10950	10750	11690	10680	12360	10590	10690	10720	10050	9850	9840
Additional Road Restrictions needed by Decade 5																
Miles	3500	3520	3510	3510	3520	3280	3180	3170	2700	4090	3130	4480	4480	4130	3360	2990

Table 11-23b (Part 2)

**INDICATORS OF RESPONSIVENESS
TO THE MAJOR ISSUES AND NATIONAL CONCERNS**

	PNV						RPA					PA	FP		CD	
	Alt.															
	M	N	A	B	C	E	G	D	O	L	H	J	K	JF	F	I
<u>Roadless Recreation</u>																
Designated Roadless Lands in Inventoried Roadless Areas																
M Acres	200	205	211	164	151	99	53	155	322	159	0	202	202	192	209	174
Inventoried Roadless Lands Developed in Decade 1																
M Acres	55	42	46	50	45	45	17	39	0	57	0	10	10	10	49	34
Inventoried Roadless Lands Remaining After Decade 1																
M Acres	349	362	358	289	278	172	81	301	322	347	0	327	327	315	355	307
Total Roadless Recreation Opportunities Provided																
M Acres	389	393	399	428	419	476	534	410	574	349	583	518	518	521	401	441
<u>Threatened & Endangered Species</u>																
Grizzly Habitat with little or No Development																
M Acres	434	424	425	434	439	475	514	469	444	354	545	589	589	609	339	551
<u>Special Wildlife Habitat</u>																
Overmature (age 160+) Timber After Decade 10																
M Acres	191	196	204	203	204	206	218	186	232	168	230	255	255	311	344	537
Minimum Acres Below 5500 feet in Old Growth Condition																
Percent	8	8	8	8	8	8	8	8	8	8	8	8	8	10	8	8
<u>Local Economic Impacts</u>																
Forest-related Employment in the Private Sector																
Jobs	2710	2610	2460	2440	2450	2390	2340	2460	2400	2730	2240	2300	2490	2300	2010	1930
<u>Wilderness</u>																
Recommended Wilderness																
M Acres	None	None	None	64	81	187	305	64	81	None	404	66	66	78	None	64
Sites	0	0	0	2	5	6	15	2	5	0	27	3	3	3	0	2
<u>Minerals, Oil & Gas</u>																
Withdrawals from Oil & Gas Exploration																
M Acres	148	148	148	212	228	335	453	212	228	148	540	215	215	227	148	212
Withdrawals from Locatable Mineral Exploration																
M Acres	185	185	185	249	265	371	484	249	265	185	579	252	252	264	185	249
<u>Wildlife & Fish Habitat</u>																
Elk Population By Decade 3																
Number	8300	8400	8400	8500	8500	8400	8500	8000	8500	8500	8600	8000	8000	8000	9900	7300
Migratory Fish (Smolts) Produced in Decade 1																
MM Fish/year	192	189	191	192	191	192	193	190	190	188	193	192	192	192	194	199
<u>Esthetics</u>																
Visual Quality Protection (VQO of P, R, & PR)																
M Acres	1092	1102	1108	1114	1120	1137	1157	1046	1382	976	1199	1311	1311	1311	1465	1240

(1) ALTERNATIVE M (PNV Benchmark or Maximum PNV)

Alternative M identifies the maximum PNV that can be reasonably generated from the Forest at \$1,163,000,000. A harvest volume of 262 MMBF (live green) was achieved in decade 1 while meeting minimum management requirements and permitting timber volume fluctuations as high as 25% from one decade to the next. In the absence of competing goals of other resources, timber harvest occurs on the most economically efficient lands. A total of 1,484,000 acres, out of the 1,788,000 acres that were tentatively suitable, are managed for timber production.

Costs and Budget: Alt. M has the highest PNV (\$1,163,000,000) of all the alternatives because it has the highest discounted benefits and the third highest discounted costs. The first decade appropriated budget is the second highest of all the alternatives and 45% higher than the average for the the 1980-1982 period. Due to the relatively unrestricted goal of maximizing PNV, this alternative generates the highest net returns to the treasury of all the alternatives in both the first and fifth decades.

Jobs and Community Stability: The high PNV is achieved with the highest timber harvest in the first decade. This will provide for short-term community stability with a potential for a 40% increase in jobs over the Current Direction and is the second highest increase of all the alternatives. Job opportunities would be expected to fluctuate considerably after the first decade due to the rise and fall in timber harvest levels. This would tend to increase instability in the local economy in the long run.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is increased 26% and 30%, respectively, over the Current Direction. This alternative has some of the fewest restrictions compared to other alternatives because no additional wilderness is recommended.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will increase 87% over the system (1984) existing. This is the fourth largest of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with an 86% increase in lodgepole pine timber harvest compared to the last five year average. This is a result of the high timber harvest levels in the first decade and is the highest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (1%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 99% decrease from the Current Direction.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 12% from the Current Direction. This is because of the high level of timber harvest and is the third lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 17% of the forest. This will be a 12% reduction from the Current Direction and is the second lowest amount available of all the alternatives. Fewer roadless recreation opportunities are provided because only roadless lands determined to be unsuitable for timber management are selected for roadless designation. No additional wilderness is recommended.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 21% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability of human/bear encounters. This is the fifth highest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber-dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The amount of overmature timber remaining after 10 decades is the third lowest of all the alternatives because the departure harvest sequence permits this valuable timber to be scheduled for harvest before then.

(2) ALTERNATIVE N

Alternative N is quite similar to alternative M except that the latitude to depart from non-declining yield is less broad. Rather than the +25% fluctuation from one decade to the next of alternative M, this alternative permits up to a 20% increase or a 15% decrease from one decade to the next and returns to a non-declining schedule after decade 5. This flexibility in harvest scheduling and the absence of other resource goals beyond the minimum management objectives permits the generation of the second highest PNV of the alternatives. The land base managed for timber production is about the same as Alternative M, but the first decade timber harvest is slightly lower due to the reduced flexibility in long range harvest scheduling.

Costs and Budget: Alt. N has the second highest PNV (\$1,148,000,000) of all the alternatives generated by the second highest discounted benefits and the fourth highest discounted costs. The first decade appropriated budget is the third highest of all the alternatives and 40% higher than the average for the 1980-1982 period. The net receipts to the treasury are the second highest of all the alternatives.

Jobs and Community Stability: The PNV is achieved with the third highest timber harvest in the first decade. This will provide for community stability with a potential for a 35% increase in jobs over the Current Direction, and is the third highest of all the alternatives. The slight decline in the second decade harvest level would generate some community instability then.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is increased 26-30% over the Current Direction. This is one of the lowest amount of restrictions of all the alternatives because no new wilderness is recommended, similar to ALT. M.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 88% over the existing system in 1984. This is the third largest of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 70% increase in lodgepole pine timber harvest compared to the last five year average. This is the second highest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (1%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 99% decrease from the Current Direction and similar to ALT. M.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as Visual Quality Protection is reduced approximately 11% from the Current Direction. This is the fourth lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 18% of the forest. This will be a 11% reduction from the Current Direction and is the third lowest amount available of all the alternatives. No additional wilderness is recommended, similar to ALT.M.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 23% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability of human/bear encounters. This is the third highest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The over-mature timber remaining after decade 10 is the fourth lowest of all the alternatives because much of this valuable timber is cut early.

(3) ALTERNATIVE A

Alternative A has the highest PNV of all the alternatives which constrain timber harvest to a non-declining schedule. The suitable timber base and the first decade harvest level are both slightly smaller than Alternatives M and N because of the limitations on harvest scheduling.

Costs and Budget: Alt. A generates the third highest PNV (\$1,143,000,000) of the alternatives with the fourth highest discounted benefits and the fifth highest discounted costs. The first decade appropriated budget is the sixth highest of all the alternatives and 31% higher than the average for the the 1980-1982 period. The average annual net returns to the treasury balance to zero in the first decade meaning that income to the treasury matches the expenses of managing the Forest.

Jobs and Community Stability: The PNV is achieved with the sixth highest timber harvest in the first decade. This will provide for community stability with a potential for a 27% increase in jobs over the Current Direction, and is the fifth highest of all the alternatives. Stability is retained into the future due to the non-declining harvest schedule.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is increased 26 and 30%, respectively, over the Current Direction. This is one of the lowest amount of restrictions of all the alternatives, similar to Alts. M and N, because no additional wilderness is recommended.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 88% over the existing system in 1984. This is the third largest of all the alternatives (similar to Alt. N) and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 38% increase in lodgepole pine timber harvest compared to the last five year average. This is the eighth highest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (2%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 97% decrease from the Current Direction.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 11% from the Current Direction (similar to Alt. N). This is because of the emphasis on timber harvest and is the fifth lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 18% of the forest (similar to Alt. N). This will be a 10% reduction from the Current Direction and is the fourth lowest amount available of all the alternatives. Fewer roadless recreation opportunities are provided because only roadless lands determined to be unsuitable for timber management are selected for roadless designation. No additional wilderness is recommended.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 23% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the fourth highest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber-dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF).

(4) ALTERNATIVE B

Alternative B is similar to alternative A except that 64,000 acres are recommended for Wilderness designation. About 6,000 of these acres were in the suitable timber base in Alternative A. Their removal from the suitable base causes a reduction in decade 1 timber harvest levels and a lower PNV compared to Alternative A.

Costs and Budget: Alt. B has the fourth highest PNV (\$1,136,000,000) of all the alternatives generated by the fifth highest discounted benefits and the sixth highest discounted costs. The first decade appropriated budget is the seventh highest of all the alternatives and 30% higher than the average for the the 1980-1982 period. The intensity of management and the reduced flexibility to schedule harvest over time results in a net negative return (cash outflow) to the treasury.

Jobs and Community Stability: The PNV is achieved with the eighth highest timber harvest in the first decade. This will provide for community stability with a potential for a 26% increase in jobs over the Current Direction, and is the seventh highest of all the alternatives.

Mineral Accessibility The potential for exploration for minerals and oil/gas is the same as the Current Direction. This is the second lowest amount of restrictions of all the alternatives.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 87% over the existing (1984) system. This is the fifth largest of all the alternatives (similar to Alt.M) and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 40% increase in lodgepole pine timber harvest compared to the last five year average. This is the seventh highest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (2%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 97% decrease from the Current Direction and similar to Alt. A.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as Visual Quality Protection is reduced approximately 10% from the Current Direction. This is the sixth lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 19% of the forest. This will be a 3% reduction from the Current Direction and is the seventh lowest amount available of all the alternatives. Wilderness recommendations are made in two locations, similar to RARE II and are the same as the Current Direction.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 21% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the fifth highest risk of all the alternatives and similar to Alt. M.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF).

(5) ALTERNATIVE C

Alternative C continues the trend of Alternatives A and B. It is the same as those two alternatives except that the Wilderness recommendation is different. About 19,000 acres in the Wilderness recommendation were suitable in Alternative A. This reduction of 19,000 acres of suitable base due to Wilderness recommendations was offset by an increase of about 15,000 acres which became cost efficient to manage for timber. Thus Alternative C has about 4,000 fewer acres in the suitable timber base than Alternative A. The 15,000 acres which became cost efficient did so because of the altered age class distribution that was available for management with the change in Wilderness recommendation. Managing this particular 15,000 acres for timber permits a schedule of harvest which will generate a higher PNV in the long run than if this land were not managed for timber production.

Costs and Budget: Alt. C has the fifth highest PNV (\$1,129,000,000) of all the alternatives because of the sixth highest discounted benefits and the sixth highest discounted costs. The first decade appropriated budget is the fifth highest of all the alternatives and 31% higher than the average for the the 1980-1982 period. Returns to the treasury are slightly higher than for Alternative B due to the slightly higher timber harvest level.

Jobs and Community Stability: The PNV is achieved with the seventh highest timber harvest in the first decade. This will provide for community stability with a potential for a 27% increase in jobs over the Current Direction, and is the sixth highest of all the alternatives and similar to Alt. A.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is decreased from 6-8%, respectively, compared to the Current Direction. This is the fourth highest amount of restrictions of all the alternatives because of the additional wilderness being recommended.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will increase 86% over the existing (1984) system. This is the sixth largest of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with an 44% increase in lodgepole pine timber harvest compared to the last five year average. This is a result of the moderate timber harvest levels in the first decade and is the sixth highest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (1%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 99% decrease from the Current Direction and similar to Alts. A, B, M, and N.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 10% from the Current Direction. This is because of the moderate level of timber harvest and is the seventh lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 19% of the forest. This will be a 5% reduction from the Current Direction and is the eighth highest amount available of all the alternatives. Wilderness recommendations are similar to the Montana Wilderness Bill of June, 1984. The recommended wilderness acreage is similar to the RARE II total acreage but the geographic locations are significantly different. Wilderness is recommended in five locations.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 20% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the sixth highest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber-dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF).

(6) ALTERNATIVE E

Alternative E is again similar to alternatives A, B and C except for its different Wilderness recommendation. The suitable timber base and the timber harvest level is lower than those alternatives discussed above because of the larger Wilderness recommendation.

Costs and Budget: Alt. E has the sixth highest PNV (\$1,113,000,000) of all the alternatives because of the eighth highest discounted benefits and the eighth highest discounted costs. The first decade appropriated budget is the ninth highest of all the alternatives and 27% higher than the average for the the 1980-1982 period. The net returns to the treasury are zero as expenditures match income.

Jobs and Community Stability: The PNV is achieved with the ninth highest timber harvest in the first decade. This will provide for community stability with a potential for a 24% increase in jobs over the Current Direction, and is the ninth highest of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is reduced compared to the Current Direction. Exploration restrictions are increased 49-58%, respectively, because of increased acres of wilderness recommendations. This is the third highest level of exploration restrictions of all the alternatives.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 83% over the existing (1984) system. This is the seventh largest increase of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 28% increase in lodgepole pine timber harvest compared to the last five year average. This is the tenth highest lodgepole pine harvest level of all the alternatives. In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (1%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 99% decrease from the Current Direction and similar to Alts. C, M, and N.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 8% from the Current Direction. This is the seventh highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 21% of the forest. This will be an 8% increase over the Current Direction and is the fifth highest amount available of all the alternatives. Wilderness is recommended on six different locations on the forest.

Grizzly Bear recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 14% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the fifth lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF).

(7) ALTERNATIVE G

Alternative G is the same as alternative A, B, C and E except that it has a different Wilderness recommendation. The Wilderness recommendation of 305,000 acres is 163% of that for Alternative E and the suitable timber base is 3% smaller. Because of this, the first decade timber harvest is also slightly lower.

Costs and Budget: Alt. G has the seventh highest PNV (\$1,073,000,000) of all the alternatives resulting from a combination of the tenth highest discounted benefits and the ninth highest discounted costs. The first decade appropriated budget is the fifth lowest of all the alternatives and 24% higher than the average for the 1980-1982 period. The net returns to the treasury is positive, in contrast to Alternatives B, C and E, because of the particular lands being managed for timber production and the associated harvest schedule.

Jobs and Community Stability. The PNV is achieved with the fifth lowest timber harvest in the first decade. This will provide for community stability with a potential for a 21% increase in jobs over the Current Direction, and is the fifth lowest increase of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is reduced compared to the Current Direction. Exploration restrictions are increased 94-114%, respectively, because of increased acres of wilderness recommendations. This is the second highest level of exploration restrictions of all the alternatives.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 79% over the existing (1984) system. This is the eighth largest increase of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with an 18% increase in lodgepole pine timber harvest compared to the last five year average. This is the fourth lowest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (1%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 99% decrease from the Current Direction and similar to Alts. A, B, C, E, M, and N.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 7% from the Current Direction. This is the sixth highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 24% of the forest. This will be a 21% increase over the Current Direction and is the third highest amount available of all the alternatives. Wilderness is recommended on six different locations on the forest.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 7% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the fourth lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The overmature timber remaining after 10 decades is larger than that remaining in the alternatives discussed above primarily because the land base managed for timber production is smaller than for those alternatives.

(8) ALTERNATIVE D (RPA)

Alternative D is the same as Alternative B except that timber volumes in decades one through five are forced to match those developed for the Kootenai National Forest as part of the 1980 RPA process. The Wilderness recommendation also matches the recommendation on which the 1980 RPA analysis was based. In order to achieve these timber goals a departure from non-declining yield was necessary and additional lands had to be brought into production. The result is a larger suitable timber base than Alternative B, a higher timber harvest level and a lower PNV. The PNV drops because the lands added to the suitable base are not as cost effective as those of Alternative B and because the schedule of harvest is forced to differ from that which would generate a higher PNV.

Costs and Budget: Alt. D is the eighth most efficient of all the alternatives, with a PNV of \$1,064,000,000, because of the combination of the seventh highest discounted benefits and the second highest discounted costs. The first decade appropriated budget is the eighth highest of all the alternatives and 30% higher than the average for the 1980-1982 period. The net returns to the treasury are higher in decade one than the other alternatives discussed above, but they are lower in the fifth decade than most of those alternatives. This results from the higher, but relatively efficient harvest level in decade one and the required high volume in decade 5 which forces the scheduling of less cost effective lands for harvest. Only Alternative M (due to broad departure options) and L (maximize timber) scheduled more timber for harvest in decade 5.

Jobs and Community Stability: The PNV is achieved with the fifth highest timber harvest in the first decade. This will provide for community stability with a potential for a 27% increase in jobs over the Current Direction, and is the fifth highest increase of all the alternatives and similar to Alts. A, B, and C.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is the same as the Current Direction. This is the second lowest amount of restrictions of all the alternatives and similar to Alt. B.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 95% over the existing (1984) system. This is the second largest of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 34% increase in lodgepole pine timber harvest compared to the last five year average. This is the ninth highest lodgepole pine harvest level of all the alternatives.

The risk of potential mountain pine beetle and fire will improve in the stagnated lodgepole pine stands. Approximately 48% of the available stands will be converted in the next 50 years to increase timber production. This is a 35% decrease from the Current Direction.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 16% from the Current Direction. This is the second lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 18% of the forest. This will be a 7% reduction from the Current Direction and is the sixth lowest amount available of all the alternatives. Wilderness is recommended in two locations, similar to RARE II, and is the same as Alt. B and the Current Direction.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 15% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the sixth lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The over-mature timber remaining after 10 decades is the lowest of all the alternatives discussed above because the high harvest levels force most of it to be cut early in the time horizon.

(9) ALTERNATIVE O

Alternative O is the same as Alternative C except that added emphasis is given to visual quality by altering harvest practices, or eliminating them entirely, in areas of high visual significance. This reduced the suitable timber base and the first decade harvest level to the second lowest of the alternatives discussed above.

Costs and Budget: Alt. O has the ninth highest PNV (\$1,064,000,000) of all the alternatives resulting from the combination of the ninth highest discounted benefits and the fourth highest discounted costs. The first decade appropriated budget is the fifth highest of all the alternatives and 31% higher than the average for the 1980-1982 period. The first decade returns to the treasury are the lowest of the alternatives discussed above primarily because of the increased costs and reduced returns of shelterwood harvest methods.

Jobs and Community Stability: The PNV is achieved with the tenth highest timber harvest in the first decade. This will provide for community stability with a potential for a 24% increase in jobs over the Current Direction, and is the eighth highest increase of all the alternatives and similar to Alt. E.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is reduced compared to the Current Direction. Exploration restrictions will increase approximately 6-8%, respectively, because of an increase in recommended wilderness. This is the fourth highest amount of restrictions of all the alternatives and similar to Alt. C.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 78% over the existing (1984) system. This is the fourth lowest amount of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 50% increase in lodgepole pine timber harvest compared to the last five years' average. This is the fifth highest lodgepole pine harvest level of all the alternatives.

The risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Approximately 5% of the available stands will be converted in the next 50 years to increase timber production. This is a 93% decrease from the Current Direction.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be less evident as visual quality protection is increased approximately 11% over the Current Direction. This is the second highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 26% of the forest. This will be a 30% increase over the Current Direction and is the second highest amount available of all the alternatives. Wilderness is recommended in five locations, similar to Alt. C.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 19% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the seventh lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The amount of over-mature timber remaining after decade 10 is the largest of the alternatives discussed above, primarily because of the smaller suitable timber base.

(10) ALTERNATIVE L

Alternative L is the maximum timber benchmark. It is like alternative A except that, instead of maximizing PNV, timber production over the entire 200 year time horizon is maximized. To maximize timber production, all the tentatively suitable timberlands are managed for timber production. Due to the non-declining harvest schedule, the first decade harvest level is lower than Alternative M, but higher than all the other alternatives.

Costs and Budget: Alt. L has the tenth highest PNV (\$1,046,000,000) of all the alternatives because of the combination of the third highest discounted benefits and the highest discounted costs. The first decade appropriated budget is the highest of all the alternatives and is 69% higher than the average for the the 1980-1982 period. Due to the high costs of managing some of the more difficult timber lands, including converting stagnated lodgepole pine stands, this alternative returns a net loss of \$4.4 MM to the treasury.

Jobs and Community Stability: The PNV is achieved with the second highest timber harvest in the first decade. This will provide for community stability with a potential for a 41% increase in jobs over the Current Direction and is the highest increase of all the alternatives and similar to Alt. M.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is increased 26-30%, respectively, over the Current Direction. This is one of the lowest amounts of restrictions of all the alternatives because no new wilderness is recommended and is similar to Alts. A, M, and N.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 106% over the existing (1984) system. This is the largest amount of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will increase because of a 16% decrease in lodgepole pine timber harvest compared to the last five year average. This is the lowest lodgepole pine harvest level of all the alternatives.

The risk of potential mountain pine beetle and fire will improve in the stagnated lodgepole pine stands. Approximately 99% of the available stands will be converted in the next 50 years to increase timber production. This is a 35% increase over the Current Direction and the highest of all the alternatives.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 21% from the Current Direction. This is the lowest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 16% of the forest. This will be a 21% reduction from the Current Direction and is the lowest amount available of all the alternatives. No additional wilderness is recommended, similar to Alts. A, M, and N.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 36% less grizzly habitat will be left in an undisturbed manner which will produce a higher probability for human/bear encounters. This is the second highest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). This alternative cuts most of the older timber early so that a second roatation can be harvested before the end of the time horizon. The result is that it has the smallest amount of over-mature timber remaining after the tenth decade.

(11) ALTERNATIVE H

Alternative H is like Alternatives A, B, C, E and G except that all the inventoried roadless areas are recommended for Wilderness designation. This results in the smallest suitable timber base and the smallest first decade harvest level of the alternatives discussed above.

Costs and Budget: Alt. H has the eleventh highest PNV (\$1,035,000,000) of all the alternatives because of a combination of the eleventh highest discounted benefits and the tenth highest discounted costs. The first decade appropriated budget is the third lowest of all the alternatives and 20% higher than the average for the 1980-1982 period. The net returns to the treasury are positive.

Jobs and Community Stability: The PNV is achieved with the twelfth highest timber harvest in the first decade. This will provide for community stability with a potential for a 16% increase in jobs over the Current Direction, and is the third lowest increase of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is reduced compared to the Current Direction. Exploration restrictions are increased 133-155%, respectively, because of increased acres of wilderness recommendations. This is the highest level of exploration restrictions of all the alternatives.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 77% over the existing (1984) system. This is the third smallest increase of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be maintained at approximately the same level with a 2% increase in lodgepole pine timber harvest compared to the last five year average. This is the second lowest lodgepole pine harvest level of all the alternatives.

In contrast, the risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands. Almost none (1%) of the available stands will be converted in the next 50 years because of the high investment costs required. This is a 99% decrease from the Current Direction and similar to Alts. C, E, G, M, and N.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be more evident as visual quality protection is reduced approximately 3% from the Current Direction. This is the fifth highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 26% of the forest. This will be a 32% increase over the Current Direction and is the highest amount available of all the alternatives. Wilderness is recommended on 27 different locations on the forest.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is similar to the the Current Direction. Approximately 1% less grizzly habitat will be left in an undisturbed manner which will contribute to the probability for human/bear encounters. This is the third lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). Among the alternatives discussed above, Alternative H retains more over-mature timber after decade 10 than do all the alternatives except Alternative O.

(12) ALTERNATIVE J (Proposed Action)

Alternative J was the Proposed Action presented in the Draft EIS. This alternative differs from those discussed above in three ways: 1) shelterwood harvest methods are used in sensitive viewing areas, 2) a different Wilderness recommendation is presented and, 3) all management designations are designed to retain future option. This resulted in a suitable timber base similar to Alternative G, but a lower first decade harvest level.

Costs and Budget: Alt. J has the twelfth highest PNV (\$916,000,000) of all the alternatives because of the thirteenth highest discounted benefits and the ninth highest discounted costs. The first decade appropriated budget is the fourth lowest of all the alternatives and 22% higher than the average for the the 1980-1982 period. It generates a flow of cash out of the treasury.

Jobs and Community Stability: The PNV is achieved with the thirteenth highest timber harvest in the first decade. This will provide for community stability with a potential for a 19% increase in jobs over the Current Direction, and is the fourth smallest increase of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is similar to the Current Direction. Exploration restrictions are 1% more than the Current Direction because of an increase in wilderness recommendations. This is the third lowest amount of restrictions of all the alternatives.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 78% over the existing (1984) system. This is the fifth smallest of all the alternatives (similar to Alt. 0) and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 50% increase in lodgepole pine timber harvest compared to the last five years' average. This is the fifth highest lodgepole pine harvest level of all the alternatives and similar to Alt. 0.

The risk of potential mountain pine beetle and fire will be maintained in the stagnated lodgepole pine stands. Approximately 74% of the available stands will be converted in the next 50 years to provide increased timber yields and wildlife benefits. This is a 1% increase over the Current Direction and the second highest of all the alternatives.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be less evident as visual quality protection is increased approximately 6% over the Current Direction. This is the third highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 23% of the forest. This will be a 17% increase over the Current Direction and is the fourth highest amount available of all the alternatives. Wilderness recommendations are made on three different locations on the Forest.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is decreased in relation to the the Current Direction. Approximately 7% more grizzly habitat will be left in an undisturbed manner which will produce a lower probability for human/bear encounters. This is the lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber-dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). Only three other alternatives retain more over-mature timber beyond decade 10. This is a result of retaining future options.

(13) **ALTERNATIVE K (Departure on Proposed Action)**

Alternative K is like Alternative J except that timber harvest levels are forced upward in the first two decades followed by a decline in decade 3. These manipulations result in a decreased PNV from Alternative J.

Costs and Budget: Alt. K has the thirteenth highest PNV (\$911,000,000) of all the alternatives because of the twelfth highest discounted benefits and the seventh highest discounted costs. The first decade appropriated budget is the fourth highest of all the alternatives and 33% higher than the average for the 1980-1982 period. Returns to the treasury are positive in the first decade, in contrast to Alternative J, because of the higher timber harvest level.

Jobs and Community Stability: The PNV is achieved with the fourth highest timber harvest in the first decade. This will provide for community stability with a potential for a 29% increase in jobs over the Current Direction. This is the fourth highest increase of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is similar to the Current Direction. Exploration restrictions are 1% more than the Current Direction because of an increase in wilderness recommendations. This is the third lowest amount of restrictions of all the alternatives (similar to Alt. J).

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 79% over the existing (1984) system. This is the sixth smallest of all the alternatives (similar to Alt. J) and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 58% increase in lodgepole pine timber harvest compared to the last five year average. This is the third highest lodgepole pine harvest level of all the alternatives.

The risk of potential mountain pine beetle and fire will be maintained in the stagnated lodgepole pine stands. Approximately 74% of the available stands will be converted in the next 50 years to provide increased timber yields and wildlife benefits. This is a 1% increase over the Current Direction and the second highest of all the alternatives.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be less evident as visual quality protection is increased approximately 6% over the Current Direction. This is the third highest level of visual quality protection of all the alternatives and similar to Alt. J.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 23% of the forest. This will be a 17% increase over the Current Direction and is the fourth highest amount available of all the alternatives (similar to Alt. J). Wilderness recommendations are made on three different locations on the Forest.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is decreased in relation to the the Current Direction. Approximately 7% more grizzly habitat will be left in an undisturbed manner which will produce a lower probability for human/bear encounters. This is the lowest risk of all the alternatives and similar to Alt. J.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The over-mature timber that remains after decade 10 is the same as for Alternative J because the suitable timber base is the same and the first 10 decades of harvest is similar.

(14) ALTERNATIVE JF (Final Plan)

Alternative JF is similar to the Proposed Action (Alt. J) except that: 1) the Wilderness recommendation is larger, 2) the retention of old-growth habitats is increased, 3) commercial thinning will not occur very often, 4) stagnated lodgepole stands will not be converted during the life of the plan with appropriated funds, and 5) timber is maximized in decade one subject to non-declining yield. The retention of more old-growth and the maximization of timber reduced PNV. The removal of commercial thinning requirements also reduced PNV, but recent experience indicates that it would be very difficult to sell sales involving much thinning even if the allowable cut effects associated with that activity would increase PNV [see Appendix B sections VI.B.4.c, VI.C.3.e, VI.D.6.c and VIII.C.2.p(2)]. Avoiding the conversion of stagnated lodgepole pine stands increases PNV.

Costs and Budget: The first decade appropriated budget is a 5% reduction from Alt. J and was the result of a 3% decline in the miles of new road construction, and a reduction in the amount of planned commercial thinning. Alt. JF is the third lowest budget of all the alternatives and 16% higher than the average for the 1980-1982 period. These budget changes reverse the situation of Alternative J and result in a positive return to the treasury. The PNV is \$733,000,000.

Jobs and Community Stability: There is no difference from Alt. J. This means there is a potential for a 16% increase in jobs over the Current Direction (Alt. I) based on Forest Service activities. An overall picture of the economy in terms of jobs and income from all sources is described in Appendix B.

Mineral Accessibility: The potential for exploration for mineral and oil/gas exploration is reduced 5% from Alt. J. This is the result of adding 12,000 acres of recommended wilderness on Pellick Ridge in the Scotchman Peak Roadless Area which is similar to Alts. C and O. It will also be a 6% increase over the Current Direction (Alt.I).

Miles of New Road Construction: The potential for affecting fisheries, wildlife and water quality will be reduced because of 6% fewer roads needed to manage the 9% smaller suitable timberland base. The rate of road construction in the first decade is reduced 3% from Alt.J. It will still be a 62% increase in new roads which will require strengthened monitoring to ensure that water quality and fisheries are adequately protected.

Lodgepole Pine Management: The harvest of lodgepole pine will be increased 4% over Alt. J and is similar to the Current Direction (Alt. I). This should provide for an increase of 50% over the last five years average harvest level.

The risk of potential mountain pine beetle and fire will not improve in the stagnated lodgepole pine stands because of a 54% reduction in the amount of stands converted from Alt. J. Only 32,000 acres will be converted because of the high investment costs required.

Visual Quality Protection: No change from Alt. J occurred. Specifically, this means that visual quality will be increased 6% over the Current Direction (Alt. I).

Wilderness and Roadless Quality: Roadless recreation opportunities on the Forest are unchanged from Alt. J. Specifically, this means that 23% of the Forest will be managed to provide roadless and wilderness opportunities. Wilderness is provided on three locations on the Forest and was increased in the Scotchman Peak roadless area compared to Alt. J.

Grizzly Bear Recovery: No significant change occurred from Alt. J. This means that the grizzly bear will have the least amount of risk of all the alternatives in the attempt to reach a recovered status.

Old-Growth Timber Habitat Management: In the Final Forest Plan (Alt. JF) the minimum level of old-growth timber was raised from 8% to 10% of the total Forest acreage below 5,500 feet elevation. This is a 25% increase and was done in response to the public concern received during the review period to reduce the risk of loss of this habitat component. In addition to the increased percentage (and acreage) provided, the designated old-growth timber (Management Area 13) was removed from the regulated (suitable) timber base. This will reduce pressures to harvest these areas. These changes also increased the amount of over-mature timber that will remain after decade 10.

(15) ALTERNATIVE F

Alternative F differs from the other alternatives because management is altered to maximize the production of elk habitat. This alternative has the smallest regulated timber base and the second lowest first decade timber harvest. The timber values are essentially traded off to values associated with elk habitat which contribute less in terms of dollar value and thus result in a lower PNV.

Costs and Budget: Alt. F has the fourteenth highest PNV (\$658,000,000) of all the alternatives because of the fourteenth highest discounted benefits and the twelfth highest discounted costs. The first decade appropriated budget is the second lowest of all the alternatives and 1% higher than the average for the 1980-1982 period. Net returns to the treasury are negative.

Jobs and Community Stability: The PNV is achieved with the second lowest timber harvest in the first decade. This will provide for community stability with a potential for a 4% increase in jobs over the Current Direction, and is the second smallest increase of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is increased from 26-30%, respectively, over the Current Direction. This is one of the lowest amount of restrictions of all the alternatives because no additional wilderness is recommended and is similar to Alts. A, L, M, and N.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 64% over the existing system in 1984. This is the second lowest of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 12% increase in lodgepole pine timber harvest compared to the last five year average. This is the third lowest lodgepole pine harvest level of all the alternatives.

The risk of potential mountain pine beetle infestation and fire will be reduced in the stagnated lodgepole pine stands. Approximately 47% of the available stands will be converted in the next 50 years to improve wildlife habitat. This is a 36% decrease from the Current Direction and the fifth highest of all the alternatives.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be less evident as visual quality protection is improved approximately 18% over the Current Direction. This is because of the emphasis on big-game habitat management and it indirectly results in the highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 18% of the forest (similar to Alts. A and N). This will be a 9% reduction from the Current Direction and is the fifth lowest amount available of all the alternatives. Fewer roadless recreation opportunities are provided because only roadless lands determined to be unsuitable for big game management are selected for roadless designation. No additional wilderness is recommended which is similar to Alts. A, L, M, and N.

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is increased in relation to the the Current Direction. Approximately 38% less grizzly habitat will be left in an undisturbed manner because of management to improve big-game wildlife habitat. This will produce a higher probability for human/bear encounters and result in the highest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber-dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). The amount of over-mature timber remaining after decade 10 is the second largest of all the alternatives because of the small suitable timber base and low harvest levels.

(16) ALTERNATIVE I (CURRENT DIRECTION)

Alternative I is quite different from the other alternatives because it describes the land designations as included in the Unit Plans that have been developed for the forest. It represents the current way the land is being managed. The other alternatives have budgets that are determined by the activities necessary to carry them out. This alternative limits the amount of activity to budget levels which approximate the current situation. The result is activities at levels similar to what has occurred in the recent past. The timber harvest level in the first decade is the lowest of all the alternatives even though the suitable timber base is larger than several of them. Timber harvest is simply deferred because budgets aren't available to support levels which would otherwise be possible. The PNV is the lowest of all the alternatives and would rise to \$909 MM if budgets were not constraining.

Costs and Budget: Alt. I has the fifteenth highest PNV (\$460,000,000) of all the alternatives because of the fifteenth highest discounted benefits and the eleventh highest discounted costs. The first decade appropriated budget is the lowest of all the alternatives and is the average for the 1980-1982 period. Net returns to the treasury are the lowest of all the alternatives.

Jobs and Community Stability: The PNV is achieved with the lowest timber harvest in the first decade. This will provide for community stability by retaining the projected level of jobs which is 1,930 in the first decade compared to 1,670 in 1980, and is the lowest level of increased jobs of all the alternatives.

Mineral Accessibility: The potential for exploration for minerals and oil/gas is retained at the present level. This is the second lowest amount of restrictions of all the alternatives, similar to Alts. B and D.

Miles of New Road Construction: Fisheries, wildlife and water quality will be affected because the road system will need to increase 64% over the existing system in 1984. This is similar to Alt. F, is the lowest of all the alternatives and will be needed to manage the designated suitable timberlands.

Lodgepole Pine Management: Mountain pine beetle infestations and potential fire risk will be reduced with a 54% increase in lodgepole pine timber harvest compared to the last five year average. This is the fourth highest lodgepole pine harvest level of all the alternatives.

The risk of potential mountain pine beetle and fire will be reduced in the stagnated lodgepole pine stands. Approximately 73% of the available stands will be converted in the next 50 years to improve wildlife habitat and timber yields. This is the third highest level of conversion of all the alternatives.

Visual Quality Protection: Forest management activities, such as timber harvesting and road construction, will be evident at the existing level as visual quality protection is retained at its present emphasis. This is the fourth highest level of visual quality protection of all the alternatives.

Wilderness and Roadless Quality: Roadless recreation opportunities will be available on 20% of the forest. This will be the sixth highest of all the alternatives. The Wilderness recommendations are similar to the RARE II proposal and propose wilderness in two locations on the Forest (similar to Alts. B and D).

Grizzly Bear Recovery: The risk of failing to recover the grizzly bear is maintained at its present level. Approximately 53% of the grizzly habitat will be left in an undisturbed manner which will help reduce the probability for human/bear encounters. This is the second lowest risk of all the alternatives.

Old-Growth Timber Management: 8% of all the Forest land below 5,500 feet elevation is managed to provide wildlife habitat for old-growth timber- dependent species. This is similar to all the other alternatives except the Final Plan (Alt. JF). This alternative retains the most over-mature timber after decade 10 because of the continuing low harvest levels.

The following 26-page table, commonly referred to as the "Monster Matrix", contains all the outputs by alternative that are discussed in this chapter.

More detailed information on many of these items can be found in Appendix B.

TABLE II-24

Resource Outputs by Base year, Benchmark, and Alternative.

Average annual outputs. All money figures are in 1978 Dollars.

Columns might not always add due to rounding.

Category	Decade	Unit of Measure	Alternative/Benchmark								MAX PNV M 114GG1	MIN LVL 114DD1
			A	B	C	RPA D	E	F	G			
			114FO1	114GO2	114HO2	114CC5	114JO1	114AA2	114LO1			
Developed Recreation	1	M RVD	297	297	297	297	297	297	297	297	297	297
1980 Base: 297 MRVD	3		354	354	354	354	354	354	354	354	354	0
	5		417	417	417	417	417	417	417	417	417	0
Roaded Recreation	1	M RVD	436	436	436	436	435	435	435	435	435	435
1984 Base: 436 MRVD	3		521	521	521	521	521	521	521	521	521	521
	5		614	614	614	614	614	614	614	614	614	550
	10		885	885	885	885	885	850	885	885	885	550
	15		1108	1104	1097	1152	1074	850	1053	1073	1073	550
	20		1108	1104	1097	1152	1074	850	1053	1073	1073	550
Semiprimitive Motorized Recreation	1	M RVD	65	57	51	53	44	68	27	63	63	76
1984 Base: 76 MRVD	3		65	57	51	53	44	68	27	63	63	91
	5		65	57	51	53	44	68	27	63	63	94
	10		65	57	51	53	44	68	27	63	63	94
	15		65	57	51	53	44	68	27	63	63	94
	20		65	57	51	53	44	68	27	63	63	94
Semiprimitive Nonmotorized Recreation	1	M RVD	47	47	47	47	47	47	47	47	47	47
1984 Base: 47 MRVD	3		56	56	56	56	56	56	56	56	56	56
	5		66	66	66	66	66	66	66	66	66	66
	10		95	95	95	95	95	95	95	95	95	95
	15		133	133	133	133	133	133	133	133	133	133
	20		185	185	185	185	185	185	185	185	185	185
Wilderness Recreation	1	M RVD	18	18	18	18	18	18	18	18	18	18
1984 Base: 18 MRVD	3		22	22	22	22	22	22	22	22	22	22
	5		25	25	25	25	25	25	25	25	25	25
	10		37	37	37	37	37	37	37	37	37	37
	15		51	51	51	51	51	51	51	51	51	51
	20		64	72	72	72	72	64	72	64	64	64
Elk Hunting Potential	1	M RVD	26	26	26	26	26	26	26	26	26	27
1980 Base: 23 MRVD	3		70	70	70	66	70	82	70	69	69	61
	5		107	108	108	102	107	127	108	105	105	95
	10		108	108	109	102	108	126	108	106	106	95
	15		106	107	107	102	107	127	107	105	105	95
	20		109	109	109	103	109	126	109	107	107	95

Table II-24 (cont.)

Alternative/Benchmark

2 of 26.

Category	Decade	Unit of Measure	CUR DIR			PROP ACT	FINAL PLAN	DEP			MAX PNV	MIN LVL
			H 114M01	I 114Y12	J 114009	JF 11424A	K 114FF5	L 114W01	N 114V01	O 114S07	M 114GG1	DD1 114DD1
Developed Recreation	1	M RVD	297	297	297	297	297	297	297	297	297	297
1984 Base: 297 MRVD	3		354	354	354	354	354	354	354	354	354	0
	5		417	417	417	417	417	417	417	417	417	0
Roaded Recreation	1	M RVD	436	436	436	436	436	436	436	436	436	436
1984 Base: 435 MRVD	3		521	521	521	521	521	521	521	521	521	521
	5		614	614	614	614	614	614	614	614	614	550
	10		885	885	885	885	885	885	885	885	885	550
	15		1084	1241	1241	1241	1241	1220	1100	1241	1073	550
	20		1084	1728	1728	1728	1728	1220	1100	1296	1073	550
Semiprimitive	1	M RVD	16	76	76	76	76	52	64	76	63	76
Motorized Recreation	3		16	91	91	91	91	52	64	91	63	91
1984 Base: 76 MRVD	5		16	103	107	107	107	52	64	91	63	94
	10		16	103	109	109	111	52	64	91	63	94
	15		16	103	109	109	111	52	64	91	63	94
	20		16	103	109	109	111	52	64	91	63	94
Semiprimitive	1	M RVD	47	47	47	47	47	47	47	47	47	47
Nonmotorized	3		56	56	56	56	56	56	56	56	56	56
Recreation	5		66	66	66	66	66	66	66	66	66	66
1984 Base: 47 MRVD	10		95	95	95	95	95	95	95	95	95	95
	15		133	133	133	133	133	133	133	133	133	133
	20		156	185	185	185	185	185	185	185	185	185
Wilderness Recreation	1		18	18	18	18	18	18	18	18	18	18
1984 Base: 18 MRVD	3		22	22	22	22	22	22	22	22	22	22
	5		25	25	25	25	25	25	25	25	25	25
	10		37	37	37	37	37	37	37	37	37	37
	15		51	51	51	51	51	51	51	51	51	51
	20		72	72	72	72	72	67	72	72	64	64
Elk Hunting	1	M RVD	26	26	26	26	26	26	26	26	26	26
Potential	3		71	60	66	66	66	70	69	71	69	61
1980 Base: 23 MRVD	5		109	92	99	99	99	108	106	109	105	95
	10		110	94	102	102	102	108	107	111	106	95
	15		108	93	101	101	101	107	106	111	105	95
	20		110	93	103	103	103	108	108	110	107	95

Table II-24 (cont.)

Category	Unit of Measure	Alternative/Benchmark							5 of 26	
		RPA							MAXPNV	MIN
		A	B	C	D	E	F	G	M	LVL
		114F01	114G02	114H02	114CC5	114J01	114AA2	114L01	114GG1	114DD1
Non-Motorized Recreation Management (Roadless Mgmt.)										
Scotchman Peaks (662)	M Acres	33.3	0.7	7.5	3.6	0.8	30.4	0	32.5	52.0
Ten Lakes Contiguous (683A)		0	0	0	0	0	0	0	0	0
Trout Creek (664)		15.4	15.0	6.6	9.4	2.7	12.8	1.1	12.9	30.8
Cab. Face West (670)		6.4	1.8	1.8	2.7	0.5	4.6	0	5.5	7.3
Cab. Face East (671)		35.6	34.9	22.8	33.7	0.8	36.2	0.2	34.9	46.9
Government Mtn. (673)		3.6	3.6	3.6	3.6	3.3	3.6	1.1	3.7	6.8
McKay (676)		7.5	3.1	4.2	6.8	1.7	7.0	0	7.1	11.9
Chippewa (682)		1.1	0.6	0.6	1.9	0.6	0.6	0	1.0	2.2
Rock Creek (693)		0.4	0.4	0.4	0.4	0.4	0.4	0	0.4	0.4
Roderick (684)		5.7	5.2	5.2	5.7	3.0	6.6	0	5.4	24.6
Galena (677)		8.3	8.3	8.3	8.3	1.7	8.6	0	8.3	12.3
Cataract (665)		11.8	10.6	10.6	10.7	3.6	10.1	0	11.6	16.0
Buckhorn (661)		14.5	14.6	14.3	14.1	14.7	14.9	0	14.3	18.6
NW Peaks (663)		9.5	9.5	9.5	9.5	9.5	9.5	0.4	9.5	13.2
W. Fork Elk Crk (692)		1.1	1.1	1.1	0	1.1	2.3	0	0.3	4.3
Gold Hill (668)		3.8	3.5	3.3	0.9	3.4	4.4	0	1.7	9.8
Gold Hill West (176)		3.7	3.7	3.7	0	3.7	5.4	0	3.7	9.9
Berray Mtn. (672)		0.4	0.4	0.4	0.4	0.4	1.2	0	0.4	3.0
E.Fork Elk Crk (678)		1.8	1.6	1.7	1.6	1.8	1.6	0	1.8	3.7
Lone Cliff-Smeads (674)		0.2	0.2	0.2	0.2	0.2	1.4	0.2	0.2	3.8
McNeeley (675)		1.6	1.4	1.4	0	1.4	2.1	1.4	0	5.2
Flagstaff (690)		3.4	2.9	2.8	2.7	2.8	3.5	2.8	2.7	5.2
Roberts Mtn. (691)		1.1	1.1	1.1	1.1	1.1	2.3	1.1	1.1	7.8
Grizzly Pk (667)		1.2	1.2	1.2	1.4	1.2	1.0	1.2	1.2	5.4
Zulu (166)		3.3	3.3	3.3	1.5	3.3	4.6	3.3	4.1	5.5
Marston (172)		5.1	5.1	5.1	5.1	5.1	5.7	5.1	5.1	5.7
Willard Lk Estelle (173)		10.3	10.3	10.3	10.0	10.3	9.5	9.8	10.2	16.7
Cube-Iron (784)		1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
Thompson-Seton (483)		16.3	15.5	15.0	15.3	15.0	14.3	14.6	15.6	18.5
Tuchuck (482)		2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.6
Maple Peak (141)		1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Le Beau (507)		0	0	0	0	0	0	0	0	0.7
Total Inventoried Roadless Mgmt.		211.2	164.4	150.8	155.4	98.9	209.0	53.1	199.6	353.4
Other Roadless Mgmt. (Not RARE II)		60.0	63.4	59.0	63.0	63.0	64.0	48.0	61.0	25.0
Total Designated Roadless Mgmt.		271.2	227.8	209.8	218.4	161.9	273.0	101.1	260.6	378.4
Visual Quality Objectives M Acres										
Retention and Preservation		398	420	419	410	492	402	534	390	507
Partial retention		710	694	701	636	645	1063	623	702	1018
Modification		306	300	302	275	278	460	269	303	440
Maximum modification		788	788	779	882	793	278	777	808	237

Table II-24 (cont.)

Category	Unit of Measure	Alternative/Benchmark															
		CURDIR				PROACT				FINAL		DEP		MAXPNV		MIN	
		H	I	J	FINAL	K	L	N	O	M	LVL						
	114M01	114Y12	114O09	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1							
Non-Motorized Recreation Management (Roadless Mgmt.)																	
Scotchman Peaks (662)	M Acres	0	3.5	19.6	9.6	19.6	28.4	33.3	23.0	32.5	52.0						
Ten Lakes Contiguous (683A)		0	0	0	0	0	0	0	0	0	0						
Trout Creek (664)		0	22.4	22.5	22.5	22.5	6.9	15.4	18.3	12.9	30.8						
Cab. Face West (670)		0	0.2	1.4	1.4	1.4	4.5	5.7	4.2	5.5	7.3						
Cab. Face East (671)		0	34.6	27.1	27.1	27.1	28.2	35.6	32.5	34.9	46.9						
Government Mtn. (673)		0	3.6	5.6	5.6	5.6	2.8	3.6	8.6	3.7	6.8						
McKay (676)		0	1.9	1.4	1.4	1.4	6.4	7.5	8.5	7.1	11.9						
Chippewa (682)		0	0.4	0.4	0.4	0.4	0.5	0.6	1.9	1.0	2.2						
Rock Creek (693)		0	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4						
Roderick (684)		0	6.6	10.7	10.7	10.7	4.7	5.5	24.8	5.4	24.6						
Galena (677)		0	10.2	10.8	10.8	10.8	8.2	8.3	15.5	8.3	12.3						
Cataract (665)		0	10.9	11.1	11.1	11.1	9.4	11.8	17.7	11.6	16.0						
Buckhorn (661)		0	15.1	18.2	18.2	18.2	11.4	14.5	22.0	14.3	18.6						
NW Peaks (663)		0	13.0	13.2	13.2	13.2	9.8	9.5	13.4	9.5	13.2						
W. Fork Elk Crk (692)		0	4.5	0.4	0.4	0.4	0	0.4	4.8	0.3	4.3						
Gold Hill (668)		0	1.0	1.8	1.8	1.8	0.5	1.7	10.7	1.7	9.8						
Gold Hill West (176)		0	1.4	0	0	0	0	3.7	10.2	3.7	9.9						
Berray Mtn. (672)		0	0	0	0	0	0	0.4	8.3	0.4	3.0						
E.Fork Elk Crk (678)		0	3.2	0.7	0.7	0.7	0	1.8	5.0	1.8	3.7						
Lone Cliff-Smeads (674)		0	0	0	0	0	0	0.2	6.6	0.2	3.8						
McNeeley (675)		0	0.5	0	0	0	0	0	7.7	0	5.2						
Flagstaff (690)		0	1.2	3.9	3.9	3.9	0	2.9	9.5	2.7	5.2						
Roberts Mtn. (691)		0	0	5.5	5.5	5.5	1.1	1.1	8.0	1.1	7.8						
Grizzly Pk (667)		0	2.3	3.1	3.1	3.1	1.0	1.2	6.0	1.2	5.4						
Zulu (166)		0	0	0.4	0.4	0.4	0.8	4.1	6.4	4.1	5.5						
Marston (172)		0	5.6	3.8	3.8	3.8	5.1	5.1	6.0	5.1	5.7						
Willard Lk Estelle (173)		0	11.5	17.1	17.1	17.1	9.3	10.2	18.5	10.2	16.7						
Cube-Iron (784)		0	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2						
Thompson-Seton (483)		0	16.0	17.8	17.8	17.8	14.8	15.8	20.1	15.6	18.5						
Tuchuck (482)		0	1.1	2.1	2.1	2.1	2.2	2.2	0.1	2.2	2.6						
Maple Peak (141)		0	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4						
Le Beau (507)		0	0.5	0.5	0.5	0.5	0	0	0.7	0	0.7						
Total Inventoried Roadless Mgmt.		0	174.2	202.1	192.1	202.1	158.6	204.8	322.4	199.6	353.4						
Other Roadless Mgmt. (Not RARE II)		54.0	76.0	122.0	122.0	122.0	62.0	60.0	42.0	61.0	25.0						
Total Designated Roadless Mgmt.		54.0	250.2	324.1	314.1	324.1	220.6	264.7	364.9	260.6	378.4						
Visual quality objectives	M Acres																
Retention(including Preservation)		590	529	545	545	545	349	393	676	390	507						
Partial retention		609	711	766	766	766	627	709	706	702	1018						
Modification		263	388	412	412	412	271	307	729	303	440						
Maximum modification		747	580	486	486	486	957	791	98	808	237						

Table II-24 (cont.)

Alternative/Benchmark

7 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark								MAXPNV M	MINLVL 114DD1
			A 114FO1	B 114G02	C 114H02	RPA		D 114CC5	E 114J01	F 114AA2		
Wildlife Habitat Imp 1980 Base: 3.8 MAC	1	M Acres	0.6	0.6	0.6	0.6	0.5	0.3	0.4	0.6	0.5	
Elk Forage Potential 1983 Base: 5.5 M Elk	1	M Elk	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
	3		8.4	8.5	8.5	8.0	8.4	9.9	8.5	8.3	7.4	
	5		8.3	8.4	8.4	8.0	8.4	9.9	8.4	8.2	7.4	
	10		8.4	8.4	8.4	8.0	8.4	9.8	8.4	8.3	7.4	
	15		8.3	8.3	8.4	7.9	8.3	9.9	8.4	8.1	7.4	
	20		8.5	8.5	8.5	8.0	8.5	9.8	8.5	8.3	7.4	
Managed to provide old-growth habitats 1983 Base: 93 M Acres		M Acres	89	89	89	193	109	151	121	89	105	
Commercial Forest land With trees 160 years or older 1980 Base: 452 MAC	1	M Acres	452	452	453	452	453	452	453	452	452	
	3		335	341	339	338	344	350	346	335	451	
	5		402	406	405	390	416	455	423	384	728	
	10		204	203	204	186	206	344	218	191	922	
	15		413	419	429	413	459	786	503	413	1776	
	20		389	393	376	383	435	751	482	389	1740	
Fish habitat Imp 1980 Base: 471 Ac	1	Acres	120	120	120	120	120	100	120	140	40	
Catchable Trout-Total 1980 Base: 1016 M Fish	1	M Fish	975	985	975	974	985	995	986	975	1032	
	2		974	974	974	985	974	995	975	985	1049	
	3		971	971	971	948	961	986	961	971	1066	
	4		961	961	961	961	962	972	962	961	1083	
	5		972	972	972	961	962	975	971	962	1101	
Migratory Trout 1980 Base: 205 M Fish	1	M Fish	191	192	191	190	192	194	193	191	205	
	2		190	190	190	192	190	194	191	192	205	
	3		188	188	188	183	186	193	186	188	205	
	4		186	186	186	186	187	189	187	186	205	
	5		189	189	189	186	187	191	188	187	205	
Resident Trout 1980 Base: 784 M Fish	1	M Fish	784	793	784	784	793	801	793	784	827	
	2		784	784	784	793	784	801	784	793	844	
	3		783	783	783	765	775	793	775	783	861	
	4		775	775	775	775	775	783	775	775	878	
	5		783	783	783	775	775	784	783	775	896	
Potential Range Forage 1980 Base: 12 MAUM	1	M AUM	20	20	19	18	19	15	19	19	15	
	2		22	22	22	22	22	16	21	25	8	
	3		30	30	30	37	29	21	28	30	8	
	4		36	35	35	42	34	24	33	36	6	
	5		43	43	42	48	41	29	39	46	5	

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark										8 of 26	
			H 114M01	CUR DIR I 114Y12	PROP ACT J 114009	FINAL PLAN JF 11424A	DEP K 114FF5	L 114W01	N 114V01	O 114S07	MAX PNV M 114GG1	MIN LVL 114DD1		
Wildlife Habitat Imp 1980 Base: 3.8 M Ac	1	M Acres	0.1	3.8	5.6	5.6	5.6	0.6	0.6	0.6	0.6	0.6	0.5	
Elk Forage Potential 1983 Base: 5.5 M Elk	1	M Elk	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
	3		8.6	7.3	8.0	8.0	8.0	8.5	8.4	8.5	8.3	7.4		
	5		8.5	7.2	7.7	7.7	7.7	8.4	8.3	8.5	8.2	7.4		
	10		8.5	7.3	7.9	7.9	8.0	8.4	8.3	8.6	8.3	7.4		
	15		8.4	7.2	7.9	7.9	7.9	8.3	8.2	8.6	8.1	7.4		
	20		8.6	7.2	8.0	8.0	8.0	8.4	8.4	8.6	8.3	7.4		
Managed to provide old-growth habitat 1983 Base: 93 M Ac		M Acres	135	93	93	126	93	145	89	87	89	105		
Commercial Forest Land With trees 160 years or older	1	M Acres	453	458	458	454	458	452	452	458	452	452		
	3		352	420	351	349	349	334	335	409	335	451		
	5		428	582	422	407	408	392	388	444	384	728		
	10		230	537	255	311	255	168	196	232	191	922		
	15		532	860	541	544	541	267	402	509	413	1776		
	20		511	584	500	604	500	240	382	482	389	1740		
Fish Habitat Imp 1980 Base: 471 Ac	1	Acres	150	100	120	120	120	130	130	120	140	40		
Catchable Trout-Total 1980 Base: 1016 M Fish	1	M Fish	986	1010	985	985	972	971	972	974	975	1032		
	2		974	996	985	985	974	972	975	974	985	1049		
	3		948	974	972	972	972	962	971	975	971	1066		
	4		961	996	962	962	962	961	961	962	961	1083		
	5		971	985	972	972	962	961	962	971	962	1101		
Migratory Trout 1980 Base: 205 M Fish	1	M Fish	193	199	192	192	189	188	189	190	191	205		
	2		190	195	192	192	190	189	191	190	192	205		
	3		183	190	189	189	189	187	188	191	188	205		
	4		186	195	187	187	187	186	186	187	186	205		
	5		188	192	197	197	187	186	187	188	187	205		
Resident Trout 1980 Base: 784 M Fish	1	M Fish	793	811	793	793	783	783	783	784	784	827		
	2		784	801	793	793	784	783	784	784	793	844		
	3		765	784	783	783	783	775	783	784	783	861		
	4		775	801	775	775	775	775	775	775	775	878		
	5		783	793	775	775	775	775	775	783	775	896		
Potential Range Forage 1980 Base: 12 M AUM	1	M AUM	19	19	18	18	18	21	20	20	19	15		
	2		20	20	21	21	23	28	23	25	25	8		
	3		27	27	29	29	31	41	30	32	30	8		
	4		32	28	33	33	33	43	37	33	36	6		
	5		37	30	38	38	38	50	45	40	46	5		

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark							9 of 26	
			RPA							MAXPNV	MIN
			A	B	C	D	E	F	G	M	LVL
			114F01	114G02	114H02	114CC5	114J01	114AA2	114L01	114GG1	114DD1
Allowable Sale											
Quantity (ASQ) ***	1	MMBF	254	250	253	255	245	184	240	294	0
1980 Base: 176 MMBF											
Projected Live Green	1	MMBF	226	223	225	227	218	164	213	262	80
Volume only, exclus-	3		249	247	250	285	238	190	231	274	0
ive of non-inter-	5		336	333	331	344	323	198	309	437	0
changeable volume	10		290	288	286	306	280	224	275	238	0
and Other harvest.	15		382	378	372	383	362	228	348	336	0
1980 Base: 156 MMBF	20		345	345	341	383	338	241	327	278	0
Projected Live Green	1	MMCF	56	56	56	56	54	40	52	66	20
Volume only, exclus-	3		56	56	56	66	54	40	52	61	0
ive of non-inter-	5		71	71	70	76	69	42	66	96	0
changeable volume	10		71	71	70	78	69	52	67	59	0
and Other harvest.	15		84	83	82	87	81	54	79	77	0
1980 Base: 43 MMCF	20		84	83	82	87	81	54	79	70	0
Long-Term Sustained											
Timber Yield		MMCF	84	84	83	90	82	56	80	84	0
Total Lodgepole Pine											
Timber Sale Schedule*	1	MMBF	87	88	90	84	80	70	74	117	0
1983 Base: 72 MMBF											
Reforestation	1	M Acres	14.4	14.4	14.6	14.5	13.8	11.3	13.3	17.4	0
1980 Base: 16.0 M Ac	3		19.6	19.3	19.2	21.1	18.9	11.4	18.4	20.7	0
	5		15.6	15.6	15.5	17.0	15.2	12.3	14.5	21.2	0
Commercial Thinning	1	M Acres	17.4	17.2	17.1	13.1	16.6	2.8	16.5	15.8	0
1980 Base: 0.7 M Ac	3		3.4	3.4	3.3	17.6	3.4	1.3	3.1	4.0	0
	5		5.3	5.9	5.5	8.1	5.3	4.4	6.3	7.9	0
Pre-Commercial	1	M Acres	1.8	1.9	1.8	0.2	1.8	1.4	1.8	2.1	0
Thinning	3		9.9	10.4	10.4	11.2	9.0	3.5	8.1	13.3	0
1980 Base: 5.0 M Ac	5		8.9	8.9	8.7	11.9	10.1	4.4	10.3	9.7	0
Land Suitable for											
Timber Harvest		M Acres	1470	1464	1466	1595	1425	1132	1386	1484	169
1980 Base: 1422 M Ac											
Stagnated Lodgepole pine		M Acres	2	2	1	45	1	44	1	1	0
converted by 5th decade											
Other Timber Harvest											
where permissible on	1	MMBF	7	7	7	7	6	5	6	8	0
non-suited lands**											

* = Included within the ASQ and includes the non-interchangeable component.

** = In addition to the ASQ. This volume plus the ASQ constitutes the Total Planned Timber Sale Offering or Program.

*** = Includes the non-interchangeable volume on suitable lands, and excludes Other Timber Harvest volumes.

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark									
			CUR DIR		PROP ACT	FINAL PLAN					MAX PNW	MIN LVL
			H	I	J	JF	K	L	N	O	M	LVL
			114M01	114Y12	114009	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1
Allowable Sale												
Quantity (ASQ) ***	1	MMBF	234	168	227	227	258	286	278	242	294	0
1980 Base: 176 MMBF												
Projected Live Green												
Volume only, exclusive of non-interchangeable volume and Other harvest.	1	MMBF	208	150	202	202	230	255	247	215	262	80
	3		223	157	224	227	216	264	283	263	274	0
	5		294	162	277	234	271	345	329	320	437	0
	10		290	194	239	190	237	341	282	321	238	0
	15		337	172	328	283	326	427	381	378	336	0
1980 Base: 156 MMBF	20		318	215	309	291	312	455	339	353	278	0
Projected Live Green												
Volume only, exclusive of non-interchangeable volume and Other harvest.	1	MMCF	50	36	51	49	57	59	62	55	66	20
	3		50	36	51	49	48	59	63	55	61	0
	5		64	36	59	49	57	74	69	69	96	0
	10		70	39	59	49	57	87	69	69	59	0
	15		76	41	71	63	71	98	84	82	77	0
1980 Base: 43 MMCF	20		76	41	71	63	71	102	84	82	70	0
Long-Term Sustained												
Timber Yield		MMCF	78	74	72	63	72	102	84	83	84	0
Total Lodgepole Pine												
Timber Sale Schedule*	1	MMBF	64	97	94	98	99	53	107	94	117	0
1983 Base: 72 MMBF												
Reforestation												
1980 Base: 16.0 M Ac	1	M Acres	12.5	9.9	12.2	14.1	14.1	21.1	16.0	10.6	17.4	0
	3		17.5	12.0	16.0	16.4	14.2	17.7	21.4	9.0	20.7	0
	5		14.1	14.9	18.0	12.9	17.6	17.0	15.1	10.7	21.2	0
Commercial Thinning												
1980 Base: 0.7 M Ac	1	M Acres	16.0	15.2	12.6	0	12.9	15.5	18.6	19.8	15.8	0
	3		3.0	8.1	7.8	0	7.7	12.9	3.8	3.9	4.0	0
	5		5.0	3.3	4.8	0	4.8	4.6	5.0	6.8	7.9	0
Pre-Commercial												
Thinning	1	M Acres	1.7	2.3	1.8	1.7	1.8	2.7	1.9	2.7	2.1	0
	3		7.8	3.7	9.9	8.5	11.1	15.4	9.5	11.1	13.3	0
1980 Base: 5.0 M Ac	5		9.8	7.0	4.7	5.5	4.6	10.0	9.5	10.5	9.7	0
Land Suitable For												
Timber Harvest		M Acres	1361	1422	1386	1263	1386	1788	1481	1389	1484	169
1980 Base: 1422 M AC												
Stagnated Lodgepole Pine												
Converted By 5th Decade		M Acres	1	69	70	32	70	93	1	5	1	0
Other Timber Harvest												
where permissible on non-suited lands**	1	MMBF	6	5	6	6	7	8	7	6	8	0

* = Included within the ASQ and includes the non-interchangeable component.

** = In addition to the ASQ. This volume plus the ASQ constitutes the Total Planned Timber Sale Offering or Program.

*** = Includes the non-interchangeable volume on suitable lands, and excludes Other Timber Harvest volumes.

Table II-24 (cont.)

Alternative/Benchmark

11 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark								MAX	MIN
			A	B	C	RPA	E	F	G	PNV	LVL	
			114F01	114G02	114H02	114CC5	114J01	114AA2	114L01	114GG1	114DD1	
Minerals Management												
Locatable Minerals	1	Cases	100	100	100	100	100	100	100	100	100	
1984 Base: 85 Cases												
Common Variety	1	Cases	35	35	35	35	35	35	35	35	15	
1984 Base: 25 Cases												
Oil and Gas	1	Cases	350	350	350	350	350	350	350	350	350	
1984 Base: 200 Cases												
Locatable Minerals Potential**												
Category A		M Acres										
Low			169	216	231	216	288	169	397	169	-	
Moderate			9	21	26	21	54	9	50	9	-	
High			1	4	2	4	20	1	28	1	-	
Very high			6	8	6	8	9	6	9	6	-	
Total			185	249	265	249	371	185	484	185	-	
Category B		M Acres										
Low			546	495	470	372	456	884	398	532	-	
Moderate			35	26	29	24	0	29	0	35	-	
High			20	17	22	13	6	23	0	15	-	
Very high			4	4	3	3	3	3	3	5	-	
Total			605	542	524	412	465	940	401	587	-	
Category C		M Acres										
Low			787	785	794	812	736	1018	698	778	-	
Moderate			16	17	13	12	12	31	17	22	-	
High			25	23	24	25	21	27	18	28	-	
Very high			8	6	8	6	7	10	7	7	-	
Total			836	831	839	861	776	1086	740	835	-	
Category D		M Acres										
Low			604	611	614	708	626	35	613	628	-	
Moderate			10	3	1	6	2	1	2	4	-	
High			5	5	2	9	3	0	4	6	-	
Very high			1	5	1	1	2	0	1	1	-	
Total			620	624	618	724	633	36	620	639	-	

** Category A: Areas that are withdrawn or proposed for withdrawal from mineral entry.

Category B: Administrative or environmental conditions severely limit operability for exploration.

Category C: Environmental conditions require some special lease stipulations or plan of operation conditions to mitigate, such as timing of operations, etc.

Category D: Areas where standard lease stipulations and plan of operation conditions apply.

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark										12 of 26		
			H 114M01	CUR DIR I 114Y12	PROP ACT J 114O09	FINAL PLAN JF 114Z4A	DEP K 114FF5	L 114W01	N 114V01	O 114S07	MAX PNV M 114GG1	MIN LVL 114DD1			
Minerals Management															
Locatable Minerals 1984 Base: 85 Cases	1	Cases	100	100	100	100	100	100	100	100	100	100	100		
Common Variety 1984 Base: 25 Cases	1	Cases	35	35	35	35	35	35	35	35	35	35	15		
Oil and Gas 1984 Base: 200 Cases			350	350	350	350	350	350	350	350	350	350	350		
Locatable Minerals Potential**															
Category A		M Acres													
Low			496	215	217	228	217	169	169	231	169	-			
Moderate			57	21	26	27	26	9	9	26	9	-			
High			17	4	2	2	2	1	1	2	1	-			
Very high			9	8	7	7	7	6	6	6	6	-			
Total			579	248	252	264	252	185	185	265	185	-			
Category B		M Acres													
Low			323	400	456	456	456	267	543	452	532	-			
Moderate			0	32	28	28	28	15	37	28	35	-			
High			5	18	24	24	24	16	17	24	15	-			
Very high			3	2	5	5	5	2	5	4	5	-			
Total			331	452	513	513	513	300	602	508	587	-			
Category C		M Acres													
Low			702	828	989	989	989	905	789	618	778	-			
Moderate			8	13	36	36	36	35	20	11	22	-			
High			25	18	20	20	20	21	29	15	28	-			
Very high			7	9	7	7	7	11	8	8	7	-			
Total			742	868	1052	1052	1052	972	846	652	835	-			
Category D		M Acres													
Low			585	664	422	422	422	764	605	787	628	-			
Moderate			5	4	2	2	2	11	3	4	4	-			
High			3	9	5	5	5	13	4	10	6	-			
Very high			1	1	1	1	1	1	1	20	1	-			
Total			594	678	430	430	430	789	613	821	639	-			

- ** Category A: Areas that are withdrawn or proposed for withdrawal from mineral entry.
 Category B: Administrative or environmental conditions severely limit operability for exploration.
 Category C: Environmental conditions require some special lease stipulations or plan of operation conditions to mitigate, such as timing of operations, etc.
 Category D: Areas where standard lease stipulations and plan of operation conditions apply.

Table II-24 (cont.)

Alternative/Benchmark

13 of 26

Category	Unit of Measure	Alternative/Benchmark							MAX	MIN
		A 114F01	B 114G02	C 114H02	RPA D 114CC5	E 114J01	F 114AA2	G 114L01	PNV M 114GG1	LVL 114DD1
Leasable Minerals Potential**										
Category A	M Acres									
Low		0	0	0	0	0	0	0	0	-
Moderate		148	212	228	212	335	148	453	148	-
High		0	0	0	0	0	0	0	0	-
Very high		0	0	0	0	0	0	0	0	-
Total		148	212	228	212	335	148	453	148	-
Category B	M Acres									
Low		0	0	0	0	0	0	0	0	-
Moderate		626	569	550	437	485	964	409	612	-
High		0	0	0	0	0	0	0	0	-
Very high		0	0	0	0	0	0	0	0	-
Total		626	569	550	437	485	964	409	612	-
Category C	M Acres									
Low		0	0	0	0	0	0	0	0	-
Moderate		859	849	861	872	792	1114	761	852	-
High		0	0	0	0	0	0	0	0	-
Very high		0	0	0	0	0	0	0	0	-
Total		859	849	861	872	792	1114	761	852	-
Category D	M Acres									
Low		0	0	0	0	0	0	0	0	-
Moderate		618	616	607	725	634	22	623	634	-
High		0	0	0	0	0	0	0	0	-
Very high		0	0	0	0	0	0	0	0	-
Total		618	616	607	725	634	22	623	634	-

- ** Category A: Areas that are withdrawn or proposed for withdrawal from mineral entry.
 Category B: Administrative or environmental conditions severely limit operability for exploration.
 Category C: Environmental conditions require some special lease stipulations or plan of operation conditions to mitigate, such as timing of operations, etc.
 Category D: Areas where standard lease stipulations and plan of operation conditions apply.

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark										14 of 26
			CUR DIR	PROP ACT	FINAL PLAN	DEP	L	N	O	MAX PNV	MIN LVL		
			H 114M01	I 114Y12	J 114O09	JF 11424A	K 114FF5	L 114W01	N 114V01	O 114S07	M 114GG1	LVL 114DD1	
Leasable Minerals Potential**													
Category A		M Acres											
Low			0	0	0	0	0	0	0	0	0	-	
Moderate			540	212	215	227	215	148	148	228	148	-	
High			0	0	0	0	0	0	0	0	0	-	
Very high			0	0	0	0	0	0	0	0	0	-	
Total			540	212	215	227	215	148	148	228	148	-	
Category B		M Acres											
Low			0	0	0	0	0	0	0	0	0	-	
Moderate			353	452	515	515	515	309	616	522	612	-	
High			0	0	0	0	0	0	0	0	0	-	
Very high			0	0	0	0	0	0	0	0	0	-	
Total			353	452	515	515	515	309	616	522	612	-	
Category C		M Acres											
Low			0	0	0	0	0	0	0	0	0	-	
Moderate			757	915	1094	1094	1094	988	867	682	852	-	
High			0	0	0	0	0	0	0	0	0	-	
Very high			0	0	0	0	0	0	0	0	0	-	
Total			757	915	1094	1094	1094	988	867	682	852	-	
Category D		M Acres											
Low			0	0	0	0	0	0	0	0	0	-	
Moderate			596	667	422	422	422	801	615	814	634	-	
High			0	0	0	0	0	0	0	0	0	-	
Very high			0	0	0	0	0	0	0	0	0	-	
Total			596	667	422	422	422	801	615	814	634	-	

** Category A: Areas that are withdrawn or proposed for withdrawal from mineral entry.
 Category B: Administrative or environmental conditions severely limit operability for exploration.
 Category C: Environmental conditions require some special lease stipulations or plan of operation conditions to mitigate, such as timing of operations, etc.
 Category D: Areas where standard lease stipulations and plan of operation conditions apply.

Table II-24 (cont.)

Alternative/Benchmark

15 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark								MIN LVL
			A 114F01	B 114G02	C 114H02	RPA D 114CC5	E 114J01	F 114AA2	G 114L01	MAX PNV M 114GG1	
Total Roads For Management		Miles	11272	11203	11153	11687	10951	9847	10748	11228	6000
1984 Base: 6000 Miles											
Roads With Restricted Use		Miles	5112	5109	5124	4773	4881	4965	4786	5100	451
1984 Base: 1600 Miles											
Road Construction (Total)	1	Miles	269	266	268	267	263	202	251	315	1
	3		123	125	112	166	111	103	109	104	1
1980 Base: 224 Miles	5		0	0	0	0	0	0	0	0	2
	10		0	0	0	0	0	0	0	0	7
	15		0	0	0	0	0	0	0	0	5
	20		0	0	0	0	0	0	0	0	1
Road Construction (Collectors)	1	Miles	6	6	6	6	6	4	6	7	0
	3		6	6	6	7	6	4	6	6	0
1980 Base: 6 Miles	5		0	0	0	0	0	0	0	0	1
	10		0	0	0	0	0	0	0	0	3
	15		0	0	0	0	0	0	0	0	0
	20		0	0	0	0	0	0	0	0	0
Road Construction (Locals)	1	Miles	263	260	261	261	257	198	245	308	1
	3		116	119	106	159	105	98	103	98	0
1980 Base: 218 Miles	5		0	0	0	0	0	0	0	0	1
	10		0	0	0	0	0	0	0	0	4
	15		0	0	0	0	0	0	0	0	5
	20		0	0	0	0	0	0	0	0	18
Road Reconstruction (Total)	1	Miles	62	62	62	66	57	38	62	69	1
	3		42	43	42	75	40	34	42	46	0
1980 Base: 361 Miles	5		66	72	70	81	64	45	67	97	1
	10		92	98	97	110	88	125	100	97	5
	15		68	67	66	79	74	117	74	72	5
	20		67	65	65	58	64	97	64	61	5
Road Reconstruction (Arterials & Collectors)	1	Miles	9	8	9	8	8	6	8	10	0
	3		9	8	9	10	8	6	8	9	0
1980 Base: 34 Miles	5		11	11	11	12	10	6	10	15	1
	10		11	11	11	12	10	8	10	9	4
	15		13	13	12	13	12	8	12	12	4
	20		13	13	12	13	12	8	12	11	4
Road Reconstruction (Locals)	1	Miles	54	53	54	57	49	32	54	59	1
	3		33	35	34	65	32	28	34	37	0
1980 Base: 327 Miles	5		55	61	60	69	54	38	57	82	0
	10		81	87	86	98	77	117	90	88	1
	15		55	54	54	65	62	109	62	60	1
	20		54	53	53	45	52	89	52	50	2

Table II-24 (cont.)

Alternative/Benchmark

16 of 26

Category	Decade	Unit of Measure	CUR DIR		PROP ACT	FINAL PLAN	Alternative/Benchmark				MAX PNV	MIN LVL
			H	I	J	JF	K	L	N	O	M	DD1
			114M01	114Y12	114009	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1
Total Roads For Management 1984 Base: 6000 Miles		Miles	10591	9837	10692	10050	10725	12363	11267	10685	11228	6000
Roads With Restricted Use 1984 base: 1600 Miles		Miles	4731	4590	6081	5730	6084	5689	5134	4300	5100	451
Road Construction (Total)	1	Miles	248	185	244	237	276	310	290	256	315	1
	3		111	138	97	37	60	187	109	92	104	0
1980 Base: 224 Miles	5		0	3	0	0	0	0	0	0	0	2
	10		0	0	0	0	0	0	0	0	0	7
	15		0	0	0	0	0	0	0	0	0	5
	20		0	0	0	0	0	0	0	0	0	2
Road Construction (Collectors)	1	Miles	6	4	6	6	6	7	7	6	7	0
	3		6	4	6	6	5	6	6	6	6	0
1980 Base: 6 Miles	5		0	3	0	0	0	0	0	0	0	1
	10		0	0	0	0	0	0	0	0	0	3
	15		0	0	0	0	0	0	0	0	0	0
	20		0	0	0	0	0	0	0	0	0	0
Road Construction (Locals)	1	Miles	242	181	238	232	270	303	283	250	308	1
	3		105	133	91	31	55	181	102	86	98	0
1980 Base: 218 Miles	5		0	0	0	0	0	0	0	0	0	1
	10		0	0	0	0	0	0	0	0	0	4
	15		0	0	0	0	0	0	0	0	0	5
	20		0	0	0	0	0	0	0	0	0	1
Road Reconstruction (Total)	1	Miles	57	30	53	54	60	62	72	60	69	1
	3		40	29	49	48	45	103	47	34	46	0
1980 Base: 361 Miles	5		59	32	68	60	67	62	61	68	97	1
	10		93	35	108	126	95	120	102	89	97	5
	15		73	51	71	76	73	85	71	73	72	5
	20		58	21	61	63	51	84	71	62	61	6
Road Reconstruction (Arterials & Collectors)	1	Miles	8	6	8	7	9	9	9	8	10	0
	3		8	6	8	7	7	9	10	8	9	0
1980 Base: 34 Miles	5		10	6	9	7	9	11	10	11	15	1
	10		11	6	9	7	9	13	10	11	9	4
	15		12	6	11	9	11	15	13	12	12	4
	20		12	6	11	9	11	15	13	12	11	4
Road Reconstruction (Locals)	1	Miles	50	24	45	46	51	54	62	51	59	1
	3		32	24	42	41	38	94	37	26	37	0
1980 Base: 327 Miles	5		49	26	59	53	58	51	51	57	82	0
	10		82	29	100	119	85	107	91	78	88	1
	15		61	45	60	67	62	70	59	61	60	1
	20		47	14	50	53	40	68	59	50	50	2

Table II-24 (cont.)

Alternative/Benchmark

17 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark							MAX	MIN
			A	B	C	RPA	E	F	G	PNV	LVL
			114F01	114G02	114H02	114CC5	114J01	114AA2	114L01	114GG1	114DD1
Local Forest-Related	1	Jobs	2457	2436	2447	2457	2391	2006	2343	2706	1256
Pvt Sector Employment	2		2666	2685	2703	2727	2616	2273	2559	2498	797
1980 Base: 1666											
Local Forest-Related	1	MMS	43.20	42.77	43.02	43.21	41.92	34.08	41.04	48.29	20.02
Pvt. Sector Income	2		46.93	47.01	47.40	47.75	45.68	38.60	44.59	43.28	9.95
1980 Base: 23.45 MMS											
Forest Service	1	MMS	27.18	26.97	27.12	26.94	26.35	20.70	25.67	30.35	5.60
Costs (Total)	3		21.86	21.82	21.38	26.90	20.91	16.76	20.30	22.23	5.45
1980 Base: 17.93 MMS	5		18.04	18.18	18.02	19.57	17.78	15.05	17.58	22.10	5.72
	10		18.86	18.97	18.87	20.35	18.46	15.95	18.52	17.64	6.57
	15		18.94	18.61	18.54	20.23	18.94	16.28	18.67	18.84	6.52
	20		18.22	18.12	18.00	18.24	17.91	15.12	17.66	16.67	6.24
Forest Service	1	MMS	1.57	1.66	1.66	1.66	1.65	1.66	1.63	1.65	1.44
Costs (Recreation	3		2.24	2.27	2.27	2.24	2.26	2.28	2.22	2.22	1.79
and Wildlife)	5		2.78	2.85	2.85	2.80	2.84	2.70	2.73	2.76	2.14
1980 Base: 0.53 MMS	10		3.01	3.07	3.07	3.03	3.06	2.87	2.83	2.95	2.31
	15		3.18	3.14	3.09	3.06	3.06	3.08	2.84	3.10	2.53
	20		3.20	3.16	3.11	3.08	3.10	3.08	2.98	3.11	2.82
Forest Service	1	MMS	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.04
Costs (Range)	3		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0
1980 Base: 0.08 MMS	5		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0
	10		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0
	15		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0
	20		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0
Forest Service	1	MMS	9.05	9.01	9.07	8.73	8.70	5.78	8.44	10.28	0.05
Costs (Timber)	3		9.67	9.62	9.58	12.11	9.26	5.77	8.93	10.59	0.04
1980 Base: 6.69 MMS	5		9.86	9.87	9.77	10.94	9.67	7.61	9.42	13.15	0.15
	10		10.08	10.06	10.01	11.05	9.80	6.46	9.61	8.80	0.61
	15		10.37	10.37	10.32	11.61	10.54	6.98	10.33	10.51	0.67
	20		9.96	9.91	9.80	10.09	9.74	6.61	9.55	8.60	0.53

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark									
			CUR DIR	PROP ACT	FINAL PLAN	Alternative/Benchmark					MAX PNV	MIN LVL
			H 114M01	I 114Y12	J 114O09	K 114FF5	L 114W01	N 114V01	O 114S07	M 114GG1	114DD1	
Local Forest-Related Pvt Sector Employment 1980 Base: 1666 Jobs	1 2	Jobs	2237 2399	1931 2047	2299 2584	2299 2550	2492 2644	2727 2680	2608 2619	2401 2706	2706 2498	1256 797
Local Forest Related Pvt Sector Income 1980 Base: 23.45 MMS	1 2	Jobs	39.98 42.04	32.44 33.91	39.91 44.82	39.91 44.24	43.83 46.06	48.53 46.90	46.23 45.64	41.94 47.25	48.29 43.28	20.02 9.95
Forest Service Costs (Total) 1980 Base: 17.93 MMS	1 3 5 10 15 20	MMS	25.09 20.09 16.93 18.55 18.40 17.15	19.62 19.00 17.95 13.42 13.79 12.38	25.20 20.60 20.10 17.47 17.50 17.67	24.00 17.64 14.75 18.77 15.88 15.31	27.52 18.55 19.86 16.80 17.62 17.28	34.18 27.33 19.06 21.37 21.77 22.48	29.13 22.39 17.88 18.91 19.20 18.50	26.90 21.20 19.05 18.89 20.68 19.34	30.35 22.23 22.10 17.64 18.84 16.67	5.60 5.45 5.72 6.57 6.52 6.24
Forest Service Costs (Recreation and Wildlife) 1980 Base: 0.53 MMS	1 3 5 10 15 20	MMS	1.52 2.08 2.79 2.68 2.80 2.94	1.68 2.22 2.77 3.48 4.30 5.25	1.68 2.27 2.83 3.56 4.46 5.49	1.69 2.27 2.84 3.55 4.46 5.42	1.68 2.27 2.82 3.55 4.46 5.50	1.65 2.23 2.77 3.12 3.15 3.16	1.67 2.28 2.80 3.05 3.21 3.23	1.68 2.31 2.90 3.36 3.58 3.83	1.65 2.22 2.76 2.95 3.10 3.11	1.44 1.79 2.14 2.31 2.53 2.82
Forest Service Costs (Range) 1980 Base: 0.08 MMS	1 3 5 10 15 20	MMS	0.08 0.08 0.08 0.08 0.08 0.08	0.04 0 0 0 0 0								
Forest Service Costs (Timber) 1980 Base: 6.69 MMS	1 3 5 10 15 20	MMS	8.09 8.55 8.99 9.85 10.10 9.19	6.54 6.55 10.42 5.95 5.94 5.19	8.34 9.19 11.85 8.31 9.13 9.51	7.44 8.52 6.77 9.38 7.52 7.24	9.27 8.61 11.63 7.95 9.20 9.35	14.06 10.95 10.73 11.66 12.84 13.57	9.96 10.58 9.63 9.93 10.55 10.15	9.53 10.39 10.89 10.27 12.35 11.23	10.28 10.59 13.15 8.80 10.51 8.60	0.05 0.04 0.15 0.61 0.67 0.53

Table II-24 (cont.)

Alternative/Benchmark

19 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark								MAX	MIN
			A	B	C	RPA		F	G	PNV	LVL	
			114FO1	114G02	114H02	114CC5	114J01	114AA2	114L01	114GG1	114DD1	
Forest Service	1	MMS	4.82	4.72	4.72	4.80	4.71	4.47	4.69	4.74	4.01	
Costs (Other)	3		4.11	3.98	4.07	4.30	4.06	3.81	3.86	4.13	3.59	
1980 Base: 3.56 MMS	5		3.58	3.52	3.50	3.64	3.49	3.43	3.60	3.60	3.32	
	10		3.37	3.30	3.29	3.41	3.28	3.27	3.48	3.47	3.15	
	15		3.50	3.23	3.28	3.39	3.29	3.05	3.46	3.27	2.94	
	20		3.19	3.21	3.26	3.37	3.25	3.05	3.33	3.26	2.65	
Forest Service	1	MMS	11.66	11.50	11.59	11.67	11.21	8.71	10.83	13.60	0.06	
Costs (Roads-Total)	3		5.76	5.87	5.38	8.17	5.25	4.82	5.21	5.21	0.03	
1980 Base: 7.07 MMS	5		1.74	1.86	1.82	2.11	1.70	1.23	1.75	2.51	0.11	
	10		2.32	2.46	2.42	2.78	2.24	3.27	2.52	2.39	0.50	
	15		1.81	1.79	1.77	2.09	1.97	3.09	1.96	1.88	0.38	
	20		1.79	1.76	1.75	1.62	1.74	2.30	1.72	1.62	0.24	
Purchaser Credit	1	MMS	5.43	5.36	5.40	5.45	5.24	3.94	5.12	6.28	0.03	
Road Costs (Total)	3		4.19	4.29	3.87	6.08	3.79	3.60	3.76	3.69	0.01	
1980 Base: 2.66 MMS	5		0.93	1.03	0.99	1.19	0.92	0.65	0.97	1.38	0.04	
	10		1.37	1.47	1.44	1.68	1.32	1.84	1.54	1.48	0.13	
	15		0.92	0.91	0.90	1.12	1.06	1.72	1.07	1.01	0.17	
	20		0.91	0.89	0.88	0.77	0.89	1.41	0.89	0.85	0.05	
Purchaser Credit	1	MMS	5.43	5.36	5.40	5.45	5.24	3.94	5.12	6.28	0.03	
Road Costs	3		3.63	3.71	3.30	4.98	3.24	3.16	3.17	3.07	0.01	
(Construction)	5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
	10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	
	15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	
	20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	
Purchaser Credit	1	MMS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Road Costs	3		0.56	0.58	0.56	1.11	0.55	0.00	0.59	0.62	0.00	
(Reconstruction)	5		0.93	1.03	0.99	1.19	0.92	0.44	0.97	1.38	0.00	
	10		1.37	1.47	1.44	1.68	1.32	1.84	1.54	1.48	0.01	
	15		0.92	0.91	0.90	1.12	1.06	1.72	1.07	1.01	0.02	
	20		0.91	0.89	0.88	0.77	0.89	1.41	0.89	0.85	0.02	

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark										
			CUR DIR		PROP ACT	FINAL PLAN	DEP					MAX PNV	MIN LVL
			H	I	J	JF	K	L	N	O	M	LVL	
			114M01	114Y12	114O09	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1	
Forest Service	1	MMS	4.78	4.84	4.80	4.74	4.81	4.95	4.73	4.73	4.74	4.01	
Costs (Other)	3		4.18	4.27	4.18	4.16	4.18	4.35	4.08	4.07	4.13	3.59	
1980 Base: 3.56 MMS	5		3.50	3.73	3.64	3.60	3.65	3.81	3.77	3.50	3.60	3.32	
	10		3.58	3.03	2.92	2.89	2.92	3.47	3.34	3.05	3.47	3.15	
	15		3.49	2.22	2.02	1.97	2.02	3.43	3.48	2.83	3.27	2.94	
	20		3.35	1.27	1.29	1.01	0.97	3.42	3.16	2.58	3.26	2.65	
Forest Service	1	MMS	10.62	6.48	10.30	10.05	11.68	13.44	12.69	10.88	13.60	0.06	
Costs (Roads)	3		5.20	5.88	4.88	2.61	3.41	9.72	5.37	4.35	5.21	0.03	
1980 Base: 7.07 MMS	5		1.57	0.95	1.70	1.46	1.68	1.67	1.60	1.68	2.51	0.11	
	10		2.36	0.88	2.60	2.87	2.30	3.04	2.51	2.13	2.39	0.50	
	15		1.93	1.25	1.81	1.85	1.86	2.27	1.88	1.84	1.88	0.38	
	20		1.59	0.59	1.30	1.56	1.38	2.25	1.88	1.62	1.62	0.24	
Purchaser Credit	1	MMS	5.00	2.98	4.86	4.77	5.51	6.11	5.92	5.16	6.28	0.03	
Road Costs	3		3.78	3.77	3.48	1.58	2.29	7.42	3.82	3.02	3.69	0.01	
(Total)	5		0.85	0.41	0.96	0.82	0.96	0.87	0.84	0.88	1.38	0.04	
1980 Base: 2.66 MMS	10		1.41	0.45	1.63	1.85	1.41	1.83	1.51	1.20	1.48	0.13	
	15		1.05	0.71	0.98	1.03	1.02	1.20	0.97	0.94	1.01	0.17	
	20		0.80	0.23	0.82	0.82	0.66	1.16	0.97	0.77	0.85	0.05	
Purchaser Credit	1	MMS	5.00	2.98	4.86	4.77	5.51	6.11	5.92	5.16	6.28	0.03	
Road Costs	3		3.23	3.77	2.80	0.95	1.67	5.82	3.21	2.62	3.07	0.01	
(Construction)	5		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	
	10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	
	15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	
	20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	
Purchaser Credit	1	MMS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Road Costs	3		0.55	0.00	0.68	0.63	0.62	1.60	0.61	0.40	0.62	0.00	
(Reconstruction)	5		0.85	0.41	0.96	0.82	0.96	0.87	0.84	0.88	1.38	0.00	
	10		1.41	0.45	1.63	1.85	1.41	1.83	1.51	1.20	1.48	0.01	
	15		1.05	0.71	0.98	1.03	1.02	1.20	0.97	0.94	1.01	0.02	
	20		0.80	0.23	0.82	0.82	0.66	1.16	0.97	0.77	0.85	0.02	

Table II-24 (cont.)

Alternative/Benchmark

21 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark							MAX	MIN
			A	B	C	RPA	E	F	G	PNV	LVL
			114FO1	114GO2	114HO2	114CC5	114JO1	114AA2	114LO1	114GG1	114DD1
Capital Investment	1	MMS	4.29	4.23	4.27	4.28	4.11	3.37	3.88	5.08	0.02
Road Costs	3		0.61	0.60	0.61	0.68	0.58	0.43	0.56	0.64	0.02
(Total)	5		0.42	0.42	0.41	0.45	0.40	0.30	0.39	0.56	0.05
1980 Base: 4.41 MMS	10		0.42	0.42	0.41	0.46	0.40	0.30	0.39	0.35	0.30
	15		0.49	0.49	0.48	0.51	0.48	0.32	0.46	0.45	0.16
	20		0.49	0.49	0.48	0.51	0.48	0.32	0.46	0.41	0.16
Capital Investment	1	MMS	3.05	3.01	3.05	2.97	2.96	2.63	2.66	3.71	0.01
Road Costs	3		0.28	0.28	0.28	0.30	1.27	0.20	0.26	0.28	0.01
(Construction)	5		0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.00	0.02
	10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Investment	1	MMS	1.24	1.22	1.22	1.31	1.15	0.74	1.28	1.37	0.01
Road Costs	3		0.33	0.33	0.33	0.38	0.31	0.23	0.31	0.36	0.01
(Reconstruction)	5		0.42	0.42	0.41	0.45	0.40	0.24	0.39	0.56	0.03
	10		0.42	0.42	0.41	0.46	0.40	0.30	0.39	0.35	0.16
	15		0.49	0.49	0.48	0.51	0.48	0.32	0.46	0.45	0.16
	20		0.49	0.49	0.48	0.51	0.48	0.32	0.46	0.41	0.16

Table II-24 (cont.)

Alternative/Benchmark

22 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark									
			CUR	PROP	FINAL						MAX	MIN
			DIR	ACT	PLAN	DEP	L	N	O	PNV	LVL	
		H	I	J	JF	K	L	N	O	M	LVL	
		114M01	114Y12	114009	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1	
Capital Investment	1	MMS	3.84	2.43	3.71	3.58	4.21	5.16	4.65	3.88	5.08	0.02
Road Costs	3		0.54	1.14	0.54	0.53	0.52	0.61	0.65	0.60	0.64	0.02
(Total)	5		0.37	0.33	0.34	0.29	0.34	0.44	1.40	0.41	0.56	0.05
1980 Base: 4.41 MMS	10		0.41	0.23	0.34	0.29	0.34	0.51	0.40	0.41	0.35	0.30
	15		0.45	0.24	0.42	0.37	0.42	0.57	0.49	0.48	0.45	0.16
	20		0.45	0.24	0.42	0.37	0.42	0.60	0.49	0.48	0.41	0.16
Capital Investment	1	MMS	2.69	1.83	2.68	2.58	3.03	3.90	3.26	2.76	3.71	0.01
Road Costs	3		0.24	0.55	0.24	0.24	0.24	0.26	0.28	0.28	0.28	0.01
(Construction)	5		0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
	10		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14
	15		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	20		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Capital Investment	1	MMS	1.15	0.60	1.03	1.00	1.18	1.26	1.39	1.12	1.37	0.01
Road Costs	3		0.30	0.59	0.30	0.29	0.28	0.35	0.37	0.32	0.36	0.01
(Reconstruction)	5		0.37	0.21	0.34	0.29	0.34	0.44	0.40	0.41	0.56	0.03
	10		0.41	0.23	0.34	0.29	0.34	0.51	0.40	0.41	0.35	0.16
	15		0.45	0.24	0.42	0.37	0.42	0.57	0.49	0.48	0.45	0.16
	20		0.45	0.24	0.42	0.37	0.42	0.60	0.49	0.48	0.41	0.16

Table II-24 (cont.)

Alternative/Benchmark

23 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark								MAX	MIN
			A	B	C	RPA	E	F	G	PNV	LVL	
			114FO1	114GO2	114HO2	114CC5	114JO1	114AA2	114LO1	M	114DD1	
Forest Service	1	MM\$	17.45	17.39	17.46	17.22	17.00	13.39	16.67	18.99	5.55	
Operations and	3		17.07	16.93	16.90	20.13	16.54	12.73	16.18	17.90	5.42	
Maintenance Costs	5		16.69	16.73	16.62	17.93	16.46	14.10	16.22	20.16	5.63	
1980 Base: 10.86 MM\$	10		17.07	17.08	17.02	18.22	16.73	13.80	16.59	15.82	6.14	
	15		17.52	17.21	17.16	18.60	17.41	14.24	17.16	17.38	6.19	
	20		16.81	16.74	16.63	16.96	16.54	13.39	16.31	15.41	6.03	
Returns to the States	1	MM\$	6.80	6.60	6.65	6.96	6.60	4.33	6.55	8.04	0.07	
1980 Base: 2.69 MM\$	3		11.22	10.98	10.91	12.26	10.75	8.47	10.47	11.41	0.10	
	5		29.74	29.76	29.59	31.66	29.63	15.70	28.49	38.23	0.38	
	10		28.00	28.18	27.87	32.16	26.88	18.33	26.76	19.05	2.58	
	15		33.65	32.97	32.35	31.60	31.52	18.47	30.36	29.52	2.53	
	20		50.77	50.36	49.93	49.08	48.94	21.47	47.30	42.01	1.94	
Returns to the	1	MM\$	27.19	26.41	26.59	27.83	26.40	17.33	26.18	32.16	0.27	
U.S. Treasury	3		44.88	43.91	43.65	49.05	43.00	33.89	41.87	45.65	0.38	
(Total)	5		118.94	119.05	118.37	126.62	118.51	62.81	113.95	152.93	1.52	
1980 Base: 10.79 MM\$	10		112.01	112.41	111.48	128.65	107.53	73.32	107.02	76.18	10.32	
	15		134.58	131.89	129.41	126.39	126.09	73.87	121.44	118.07	10.11	
	20		203.08	201.43	199.71	196.31	195.77	85.86	189.19	168.04	7.77	
Returns to the	1	MM\$	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.04	
U.S. Treasury	3		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	
(Special Uses)	5		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	
1980 Base: 0.08 MM\$	10		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	
	15		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	
	20		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00	
Returns to the	1	MM\$	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	
U.S. Treasury	3		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	
(Range)	5		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	
1980 Base: 0.02 MM\$	10		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	
	15		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	
	20		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00	
Returns to the	1	MM\$	27.09	26.31	26.49	27.73	26.30	17.23	26.08	32.06	0.22	
U.S. Treasury	3		44.78	43.81	43.55	48.95	42.90	33.79	41.77	45.55	0.38	
(Timber)	5		118.84	118.95	118.27	126.52	118.41	62.71	113.85	152.83	1.52	
1980 Base: 10.70 MM\$	10		111.91	112.31	111.38	128.55	107.43	73.22	106.92	76.08	10.32	
	15		134.48	131.79	129.31	126.29	125.99	73.77	121.34	117.97	10.11	
	20		202.98	201.43	199.61	196.21	195.67	85.76	189.09	167.94	7.77	

Table II-24 (cont.)

Category	Decade	Unit of Measure	Alternative/Benchmark									
			CUR DIR		PROP ACT	FINAL PLAN	Alternative/Benchmark				MAX PN	MIN LVL
			H	I	J	JF	K	L	N	O	M	LVL
	114M01	114Y12	114009	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1		
Forest Service	1	MMS	16.24	14.21	16.63	15.65	17.80	22.91	18.55	17.86	18.99	5.55
Operations and	3		15.77	14.10	16.58	15.53	15.75	19.30	17.92	17.58	17.90	5.42
Maintenance Costs	5		15.70	17.20	18.80	13.64	18.57	17.75	16.63	17.76	20.16	5.63
1980 Base: 10.86 MMS	10		16.73	12.74	15.50	16.64	15.06	19.03	16.99	17.28	15.82	6.14
	15		16.89	12.84	16.10	14.48	16.18	20.00	17.74	19.26	17.38	6.19
	20		15.90	11.91	16.42	14.11	16.20	20.72	17.03	18.08	15.41	6.03
Returns to the States	1	MMS	6.43	2.88	6.15	6.10	7.02	7.46	7.54	6.25	8.04	0.07
1980 Base: 2.69 MMS	3		10.03	7.12	10.86	10.91	9.96	11.07	11.64	12.00	11.41	0.10
	5		27.99	14.03	23.09	19.00	22.76	28.22	27.64	28.55	38.23	0.38
	10		29.40	17.43	24.39	14.66	24.19	38.44	25.93	27.39	19.05	2.58
	15		29.69	15.43	29.82	26.88	29.49	34.90	33.62	34.22	29.52	2.53
	20		45.49	20.94	38.20	25.86	38.85	54.09	51.83	46.81	42.01	1.94
Returns to the	1	MMS	25.72	11.53	24.61	24.39	28.06	29.82	30.14	24.99	32.16	0.27
U.S. Treasury	3		40.12	28.49	43.44	43.65	39.89	44.28	46.54	48.01	45.65	0.38
(Total)	5		111.95	56.10	92.37	76.01	91.02	112.86	110.54	114.19	152.93	1.52
1980 Base: 10.79 MMS	10		117.58	69.72	97.57	58.62	96.76	153.74	103.73	109.54	76.18	10.32
	15		118.76	61.72	119.27	107.50	117.75	139.59	134.49	136.87	118.07	10.11
	20		181.94	83.76	152.78	103.44	155.39	216.35	207.33	187.24	168.04	7.77
Returns to the	1	MMS	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.04
U.S. Treasury	3		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00
(Special Uses)	5		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00
1980 Base: 0.08 MMS	10		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00
	15		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00
	20		0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.00
Returns to the	1	MMS	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01
U.S. Treasury	3		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
(Range)	5		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
1980 Base: 0.02 MMS	10		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
	15		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
	20		0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.00
Returns to the	1	MMS	25.62	11.43	24.51	24.29	27.96	29.72	30.04	24.89	32.06	0.22
U.S. Treasury	3		40.02	28.39	43.34	43.55	39.74	44.18	46.44	47.91	45.55	0.38
(Timber)	5		111.85	56.00	92.27	75.91	90.92	112.76	110.44	114.09	152.83	1.52
1980 Base: 10.70 MMS	10		117.48	69.62	97.47	58.52	96.66	153.64	103.63	109.44	76.08	10.32
	15		118.66	61.62	119.17	107.40	117.65	139.49	134.39	136.77	117.97	10.11
	20		181.84	83.66	152.68	103.34	155.29	216.25	207.23	187.14	167.94	7.77

Table II-24 (cont.)

Alternative/Benchmark

25 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark								MAX	MIN
			A	B	C	RPA		F	G	PNV	LVL	
			114F01	114G02	114H02	D	E	114AA2	114L01	M	114DD1	
Market Resource Benefits	1	MMS	27.20	26.42	26.60	27.84	26.41	17.34	26.20	32.18	0.33	
	3		44.89	43.92	43.66	49.06	43.01	33.91	41.89	45.67	0.50	
	5		118.95	119.06	118.38	126.63	118.53	62.82	113.96	152.94	1.64	
	10		112.02	112.42	111.49	128.66	107.55	73.33	107.03	76.19	10.43	
	15		134.59	131.90	129.43	126.40	126.10	73.88	121.45	118.08	10.22	
	20		203.09	201.54	199.72	196.32	195.78	85.87	189.20	168.05	7.89	
Nonmarket Resource Benefits	1	MMS	6.47	6.50	6.48	6.51	6.47	6.47	6.41	6.46	5.93	
	3		9.64	9.79	9.79	9.60	9.74	10.12	9.66	9.57	8.19	
	5		12.42	12.68	12.71	12.39	12.48	12.83	12.40	12.29	10.33	
	10		13.03	13.28	13.32	13.00	13.35	12.22	12.76	12.85	10.79	
	15		13.46	13.43	13.32	13.09	13.30	13.81	13.17	13.18	11.37	
	20		13.58	13.55	13.44	13.17	13.51	13.78	13.36	13.29	12.13	
Costs Discounted at 4%		MMS										
Recreation/wildlife			80.56	81.31	81.26	80.75	80.98	80.26	79.60	80.19	44.63	
Range			1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	0.32	
Timber			236.48	236.36	236.35	266.66	229.23	151.19	222.21	250.58	2.38	
Roads			195.43	194.26	194.19	204.83	185.69	149.30	182.97	203.57	1.99	
Other			161.47	159.73	160.46	163.76	160.94	157.79	159.78	161.13	147.03	
Benefits Discounted at 4%		MMS										
Recreation/Wildlife			228.29	231.46	231.38	227.21	230.58	233.71	226.78	226.76	171.65	
Range			2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	0.92	
Timber			1588.12	1574.93	1568.86	1552.36	1538.31	961.96	1490.11	1630.64	26.47	
Economic Indicators (4%)		MMS										
Present value benefits			1819.21	1809.19	1803.04	1782.37	1771.69	1198.47	1719.69	1860.20	199.04	
Present value costs			675.91	673.63	674.23	717.97	658.81	540.51	646.53	697.44	196.35	
Present net value			1143.30	1135.56	1128.81	1064.40	1112.88	657.96	1073.16	1162.76	2.69	
Opportunity cost			19.46	27.20	33.95	98.36	49.88	504.80	89.60	0.00	1160.07	
Benefit/cost ratio			2.69	2.69	2.68	2.48	2.69	2.22	2.66	2.67	1.01	
Economic Indicators (7 1/8%)		MMS										
Present value benefits			752.90	745.92	745.83	737.46	730.10	541.78	713.95	780.70	107.58	
Present value costs			398.57	396.88	397.68	420.59	386.44	318.18	380.47	415.42	114.93	
Present net value			354.33	349.04	348.15	316.87	343.66	223.60	333.48	365.28	-7.35	
Research natural areas		Acres	0	0	0	0	0	0	0	0	0	
Forest Work Force	1	Work-year equiv.	664	659	662	658	643	505	627	741	137	
1980 Base: 519 WYE												
Energy Consumption	1	Billion BTU	274	272	273	274	267	219	257	307	60	
	3		263	282	287	336	266	236	262	324	61	
	5		282	281	279	328	318	217	263	366	61	

Table II-24 (cont.)

Alternative/Benchmark

26 of 26

Category	Decade	Unit of Measure	Alternative/Benchmark									
			CUR DIR	PROP ACT	FINAL PLAN	Alternative/Benchmark				MAX PN	MIN LVL	
			H I	J	JF	K	L	N	O	M	L	
			114MO1	114Y12	114O09	11424A	114FF5	114W01	114V01	114S07	114GG1	114DD1
Market Resource Benefits	1	MMS	25.73	11.54	24.62	24.40	28.07	29.83	30.15	25.00	32.18	0.33
	3		40.13	28.50	43.45	43.66	39.85	44.29	46.55	48.02	45.67	0.50
	5		111.96	56.11	92.38	76.02	91.04	112.87	110.22	114.21	152.94	1.64
	10		117.60	69.74	97.58	58.63	96.77	153.76	103.75	109.56	76.19	10.43
	15		118.77	61.73	119.28	107.51	117.76	139.60	134.50	136.88	118.08	10.22
	20		181.95	83.77	152.80	103.45	155.40	216.36	207.34	187.25	168.05	7.89
Nonmarket Resource Benefits	1	MMS	6.11	6.57	6.53	6.60	6.53	6.45	6.51	6.56	6.46	5.93
	3		9.31	9.36	9.66	9.66	9.66	9.64	9.81	9.91	9.57	8.19
	5		12.46	12.00	12.39	12.50	12.36	12.42	12.50	12.89	12.29	10.33
	10		12.82	13.96	14.42	14.40	14.40	13.36	13.18	14.16	12.85	10.79
	15		13.23	15.97	16.80	16.83	16.78	13.39	13.57	14.73	13.18	11.37
	20		13.80	18.50	19.60	19.46	19.63	13.45	13.69	15.38	13.29	12.13
Costs discounted at 4%		MMS										
Recreation/wildlife			76.26	81.54	82.38	82.48	82.33	80.70	81.19	83.09	80.19	44.63
Range			1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	0.32
Timber			217.79	169.13	223.42	195.85	230.76	300.46	244.96	262.53	250.58	2.38
Roads			175.34	124.58	174.81	163.09	182.54	227.07	200.19	177.83	203.57	1.99
Other			158.77	169.31	164.31	167.36	164.36	165.93	160.72	163.40	161.13	147.03
Benefits discounted at 4%		MMS										
Recreation/wildlife			218.59	227.38	231.92	232.65	231.64	228.81	230.92	235.93	226.76	171.65
Range			2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	2.80	0.92
Timber			1440.63	776.25	1328.34	1108.72	1338.61	1590.92	1603.71	1514.27	1630.64	26.47
Economic Indicators (4%)		MMS										
Present value benefits			1662.02	1006.43	1563.06	1344.16	1573.06	1822.53	1837.43	1753.00	1860.20	199.04
Present value costs			627.13	546.53	646.89	610.75	661.96	776.13	689.03	688.82	697.44	196.35
Present net value			1034.89	459.90	916.17	733.41	911.10	1046.40	1148.40	1064.18	1162.76	2.69
Opportunity cost			127.87	702.86	246.59	429.35	251.66	116.36	14.36	98.59	0	1160.07
Benefit/cost ratio			2.65	1.84	2.42	2.20	2.38	2.35	2.67	2.54	2.67	1.01
Economic Indicators (7 1/8%)		MMS										
Present value benefits			687.99	422.28	667.36	595.14	685.79	743.17	771.98	717.67	780.70	107.58
Present value costs			370.73	315.42	378.44	343.52	393.99	466.46	409.90	402.70	415.42	114.93
Present net value			317.26	106.86	288.92	251.62	291.80	276.71	362.08	314.97	365.28	-7.3
Research Natural Areas		Acres	0	0	2105	2105	2105	0	0	0	0	0
Forest Work Force	1	Work-year equiv.	613	479	615	615	672	835	711	657	741	137
1980 Base: 519 WYE												
Energy Consumption	1	Billion BTU	256	198	253	253	278	274	292	264	307	60
	3		263	234	240	240	246	343	338	258	324	61
	5		254	180	246	246	289	320	277	273	366	61

FINAL ENVIRONMENTAL IMPACT STATEMENT

FOR THE

KOOTENAI NATIONAL FOREST

INDEX

Items listed in Chapters I and II are located in Volume 1

Items listed in Chapters III thru VI are located in Volume 2

FEIS INDEX

	<u>Page</u>
Access	II-164, 167
Adequate Range of Alternatives.....	II-13-17
Air Quality.....	III-92; IV-42, 44, 88, 105, 106
Allowable Sale Quantity	II-48
Alternative Comparisons	II-131
Alternative Development and Range	I-5-7; II-2
Alternatives Eliminated from Further Consideration	II-19
Alternatives	
A	II-20, 151, 177
B	II-21, 151, 178
C	II-23, 152, 179
D(RPA)	II-25, 153, 183
E	II-26, 152, 180
F	II-28, 155, 191
G	II-30, 152, 182
H	II-32, 132, 153, 186
I(Current Direction)	II-34, 125, 143, 155, 192
J(Prop Action in DEIS).....	II-36, 154, 187
JF(Final Plan).....	II-38
K(Dep on Proposed)	II-40, 154, 188
L	II-41, 135, 153, 185
M(Max PNV)	II-43, 136, 150, 175
N	II-44, 151, 176
O	II-46, 153, 184
Analysis Area	
Analysis of Management Situation(AMS)	II-4
Benchmarks	II-4, 5, 7
Current Direction	II-6
Max PNV	II-5, 11, 150
Max Timber	II-6, 11
Max Wilderness	II-6, 9
Max Wildlife	II-6
Min Level	II-6
Benefit	II-129, 131, 135, 161
Benefit-Cost(B/C Ratio)	II-140
Big Game	II-162; III-62; IV-16, 27, 35, 40, 43 IV-47, 48, 50, 52, 56, 61, 92, 94, 106 IV- 109
Buildings	III-19; IV-96
Cabinet Mountains Wilderness	I-6; II-164; III-30
Campground	IV-115
Caribou	III-68, 75; IV-65
Cavity/Old Growth Dependent Species	I-6, 8; II-93; III-75, 76; IV-17, 31, 35 IV-40, 47, 48, 87
Climate	III-4
Community Development and Stability	II-162, 163, 175; IV-112
Compaction	IV-26, 31
Constraint	II-5, 18
Corridor	III-87, IV-96
Cost Share	IV-95
Costs	I-8; II-11, 131, 133, 135, 142, 147, 175

Index-2

Cultural Resources	II-113; III-90; IV-56, 74, 110
Current Direction	II-6, 34, 125, 155, 192
Departure	II-40, 151, 188
Diversity	II-7, 12; IV-16
Eagle, Bald	III-69; IV-64
Economic Impacts	I-8; II-126, 140, 143, 161, 175; IV-21 IV-36, 40, 43, 45, 47, 54, 62, 72, 74 IV-77, 82, 86, 87, 90, 92, 95, 111 VI-10, 14, 23, 25
Elk.....	II-10, 95; III-62
Employment.....	II-11, 117, 162, 175; IV-112
Energy	II-113; III-90; IV-23, 31, 41, 63, 67 IV-72, 74, 80, 83, 84, 88, 93, 95, 102 IV-105, 107, 110, 112, 113, 115
Facilities	III-18
Fire Management	I-9; II-112, 167; III-19; IV-41, 48, 66 IV-86, 91
Fire Suppression	IV-55, 88, 103, 105
Firewood	IV-19, 41
Fish(Fisheries)	I-9; II-10, 95, 97; III-81; IV-22, 27 IV-28, 31, 42, 45, 59, 92, 94, 106, 108 IV-109, 113; VI-12, 15, 28
Forest Plan	I-4; II-37; VI-10
Forplan	II-4, 165, 168
Genetic Tree Improvement	IV-8
Geology	III-3
Grazing	II-9, 111; III-90; IV-113, 65
Grizzly Bear	I-6, 8; II-100, 165, 176; III-72; IV-10 IV-17, 45, 64, 81, 92;VI-15, 26
Implementation	I-5
Indicator Species	III-66
Insect and Disease	III-21; IV-8, 20, 26, 43, 47, 48, 88 IV-107
Interagency Guidelines.....	I-6; II-95
Issues	I-7; II-174; VI-4, 5, 15
Income	II-3
Jobs/Employment (see employment).....	
Jeopardy Opinion.....	II-111
Non-Jeopardy Opinion.....	II-111
Landownership Adjustment	II-118; III-86; IV-91
Lodgepole Pine	II-62, 166, 167, 175
Lodgepole Pine(stagnated).....	II-65
Logging Methods	IV-23
LTSY(Long Term Sustained Yield)	IV-6
Mill Capacity.....	II-50
Minerals	I-9; II-115, 164, 175; IV-20- 65, 80, 88
Leasable.....	II-115
Locatable.....	II-116; III-83
Minimum Management Level.....	II-6
Mitigation	II-174
Monitoring and Evaluation	I-5; VI-11, 15, 29
Montana Timber Study Analysis.....	I-8, 9; II-4, 37
Municipal Watershed	IV-70
MWSA(Montana Wilderness Study Act)	I-6, 7; II-33, 41, 66, 85
NDSY	II-4
Net Public Benefit	I-4; II-160, 169, 174
NFMA	I-4, 5, 7; II-3, 4, 45

Oil and Gas	II-164; IV-83
Old Growth Timber	I-6, 8; II-108; III-76; IV-9, 17, 91 VI-9, 14, 20
Old Growth/Cavity Dependent Species- See Cavity	
Opportunity Cost	II-145, 161
Overland Flow	IV-26, 27, 31, 42, 72, 113
Overview	II-2
Peregrine Falcon	III-71; IV-65
Pine Beetle	II-167
Planning Criteria	I-5
Present Net Worth(PNV)	II-5, 11, 42, 144; 146, 161, 166, 175
Proposed Action	II-36, 154, 187
Public Comment.....	VI-2, 3, 4
Range- See Grazing	
RARE II	I-7; III-31, 36
Recommended Wilderness (see wilderness)	
Recreation (total).....	II-7,101; III-27; IV-13, 27, 36, 40 IV-43, 55, 76, 92
Recreation Demand.....	II-101
Recreation, Developed	II-7; III-30; IV-72
Recreation, Dispersed	I-6, III-27; IV-51, 52, 65, 74
Recreation, Primitive	I-6; II-8
Recreation, Roded	II-8; III-27;
Recreation, Roadless	I-8; II-8, 163; III-27
Reforestation	IV-44
Research Natural Area(RNA)	II-112
Return Receipts	II-119
Riparian	I-8; III-75; IV-59, 94, 113, 114, 115
Road Closure/Restrictions	II-8, 71; IV-20, 50, 51, 56, 59
Road Construction	II-69, 163, 171; IV-30, 51, 53, 69, 82 IV-83, 93, 94, 108, VI-9, 14, 18
Road Management	II-77; VI-11, 15, 27
Roadless Areas	I-6-8, 10, 11; II-88, 94; 97, III-31 IV-54, 89, 102; VI-5, 7
Roadless Areas (Inventoried)	
Berray Mountain	III-41
Buckhorn Ridge	III-40
Cabinet Face East	III-37
Cabinet Face West	III-37
Cataract	III-39
Chippewa	III-38
Cube-Iron	III-44
East Fork Elk Creek	III-41
Flagstaff Mountain	III-42
Galena	III-39
Gold Hill	III-41
Gold Hill(West)	III-41
Government Mountain	III-38
Grizzly Peak	III-43
Le Beau	III-45
Lone Cliff Smeads	III-42
Maple Peak	III-45
Marston Face	III-43
McKay Creek	III-38
McNeeley	III-42
Northwest Peaks	III-40
Roberts Mountain	III-43

Rock Creek	III-39
Roderick	III-39
Scotchman Peaks	III-31, 36
Ten Lakes Contiguous	II-6, 21, 41, 66, 79, 164; III-31, 36 III-44
Thompson-Seton	III-44
Trout Creek	III-36
Tuchuck	III-45
West Fork Elk Creek	III-40
Willard-Lake Estelle	III-44
Zulu Creek	III-43
Roads	I-8, II-75; III-18
RPA	I-4; II-50, 53, 153, 183
Sediment	IV-27, 31, 42, 58, 59, 67, 94, 96, 106 IV-113
Silvicultural Systems	II-66
Site Preparation	IV-44
Slash	IV-16, 40, 41, 45, 48
Snags	IV-40
Social Effects	II-114; III-6
Soils	III-3;
Special Uses	III-87; IV-93
Summary of Changes between Draft & Final EIS	I-9; II-2, 3, 19, 48, 49, 62, 65, 75, 77 II-88, 95, 97, 99, 102, 106, 117, 119, 1 II-125, 116, 119
Summer Range	II-89
Ten Lakes MWSA	I-6, 7; II-85, 160; III-31, 36
Threatened and Endangered	I-8; II-165; III-68; IV-64, 87, 92 VI-11
Timber	I-6, 8, 9; II-6, 11, 48; III-10; IV-59
Timber Harvest(incl. Systems)	II-146, 162; IV-5, 10; VI-7, 13, 17
Timber Inventory	II-5
Timber Rotation	II-4
Timber Suitability	I-4; II-60, 62; III-13, 15
Trails	IV-79, 115
Tree Planting	IV-44
Trout	III-81
Utilization Standards	II-66
Viewing (visual Quality).....	II-103, 169 III-4, 92; IV-11, 12, 22, 28 IV-31, 35, 40, 41, 45, 46, 47, 48, 55 IV-102, 106; G-24, 25
Water and Soils	IV-13, 26, 28, 31, 35, 36, 42, 45, 47 IV-50, 66, 70, 82, 94; VI-9
Water Quality.....	VI-14, 21
Water Yield	IV-14
Watershed	II-3-5; III-88; IV-13
Wilderness	I-6-8; II- 6, 8, 88, 97, 164, 176 III-30; IV-84, 85, 102; VI-5, 13, 16
Wildfire	IV-8, 103,109
Wildlife and Fish	I-8, 9; II-6, 95; III-5, 62; VI-9
Winter Range	II-6
Wolf, Gray	III-71; IV-64
Yellowstone Guidelines (see Interagency Guidelines)	I-6; II-95