

Executive Summary

Background

The Forest Service Interdisciplinary Team (ID Team) from the Mt. Hough Ranger District developed six primary objectives for the Diamond Project based on site-specific resource problems identified in the June 2005 Diamond Landscape Assessment, relevant laws, and Forest Service direction. These objectives led to the development of specific treatments and activities proposed for the Diamond Project Area, which supports complex ecological systems and human uses. The treatments and activities that make up the proposed action stem from the need to shift the existing conditions toward desired future conditions.

The Diamond Project Area is about 100,000 acres and is located in Plumas County and a small portion of Lassen County, California. The town of Susanville lies about 7 miles north of the Diamond Project Area, the community of Taylorsville lies about 8 miles to the west and south, and Greenville is about 15 miles north and east.

Between June and July 2005, the ID Team provided opportunities for the public to contribute comments, ideas, and concerns about the proposed project—this input was used to help develop the proposed action and alternatives. The ID Team assessed the existing conditions in the Diamond Project Area using an integrated vegetation management approach. The existing conditions were examined for wildfire risk, forest health, riparian and watershed conditions, noxious weed occurrence, and road conditions.

Purpose and Need

Purpose. The purpose of the Diamond Project is to shift existing conditions toward desired future conditions. The desired conditions include (1) a forest structure where the risk of crown fire initiation and spread is reduced; (2) a forest structure that promotes the growth of residual trees and begins to move the Diamond Project Area to an uneven-aged, multistoried, fire-resistant forest; and (3) riparian and aquatic ecosystems that are stable and productive. Figure ES-1 is a photo from the Diamond Project Area where aspen stands are stable and productive. Figure ES-2 shows a stand in a prior fuel treatment that represents the desired condition of a DFPZ.



Figure ES-1. Desired Condition: Aspen stands are stable and productive (Diamond Project, PNF 2005).

The Forest Service designed the proposed action to meet the following six objectives, all of which address the need for the Diamond Project:

Objective 1: Modify fire behavior to protect communities, fire fighters, and biological resources.

Need: High densities of small trees and high fuel loads are contributing to high accumulations of ladder fuels and canopy fuels. Trees killed by region-wide drought in the 1980s have now fallen over and are creating extremely high fuel loads throughout the Project Area. The fuels contribute to crown fire initiation and spread and increase the potential for high-severity stand-replacing fire events. This potential fire behavior leads to increased risk to fire fighters, forest visitors, biological and other resources, structures, and private property within and adjacent to the Diamond Project Area.

Figure ES-3 shows a stand in the Diamond Project Area that has a high density of small trees. These conditions, in terms of fuels, contribute to crown fire initiation and spread—both increase the potential for catastrophic wildfire.

Objective 2: Modify forest structure and species composition to promote the development of an uneven-aged, multistoried, fire-resilient forest.

Need: High densities of small trees in the Diamond Project Area are contributing to stand conditions in which trees are stressed due to competition for water, light, and nutrients. These dense stands perpetuate conditions in which insect and disease infestations (which make trees more susceptible to mortality) may increase beyond what naturally occurs. High stand densities also create closed canopy conditions that are not favorable for regeneration, growth, and development of shade-intolerant species such as aspen, Baker cypress, and ponderosa and Jeffrey pine. These shade-intolerant species require more sunlight from open canopy stands and gaps to regenerate successfully. Figure ES-4 shows a stand where high stand densities are causing a decline in Baker cypress.



Figure ES-2. DFPZ Desired Condition: Forest structure where the risk of crown fire is reduced and residual trees grow (1996 Antelope Fuel Treatment, Diamond Project, PNF 2005).



Figure ES-3. High density of small trees, Diamond Project Area (PNF 2005).

Objective 3: Restore aquatic and riparian habitat and improve watershed conditions.

Need: The high density of small trees makes many riparian areas in the Diamond Project Area vulnerable to the effects of catastrophic wildfire because drainages can rapidly funnel hot air upslope and contribute to fire spread. Six stream channel locations have excessive channel and bank erosion—this causes sediment to enter the watercourse, thus degrading both water quality and aquatic habitat. Figure ES-5 shows a stream channel headcut proposed for restoration. There are seven locations in the Project Area that have barriers to fish passage. Road culverts can serve as barriers that do not allow fish to move along the stream (figure ES-6).

Objective 4: Contribute to the stability and economic health of rural communities.

Need: Local factors influence Plumas County's economy; these factors include isolation from urban job markets, reliance on natural resource-based industries, and high seasonal fluctuations in employment. In this local environment, forest health and community health share interdependent goals. The local natural resource setting provides forest products (such as timber), biomass, and water and nature-based experiences such as hiking, hunting, swimming, and bird watching, all of which contribute to visitors' physical and mental well-being.

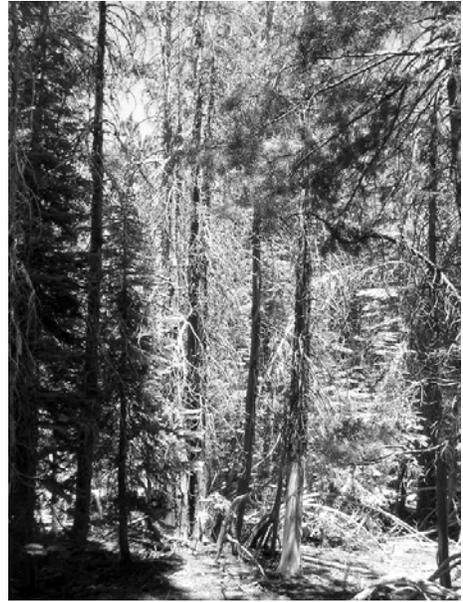


Figure ES-4. High density of small trees within Baker Cypress Stands (PNF 2005).



Figure ES-5. Headcut below Road # 29N43 Boulder Creek (T. 27N, R. 12E, Sec. 2) (PNF 2005).



Figure ES-6. Fish passage barrier, Hungry Creek at Road# 27N09 (T. 26N. R. 12e, Sec. 6) (PNF 2005).



Figure ES-7. Canada thistle (courtesy of the Caribou Regional District).

Objective 5: Control the spread and introduction of noxious weeds.

Need: Six invasive plant species (noxious weeds) occur in the Diamond Project Area. Invasive species displace native species, alter nutrient and fire cycles, decrease the availability of forage for wildlife, and degrade soil structure. One noxious weed, Canada thistle (figure ES-7), is of high concern due to its distribution and abundance. There are over 400 known locations of Canada thistle in the Project Area.

Objective 6: Improve the road system and provide access to treatment areas.

Need: The approximately 387 miles of existing system roads in the Diamond Project Area are in generally good condition, but there are approximately 10 miles of roads that are contributing to resource damage (figure ES-8). This damage is caused by rainfall that runs off road

surfaces and carries sediment into the stream network, thereby reducing water quality. Some roads require brushing, drainage, and curve improvements to allow safe travel for log trucks, chip vans, and other vehicles.



Figure ES-8. Road needing improvement (Diamond Project Area, PNF 2005).

Proposed Action

The proposed action (alternative B) was developed using an integrated approach to meeting the need for the Diamond Project, as represented by the following six actions:

Action 1—Implement treatments in DFPZ Units. The Diamond Project proposes treatments within 54 Defensible Fuel Profile Zone (DFPZ) Units totaling 5,552 acres. There would be 5,373 acres of treatments (mechanical and hand thinning, prescribed burning, mastication) along roads and ridgetops to create this network of DFPZs. In addition, there would be 179 acres of group selection in the DFPZs.

Action 2—Implement group selection. Group selection would occur on about 1,128 acres (179 acres in DFPZ Units and 949 acres in Area Thinning Units). Group selection would involve the harvesting of trees in 0.5- to 2-acre patches. Slash (branches) from logging activities and small trees under 10 inches in diameter would be chipped or burned.

Action 3—Implement area thinning, including aspen stand and Baker cypress treatments.

The Area Thinning Units would total 8,820 acres outside of the DFPZ Units. Within the 8,820 acres, treatments (mechanical and hand thinning, prescribed burning, mastication) are proposed on about 7,871 acres. Area thinning would occur in overcrowded conifer stands, riparian areas, and areas where aspen and Baker cypress are being crowded out. In addition, there would be 949 acres of group selection in the Area Thinning Units.

Action 4—Implement riparian and watershed improvements with area thinning, fuel treatment, stream restoration, and fish access. There are six locations in the Project Area where stream channel restoration would take place.

Action 5—Implement noxious weed treatment with hand, mechanical, and chemical methods. Six species of noxious weeds are present in the Project Area. About 128 acres of the noxious weed, Canada thistle, would be treated with herbicides. The five other noxious weed species would be treated with hand pulling or flaming on about 2 acres.

Action 6—Implement transportation system improvements. The Project also proposes roadwork that would include new construction on about 2 miles, reconstruction on about 33 miles, seven culvert installations and replacements for fish passage, temporary construction on about 22 miles, and decommissioning on about 10 miles.

Public Involvement

In June 2005, the Mt. Hough Ranger District hosted an open house in Greenville, California, to encourage public participation in developing the proposed action and alternatives for the Diamond Project. A news release, seeking public comment, was mailed to over 100 households surrounding the Diamond Project Area, as well as other interested publics. Between June and July 2005, letters requesting information on cultural concerns were sent to several federally recognized tribes and other Native American entities. In addition, the Mt. Hough Ranger District staff provided presentations to the Plumas County Fire Safe Council, Quincy Library Group, and the Plumas County Board of Supervisors. These meetings provided opportunities for developing and incorporating proposals. The data collected during this process, along with public comments, were used to help develop the proposed action.

On November 3, 2005, a letter describing the proposed action (the “scoping” letter) was mailed to approximately 500 individuals and organizations, including local residents, federally recognized tribes and other Native American entities, and federal, state, and local agencies. The letter was followed by the November 10, 2005, *Federal Register* publication of the Notice of Intent to prepare an EIS for the Diamond Project.

On December 8, 2005, the Mt. Hough Ranger District hosted an open house in Greenville, California. The open house notice had wide distribution, and about 20 people from the surrounding communities attended. On January 4, 2006, the local newspaper (*The Feather River Bulletin*) printed a two-page in-depth report on the open house. A total of 34 contacts with agencies and individuals were made—17 of those contacts submitted substantive comments, 9 only requested additional information, and the remaining 8 were the participants at the open house.

Issues

The Diamond Project ID Team, through the interdisciplinary process and in coordination with the Responsible Official, looked at internal issues (brought up by the ID Team) and external issues (from public scoping comments) to provide a basis for the analysis of environmental effects. The primary issues for the Diamond Project are listed below.

Issue 1: *Effects of herbicide use.*

Some members of the public expressed concern that the use of herbicides would present unnecessary risks to ecological and human health. There was concern that herbicide use would not be an effective method for controlling noxious weeds; alternative nonherbicide control methods were suggested.

Issue 2: *Economics of logging systems.*

There was concern about the preliminary analysis of costs associated with harvest systems and road treatments; specifically, that helicopter and skyline logging would increase the cost of treatments (biomass removal, activity fuel treatment, and road construction).

Issue 3: *Degradation of old-forest habitat.*

There was concern that mechanical treatments may be detrimental to old-forest conditions and the wildlife species that depend on these conditions. There were concerns that forest structure, habitat connectivity, and interior forest habitat characteristics important to sensitive wildlife species would be degraded by the proposed treatments.

Issue 4: *Risks to watersheds.*

There was concern that implementing ground-disturbing activities in subwatersheds that are approaching or over the Threshold of Concern would increase the risk of adverse effects and cumulative watershed effects.

Alternative Development

- **Alternative A** – No action. The Forest Service is required to analyze a no-action alternative (40 Code of Federal Regulations [CFR] 1502.14(d)). No treatments would be implemented.
- **Alternative B** – The Forest Service proposed action as described above.
- **Alternative C** – The proposed action modified to implement methods other than herbicide use for controlling noxious weeds (specifically, Canada thistle), where practical (see Map 1).
- **Alternative D** – The proposed action modified to accommodate the most economical logging system and associated road costs (see Map 2). This is the Forest Service preferred alternative.
- **Alternative F** – The proposed action modified to integrate economical logging systems and to reduce impacts on old-forest-dependent wildlife habitat and watersheds (see Map 3).

Alternatives E, G, H, and I were considered but eliminated from detailed analysis because they either failed to adequately meet the purpose and need, were outside the scope of the proposed action, were duplicative of the alternatives considered in detail, or would be infeasible to implement.

Comparison of Alternatives

The comparison of alternatives focuses on objectives and issues that provided measurable elements to the proposed action and emphasized the most important environmental effects. These are elements of the ecosystem that can be measured to indicate an increase or decrease in trends in ecosystem health. To compare these elements, measurement indicators were developed to show the differences between the alternatives and provide a clear basis for the decision to be made by the Responsible Official. The measurement indicators are used in the analysis to quantify and describe how well the proposed action and alternatives meet the project objectives.

Thus, the purpose and need, range of alternatives, environmental effects, and final decision will be connected using the scoping comments, internal issues, and the corresponding indicator measures. Table ES-1 summarizes the treatments proposed for all action alternatives. Table ES-2 summarizes the effects in terms of meeting the purpose and need under all alternatives, and table ES-3 shows the difference between all alternatives by using the indicator measures.

Table ES-1. Summary of proposed treatments for all action alternatives.

Diamond Project Treatments (in acres or miles as indicated)	Alternative B (Proposed Action)	Alternative C	Alternative D (Preferred Alternative)	Alternative F
Combination of treatments: mechanical and hand thinning, prescribed burning, and mastication	4,501	4,501	4,086	4,005
Mastication only treatments	157	157	157	158
Prescribed fire only treatments	715	715	715	716
Total Acres of Treatments in DFPZ Units (does not include group selection acres)	5,373	5,373	4,958	4,879
Combination of treatments: mechanical and hand thinning, prescribed burning, and mastication	5,779	5,779	4,815	3,575
Mastication only treatments	329	329	329	329
Prescribed fire only treatments	1,763	1,763	1,763	1,763
Total Acres of Treatments in Area Thinning Units (does not include group selection acres)	7,871	7,871	6,907	5,667
Total Acres of Group Selection	1,128^a	1,128^a	932^b	610^c
Total Acres of Noxious Weed Herbicide Treatments	128	0	128	128
Total Number of Headcut Stabilization Locations	6	6	10	6
Total Miles of Stream Bank Stabilization	0	0	4	0
Total Miles of Road Treatments	67	67	56	51

Notes:

- a. 1,128 = 179 acres in DFPZ Units and 949 acres in Area Thinning Units.
b. 932 = 130 acres in DFPZ Units and 802 acres in Area Thinning Units.
c. 610 = 61 acres in DFPZ units and 549 acres in Area Thinning Units.

Table ES-2. Comparison of all alternatives in terms of meeting the purpose and need.

Objective or Issue	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D (Preferred Alternative)	Alternative F
Objective: Modify Fire Behavior	Would not meet objective <ul style="list-style-type: none"> Flame lengths in fuel treatments would not change Percent of public lands susceptible to crown fire would not change 	Would fully meet objective <ul style="list-style-type: none"> Flame lengths in fuel treatments would decrease Smallest percent of public lands susceptible to crown fire 	Would fully meet objective <ul style="list-style-type: none"> Flame lengths in fuel treatments would decrease Smallest percent of public lands susceptible to crown fire 	Would meet objective to a large degree <ul style="list-style-type: none"> Flame lengths in fuel treatments would decrease Three percent more of public land susceptible to crown fire when compared to the proposed action 	Would meet objective to a large degree <ul style="list-style-type: none"> Flame lengths in fuel treatments would decrease One percent more of public lands susceptible to crown fire when compared to the proposed action
Objective: Modify Forest Structure and Species Composition	Would not meet objective <ul style="list-style-type: none"> Nearly all acres would not meet desired relative stand densities Proportion of shade-intolerant species would not change Percent of open canopy forest would not change 	Would meet objective to a large degree <ul style="list-style-type: none"> Treated acres would meet desired relative stand densities within 10 years; Overall, shorter duration of beneficial effect Proportion of shade-intolerant species would increase Percent of open canopy forest would increase 2.8% 	Would meet objective to a large degree <ul style="list-style-type: none"> Treated acres would meet desired relative stand densities within 10 years; Overall, shorter duration of beneficial effect Proportion of shade-intolerant species would increase equal to B Percent of open canopy forest would increase equal to alternative B 	Would fully meet objective <ul style="list-style-type: none"> Treated acres would meet desired relative stand densities within 10 years; Overall, longer duration of beneficial effect Proportion of shade-intolerant species would increase equal to B Percent of open canopy forest would increase less than alternative B 	Would fully meet objective <ul style="list-style-type: none"> Treated acres would meet desired relative stand densities within 10 years; Overall, longer duration of beneficial effect Proportion of shade-intolerant species would increase equal to B Percent of open canopy forest would increase less than alternative D
Objective: Improve Aquatic and Riparian Conditions	Would not meet objective <ul style="list-style-type: none"> No RHCA acres treated so no benefits to watershed No long-term benefits to watershed from decommissioning roads No subwatersheds would be at or approach the Threshold of Concern (TOC) due to management actions 	Would meet objective to some degree <ul style="list-style-type: none"> Highest number of RHCA acres treated, along with alternative C Long-term benefits to watershed resources from road decommissioning Seven subwatersheds would be over the TOC and two subwatersheds would approach the TOC with large ERA increase 	Would meet objective to some degree <ul style="list-style-type: none"> Number of RHCA acres treated is equal to alternative B Long-term benefits to watershed resources from road decommissioning Subwatersheds that are over or approaching the TOC would be equal to alternative B 	Would meet objective to some degree <ul style="list-style-type: none"> Higher number of RHCA acres treated than alternatives A and F, but less acres than alternatives B and C Long-term benefits to watersheds from road decommissioning Six subwatersheds would be over the TOC and two subwatersheds would approach the TOC with large ERA increases 	Would meet objective to some degree <ul style="list-style-type: none"> Lowest number of RHCA acres treated other than alternative A Long-term benefits to watershed resources from road decommissioning Subwatersheds would not exceed the TOC Five subwatersheds would approach or reach the TOC with large ERA increases

Table ES-2. Comparison of all alternatives in terms of meeting the purpose and need (continued).

Objective or Issue	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D (Preferred Alternative)	Alternative F
Objective: Provide Community Stability	Would not meet objective <ul style="list-style-type: none"> No jobs created, no employee income, and no return to the U.S. Treasury 	Would fully meet objective <ul style="list-style-type: none"> Number of jobs created and employee income would be higher than alternatives A and F, but at the highest negative cost to the U.S. Treasury (-\$2 million) 	Would fully meet objective <ul style="list-style-type: none"> Number of jobs created and employee income would be higher than alternatives A and F, and equal to B, but at the highest negative cost to the U.S. Treasury (-\$2 million) 	Would fully meet objective <ul style="list-style-type: none"> Number of jobs created, employee income, and the return to U.S. Treasury would be higher than all other alternatives (\$471,000 income to the U.S. Treasury) 	Would meet objective to a large degree <ul style="list-style-type: none"> Number of jobs created and employee income would be lower than alternatives B, C, and F, but the economic loss to the U.S. Treasury would not be as high as alternatives B and C (-\$5,000)
Objective: Provide Access for Treatments and Improve Roads	Would not meet objective <ul style="list-style-type: none"> No improvements to road system OHV route designation process would not be affected 	Would fully meet objective <ul style="list-style-type: none"> Highest number of miles of road would be improved (equal to alternative C) 	Would fully meet objective <ul style="list-style-type: none"> Highest number of miles of road would be improved (equal to alternative B) 	Would fully meet objective <ul style="list-style-type: none"> A lower number of miles of roads would be improved than alternatives B and C, but a slightly higher number than F 	Would fully meet objective <ul style="list-style-type: none"> Lowest number of miles of road system would be improved (other than the no-action alternative)
Objective: Control Introduction and Spread of Noxious Weeds	Would not meet objective <ul style="list-style-type: none"> Risk of noxious weed introduction and spread would be moderate 	Would meet objective to a large degree <ul style="list-style-type: none"> Risk of noxious weed introduction and spread would be lower than alternatives A and C 	Would not fully meet objective <ul style="list-style-type: none"> Risk of noxious weed introduction and spread would be higher than alternatives B, D, and F 	Would meet objective to a large degree <ul style="list-style-type: none"> Risk of noxious weed introduction and spread would be lower than alternatives A and C 	Would meet objective to a large degree <ul style="list-style-type: none"> Risk of noxious weed introduction and spread would be lower than alternatives A and C

Table ES-3. Summary comparison of all alternatives by using the indicator measures.

Objective or Issue	Indicator Measure	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D (Preferred Alternative)	Alternative F
Objective: Modify Fire Behavior	Percent of public lands in project area susceptible to crown fire (excludes lakes, barren areas)	67	57	57	60	58
	Flame length within fuel treatments	At least 8 feet	<4 feet	<4 feet	<4 feet	<4 feet
Objective: Modify Forest Structure and Species Composition	Stand Structure: Percent of treated area with desired stand densities within 10 years and 20-30 years	10 years: 5% 20–30 years: 5%	10 years: 94% 20–30 years: 32%	10 years: 94% 20–30 years: 32%	10 years: 94% 20–30 years: 56%	10 years: 94% 20–30 years: 47%
	Species Composition: Average shade-intolerant to shade-tolerant species ratio for treated areas	1:6	1:4	1:4	1:4	1:4
	Landscape Structure: Percent open canopy forest conditions created by treatments across landscape	0%	2.8%	2.8%	2.7%	2.2%
Issue: Implementing ground-disturbing activities in subwatersheds that are approaching or over the Threshold of Concern (TOC) increases the risk of adverse effects and cumulative watershed effects 100% = threshold	East Branch Lights (% of threshold)	83	109	109	97	88
	Pierce (% of threshold)	58	115	115	115	98
	Upper Boulder – West Tributary (% of threshold)	43	98	98	98	97
	Mid-Boulder – East Tributary (% of threshold)	50	127	127	113	95
	Mid-Boulder – West Tributary (% of threshold)	42	107	107	107	89
	Indian above Antelope- Middle (% of threshold)	58	119	119	118	100
	Upper Boulder – East Tributary (% of threshold)	58	111	111	112	97
	Boulder – top (% of threshold)	42	91	91	89	69
	Cold (% of threshold) (this subwatershed is already over the TOC before any actions are implemented)	133	186	186	133	133
Objective: Restore Aquatic and Riparian Conditions	Acres of RHCAs treated to meet Scientific Analysis Team guidelines and management objectives	0	1,449	1,449	1,321	966
	Percent of thinning treatments that occur in RHCAs	0	15	15	16	14

Table ES-3. Summary comparison of all alternatives by using the indicator measures (continued).

Objective or Issue	Indicator Measure	Alternative A (No Action)	Alternative B (Proposed Action)	Alternative C	Alternative D (Preferred Alternative)	Alternative F
Issue: The proposed mechanical treatments (DFPZ, group selection, area thinning, biomass removal) may be detrimental to old-forest conditions and the wildlife species that depend on these conditions	Risk of losing spotted owl Protected Activity Center (PAC) loss to wildfire	No change	Decreased	Decreased	Decreased	Decreased but greater than B
	Suitable spotted owl foraging habitat retained (acres)	54,478	51,998	51,998	52,045	52,309
	Suitable spotted owl nesting habitat retained (acres)	34,083	33,675	33,675	33,783	33,978
	Suitable northern goshawk nesting habitat retained (acres)	88,561	85,673	85,673	85,827	86,286
	Suitable mesocarnivore denning habitat retained (acres)	12,344	11,599	11,599	11,769	11,886
Objective: Contribute to Community Stability Issue: Preliminary analysis of the proposed action determined logging systems and road costs are prohibitively expensive	Dollars returned to U.S. Treasury (timber sale costs or value)	\$0	(\$2,000,000)	(\$2,000,000)	\$471,000	(\$6,000)
	DFPZ Service Contract cost	\$0	\$356,000	\$357,000	\$364,000	\$344,000
	All other Service Contract costs	\$0	\$642,000	\$637,000	\$645,000	\$603,000
	Total project value	\$0	(\$3,758,000)	(\$3,758,000)	(\$1,287,000)	(\$1,703,000)
	Total sawlog volume (million board feet)	0	28.5	28.5	30.2	20.7
	Total biomass (tons)	0	61	61	55	39
	Full-time jobs	0	453	453	457	321
Employee-related income	\$0	\$19,476,000	\$19,476,000	\$19,669,000	\$13,806,000	
Objective: Control Spread and Introduction of Noxious Weeds Issue: Some members of the public are opposed to the use of herbicides	Risk of weed introduction and spread	Moderate	Low	Moderate	Low	Low
	Number of acres treated	0	128	20	128	128
	Estimated cost per acre	N/A	\$240	\$780	\$240	\$240
	Effectiveness of treatment	Not applicable	High Weighted Average: 91%	Low Weighted Average: 58%	High Weighted Average: 91%	High Weighted Average: 91%
Objective: Provide Access for Treatments and Improve Roads	Roads construction (miles)	0	2.0	2.0	0.7	0.7
	Roads decommissioned (miles)	0	9.6	9.6	9.6	9.6
	Road reconstruction (miles)	0	33.2	33.2	26.7	24.2
	Temporary road construction (miles)	0	21.8	21.8	19.3	16.9

Summary of Environmental Consequences

The implementation of alternative B or C would best meet the purpose and need for modifying fire behavior because, under both alternatives, relatively more acres of public lands would meet desired conditions for flame length and surface fire potential. Alternatives D and F would meet the purpose and need for modifying fire behavior, but a slightly fewer number of acres would meet desired conditions than under alternatives B and C. Alternative A would not meet the purpose and need for modifying fire behavior since no fuel treatments or area thinning would be implemented.

Although implementation of alternative B or C would meet density and species composition objectives to some degree, they would do so at a net loss of \$2 million to the U.S. Treasury. Alternatives D and F would fully meet desired conditions for stand density and species composition, but alternative D would be the most economically feasible alternative to implement, with a net return of \$471,000 to the U.S. Treasury. Alternative D would create the highest number of jobs and result in the highest employee-related income, but alternatives B and C would be only slightly less. There would only be a slight net loss of \$5,000 to the U.S. Treasury from implementing alternative F, but the number of jobs created and employee income generated would be much less than alternatives B, C, and D. Since treatments would not be implemented, alternative A would not meet the purpose and need for modifying forest structure and species composition, nor would it meet the objective of contributing to the stability and economic health of rural communities.

Alternative D (the preferred alternative) would be the most economically feasible alternative to implement and would fully meet objectives for modifying fire behavior, modifying forest structure and species composition, providing access to treatments and improving the road system, and controlling noxious weed introduction and spread. As with all alternatives, the Cold subwatershed is already over the TOC, and with alternative D, it would remain at the TOC. Alternative D would place five other subwatersheds over the Threshold of Concern (TOC), and two subwatersheds would approach the TOC, with large Equivalent Roaded Acres (ERA) increases. However, mitigation measures would be implemented to reduce the risk of adverse watershed effects. Under alternatives B and C, the Cold subwatershed (which is already over the TOC) would increase slightly; additionally, two other subwatersheds would be approaching the TOC, and six other subwatersheds would be over the TOC (see table 2-31). Alternatives B and C would result in a large loss to the U.S. Treasury (\$-2 million) due to implementation costs. With alternative F, one subwatershed (Indian above Antelope) would be at the TOC, four subwatersheds would be approaching the TOC, and the Cold subwatershed would still remain over the TOC. Alternative F would result in only a slight net loss to the U.S. Treasury (-\$5,000).

Based on acres of suitable habitat reduction, implementation of alternatives B and C would pose the greatest level of risk to old-forest-dependent species populations in the short term and uncertainty about future activity. The level of risk to old-forest species from implementing alternative D would be less than alternatives B and C. The implementation of alternative F would result in the lowest level of risk to old-forest species compared to the other action alternatives.

Alternative F would pose the least risk to watershed values because there is only one subwatershed that is at the TOC. Alternatives B, C, and D have a number of subwatersheds and would therefore pose a higher risk to watershed values than alternative F. Alternative A would retain the highest number of acres of suitable habitat for old-forest-dependent species, but because of the

probability of stand-replacing fires, maintaining existing conditions over the long term would present a high degree of risk and uncertainty to these species.

The implementation of alternative B, C, D, or F would all meet objectives for improving the overall road system through construction, reconstruction, and decommissioning of roads, but alternatives B and C would implement the highest number of miles of road reconstruction. Alternative D would reconstruct a slightly lower number of road miles than alternatives B and C but more miles than alternative F. Alternative A would not meet objectives for improving the overall road system.

The implementation of alternative B, D, or F would meet the objectives of controlling the introduction and spread of noxious weeds to the same degree. Without the use of herbicides, implementation of alternative A or C would result in a moderate risk of noxious weed introduction and spread.

Decision Framework

The Responsible Official for this project, Forest Supervisor James M. Peña, will decide whether to implement the Diamond Project as identified in the proposed action, implement the project based on alternatives to the proposed action, or not implement the project at this time.

Project Implementation

The Responsible Official expects to make a decision on the Diamond Project in November 2006, with implementation to begin in the summer of 2007.