Fire and Fuels

Aggressive fire suppression activity across the Forest over the last 80 years has resulted in fuel profiles that are outside the Historic Range of Variability resulting in more continuous fuels, both horizontally and vertically. Given an ignition source, natural or human, resulting wildfires are becoming larger and more destructive than in the past. Substantial mortality is occurring in certain vegetation types, creating large expanses of snag patches and dead fuels.

Comparing the period's pre-and post-1950, actual fire starts have increased dramatically both for lightning and human causes since 1950. This can be explained by several factors, including increased detection efforts, increased road access, and more efficient reporting. Recent fire records show human caused fires tend to cluster along major highways, county roads, ML 3, 4, and 5 roads, and near communities and developed campgrounds. Human causes have accounted for the largest number of ignitions of wildfire for the past 37 years of fire history on the Smith River NRA (http://fsweb.sixrivers.r5.fs.fed.us/dispatch/) ; however, lightning occurs frequently throughout the forest, often with multiple ignitions from the same storm, and is responsible by far for the greatest number of acres burned for the past 37 years.

Table 1. Fire history by acres and cause, period 1978-2015

lightning				human			
acres		frequency		acres		frequency	
total	avg. per year	total	avg. per year	total	avg. per year	total	avg. per year
78,932.85	2,133	156	4	3,199.95	86	367	10

Analysis Framework: Statute, Regulation, Forest Plan and Other Direction

Direction relevant to the proposed action as it affects Fire and Fuels include:

1995 Six Rivers Land and Resource Management Plan (Forest Plan):

The Six Rivers identifies the following standards and guidelines applicable to fire and fuels management, which are applied to all alternatives and will be considered during the analysis process:

Table 2. Forest Plan standards and guidelines for fire and fuels

Management Area 17 - General Forest	
IV-63	Wildfires will be suppressed. Management related fuels will be treated so as to be consistent with wildlife habitat needs as described in Forest-wide Standards and Guidelines.
Fire and Fuels Management/Chapter 4 Standard and Guideline	
IV-117 14-1	All wildfires will receive a suppression response that is appropriate to meet the management area objectives. The response will be safe, timely, and cost efficient.
IV-117 14-2	When properly equipped Forest Service engines and trained personnel are available, they will take fire suppression action to protect structures within the Forest's area of responsibility for all reported fires that involve a threat to life or pose a threat to National Forest resources.

Fire and Fuels Management/Chapter 4 Standard and Guideline	
IV-117 14-3	Concentrations of fuels created by management activities will be reduced to acceptable levels and arrangements based on the site specific wildfire risk and the needs of other resources. The selected treatment methods should consider resource values and environmental limitations (for example, topography, accessibility) as well as costs.
IV-117 14-4	Prescribed fire will be used in natural fuels treatment for various benefits including: a) enhancement of diversity in the structure and composition of plant communities; b) reduction of fire hazard; c) area enhancement for the production and protection of commercial timber yields; d) enhancement of the production of plants and other materials for Native American gathering; and e) enhancement of other resource outputs such as wildlife habitat, forage, and browse.
IV-117 14-5	When prescriptions for timber, wildlife, and other resource management projects call for burning as a method of accomplishment, the risk of fire damage to adjacent resource and property values will be evaluated and plans developed to minimize negative impacts.
IV-117 14-6	Naturally ignited fires may be managed as prescribed fires, as determined on a case-by-case basis through an assessment of hazard and risk and the direction found in the area specific fire management plan.
IV-117 14-7	Structural components such as snags, duff, and coarse woody debris should be protected from wildfire and suppression damage to the extent possible. Trees and snags should be felled only if they pose a threat to firefighter safety or contribute to the risk of wildfire spread.
IV-117 14-8	Those suppression actions which are likely to cause more damage to critical resources (for example, threatened and endangered plant or animal species,and their habitats) than the fire itself will be carefully evaluated and alternative actions considered. Resource management experts will be involved to evaluate potential suppression damage compared to potential wildfire damage.
IV-117 14-9	Appropriate resource management experts will be included in developing project level hazard reduction plans. These plans should identify levels of coarse woody debris and snags (of adequate size and in sufficient amounts) to meet the habitat requirements of species of concern. Additionally, these plans must provide for the safety of firefighting personnel and produce a fuel profile that supports land allocation objectives.
IV-117 14-10	Resource management activities should be designed and implemented so that the wildfire hazard level of the surrounding area is not increased to an unacceptable level.
IV-117 14-11	For areas in the matrix that are located in the rural interface, fire management activities should be coordinated with local governments, agencies, and landowners during watershed analysis to identify additional factors which may affect hazard reduction goals. Hazard reduction may become more important in the rural interface and areas adjacent to structures, dwellings or other amenities. *(FSEIS ROD page C-48)

Forest Plan Forest Wide Desired Conditions

The forest wide desired future condition (DFC) is described on pages IV-2 through IV-4 in the Six Rivers National Forest Plan. The project area is represented by Management Area 7 (page IV-34):

Management Area 7 - Smith River National Recreation Area:

The Smith River NRA was established in November of 1990, by SB 2566/HB4309. The Smith River NRA is managed under direction provided by eight management areas. The primary goals are to emphasize, protect, and enhance the unique biological diversity; anadromous fisheries; and the wild, scenic, and recreational potential of the Smith River while providing sustained yields of forest products. See Smith River NRA Plan (see Forest Plan Appendix A for additional information).

Goal

Provide well-planned and well-executed fire protection and fuel management programs (including fire use through prescribed burning) that are responsive to land and resource management objectives.

Direction

Fire is a fundamentally important ecological process in most grassland, shrubland, and forest types in California. In fire-adapted ecosystems fire regulates biotic productivity and stability in ways that cannot be fully emulated by mechanical or chemical means. In the prolonged absence of fire, and aggravated by other disturbance factors, these fire-adapted forests and grasslands have undergone significant changes in species composition and structure. Intermediate canopy layers and higher ground fuel loadings have developed which allow ground fires to reach the crown more easily, making fires more difficult to control. Often more apparent during prolonged periods of drought, these changes have predisposed extensive areas to epidemic insect infestations, disease outbreaks, and severe stand replacing wildfires. Also, the growing urban/wildland intermix requires adjustments in strategies to protect life and property.

A programmatic diversity will be maintained in fire management, but efforts in prevention, suppression, hazard reduction, and fire rehabilitation will be aligned to more fully complement one another in support of ecosystem management.

Application of prescribed fire for ecosystem maintenance and restoration, and for hazard reduction should vary in extent and frequency of application, and intensity of burning. The differences in applications should be related to the role of natural fire in specific landscapes, current ecosystem needs, and wildfire hazard analysis included in fire management planning efforts.

Forest Service Manual 5100-Fire Management-(Chapter 5140 Hazadous Fuels Managnent and Prescribed Fire)

Table 3. Emergency response route closer exemption

Title 36: Forests, Chapter 11: Forest Service, Part 261 Prohibition-subpart A, CFR 261.13- Motor Vehicle Use	
261.13	After National Forest System roads, National Forest System trails, and areas on National Forest System lands have been designated pursuant to 36 CFR 212.51 on an administrative unit or a Ranger District of the National Forest System, and these designations have been identified on a motor vehicle use map, it is prohibited to possess or operate a motor vehicle on National Forest System lands in that administrative unit or Ranger District other than in accordance with those designations, provided that the following vehicles and uses are exempted from this prohibition: (e) Use of any fire, military, emergency, or law enforcement vehicle for emergency purposes

Other Documents:

In 2005, the Del Norte County Fire Safe Council completed the Community Wildfire Protection Plan (CWPP). The specific purpose of the CWPP was to identify and prioritize projects to reduce wildfire risk through the implementation of fuel hazard reduction, community education, and pre-fire suppression in Del Norte County. The CWPP was developed using a collaborative process involving all local, tribal, state, and federal government agencies, fire protection districts, land owners, and interested publics. The CWPP identified risks and mitigations to reduce risks from wildfire in Del Norte County. Nine community meetings were held throughout the County to determine what the local fire safety issues were and to prioritize projects for agency and community action.

Affected Environment

Wildfires have contributed dramatically to the vegetative makeup of the Smith River Basin. Historical records, fire evidence, and studies in adjacent areas show that fires regularly occurred in this area with a

variety of fire frequencies and intensities. A certain degree of stand replacing, high intensity fires were a natural part of the Smith River NRA fire regime. Pre-settlement wildfires that were often large, stand replacing events, whose smoke could be seen far out to sea. Both wildfires and their exclusion through aggressive suppression affect plant and animal habitat, including stand structure, number of standing snags, amount of large woody debris, soil organic matter content, nutrient availability, and erosion hazard.

The dramatic reduction in wildfire burn acreages over the last 80 years appears to have resulted in non-historic range of variability fuel profiles that are more continuous, both horizontally and vertically. Given this increased conifer density, future wildfires could become larger and more destructive than in the past.

In the prolonged absence of fire, and aggravated by other disturbance factors, these fire-adapted forests and grasslands have undergone significant changes in species composition and structure. Intermediate canopy layers and higher ground fuel loadings have developed which allow ground fires to reach the crown more easily, making fires more difficult to control.

This fire frequency suggests developmental pathways for stand structures which are in marked contrast to the development of old growth/late seral Douglas-fir forests farther north (Oregon Cascades or coast). These differences carry important implications for patterns of regeneration, coarse woody debris accumulations, stand structure, species composition, as well as historical levels of smoke. Frequent low-to-moderate severity fire was one of the more important ecological processes in the Klamath Province as well as in the eastside and southern Cascades. The structure, composition, productivity and overall health and vigor of today's forests are the consequence of various types of human intervention, and this includes long-term fire exclusion.

The absence of fire has decreased the abundance of some old-growth forest types that are dependent on frequent, low intensity fires. Substantial mortality is occurring on the Smith River NRA in knobcone pine, sugar pine, lodgepole pine, and Douglas-fir, creating large expanses of snag patches. Weather variations, whether related to long-term droughts or possible global warming trends, may also be increasing the number of dead trees and the amount of dead fuels. Also, topographic components of the NRA, that is, steep slopes, south-facing slopes, and funneling canyon winds from the dry interior, also contributes dramatically to the potential for high intensity wildfires. The NRA overall has large areas in the high to extreme fire hazard category. The extremely steep topography is a major component of this characterization.

A current shift is taking place towards larger area (several hundreds of acres) understory fuel treatments to counteract the unintended fuels buildup that have resulted from several decades of aggressive suppression. The first large area understory burn for hazard reduction was carried out on the Smith River NRA in May 1994. Its shaded fuel break and adjacent understory burn included approximately 550 acres and was designed to protect the community of Gasquet from wildfires burning westward through the Middle Fork Smith River canyon. Since then several other fuel breaks have been planned and constructed in strategic locations around communities within the District boundary (See project specifics in Appendix C). Approximately 3,100 acres of fuels reduction treatments around communities have been completed with an additional 1819 acres of the Big Flat Vegetation Management and Fuels Reduction Project currently being implemented. The Gordon Hill Vegetation Management and Fuels Reduction Project just finished the planning stage and soon will start the implementation phase, it proposes fuels reduction/restoration on 2749 acres. Fuel treatments are being planned and implemented on the Smith River NRA to help restore the natural fire cycle by use of prescribed burning.

Effects Analysis Methodology

Assumptions Specific to the Fire and Fuels Analysis

The criteria used to identify roads that provide necessary access for fire suppression activities and fuel treatment areas is listed in Appendix H.

No major ridge top or main access roads (ML 3, 4, or 5) on the NFTS roads are proposed to be decommissioned from the NFTS, or downgraded to maintenance level 1in this project.

Each road was given a high, medium, or low rating for one or more of the evaluation criteria. An overall rating was based upon the answers from Appendix H questions and staff knowledge of the District's current and future fire suppression and fuels treatment programs.

Each alternative in the project was analyzed for its ability to provide access for fire suppression and fuels management using the identified high fire need road system under this analysis (ML 1, 2, and UARs). Approximately 207 miles have been identified as high fire need roads/routes.

The results of the analysis show the high priority fire roads and UARs proposed to be downgraded, decommissioned, or restored (UARs), and designated or upgraded on the NFTS.

ML2 roads are important roads for fire access and make up the majority of roads identified in the high priority fire needs.

ML1 roads are closed to vehicle use year-round, and are generally roads that currently have limited feasible fire access due to road failures, vegetation encroachment, or other resource/access issues. Therefore, these roads would need improvements to meet accessibility needs for fire or fuels management.

Miles of road downgraded to ML 1 are analyzed in this proposal as a loss in access.

Motorized trails could need improvements to meet accessibility needs for fire or fuels management.

Roads do create access that could increase human caused fires, but roads also decrease initial attack response times.

Data Sources

Forest-level GIS /Spatial data sources used for this analysis are listed in **Error! Reference source not found.**.

Table 4. Spatial data used for the analysis and a brief description of each data set

Spatial Data	
Layer Name	Description
SRF_Fire History2010-Layer	Smith River NRA Fire History
WUI_Srf_hoopa_uk-Layer Srf_Library_NRA.DBO.CommunitiesAtRisk	WUIs and Communities at high risk of wildland fire
RickNeed_join_PA_with_UAR_NewBoundary_732013-Table Layer	Fire and Fuels Administrative Needs
BasicOwnership	Private Land Ownership
SRNRA_Fuels_Treatments	Current and future fuels treatment areas
Watersources_SRF	Watersources used for fire suppression efforts
Alternative_1_UAR_Final_062620154 Alternative_1, 4, 5, 6_NFTS_Final_06262015	Alternative 1 routes

Spatial Data	
Layer Name	Description
Alternative_4_Final_06262015	Alternative 4 routes
Alternative_5_Final_06262015	Alternative 5 routes
Alternative_6_Final_06262015	Alternative 6 routes

Site-specific personal knowledge of agency fire and fuels specialist was used where Forest-level data were not current or not available.

Direct and Indirect Effects of Actions Analyzed in Each Alternative

Indicator

Total miles by Alternative to be designated or maintained on the NFTS as maintenance level 1, 2, or UARs that are identified as part of the High Priority Fire Road System.

Discussion: Roads provide access not only for accomplishing the suppression side of fire, allowing rapid response and safe deployment of firefighting resources, but also for fuels treatment to prevent catastrophic fire. Roads can be an impediment to fire spread at low fire intensity levels by acting as fuel breaks, which can aid in fuel treatments and suppression efforts; and act as anchor points and escape routes for fire personnel. Generally speaking, the more heavily traveled roads with wider un-vegetated prisms provide the greatest assistance as fire breaks for fire suppression efforts. Roads provide a means for efficiently and safely transporting firefighters, materials and equipment.

Recent fire records show human caused fires tend to cluster along major highways, county roads, ML 3, 4, and 5 roads, and near communities and developed campgrounds. Human causes have accounted for the largest number of ignitions of wildfire for the past 37 years of fire history on the Smith River NRA (http://fsweb.sixrivers.r5.fs.fed.us/dispatch/) ; however, lightning occurs frequently throughout the forest, often with multiple ignitions from the same storm, and is responsible by far for the greatest number of acres burned for the past 34 years.

Roads do create access that could increase human caused fires, but roads also decrease initial attack response times. Roads represent escape routes for firefighters engaged in fire suppression and access for hazardous fuels reduction work. Communities and other private landowners depend on the Forest Service for wildland fire suppression services. The road network in support of these private parcels will assist efforts to protect private lands and structures. In the event of an emergency (i.e. fire suppression, search and rescue, or law enforcement action, etc.), access for emergency responders shall be exempted from prohibition which officially closes routes (whether it is designated on the transportation system or not). (See 36 CFR 261.13).

Roads serve as escape routes for area residents in the case of emergency evacuations. The CWPP states that a first priority for defensibility of communities at high risk of wildland fire is to create strategically located shaded fuel breaks utilizing major road systems and ridge tops around the communities. No major ridge top (ML 3, 4, or 5) roads are proposed to be decommissioned from the NFTS or downgraded to maintenance level 1in this project.

In 2005, the Smith River NRA published its Roads Analysis and Off-Highway Vehicle Strategy (RAP). During this process roads/routes were analyzed and deemed either high, medium, or low based on fire

management and fuels treatment needs. Routes were identified that provided necessary access for fire suppression activities and fuels treatment opportunities.

The RAP identified key questions and issues affecting road-related management on the Forest. Each team member used resource-specific evaluation criteria that had been developed to determine risk and/or need of each ML 1, 2 and unauthorized road/route. Fire and Fuels was considered an administrative need in this process.

Every ML1 and ML2 road and inventoried unauthorized route on the NRA was evaluated for current or future fuels management or fire suppression need. Each road was given a high, medium, or low rating using the evaluation criteria based on the following: primary purpose of the road, road accesses existing or proposed developments for suppression efforts, road provide access to or serve as a control line for residential areas, road provide access to areas requiring fuel treatments, and does the road serve or will it serve as an established fuelbreak. The evaluation included such factors as cost efficiency (quicker, easier access), fire-fighter safety, difficulty of the terrain, etc. Duplicate-access roads/routes were not identified as high fire need roads/routes.

Findings from the 2005 Smith River RAP, identified approximately 207 miles of ML 1, 2 roads and UARS as high need fire roads/routes to be designated on or kept on the NFTS. ML 3, 4 and 5 provide an additional 151 miles of access that will not be changed or modified under this action.

After reviewing the spring 2001 issue of Fire Management provided during the scoping comment period, we found that the issues raised in the article were similar to the criteria used by the NRA fire personnel to evaluate the road system, which led to the proposed action of removing routes/miles of road across on the District (See Appendix H for criteria used to select High Fire Need Routes/Roads.) All roads/routes were evaluated, while keeping in mind not all roads are needed to effectively suppress wildland fires and fire managers do not need all roads to complete hazardous fuels reduction work.

The routes identified as being needed will help firefighting efforts by having fuel breaks already in place, when suppression efforts are needed (fuel breaks have proven to be an effective tool on the NRA during the 1996 Panther Fire and on the Six Rivers National Forest during the 1999 Megram Fire (Jimerson and Jones 2000)). These breaks will provide a safer means for managing prescribed fire by reducing risk of an escape and permit the efficient re-introduction of fire into the ecosystem.

Although some authors such as Inglesbee question the use of fuels breaks in the article Fuel breaks for Wildland Fire Management: A Moat or a Drawbridge for Ecosystem Fire Restoration, others have found that fuel breaks have been effective (Agee and Skinner 2005, Jimerson and Jones 2000) including fuel breaks constructed on Six Rivers. Agee (2000) concluded that “a well-designed fuel break will alter the behavior of wildland fire entering the fuel-altered zone. Both surface and crown fire behavior may be reduced. Shaded fuel breaks must be created in the context of the landscape within which they are placed. Landscape-level treatments such as prescribed fire can use shaded fuel breaks as anchor points, and extend the zone of altered fire behavior to larger proportions of the landscape. Therefore, reducing surface fuels, increasing the height to the live crown base, and opening canopies should result in (a) lower fire intensity, (b) less probability of torching, and (c) lower probability of independent crown fire.” Fuel treatments are being planned and implemented on the Smith River NRA to help restore the natural fire cycle by use of prescribed burning.

Environmental Consequences

Direct and Indirect Effects

Indicators=Total miles of the High Priority Fire Road System by Alternative to be designated or maintained on the NFTS.

Alternative 1, No Action

This alternative would maintain existing NFTS roads identified as High Fire Priority Roads, but will not designate any high fire need UARs (approximately 12.42 miles) to the system or upgrade (improve accessibility) any existing system road.

As stated above, roads provide access not only for accomplishing the suppression side of fire management, allowing rapid response and safe deployment of firefighting resources, but also for fuels treatment to prevent catastrophic fire.

No major ridge top (ML 3, 4, or 5) roads are proposed to be decommissioned from the NFTS or downgraded to maintenance level 1.

Although CFR 261.13 allows any road/route to be opened in emergency situations, rapid response to a fire could be hampered by lower accessibility of the roads/routes (i.e. poor drivability). Fire size and costs may increase if access is delayed.

Technically the No Action Alternative appears to be the best option for fire access; however, this alternative will not designate high fire need UARs or upgrade existing roads. NTFS roads under the No Action Alternative would continue to have limited access due to their current condition (i.e. failures, and/or veg. encroachment) without stormproofing.

Alternative 4

This alternative would reduce miles of High Fire Priority Road System by the decommissioning of 5.93 miles of high fire priority roads, downgrading of 11.40 miles of road to level 1, and the restoration of drainage patterns on UARs on 1.02 miles.

Lower Fire Priority roads/routes proposed to be added/upgraded will also provide access for fire and fuels management.

Approximately 188.65miles or 91 percent of the High Priority Fire Need System roads will be part of the NFTS under this alternative.

Alternative 5

This alternative would reduce miles of High Fire Priority Road System by the decommissioning 52.09 miles of high fire priority roads, downgrading of 37.31 miles of roads to maintenance level 1, and restoring drainage patterns on UARs on 4.09 miles.

Lower Fire Priority roads/routes proposed to be designated/upgraded could also provide access for fire and fuels management.

Approximately 113.51 miles or 55 percent of the High Priority Fire Need System roads will be on the NFTS under this alternative.

Alternative 6

This alternative would reduce miles of High Fire Priority Road System by the decommissioning 5.94 miles of high priority fire system roads, downgrading of 13.51 miles of roads to level 1, and restoring drainage patterns on UARs on 1.02 miles.

Lower Fire Priority roads/routes proposed to be added/upgraded could also provide access for fire and fuels management.

Approximately, 186.53 or 90 percent miles of the High Priority Fire Need System roads will be on the NFTS under this alternative.

Cumulative Effects for All Alternatives

Fire regime condition classes on the Smith River NRA have been altered by fire suppression, logging, mining, and wildfire occurrence. A fire regime is the temporal and spatial pattern of fire occurrence and effects, typically described by fire return interval, seasonality, frequency, and severity. The natural fire regime condition class of the area is generally comprised of frequent low intensity surface events ('ground cleaning' or litter burning events with little tree mortality) with infrequent high intensity events (which produced patches of overstory mortality).

Aggressive suppression activity over the last 80 years has resulted in unnatural fuel profiles that are more continuous, both horizontally and vertically. Given this increased fuel loading, future wildfires have become larger and more destructive than in the past. Weather variations, whether related to long-term droughts or possible climate change trends, have also increase the number of dead trees and the amount of available dead fuels.

Several fuels reduction projects (fuel breaks) are being planned and have been implemented in strategic locations around communities within the District boundary (See SRNRA cumulative effects project list). The goal of Smith River NRA vegetation and fuels management projects (See project specifics in Appendix C) are to create conditions for fire resilient/resistant forests and attempts to return fire to its natural place in the environment. Post-treatment, potential fire behavior would decrease and fire suppression effectiveness would increase. There would likely be less potential impacts to private property. Over time, associated cost of fighting fire (within the project areas) will decrease as the effectiveness of the fuels reduction aide in keeping unwanted fires small.

Roads provide administrative access not only for accomplishing the suppression side of fire, allowing rapid response and safe deployment of firefighting resources, but also for fuels treatment to prevent catastrophic fire. Each alternative in the project was analyzed for its ability to provide access for fire suppression and fuels management using the identified high fire need road system under this analysis.

Summary of Effects Analysis for All Alternatives

The No Action Alternative appears to provide the greatest amount of high priority fire access when compared to the other alternatives; even though this alternative will not designate high fire need UARs or upgrade existing roads. NFTS roads under the No Action Alternative would continue to have limited access due to their current condition (i.e. potential for failures) without stormproofing.

A comparison of high fire need roads by alternative show that there is no significant difference concerning access for fire suppression activities and fuel treatment areas in Alternatives 4 or 6. Implementing Alternatives 4 or 6 would provide sufficient access for fire suppression and fuels treatment activities.

Alternative 5 reduces access for fire and fuels management the most; and has the greatest negative impact on rapid response and safe deployment of firefighting resources, and fuels treatment opportunities into the future.

Table 5. High fire need roads on the NFTS by alternative

Alternative Comparison/ Indicator Table	Alternative1 No Action	Alternative 4	Alternative 5	Alternative 6
Percent Total Miles of high fire need Roads by Alternative[a]	94% 194.6 miles- No additions or upgrades[b]	91% 188.65 miles	55% 113.51 miles	90% 186.53 miles

(Indicator Table=Total miles/percent of the High Priority Fire Road System by Alternative to be designated or maintained on the NFTS .)

- - 207 miles of roads were identified as high need for fire suppression access and fuels treatment projects and compared to proposal for each alternative.
- - Alternative 1, does not allow for additions or upgrades to the NFTS.

Ranking for fire and fuels access by alternatives are as follows:

1-5 (1 being low fire/fuels treatment access and 4 being most fire/fuels access by alternatives)

Table 6. Alternative ranking comparison

Alternative Ranking	Alternative 1 No Action	Alternative 4	Alternative 5	Alternative 6
1-5 Miles of high fire need routes/roads to be added	4[a]	3	1	2

- - The No Action Alternative 1 appears to be the best option for fire access, when actually this alternative will not add high fire need routes or upgrade existing roads/routes. NTFS roads under the No Action Alternative would continue to have limited access due to their current condition (i.e. failures, and/or veg. encroachment) without stormproofing.

Roads provide access not only for accomplishing the suppression side of fire management, allowing rapid response and safe deployment of firefighting resources, and also for fuels treatment to prevent catastrophic fire. No major ridge top or main access (3, 4, or 5 ML) NFTS roads are proposed to be decommissioned or downgraded to level 1 in this project.

Alternative 1 (No Action)-appears to be the best option for fire access, when actually this alternative will not add high fire need routes or upgrade existing roads/routes. NTFS roads under the No Action Alternative would continue to have limited access due to their current condition (i.e. failures, and/or veg. encroachment) without stormproofing.

Alternatives 4 and 6 maintain at least 90 percent of the high fire priority roads, which will provide sufficient access for fire and fuels management needs into the future. These two alternatives best meet standards and guidelines applicable to fire and fuels management needs (See above Analysis Framework: Statute, Regulation, Forest Plan and Other Direction) for compliance.

Alternative 5 maintains 55 percent of the high fire priority roads which may result in longer response times, larger fires, and higher suppression costs. Roads can be an impediment to fire spread at low fire intensity levels by acting as fuel breaks, which can aide in fuel treatments and suppression efforts; and act as anchor points and escape routes for fire personnel.