

A.1 List of Preparers

Core Interdisciplinary Team

<i>Name</i>	<i>Area(s) of Expertise</i>	<i>Education</i>	<i>Years Experience</i>
Bob Campbell	Ecology	B.S., Botany; B.S., Plant Science M.S., Forestry (Ecology)	25
Linda Chappell	Air Quality, Fuels	B.S., Forest Management; B.S., Range Science	15
Ivan Erskine	Fire Management	B.S., Watershed Mgmt. and Forestry B.S., Elementary Education	31
David Hatfield	Team Leader, Planning	B.A., M.S., Geology	17
Karen Ogle	Team Leader, Fire Ecology	B.S., Forest Management; M.S., Fire Ecology	12
Frances Reynolds	Public Involvement	B.A., British History and Literature	22
Linda Wadleigh	Fire Ecology, Fuels, TESP	B.S., Forest Management; M.S., Fire Ecology	12

Extended Interdisciplinary Team

<i>Name</i>	<i>Area(s) of Expertise</i>	<i>Education</i>	<i>Years Experience</i>
Ellen Daniels	Support Services		10
Sherel Goodrich	Ecology	B.S., Range Management; M.S., Plant Taxonomy	30
Kevin Greenhalgh	Fire Planning, Fuels	B.S., Forest Mgt.; B.S., Recreation Res. Mgt.	10
Arlene Heap	GIS/Database Mgt.		24
Stan McDonald	Cultural Resources	B.S., M.A., Anthropology	20
Steve Robertson	Aquatic Biota	B.S., Fisheries Management; M.S., Zoology	25
Tom Scott	Recreation, Visual Mgt., Human Uses	B.A, History; M.A., Anthropology	25
Kelly Shanahan	Hydrology, Watershed	B.S., Geology; M.S., Watershed Science	11
Michael Smith	Soils	B.S. Natural Resource Management	20
Liz Van Genderen	Editing	B.S. Natural Resource Management	13
Richard Williams	Terrestrial Wildlife	B.S., Wildlife Management	26

A.2 Glossary of Terms

Activity Fuels - Fuels generated from management activities (i.e., timber harvest).

Air Quality - The characteristics of the ambient air (all locations accessible to the general public) as indicated by concentrations of the six air pollutants for which national standards have been established (e.g., particulate matter, sulphur dioxide, nitrogen dioxide, ozone, carbon monoxide, and lead), and by visibility in mandatory Federal Class I areas. For the purposes of the Utah Smoke Management Plan, concentrations of particulate matter are taken as the primary indicators of ambient air quality.

Ambient air - Literally, the air moving around us; the air of the surrounding outside environment.

Appropriate Management Response - Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Appropriate Management Strategy - A plan or direction selected through a decision process to guide wildland fire management actions to meet protection and fire use objectives. The planned strategy for suppression action in terms of kind, amount, and timing on a wildland fire that most efficiently meets fire management direction under current and expected burning conditions.

Burn Window - the period of time when the prescribed fire is scheduled for ignition.

Class I Areas - an area set aside under 42 U.S.C. 7491 to receive the most stringent protection from air quality degradation. Mandatory Class I Federal areas are: 1) international parks, 2) national wilderness areas which exceed 5,000 acres in size, 3) national memorial parks which exceed 5,000 acres in size, and 4) national parks which exceed 6,000 acres and were in existence on August 7, 1977. The extent of a mandatory Class I federal area includes subsequent changes in boundaries, such as park expansions. The five Class I Areas in Utah include: 1) Zion National Park, Bryce Canyon National Park, Capitol Reef National Park, Arches National Park, Canyonlands National Park.

Class II Areas - All areas of the country not designated as Class I. A greater amount of air pollution can be added to these areas than Class I.

Clean Air Act - A federal law enacted to insure that air quality standards are attained and maintained. Initially passed by Congress in 1963, it has been amended several times, the latest being August of 1977.

Clearing Index - an indicator of the predicted rate of clearance of ground level pollutants from a given area. This number is calculated by the National Weather Service from daily measurements of temperature lapse rates and wind speeds from ground level to 10,000 feet altitude.

Composition - The numbers and kinds of plants and animals in an area.

Confine - Confinement is the strategy employed in appropriate management responses where a fire perimeter is managed by a combination of direct and indirect actions and use of natural topographic features, fuel, and weather factors.

Criteria Pollutants - Those air pollutants designated by the Environmental Protection Agency as potentially harmful and for which ambient air standards have been set to protect the public health and welfare. The criteria pollutants are carbon monoxide, sulfur dioxide, particulate, nitrogen dioxide, ozone, hydrocarbons and lead.

Cumulative Effects - Cumulative effects result from the impacts of past, present, and reasonably foreseeable future activities combined with the projected direct and indirect effects of each alternative considered.

Disturbance - Any relatively discrete event, either natural or human-induced that causes a change in the existing condition of an ecological system.

Direct Effects - Direct effects are those consequences, which are expected to occur following implementation of an alternative. Direct effects are caused by the action and occur at the same time and place as the action.

Ecosystem - An arrangement of organisms defined by the interactions and processes that occur between them. Ecosystems are often defined by their composition, function, and structure.

Ecosystem Integrity - An ecosystem that is in properly functioning condition and operating within its historic range of variation. The blending of biological diversity, physical, economic sustainability, and social components. An ecosystem has integrity when it can maintain characteristic compositions, structures, and processes against a background of anthropogenic changes in environmental conditions. Ecosystems with high integrity continue to express the evolutionary and biogeographic processes that gave rise to the current biota; they have a species composition, diversity, and functional organization expected from natural habitats of the region; and they are resilient to environmental change and disturbance occurring within their historic range of variability.

Ecosystem Management - The careful and skillful use of ecological, economic, social, and managerial principles in managing ecosystems to produce, restore, or sustain ecosystem integrity and desired conditions, uses, products, and services over the long term.

Ecosystem Sustainability - The ability to sustain diversity, productivity, resilience to stress, health, renewability, and/or yields of desired values, resource uses, products, or services from an ecosystem while maintaining the integrity of the ecosystem over time.

Fire-Adapted Ecosystem - An arrangement of species that have made long-term genetic changes in response to the presence of fire in the environment. For example characteristics might include sprouting, heat treated seeds, serotinous cones or thick bark.

Fire Exclusion - The disruption of a characteristic pattern of fire intensity and occurrence (primarily through fire suppression).

Fire Intensity – Fire intensity is the magnitude of a disturbance event ranging from a low intensity (surface fire) to high intensity (crown fire). Intensity is derived from the energy content of fuel, the mass of fuel consumed, and the rate of spread of the fire. The units of fire intensity reflect energy release. The length of flames of a fire can be related to its fire intensity.

Fire Management Area (FMA) - A sub-geographic area within an FMU that represents a predefined ultimate acceptable management area for a fire managed for resource benefits. This predefined area can constitute a Maximum Manageable Area (MMA) and is useful for those units having light fuel types conducive to very rapid spread rates. Predefinition of these areas removes the time-lag in defining an MMA after ignition and permits preplanning of the fire area; identification of threats to life and property, resources, and boundaries; and identification of initial actions.

Fire Management Plan (FMP) - A FMP is a functional activity plan for the fire management program. The FMP is the primary tool for translating programmatic direction developed in the land management plan into on-the-ground action. The FMP synthesizes broad fire management goals and places them into a strategic context. Criteria for making initial action decisions must be a component of the FMP.

Fire Management Unit (FMU) - Any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that set it apart from management characteristics of an adjacent unit. FMU's are delineated in FMP's. These units have dominant management objectives and preselected strategies assigned to accomplish these objectives.

Fire Regime - The fire pattern across the landscape, characterized by occurrence interval and relative intensity. Fire regimes result from a unique combination of climate and vegetation. Fire regimes exist on a continuum from short-interval, low-intensity fires to long-interval, high-intensity fires.

Fire Return Interval - The number of years between two successive fires in a designated area.

Fire Severity – Fire severity is a product of fire intensity and residence time at a site. Severity denotes the effects, from low to high, of fire on the soil and vegetation components of a site.

Fire Use - The combination of wildland fire use and prescribed fire application to meet resource objectives.

Forest Plan Direction - See Management Direction.

Fuel Loading - The amount of burnable (living or dead) material on the ground. It is measured in tons per acre.

Fuel Management - The practice of evaluating, planning, and executing the treatment of wildland fuel to control flammability and reduce the resistance to control through mechanical, chemical, biological, or manual means, or by prescribed and wildland fire, in support of land management objectives.

Function - The contribution that each plant and animal provides to an ecosystem, as well as the interaction of physical processes such as erosion, fire, flooding, and wind.

Goal - A concise statement that describes a desired condition to be achieved sometime in the future. It is normally expressed in broad, general terms and is timeless in that it has no specific date by which it is to be completed. Goal statements form the principle basis from which objectives are developed.

Guideline - Forest plan guidelines represent a preferable or advisable course of action that is generally expected to be carried out. Deviation from compliance with a guideline does not require a forest plan amendment, but rationale for such a deviation shall be documented in the project decision document.

Historic Range of Variability (HRV) - The fluctuations of composition, structure, and function within stable ecosystems over time. (Also see Properly Functioning Condition.) The expected variation in physical and biological conditions caused by natural climatic fluctuations and disturbance regimes (e.g., flooding, fire and windthrow). It is derived from an ecological history of a landscape and is estimated from the rate and extent of change in selected physical and biological variables. Because HRV is derived from a historical analysis, its value is dependent on the time interval evaluated. HRV is defined in this EA as those environmental and biotic conditions that existed 200 to 400 years ago.

Holding Actions - Planned actions required to achieve wildland and prescribed fire management objectives. These actions have specific implementation time frames for fire use actions but can have less sensitive implementation demands for suppression actions. For wildland fires managed for resource benefits, an MMA may not be totally naturally defensible. Specific holding actions are developed to restrict the fire inside the planned burn unit. For suppression actions, holding actions may be implemented to prohibit the fire from crossing containment boundaries. These actions may be implemented as firelines are established to limit the spread of fire.

Indirect Effects - Indirect effects are those consequences, which are expected to occur following implementation of an alternative. Indirect effects are caused by the action and occur later in time or farther from the activity.

Initial Attack - An aggressive suppression action consistent with firefighter and public safety and values to be protected.

Interdisciplinary Team (IDT) - A team representing several disciplines to ensure coordinated planning of the various resources.

Landscape - An area of interacting and interconnected patterns of habitats (ecosystems) that are repeated because of the geology, land form, soil, climate, biota, and human influences throughout the area. Landscape structure is formed by disturbance events, successional development of landscape structure, and flows of energy and nutrients through the structure of the landscape. A landscape is composed of watersheds and smaller ecosystems. It is the building block of biotic provinces and regions.

Management Concern - An issue, problem, or condition that constrains the range of management practices identified by the Forest Service in the planning process.

Management Direction - A statement of multiple-use and other goals and objectives, the associated management prescriptions, and standards and guidelines for attaining them.

Management-Ignited Fire - Obsolete; see prescribed fire.

Management Practice - A specific activity, measure, course of action, or treatment.

Minimum Impact Suppression Tactic (MIST) - Techniques used to minimize the evidence of fire suppression activities. These tactics are generally used in wilderness areas or other areas with high resource values (i.e., cultural resource sites).

National Ambient Air Quality Standards (NAAQS) - Standards for maximum acceptable concentrations of pollutants in the ambient air to protect public health with an adequate margin of safety, and to protect public welfare from any known or anticipated adverse effects of such pollutants (e.g., visibility impairment, soiling, materials damage, etc.) in the ambient air.

Natural Fuels - The natural accumulation of leaves, needles, and branches on the ground over time.

Natural Ignition - A wildland fire ignited by a natural event, such as lightning.

Nonattainment area - an area which is shown by monitored data or which is calculated by air quality modeling (or other methods determined by the Administrator, EPA to be reliable) to exceed any National Ambient Air Quality Standard for such pollutant and includes any area designated as nonattainment under 42 U.S.C. 7407.

Objective - A concise, time-specific statement of measurable, planned results that respond to preestablished goals. An objective forms the basis for further planning to define the precise steps to be taken and the resources to be used in achieving identified goals.

Particulate Matter (PM) - Any airborne finely divided material, except uncombined water which exists as a solid or liquid at standard conditions (e.g., dust, smoke mist, fumes, or smog).

PM 2.5 - Particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.

PM 10 - Particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers (including PM 2.5).

Prescribed Fire - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescribed Fire Plan - A plan required for each fire application ignited by managers. It must be prepared by qualified personnel and approved by the appropriate line officer prior to implementation. Each plan will follow specific agency direction and must include critical elements described in the Forest Service manual.

Prescribed Natural Fire - Obsolete; see wildland fire use.

Prevention of Significant Deterioration (PSD) - A program identified by the Clean Air Act to prevent air quality and visibility problems. Areas of the county are grouped into three classes that are allowed certain degrees of pollution depending on their uses. National Parks and Wilderness Areas meeting certain criteria are "Class I" or "Clean areas" in that they have the smallest allowable increment of degradation.

Properly Functioning Condition (PFC) - PFC occurs when soil and water are conserved and plants and animals can grow and reproduce, and respond to disturbance. Ecosystems are in PFC when they function within their historic range of variability. (Derived from the BLM's treatment of riparian areas and the Intermountain Region's treatment of upland cover types.)

Regional Haze - Generally, concentrations of fine particles in the atmosphere extending up to hundreds of miles across a region and promoting noticeably hazy conditions; wide-spread visibility impairment, especially in mandatory Class I Federal areas where visibility is an important value.

Risk - The probability of the occurrence of a hazard and/or the consequences of that hazard.

Short Interval Fire-Adapted Ecosystem - Ecosystems experiencing low-intensity surface fires with a frequent fire return interval, e.g. ponderosa pine ecosystems.

Smoke Management - Conducting a prescribed fire under fuel moisture and meteorological conditions, and with firing techniques that keep the smoke's impact on the environment within acceptable limits.

Smoke Management Program (SMP) - Establishes a basic framework of procedures and requirements for managing smoke from fires that are managed for resource benefits. The purposes of SMP's are to mitigate the nuisance and public safety hazards (e.g., on roadways and at airports) posed by smoke intrusions into populated areas; to prevent deterioration of air quality and NAAQS violations; and to address visibility impacts in mandatory Class I Federal areas in accordance with the regional haze rules.

Standard - Forest plan standards describe a condition of land, normally a maximum or minimum condition, which is measurable. A standard can also be expressed as a constraint on management activities or practices. Deviation from compliance with a standard requires a forest plan amendment.

State Implementation Plan - A Clean Air Act required document in which States adopt emission reduction measures necessary to attain and maintain NAAQS, and meet other requirements of the Act.

Structure - The sizes, shapes, and/or ages of the plants and animals in an area.

Suppression - A management action intended to extinguish a fire or alter its direction of spread.

Sustainability - The ability to maintain a desired condition or flow of benefits over time.

Threshold - A place or point of beginning, the intensity below which a physical stimulus cannot be perceived and produces no response.

Values At Risk - To rate according to a relative estimate of worth when exposed to a chance of loss or damage.

Violation of the PM NAAQS - As revised in 1997, the daily PM 10 standard is violated when the 99th percentile of the distribution of 24-hour concentrations for a period of 1 year (averaged over 3 calendar years) exceeds 150 micrograms per cubic meter at any monitor within an area. The annual PM 10 standard is violated when the arithmetic average of 24-hour concentrations for a period of 1 year (averaged over 3 calendar years) exceeds 50 micrograms per cubic meter at any monitor within an area. The new NAAQS levels for PM 2.5 are set at a daily concentration less than or equal to 65 micrograms per cubic meter, and an annual mean concentration of less than or equal to 15 micrograms per cubic meter. The daily standard is violated when the 98th percentile of the distribution of the 24-hour concentrations for a period of 1 year (averaged over 3 calendar years) exceeds 65 micrograms/cubic meter at any monitor within an area. The annual standard is violated when the annual arithmetic mean of the 24-hour concentrations from a network of one or more population-oriented monitors (averaged over 3 calendar years) exceeds 15 micrograms/cubic meter. Compliance with the annual PM 2.5 NAAQS is based on population-oriented monitors because the health information, upon which the standard is based, relates area-wide health statistics to area-wide air quality as measured by one or more monitors.

Wildfire - An unwanted wildland fire. This term is obsolete.

Wildland Fire Situation Analysis (WFSA) - A decision making process that evaluates alternative management strategies against selected criteria (i.e., safety, environmental, social, political, economic), and resource management objectives.

Wildland - Any area under fire management jurisdiction of a land management agency.

Wildland Fire - Any nonstructure fire, other than prescribed fire, that occurs in the wildland. This term encompasses fires previously called both wildfires and prescribed natural fires.

Wildland Fire Implementation Plan (WFIP) - A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire being managed for resource benefits. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (i.e., fires managed for resource benefits will have two-three stages of the WFIP completed while some fires that receive a suppression response may only have a portion of Stage I completed).

Wildland Fire Management Program - The full range of activities and functions necessary for planning, preparedness, emergency suppression operations, and emergency rehabilitation of wildland fires, and prescribed fire operations, including natural fuels management to reduce risks to public safety and to restore and sustain ecosystem health.

Wildland Fire Suppression - An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources.

Wildland Fire Use - The management of naturally ignited wildland fires to accomplish specific prestated resource management objectives in predefined geographic areas outlined in FMP's. Operational management is described in the WFIP. Wildland fire use is not to be confused with "fire use", which is a broader term encompassing more than just wildland fires.

Wildland Urban Interface - The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels. Because of their location, these structures are extremely vulnerable to fire should an ignition occur in the surrounding area.

Acronyms

EA - Environmental Assessment

ESA - Endangered Species Act

EIS - Environmental Impact Statement

FMP - Fire Management Plan

GIS - Geographic Information System

LRMP - Land and Resource Management Plan

NFMA - National Forest Management Act

NFMAS - National Fire Management Analysis System

NEPA - National Environmental Policy Act

NOI - Notice of Intent

PFC - Properly Functioning Condition

PM - Particulate Matter

WFIP - Wildland Fire Implementation Plan

WFSA - Wildland Fire Situation Analysis

A.3 List of those who commented

Federal Agencies

USDA Natural Resource Conservation Service
USDI Fish and Wildlife Service
USDI National Park Service, Cedar Breaks National Monument

State/Regional Agencies

State of Utah, Dept. of Environmental Quality, Division of Drinking Water
State of Utah, Dept. of Natural Resources, Division of Wildlife Resources
State of Utah, Division of Air Quality, Air Quality Planning
Wyoming Game and Fish Department
Central Utah Water Conservancy District

Local Governments

Fillmore City
Salt Lake City Corporation

Tribal Governments

The Navajo Nation

Environmental Organizations

Citizens for the Protection of Logan Canyon
High Uintas Preservation Council
Southern Utah Wilderness Alliance
Southwest Center for Biological Diversity
The Ecology Center, Inc.
The Nature Conservatory of Utah
Willow Creek Ecology, Inc.

Industry

Louisiana-Pacific
Stoltze Aspen Mill
Yardley Cattle Company

Special Interest Groups

Sevier Wildlife Federation
Utah Wildlife Federation
Wildlife Management Institute
Utah Farm Bureau Federation

Private Individuals

Mark Belles
Parley Christensen
Kent & Karen Coates
Leonard Beckman
Joleen H. Bell
Larry E. Brewer
Cathy W. Dahms
Jerold L. Jensen
James Kennon
Clint McKnight
Mack Morrell
Brooks & Glenyce Poulson
Erica A. Powell
J. Keith Schnare
Owen Severance
Lenita Steinaker
Leon Stewart
John R. Swanson
Gerald Wenner

A.4 References

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A.5 Threatened, Endangered, Proposed Species, Conclusion of Effects

THREATENED, ENDANGERED AND PROPOSED SPECIES OF THE NATIONAL FORESTS IN UTAH

Conclusions of Effects for the 6-Forest Fire Amendment Process

Endangered	Ashley			Dixie			Fishlake			Manti-LaSal			Uinta			Wasatch-Cache		
	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt
Mammals																		
black-footed ferret 3/11/67 <i>Mustela nigripes</i>	H	NLAA	12															
Birds																		
Southwestern willow flycatcher 2/27/95 <i>Empidonax traillii extimus</i>	H	NLAA	4	H	NLAA	4	O	NLAA	4	O	NLAA	4	H	NLAA	4	H	NLAA	4
peregrine falcon 3/20/84 <i>Falco peregrinus</i>	O	NLAA	2, 4	O	NLAA	2, 4	O	NLAA	2, 4	O	NLAA	2, 4	O	NLAA	2, 4	O	NLAA	2, 4
Whooping crane 3/11/67 <i>Grus americana</i>	O	NE	4										H	NE	4	H	NE	4
Fish																		
June sucker 3/31/86 <i>Chasmistes liorus</i>																O	NE	14
humpback chub 3/11/67 <i>Gila cypha</i>	O	NE								O	NE		O	NE				
bonytail chub 4/23/80 <i>Gila elegans</i>	O	NE								O	NE		O	NE				
Colorado squawfish 3/11/67 <i>Ptychocheilus lucius</i>	O	NE								O	NE		O	NE				
razorback sucker 10/23/91 <i>Xyrauchen texanus</i>	O	NE								O	NE		O	NE				
Plants																		
San Rafael cactus 9/16/87 <i>Pediocactus despainii</i>							O	NE	3									
clay phacelia 9/28/78 <i>Phacelia argillacea</i>													O	NLAA	3			
Threatened																		
Mammals																		
Utah prairie dog 6/04/73 <i>Cynomys parvidens</i>				O	NLAA		O	NLAA										
Canada lynx 3/24/00 <i>Lynx canadensis</i>	O	NLAA	15							H	NLAA	15	O	NLAA	15	O	NLAA	15

THREATENED, ENDANGERED AND PROPOSED SPECIES OF THE NATIONAL FORESTS IN UTAH (cont. page 2 of 2)
Conclusions of Effects for the 6-Forest Fire Amendment Process

<i>Threatened Cont'd</i>	<i>Ashley</i>			<i>Dixie</i>			<i>Fishlake</i>			<i>Manti-LaSal</i>			<i>Uinta</i>			<i>Wasatch-Cache</i>		
	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt
Birds																		
bald eagle 7/12/95 <i>Haliaeetus leucocephalus</i>	O	NLAA		O	NLAA		O	NLAA		O	NLAA		O	NLAA		O	NLAA	
Mexican spotted owl 3/16/93 <i>Strix occidentalis lucida</i>	H	NE		O	NLAA		O	NLAA		O	NLAA							
Plants																		
Deseret milkvetch 10/20/99 <i>Astragalus desereticus</i>										H	NLAA	3	H	NLAA	3			
Heliotrope milkvetch 11/06/87 <i>Astragalus montii</i>										O	NE	2, 3						
Maguire daisy 6/19/96 <i>Erigeron maguirei</i>							O	NLAA	3									
Winkler cactus 8/20/98 <i>Pediocactus winkleri</i>							H	NE	3	H	NE	3						
Maguire's primrose 8/21/85 <i>Primula maguirei</i>																O	LAA	9
Ute ladies'- tresses 7/17/92 <i>Spiranthes diluvialis</i>													O	NE	4			
Last Chance townsendia 8/21/85 <i>Townsendia</i> <i>aprica</i>							O	NLAA	3, 9									
Reptiles and Amphibians																		
desert tortoise 8/04/89 <i>Gopherus agassizii</i>				O	NLAA													
Proposed																		
None																		

Presence: H - Potential Habitat; O - Known Occurrence.

Determination: Listed: NE - No Effect; LAA - May Effect - Likely to Adversely Affect; NLAA - May Effect - Not Likely to Adversely Affect; BE - Beneficial Affect.
Proposed: NE - No Effect; NLJ- Not Likely to Jeopardize the Continued Existence Of The Species Or Result In Destriction Or Adverse Modification Of Proposed Critical Habitat ; LJ - Likely To Jeopardize The Continued Existence Of The Species Or Result In Destruction Or Adverse Modification Of Proposed Critical Habitat.

Comment(s): 1 - Alpine; 2 - Rock outcrops; 3 - Sparse fire fuels and fuel loading (e.g., barrens & shales); 4 - Riparian areas; 5 - Fire adapted - root sprouter; 6 - Fire adapted - heat treatment required for germination; 7 - Fire adapted - off site colonizer; 8 - Occurs in fire adapted ecosystem; 9 - Loss of overstory cover; 10 - Aquatic ecosystems; 11 - Hanging gardens; 12 - Tied to prairie dog habitat; 13 - If streams would not be dewatered; 14 - Occurs within Research Natural Area; 15 - Covered by conservation agreement and strategy.

A.6 Sensitive Species, Conclusion of Effects

SENSITIVE SPECIES OF THE NATIONAL FORESTS IN UTAH
 Conclusions of Effects for the 6-Forest Fire Amendment Process

Sensitive	Ashley			Dixie			Fishlake			Manti-LaSal			Uinta			Wasatch-Cache		
	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt
Mammals																		
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH	
spotted bat <i>Euderma maculatum</i>	O	NI	2, 4	O	NI	2, 4	O	NI	2, 4	O	NI	2, 4	H	NI	2, 4	H	NI	2, 4
wolverine <i>Gulo gulo</i>	H	BI											H	BI		H	BI	
Birds																		
northern goshawk <i>Accipiter gentilis</i>	O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH	
boreal owl <i>Aegolius funereus</i>	O	WIFV											O	WIFV		O	WIFV	
peregrine falcon <i>Falco peregrinus</i>	O	MIIH	2, 4	O	MIIH	2, 4	O	MIIH	2, 4	O	MIIH	2, 4	O	MIIH	2, 4	O	MIIH	2, 4
flamulated owl <i>Otus flammeolus</i>	O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH	
three-toed woodpecker <i>Picoides tridactylus</i>	O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH		O	MIIH	
great gray owl <i>Strix nebulosa</i>	O	WIFV														O	WIFV	
Columbian sharp-tailed grouse <i>Tympanuchus</i> <i>phasianellus</i>																H	BI	
Fish																		
Colorado River cutthroat trout <i>Oncorhynchus</i> <i>clarki pleuriticus</i>	O	MIIH		O	MIIH		O	MIIH		O	MIIH							
Bonneville cutthroat trout <i>Oncorhynchus clarki utah</i>				O	MIIH		O	MIIH					O	MIIH		O	MIIH	
Plants																		
Chatterly onion <i>Allium geyeri</i> var. <i>chatterleyi</i>										O	MIIH	3						
Link Trail columbine <i>Aquilegia flavescens</i> var. <i>rubicunda</i>										O	MIIH	4						
Graham columbine <i>Aquilegia grahamii</i>	O	MIIH	11															

pinnate spring-parsley <i>Cymopterus beckii</i>				O	MIIH	2, 3	O	MIIH	2, 3	O	MIIH	2, 3						
Cedar Breaks biscuitroot <i>Cymopterus minimus</i>				O	MIIH	3												
brownie lady's slipper <i>Cypripedium fasciculatum</i>	O	MIIH	8													O	MIIH	8
Utah shooting-star <i>Dodtheon dentatum</i> var. <i>utahense</i>																O	MIIH	2,4,11
rockcress draba <i>Draba densifolia</i> var. <i>apiculata</i>	O	NI	1										H	NI	1	O	NI	1

SENSITIVE SPECIES OF THE NATIONAL FORESTS IN UTAH (cont. page 3 of 5)
Conclusions of Effects for the 6-Forest Fire Amendment Process

Sensitive	Ashley			Dixie			Fishlake			Manti-LaSal			Uinta			Wasatch-Cache		
	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt
Burke draba <i>Draba maguirei</i> var. <i>burkei</i>																O	MIIH	2
Maguire draba <i>Draba maguirei</i> var. <i>maguirei</i>																O	MIIH	2
Stone draba <i>Draba maguirei</i> var. <i>stonei</i>																O	WIFV	9
creeping draba <i>Draba sobolifera</i>				O	NI	1	O	NI	1									
Nevada willowherb <i>Epilobium nevadense</i>							O	MIIH	2									
Abajo daisy <i>Erigeron abajoensis</i>										O	MIIH	2, 3						
Carrington daisy <i>Erigeron carringtonae</i>										O	MIIH	3						
Cronquist daisy <i>Erigeron cronquistii</i>																O	WIFV	2, 9
Kachina daisy <i>Erigeron kachinensis</i>										O	MIIH	2, 3						
LaSal daisy <i>Erigeron mancus</i>										O	NI	1						
Untermann daisy <i>Erigeron untermannii</i>	O	MIIH	3															
Widtsoe buckwheat <i>Eriogonum aretioides</i>				O	MIIH	3, 8												
Elsinore buckwheat <i>Eriogonum batemanii</i> var. <i>ostlundii</i>							O	MIIH	3									

Logan buckwheat <i>Eriogonum brevicaulis</i> var. <i>loganum</i>																O	MIIH	2
Wonderland alice-flower <i>Gilia caespitosa</i>				O	MIIH	2, 3, 15	O	MIIH	2, 3, 15									
Pine Valley goldenweed <i>Hapiopappus crispus</i>				O	MIIH	8												
canyon sweetvetch <i>Hedysarum occidentale</i> var. <i>canone</i>										O	BI	8						
Jones goldenaster <i>Heterotheca jonesii</i>				O	MIIH	2, 3, 8												
Watsatch jamesia <i>Jamesia americana</i> var. <i>macrocalyx</i>													O	MIIH	9	O	MIIH	9

SENSITIVE SPECIES OF THE NATIONAL FORESTS IN UTAH (cont. page 4 of 5)
Conclusions of Effects for the 6-Forest Fire Amendment Process

Sensitive	Ashley			Dixie			Fishlake			Manti-LaSal			Uinta			Wasatch-Cache		
	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt
Zion jamesia <i>Jamesia americana</i> var. <i>zionis</i>				O	MIIH	2, 11												
Neeses' peppergrass <i>Lepidium montanum</i> var. <i>neeseae</i>				O	MIIH	3, 8												
Garrett bladderpod <i>Lesquerella garrettii</i>																O	MIIH	1, 2
Canyonlands lomatium <i>Lomatium latilobum</i>										O	MIIH	2, 3						
Goodrich stickleaf <i>Mentzelia goodrichii</i>	O	MIIH	2, 3															
Fish Lake naiad <i>Najas caespitosa</i>							O	MIIH	10									
arctic poppy <i>Papaver radicum</i> var. <i>pygmaeum</i>	O	NI	1													O	NI	1
Paria breadroot <i>Pediomelum pariense</i>				O	MIIH	3												
stemless beardtongue <i>Penstemon acaulis</i> var. <i>acaulis</i>	O	MIIH	3															
Red Canyon beardtongue				O	MIIH	3												

<i>Penstemon bracteatus</i>																		
Cache beardtongue <i>Penstemon compactus</i>																O	MIIH	2
little penstemon <i>Penstemon parvus</i>				O	MIIH	3	O	MIIH	3									
pinyon penstemon <i>Penstemon pinorum</i>				O	MIIH	3												
Ward beardtongue <i>Penstemon wardii</i>							O	MIIH	3									
Angell cinquefoil <i>Potentilla argelliae</i>				O	MIIH	3												
Cottam cinquefoil <i>Potentilla cottamii</i>																O	MIIH	2
Arizona willow <i>Salix arizonica</i>				O	MIIH	4, 5, 15	O	MIIH	4, 5, 15	O	MIIH	4, 5, 15						
Beaver Mountain groundsel <i>Senecio castoreus</i>							O	NI	1									
Podunk groundsel <i>Senecio malmstenii</i>				O	MIIH	3												

SENSITIVE SPECIES OF THE NATIONAL FORESTS IN UTAH (cont. page 5 of 5)
Conclusions of Effects for the 6-Forest Fire Amendment Process

<i>Sensitive</i>	<i>Ashley</i>			<i>Dixie</i>			<i>Fishlake</i>			<i>Manti-LaSal</i>			<i>Uinta</i>			<i>Wasatch-Cache</i>		
	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt	P	Detm	Cmnt
Musinea groundsel <i>Senecio musiniensis</i>										O	NI	2, 3						
Maguire campion <i>Silene petersonii</i>				O	MIIH	2				O	MIIH	2						
caespitose greenthread <i>Thelesperma caespitosa</i>	O	MIIH	3															
rock-tansy <i>Sphaeromeria capitata</i>				O	MIIH	3												
Uinta green thread <i>Thelesperma pubescans</i>																O	MIIH	3
Bicknell thelesperma <i>Thelesperma subnudum</i> var. <i>alpinum</i>				O	MIIH	3	O	MIIH	3									
Sevier townsendia <i>Townsendia jonesii</i> var. <i>lutea</i>							O	MIIH	2, 3									
Smith violet <i>Viola franksmithii</i>																O	WIFV	9

Reptiles and Amphibians																		
spotted frog <i>Rana pretiosa</i>	H	MIIH								O	MIIH			O	MIIH		O	MIIH

Presence: H - Potential Habitat; O - Known Occurrence.

Determination: NI - No Impact; MIIH - May Impact Individuals Or Habitat, But Will Not Likely Contribute To A Trend Towards Federal Listing Or Cause A Loss Of Viability To The Population Or Species; WIFV - Will Impact Individuals Or Habitat With A Consequence That The Action May Contribute To A Trend Towards Federal Listing or Cause A Loss Of Viability To The Population Or Species; BI - Beneficial Impact.

Comment(s): 1 - Alpine; 2 - Rock outcrops; 3 - Sparse fire fuels and fuel loading (e.g., barrens & shales); 4 - Riparian areas; 5 - Fire adapted root; 6 - Fire adapted - heat treatment required to generate; 7 - Fire adapted - off site colonize; 8 - Occurs in fire adapted ecosystems; 9 - Loss of overstory cover; 10 - Aquatic ecosystems; 11 - Hanging gardens; 12 - Tied to prairie dog habitat; 13 - If streams would not be dewatered; 14 - Occurs within Research Natural Area; 15 - Covered by conservation agreement and strategy.

A.7 COMPARISON OF EXISTING FOREST PLAN DIRECTION WITH ALTERNATIVE B DIRECTION

The Land and Resource Management Plan for each National Forest in Utah identified fire management policy, goals, objectives, standards and guidelines and monitoring requirements. This appendix displays changes in the existing Forest Plan that would occur with selection of Alternative B in Chapter 2 of the environmental assessment. If Alternative C were to be selected then sensitive watersheds and timber emphasis areas would be added to the "wildland fire use" guideline for each forest.

ASHLEY NATIONAL FOREST

MANAGEMENT AREA PRESCRIPTIONS

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
	<p>The proposed "Protection" prescription should read for all the following Management Area Prescriptions:</p> <p>Guideline Wildland fire use for is authorized forestwide except in: administrative sites, developed recreation sites, summer home sites, designated communication sites, oil and gas facilities, mining facilities, above-ground utility corridors, and high-use travel corridors. The management response for these locations will be suppression. In areas authorized for wildland fire use, the full range of management responses, from full suppression to monitoring, may be used.</p> <p>Guideline Prescribed fire is authorized forestwide. (Use prescribed fire in wilderness only to meet wilderness management objectives)</p>
<p>A - Research Natural Area Candidates (Page IV-6) The present "Protection" prescription reads: "Manage for natural conditions."</p>	<p>a - Research Natural Area Candidates (Page IV-6) Use of prescribed fire and wildland fire use must be consistent with the purposes for which the RNA was established.</p>
<p>b - Moderate Timber Production (Page IV-6) The present "protection" prescription reads: "Protect timber resources as necessary. Immediate and aggressive control but with a cost consistent with the land management objectives."</p>	<p>Delete</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>d - High Forage Production and Livestock Utilization (Page IV-6)</p> <p>The present "protection" prescription reads: "Prescribed fire to improve forage production and range condition."</p>	Delete
<p>e - Wildlife Habitat Emphasis (Page IV-8)</p> <p>The present "protection" prescription reads: "Prescribed burning may be commonly used to improve wildlife forage production and conditions."</p>	Delete
<p>f - Dispersed Recreation Roaded (Page IV-8)</p> <p>The present "protection" prescription reads: "Prescribed burning used to manage resources but aggressive prevention and suppression to protect resources under heavy use levels."</p>	Delete
<p>Undeveloped dispersed recreation - unroaded (Page IV-8)</p> <p>The present "protection" prescription reads: "Control only to protect investments. Prescribed burning may be used to improve forage production and range conditions."</p>	Delete
<p>h - Developed recreation sites and Forest Administrative sites (Page IV-9)</p> <p>The present "protection" prescription reads: "Protect all investments."</p>	Delete
<p>i - High Uintas Wilderness (Page IV-9)</p> <p>The present "protection" prescription reads: "Wildfire and rarely prescribed fire may be used to reduce fuel loading and to maintain or enhance the wilderness resource."</p>	Delete
<p>k - Maximum water yield recreation (Page IV-9)</p> <p>The present "protection" prescription reads: "Control only to protect investments. Prescribed fire may be used to meet the objectives of the Management Area."</p>	Delete
<p>l - Optimization of wildlife habitat diversity through timber harvest at moderate levels (Page IV-11)</p> <p>The present "protection" prescription reads: "Prescribed burning to enhance habitat and reduce conflagration potential."</p>	Delete
<p>n - Range of resource uses and outputs. Commodity production modified for amenity production. (Page IV-11)</p> <p>The present "protection" prescription reads: "Prescribed Fire Allowed."</p>	Delete

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>n1 - NRA Existing Situation. (Page IV-11) The present "protection" prescription reads: "Some vegetative manipulation by prescribed fire where it is in keeping with scenic, wildlife, and recreation purposes as required by NRA legislation. Prescription based on protection of facilities, wildlife, VQO's, and fuels abatement."</p>	Delete
<p>p - NRA Timber Emphasis. (Page IV-13) The present "protection" prescription reads: "Prescribed fire permitted. Prescriptions based on facilities protection, fuels abatement, management objectives, and VQO requirements."</p>	Delete
<p>r - Wildlife. (Page IV-13) The present "protection" prescription reads: "Prescribed fire permitted, Prescriptions based on facilities protection, fuels abatement, management objectives, and VQO requirements."</p>	Delete

GOALS, OBJECTIVES, STANDARDS AND GUIDELINES BY MANAGEMENT AREA

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Protection Goal (Page IV-54) The present Protection Goal reads: "Provide cost - efficient protection of Forest resources, users, and administrative sites."</p>	<p>Protection Goal (Page IV-54) Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
	<p>The proposed Forest Plan Standards and Guidelines for all Management Areas:</p> <p>Standard Human life (firefighter and public safety) is the highest priority during a fire. Once firefighters have been assigned to a fire, their safety becomes the highest value to be protected. Property and natural and cultural resources are lower priorities.</p> <p>Guideline When assigning protection priorities to property and natural and cultural resources, decisions will be based on relative values to be protected, commensurate with fire management costs.</p> <p>Standard Human-caused fires (either accidental or arson) are unwanted wildland fires and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan.</p> <p>Guideline The full range of suppression tactics is authorized forestwide, consistent with forest and management area emphasis and direction.</p> <p>Guideline Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with forest and management area emphasis and direction.</p>
<p>Protection Objective (Page IV-54) The present Protection Objective reads: "Develop and implement a cost efficient fire management program based upon resource values."</p>	Delete
<p>Protection Standard and Guidelines (Page IV-54) The first Protection Standard and Guideline reads: "Maintain a fire management program to protect investments. (Consider effectiveness of presuppression, fuel reduction, and treatment areas)." (Applies to all Management Areas)</p>	Delete
<p>Protection Standard and Guidelines (Page IV-54) The second Protection Standard and Guideline reads: "Use unplanned ignitions as prescribed fires only if a prescribed fire plan has been prepared and the fire is burning within prescription." (Applies to all Management Areas)</p>	Delete

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Protection Standard and Guidelines (Page IV-54) The third Protection Standard and Guideline reads: "Maintain initial attack forces capable of meeting prescribed suppression strategies 90 percent of the time in an average year." (Applies to all Management Areas)</p>	Delete
<p>Protection Standard and Guidelines (Page IV-54) The fourth Protection Standard and Guideline reads: "Complete fire management plans and prescriptions for all management areas. Fire management prescriptions shall be based on resource objectives and values within the management area and will address planned and unplanned ignitions." (Applies to all Management Areas)</p>	Delete

APPENDIX A FLAMING GORGE NATIONAL RECREATION AREA SUPPLEMENTAL DIRECTION (Page A-1)

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>The current management decisions for protection and management for fire (1) reads: "Prevent or minimize damage to watershed, vegetation, recreational, interpretive, and aesthetic values in locating, constructing, and maintaining firelines and fire access roads and in all other fire suppression activities."</p>	Delete
<p>The current management decisions for protection and management for fire (2) reads: "Revegetate and stabilize firelines and fire access roads to prevent accelerated erosion and improve scenic, wildlife, and recreational values."</p>	Delete
<p>The current management decisions for protection and management for fire (3) reads: "Rehabilitate burns resulting from wildfire and prescribed burning to provide soils stability and restore recreational, wildlife, and esthetic values."</p>	Delete

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>The current management decisions for protection and management for fire (4) reads: "Establish fire restrictions or closures and intensity fire prevention and suppression programs during periods of heavy recreational use and high fire danger."</p>	Delete
<p>The current management decisions for protection and management for fire (5) reads: "Locate improvements (where choices can be made) in areas of low fire hazard or in areas that can be adequately safeguarded."</p>	Delete
<p>The current management decisions for protection and management for fire (6) reads: "Fire protection programs will be geared to keep pace with the higher risks and hazards and important recreational values. Areas of heavy public use, the canyon lands, and areas of scenic beauty will need special attention."</p>	Delete
<p>The current management decisions for protection and management for fire (7) reads: "Design and execute prescribed burning operations in a manner and under conditions which will minimize the adverse effects of smoke as an air pollutant."</p>	Delete
<p>The current management decisions for protection and management for fire (8) reads: "Convert flammable vegetation to less flammable cover types in high value areas where fire risks are high and major esthetic values would not be lost."</p>	Delete
<p>The current management decisions for protection and management for fire (9) reads: "Manipulate vegetation cover by use of fire where appropriate to provide variety, improve ground cover and wildlife habitat, preserve natural beauty, and reduce fire hazard."</p>	Delete
<p>The current management decisions for protection and management for fire (10) reads: "Savage timber from burned areas only where logging methods to be employed will protect or improve recreational, esthetic, and wildlife values."</p>	Delete

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>The current management decisions for protection and management for fire (11) reads: "Utilize VIS to achieve public safety and fire prevention goals."</p>	Delete

MANAGEMENT AREAS AND UNITS. (Page A-24)
Northern Desert Management Area (ND). (Page A-26)
Upper Green River Management Unit ND-5 (Page A-29)

<p>The current management decisions for protection and management for fire (2) reads: "Increase fire prevention program where landbased visitors concentrate."</p>	Delete
<p>The current management decisions for protection and management for fire (7) reads: "Intensify fire prevention efforts during spring and fall."</p>	Delete

Undeveloped Areas Management Unit CFC-3 (Page A-36)

<p>The current management decisions for protection and management for fire (16) reads: "Prepare a prescribed natural fire management plan for the portion of the unit north of the reservoir. Consider the following among other alternatives for fire management: (a) Nonsuppression of all wildfires. (b) Non suppression under certain specified conditions. (c) Modification of the suppression policy to allow control at least cost. (d) Use of prescribed fire or managed wildfire to create vegetative diversity and to reduce fuel load."</p>	Delete
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Green River Management Area (GR). (Page A-43)
 Green River Corridor Management Unit GR-1 (Page A-43)

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
The current management decisions for protection and management for fire (7) reads: "Reduce fire hazards in Little Hole Campground."	Delete
The current management decisions for protection and management for fire (16) reads: "Allow no campfires between the dam and Little Hole except in emergencies."	Delete
The current management decisions for protection and management for fire (17) reads: "Employ intensive fire prevention measures at Spillway and Little Hole Boat Ramps on the river and in VIS Centers."	Delete
The current management decisions for protection and management for fire (22) reads: "Study the need to control or limit the use of fire by recreationists below little Hole."	Delete

DIXIE NATIONAL FOREST

FOREST-WIDE DIRECTION

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Forest-wide Goals and Objectives (pages IV-12 to IV-13)</p> <p>Goal No. 45 Develop a well planned and executed fire protection and fire use program that is cost efficient and responsive to land and resource management goals and objectives.</p> <p>Objectives</p> <ul style="list-style-type: none"> a. There will be only one Fire Management Action Plan for the Forest. Specific Action and manning Plans and Annual Mobilization and Operation Plan are chapters within the Action Plan. b. Include provisions in all permits and use authorizations for fire prevention and suppression. c. Cooperative fire protection will be emphasized to provide for joint fire protection through offset agreements, and combined fire forces. 	<p>Forest-wide Goals and Objectives (pages IV-12 to IV-13)</p> <p>Goal No. 45 Develop a well planned and executed fire protection and fire use program that is cost efficient and responsive to land and resource management goals and objectives.</p> <p>Objectives</p> <ul style="list-style-type: none"> a. There will be only one Fire Management Plan (FMP) for the Forest. Specific Action and Staffing Plans and Annual Mobilization and Operation Plan are chapters within the FMP. b. Include provisions in all permits and use authorizations for fire prevention and suppression. c. Cooperative fire protection will be emphasized to provide for joint fire protection through offset agreements, and combined fire forces.
<p>Goal No. 46 Through cost effective analysis, develop an active fire prevention program with cooperating agencies that is directed towards specific areas and causes based on probability of occurrence, damages expected, and program costs.</p> <p>Objectives</p> <p>Develop a cooperative fire prevention plan for the area by the 1987 fire season and update annually.</p>	<p>Goal No. 46 Through cost effective analysis, develop an active fire prevention program with cooperating agencies that is directed towards specific areas and causes based on probability of occurrence, damages expected, and program costs.</p> <p>Objectives</p> <p>Develop a cooperative fire prevention plan for the Forest and update it annually.</p>
<p>Goal No. 47 Maintain fire suppression capabilities which allow an appropriate suppression response to all wildfires.</p> <p>Objectives</p> <ul style="list-style-type: none"> a. Provide preplanned fire suppression action on all wildfires which is cost effective and protects life and property. b. Each wildfire ignition will receive an appropriate response (confinement, containment or control). Suppression intensity and extent will based on resource values, costs, burning conditions, safety, protection of private property, fire organization commitment and a current National Fire Management Analysis. 	<p>Goal No. 47 Maintain fire suppression capabilities which allow an appropriate management response to all wildfires.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
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Goal No. 48 Establish and maintain fuel mosaics which result in an acceptable hazard and spread potential of wildfire, allow an appropriate wildfire suppression, and coordination to other resource programs and objectives.

Objectives

- a. Use prescribed fire when cost effective to achieve vegetative manipulation objectives such as for other resources including timber, range, and wildlife.
- b. Utilization (fuelwood) will be stressed as the primary method of fuel reduction with follow-up disposal by other means as needed.
- c. Continuous fuel types, especially in areas where activity fuels have been added to natural fuels, will be broken up into blocks of forty acres or less by use of roads, constructed fuels breaks or fuel reduction corridors.
- d. Vegetative modification projects should be designed to break-up continuous fuel types and serve as fuelbreaks.

Goal No. 48 Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.

FOREST-WIDE STANDARDS AND GUIDELINES (P IV-25 TO IV-55)

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
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<p>Wilderness Area Management (page IV-32) 16. Suppress man-caused wildfires. 17. Maintain fire dependent ecosystems using prescribed fires ignited naturally. Reclaim areas disturbed as part of fire control activities to meet the visual quality objective of retention.</p>	
<p>Fire Planning and Suppression (page IV-54)</p> <p>1. Plan and provide a level of protection from wildfire that will meet management objectives for the area, considering the following: A. The values of the resources that are threatened by fire, B. The probability of fire occurrence, C. The fuelbed that fires will probably occur in, D. The weather conditions that will probably influence fires that occur, E. The costs of fire protection programs (FFP and FFF) F. The social, economic, political, cultural, environmental, life and property concerns, and G. Management objectives for the area. Use the National Fire Management Analysis Process (NFMAS).</p> <p>Escaped Fire Suppression (page IV-54) 1. Take suppression action on all escaped fires considering the follow: A. The values of the resources threatened by the fire (both positive and negative),</p>	<p>Wildland Fire Suppression (Page IV-54)</p> <p>Standard - Human life (firefighter and public safety) is the highest priority during a fire. Once firefighters have been assigned to a fire, their safety becomes the highest priority. Property and natural/cultural resources are lower priorities.</p> <p>Guideline - When assigning protection priorities to property and natural/cultural resources, decisions will be based on relative values to be protected, commensurate with fire management costs.</p> <p>Standard - Human-caused fires (either accidental or arson) are unwanted wildland fires and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan.</p> <p>Guideline - The full range of suppression tactics is authorized forestwide, consistent with forest and management area emphasis and direction.</p>

<p>B. Management objectives for the threatened area(s), C. The fuelbeds the fire may burn in, D. The current and projected weather conditions that will influence fire behavior, E. Natural barriers and fuel breaks, F. Social, economic, political, cultural, and environmental concerns, G. Public safety, H. Firefighter safety, and I. Costs of alternative suppression strategies. Use the Escaped Fire Situation Analysis (EFSA) to make this determination.</p>	<p>Fuels (Page IV-54) Guideline - Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with forest and management area emphasis and direction.</p> <p>Prescribed Fire (Page IV-54) Guideline - Prescribed fire is appropriate forestwide. (Use prescribed fire in wilderness only to meet wilderness management objectives.)</p>
<p>Fuel Treatment (page IV-54) 1. Maintain fuel conditions which permit fire suppression forces to meet fire protection objectives for the area. A. Reduce or otherwise treat all fuels so the potential fireline intensity of an area will not exceed 400 BTU's/sec/ft (BI - 68) on 90 percent of the days during the regular fire season, OR Break up continuous fuel concentrations exceeding the above standard into manageable units with fuel breaks or fire lanes, OR Provide additional protection for areas exceeding the above standards when such protection will not be required for more than five years.</p> <p>Vegetation Treated by Burning (page IV-55) 1. Use prescribed fire to accomplish resource management objectives, such as reducing fuel load buildup, wildlife habitat improvement, etc. A. Prescribed burning on National Forest System lands will be planned in accordance with existing direction and Forest direction must be consistent with Federal and State laws. 2. Limit use of prescribed fire on areas in or adjacent to riparian areas to protect riparian and aquatic values.</p>	<p>Wildland Fire Use (Page IV-54) Guideline - Wildland fire use is authorized forestwide except in:</p> <ul style="list-style-type: none"> * administrative sites * developed recreation sites * summer home sites * designated communication sites * oil and gas facilities * mining facilities * above-ground utility corridors * high-use travel corridors <p>The management response for these locations and conditions will be suppression if they are threatened.</p> <p>In areas authorized for wildland fire use, the full range of management responses, from full suppression to monitoring, may be used.</p>

MANAGEMENT AREA DIRECTION

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Management Area 1A - Developed Recreation Sites (Page IV-59)</p>	<p>Management Area 1A - Developed Recreation Sites (Page IV-59)</p> <p>Wildland Fire Use Guideline - Wildland fire use is not authorized. The management response for these locations will be suppression.</p>
<p>Management Area 1B - Winter Sports Sites (Page IV-62)</p>	<p>Management Area 1B - Winter Sports Sites (Page IV-62)</p> <p>Wildland Fire Use Guideline - Wildland fire use is not authorized. The management response for these locations will be suppression.</p>
<p>Management Area 4B - Wildlife Habitat MIS Species (page IV-87)</p> <p>Fuel Treatment 1. Maintain fuel conditions which permit fire suppression and prescribed fire to maintain habitat needed for selected species or species population levels.</p> <p>Optimum vegetation stages for wildlife habitat are described in wildlife section of this plan.</p>	<p>Management Area 4B - Wildlife Habitat MIS Species (page IV-87)</p>
<p>Management Area 4D - Aspen Management (page IV-96)</p> <p>Fuel Treatment 1. Emphasize prescribed burning where feasible to regenerate aspen to benefit wildlife.</p> <p>A. Allow aspen regeneration to occur naturally.</p> <p>2. Protect wildlife trees during fuelwood cutting and prescribed burning as needed to meet snag density guidelines.</p>	<p>Management Area 4D - Aspen Management (page IV-96)</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Management Area 8A - Wilderness (page IV-125) Management Area 8A1 - Antone Bench (page IV- 130) Management Area 8A2 - Box Death Hollow (page IV - 134)</p> <p>Protection 1. The wilderness management plan will detail when, where and how natural fires may be allowed to burn. Natural fire prescriptions must be approved by the Regional Forester.</p> <p>A. Fires resulting from man and his activities must be prevented and/or controlled unless they have been approved by the Regional Forester. Naturally occurring fires will be allowed to more fully play their natural role in the ecology of the area.</p>	<p>Management Area 8A - Wilderness (page IV-125) Management Area 8A1 - Antone Bench (page IV- 130) Management Area 8A2 - Box Death Hollow (page IV - 134)</p> <p>Prescribed Fire Guideline - Use prescribed fire in wilderness only to meet wilderness management objectives.</p>
<p>Management Area 10A - Recommended Research Natural Areas (page IV- 155)</p> <p>Fire Planning and Suppression 1. Extinguish wildfires endangering the RNA. Allow fires within the RNA to burn undisturbed unless they threaten persons or property outside the area, or the uniqueness of the RNA.</p> <p>A. Leave fire-caused debris for natural decay.</p> <p>2. Do not reduce fire hazard within the RNA.</p>	<p>Management Area 10A - Recommended Research Natural Areas (page IV- 155)</p> <p>Wildland fire suppression, Wildland Fire Use, and Prescribed Fire Guideline - Wildland fire suppression, wildland fire use, and prescribed fire must be consistent with the purpose for which the area was established. Wildland fire use and prescribed fire may be used to preserve a vegetative type when absolutely necessary and then with extreme caution.</p>

FISHLAKE NATIONAL FOREST

MANAGEMENT AREA GOALS

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
IV-3 Diversity	IV-3 Diversity Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.
Pg IV-5 Protection Use prescribed fire to reduce fuel buildup and meet resource objectives.	Delete
Pg IV-5 Provide cost-effective (level of) fire protection.	Delete

MANAGEMENT REQUIREMENTS, FOREST-WIDE DIRECTION

<p>IV-47 Fire Planning and Suppression</p> <p>1. Provide a level of protection from wildfire that is cost efficient and that will meet management objectives for the area considering the following:</p> <ul style="list-style-type: none"> A. The values of the resources that are threatened by fire B. The probability of fire occurrence C. The probable fuel bed D. The weather conditions likely to influence fires that occur E. The costs of fire protection programs (FFP and FFF) F. The social, economic, political, cultural, environmental, life and property concerns G. Management objectives for the area. Use the fire management analysis process (FSH 5109.19) for this analysis H. Airsheds and smoke management in sensitive areas. 	<p>Delete, replace with WILDLAND FIRE SUPPRESSION</p> <p>Standard - Human life (firefighter and public safety) is the highest priority during a fire. Once firefighters have been assigned to a fire, their safety becomes the highest value to be protected. Property and natural and cultural resources are lower priorities.</p> <p>Guideline - When assigning protection priorities to property and natural and cultural resources, decisions will be based on the relative values to be protected, commensurate with fire management costs.</p> <p>Standard - Human-caused fires (either accidental or arson), are unwanted wildland fires, and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan.</p> <p>Guideline - The full range of suppression tactics is appropriate to consider forestwide, consistent with forest and management area emphasis and direction.</p>
<p>IV-48 Escaped Fire Suppression</p> <p>1. Take suppression action on all escaped fires considering the following:</p> <ul style="list-style-type: none"> A. The values of the resource threatened by the fire (both positive and negative) B. Management objectives for the threatened area(s) C. The type of fuelbed D. The current and projected weather conditions that will influence fire behavior E. Natural barriers and fuel breaks F. Social, economic, political, cultural and environmental concerns G. Public safety H. Firefighter safety I. Costs of alternative suppression strategies. Use the escaped fire situation analysis to make this determination (FSM 5130.31) 	Delete

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>IV-48 Vegetation treated by burning</p> <ol style="list-style-type: none"> 1. Use prescribed fire from planned and unplanned ignitions to accomplish resource management objectives, such as reducing fuel load buildup, wildlife habitat improvement, etc. <ol style="list-style-type: none"> a. Manage all prescribed fires from unplanned ignitions in accordance with the guidelines in Appendix L. All unplanned ignitions occurring in special situation zone 4 (total suppression zone) will be suppressed immediately. b. see appendix and map 2. Limit use of prescribed fires on areas adjacent to riparian areas to protect riparian and aquatic values. 3. Use unplanned ignition on areas identified in this plan to achieve management objectives. 	<p>Delete, replace with PRESCRIBED FIRE</p> <p>Guideline - Prescribed fire is authorized forestwide. (Use prescribed fire in wilderness only to meet wilderness management objectives.)</p>
	<p>WILDLAND FIRE USE</p> <p>Guideline - Wildland fire use is authorized forestwide except in</p> <ul style="list-style-type: none"> • administrative sites • developed recreation sites • summer home sites • designated communication sites • oil and gas facilities • mining facilities • above-ground utility corridors • high-use travel corridors. <p>The management response for these locations will be suppression if they are threatened.</p> <p>In areas authorized for wildland fire use, the full range of management responses--from full suppression to monitoring--may be used.</p>
<p>IV-48 Fuel Treatment</p> <ol style="list-style-type: none"> 1. Maintain fuel conditions which permit fire suppression forces to meet fire protection objectives for the area. <ol style="list-style-type: none"> a.. Reduce or otherwise treat all activity fuels so that the total loading of materials less than 6" in diameter is less than 25 tons/acre, or break up continuous activity fuel concentrations exceeding the above standard into manageable units with fuel breaks or fire lanes, or provide additional protection for activity fuel areas exceeding the above standard when such protection will not be required for more than five years. 	<p>Delete, replace with FUELS</p> <p>Guideline Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with forest and management area emphasis and direction.</p>

MANAGEMENT AREA DIRECTION

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Management Prescription 3B - Prescribed fires are employed to manage vegetation.</p> <p>PO1 Fire Planning and Suppression: 1. Maintain fire-dependent ecosystems using prescribed fires from planned and unplanned ignitions. Reclaim areas disturbed as part of fire control activities to meet the visual quality objective of retention.</p>	<p>Delete</p> <p>Delete</p>
<p>Management Prescription 4B Fuel Treatment 1. Maintain fuel conditions which permit fire suppression and prescribed fire to maintain habitat needed for selected species or species population levels.</p>	<p>Delete</p>
<p>Management Prescription 5A Prescribed burning, seeding, spraying, planting and mechanical treatments may occur.</p>	<p>Prescribed fire and wildland fire use, seeding, spraying, planting and mechanical treatments may occur.</p>
<p>Management Prescription 6B Non-structural restoration and forage improvement practices available are seeding, planting, burning, fertilizing, pitting, furrowing spraying, crushing, plowing and chaining.</p>	<p>Non-structural restoration and forage improvement practices available are seeding, planting, prescribed fire and wildland fire use, fertilizing, pitting, furrowing spraying, crushing, plowing and chaining.</p>
<p>Management Prescription 10A RNAs - Fire Planning and Suppression. 1. Extinguish wildfires endangering research natural areas (RNAs). Allow fires within the RNAs to burn undisturbed unless they threaten people or property outside the area, or the uniqueness of the RNA. a. Leave fire caused debris for natural decay. 2. Do not reduce fire hazard within the RNA.</p>	<p>Wildland fire use and prescribed fire must be consistent with the purpose for which the area was established. Wildland fire use and prescribed fire may be used to preserve a vegetative type when absolutely necessary and then with extreme caution.</p>
<p>Appendix L - L-1 to L-17</p>	<p>Delete</p>

MANTI-LA SAL NATIONAL FOREST

FOREST MANAGEMENT GOALS

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Protection, page III-5</p> <p>Minimize hazards from flood, wind, wildfire, and erosion.</p> <p>Reduce the accumulated fuels to a tolerable risk level.</p> <p>Suppress wildfire based on values, risk, and management unit prescriptions.</p>	<p>Protection, page III-5</p> <p>Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.</p>

MANAGEMENT REQUIREMENTS, FOREST-WIDE DIRECTION

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>PLANNING AND FIRE PRESUPPRESSION (P01), page 42</p> <p>01 Provide a level of protection from wild fire that is cost efficient and that should meet objectives of the management unit considering the following:</p> <ul style="list-style-type: none"> A. The values of the resources that are threatened by fire. B. The probability of fire occurrence, C. The fuelbed that fires will probably occur in, D. The weather conditions that will probably influence fires that occur. E. The costs of fire protection programs (FFP AND FFF). F. The environmental, social, economic, political, public safety, cultural, and property concerns; and G. Management objectives for the areas. <p>S&G, a. Use the predictive model in FSH 5109.19 for this analysis.</p>	<p>WILDLAND FIRE SUPPRESSION, page 42</p> <p>Standard - Human life (firefighter and public safety) is the highest priority during a fire. Once firefighters have been assigned to a fire, their safety becomes the highest value to be protected. Property and natural and cultural resources are lower priorities.</p> <p>Guideline - When assigning protection priorities to property and natural and cultural resources, decisions will be based on the relative values to be protected, commensurate with fire management costs.</p> <p>Standard - Human-caused fires (either accidental or arson), are unwanted wildland fires, and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan.</p> <p>Guideline - The full range of suppression tactics is appropriate to consider forestwide, consistent with forest and management area emphasis and direction.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
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<p>INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-43</p> <p>01 Take appropriate suppression action that meets the management objectives for the unit, using confinement, containment, and control as suppression strategies, considering the following factors:</p> <ul style="list-style-type: none"> A. Values of the resources threatened by the fire (both positive and negative), B. Management objectives for the unit(s) threatened, C. Fuelbeds the fire may burn in, D. current and projected weather conditions that will influence fire behavior, E. Natural barriers and fuel breaks, F. Social, economic, political, cultural, and environmental concerns, G. Public safety, H. Firefighter safety; and I. Cost of alternative suppression strategies. <p>S&G, a. Use the Escaped Fire Situation Analysis to make this determination, if the proposed suppression strategy is confinement or containment (FSM 5130.31)</p>	<p>Delete All</p>
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EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>VEGETATION TREATED BY BURNING (P15), page III-43</p> <p>01. Use preplanned prescribed fire resulting from planned or unplanned ignitions to accomplish resource management objectives, such as reducing fuel load buildup, range or wildlife habitat improvement, etc.</p>	<p>PRESCRIBED FIRE, page 42</p> <p>Guideline - Prescribed fire is authorized forestwide. (Use prescribed fire in wilderness only to meet wilderness management objectives.)</p>
	<p>WILDLAND FIRE USE, page 43</p> <p>Guideline - Wildland fire use is authorized forestwide except in</p> <ul style="list-style-type: none"> • administrative sites • developed recreation sites • summer home sites • designated communication sites • oil and gas facilities • mining facilities • above-ground utility corridors • high-use travel corridors. <p>The management response for these locations will be suppression if they are threatened.</p> <p>In areas authorized for wildland fire use, the full range of management responses--from full suppression to monitoring--may be used.</p>
<p>FUEL TREATMENT (P11 TO 14), page III-43</p> <p>01. Maintain fuel conditions which permit fire suppression forces to meet protection objectives for the management Unit</p> <p>S&G, a. Reduce or otherwise treat fuels, or break up continuous fuel concentrations, or provide added protection for areas.</p>	<p>FUELS, page 43</p> <p>Guideline Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with forest and management area emphasis and direction.</p>

**MANAGEMENT REQUIREMENTS
MANAGEMENT UNIT REQUIREMENTS**

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>DRS, Developed Recreation Sites INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-50 01 Control wildfires at all intensity levels.</p>	<p>DRS, Developed Recreation Sites WILDLAND FIRE SUPPRESSION, page III-50 Guideline - Wildland fire use is not appropriate in the DRS management unit. The appropriate management response will be suppression.</p>
<p>SPR, Semiprimitive Recreation SILVICULTURAL EXAMINATION AND PRESCRIPTION (E03, 06, AND 07), page 57 02 Use mechanical, chemical, or burning treatments to alter or perpetuate timber stands and increase herbaceous yield or cover as appropriate in areas where harvest methods are impractical or demand does not exist.</p>	<p>SPR, Semiprimitive Recreation SILVICULTURAL EXAMINATION AND PRESCRIPTION (E03, 06, AND 07) 02 Use mechanical, chemical, prescribed fire, or wildland fire use to alter or perpetuate timber stands and increase herbaceous yield or cover as appropriate in areas where harvest methods are impractical or demand does not exist.</p>
<p>KWR, Key Big-Game Winter Range This may include prescribed burning, seeding, spraying, planting, and mechanical treatments. page III-58 INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-60 01 Control wildfires at all intensity levels.</p>	<p>KWR, Key Big-Game Winter Range This may include prescribed fire, wildland fire use, seeding, spraying, planting, and mechanical treatments. Delete</p>
<p>GWR, General Big-Game Winter Range This may include chaining, cutting, prescribed burning, seeding, spraying, planting, and other treatments. page III-61</p>	<p>GWR, General Big-Game Winter Range This may include chaining, cutting, prescribed fire, wildland fire use, seeding, spraying, planting, and other treatments.</p>
<p>RNG, Range Forage Production Nonstructural restoration practices include a full spectrum of treatments such a plowing, seeding, cutting, chaining, burning, spraying with herbicides, crushing, pitting, furrowing, and fertilization. page III-64 TIMBER RESOURCE MANAGEMENT (E00), page III-65 02 Use mechanical, chemical, or prescribed fire to alter timber stands and increase herbaceous yield or cover in areas where harvest methods are impractical or demand does not exist.</p>	<p>RNG, Range Forage Production Nonstructural restoration practices include a full spectrum of treatments such a plowing, seeding, cutting, chaining, prescribed fire, wildland fire use, spraying with herbicides, crushing, pitting, furrowing, and fertilization. TIMBER RESOURCE MANAGEMENT (E00), page III-65 01 Use mechanical, chemical, prescribed fire, or wildland fire use in combination with harvest methods as appropriate to alter timber stands and increase herbaceous yield or cover.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>TBR, Wood Fiber Production and Utilization INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-68 01 Control wildfires in Engelmann spruce types and in young ponderosa pine stands.</p>	<p>TBR, Wood Fiber Production and Utilization Delete</p>
<p>RPN, Riparian INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-73 01 Restrict mechanical fireline construction.</p> <p>S&G, a. Restrict heavy equipment line construction in riparian areas. Avoid aquatic and riparian ecosystems with this equipment.</p>	<p>RPN, Riparian WILDLAND FIRE SUPPRESSION, page III-73 Guideline - Restrict heavy equipment line construction in riparian areas. Avoid aquatic and riparian ecosystems with this equipment.</p>
<p>RPI, Research Protection and Interpretation Areas INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-86 01 Take appropriate suppression action that meets the management objectives for the area, using confinement, containment, and/or control suppression strategies.</p>	<p>RPI, Research Protection and Interpretation Areas WILDLAND FIRE SUPPRESSION, page III-86 Guideline – Wildland fire suppression, wildland fire use, and prescribed fire must be consistent with the purpose for which the area was established. Wildland fire use and prescribed fire may be used to preserve a vegetative type when absolutely necessary and then with extreme caution.</p>
<p>DCW, Wilderness INITIAL ATTACK AND FIRE SUPPRESSION (P08), page III-91 01 Use containment, confinement, or control on human unplanned ignitions at all intensity levels. 02 Manage natural unplanned ignitions to allow fire to play a more natural role in maintaining ecosystems.</p>	<p>DCW, Wilderness PRESCRIBED FIRE, page III-91 Guideline – Use prescribed fire in wilderness only to meet wilderness management objectives. Delete</p>
<p>SLD, Administrative Facility and Special Use Sites</p>	<p>SLD, Administrative Facility and Special Use Sites WILDLAND FIRE SUPPRESSION, page III-94 Guideline - Wildland fire use is not appropriate in the SLD management unit. The appropriate management response will be suppression.</p>
<p>UC, Utility Corridors</p>	<p>UC, Utility Corridors WILDLAND FIRE SUPPRESSION, page III-97 Guideline - Wildland fire use is not appropriate near above ground facilities in the UC management unit. The appropriate management response will be suppression.</p>

UINTA NATIONAL FOREST

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Page 2-3 <u>Forest Standards and Guidelines Which Apply to this Issue</u> 4. Range Nos. 1-42</p>	<p>Page 2-3 <u>Forest Standards and Guidelines Which Apply to this Issue</u> 4. Range Nos. 1-12, 14-42</p>
<p>Page 2-8 <u>Forest Standards and Guidelines Which Apply to this Issue</u> 1. Fire Nos. 1, 3, 13</p>	<p>Page 2-8 <u>Forest Standards and Guidelines Which Apply to this Issue</u> 1. Fire Nos. 1, 13, 16</p>
<p>Page 2-10 MANAGEMENT CONCERN NO. 3 <u>Description</u> -- Current Forest fire policy emphasizes fire suppression rather than total fire management. The Forest is now adjusting to meet new National Fire policy...</p>	<p>Page 2-10 MANAGEMENT CONCERN NO. 3 <u>Description</u> -- The Forest is managing in accordance with National Fire policy...</p>
<p>Page 2-11 The use of fire under carefully prescribed conditions...These prescribed burns can also decrease...</p>	<p>Page 2-11 The use of prescribed fire and wildland fire under carefully prescribed conditions...These burns can also decrease...</p>
<p>Page 2-11 <u>Disposition</u> - Fire will be used increasingly as one of several tools in economically efficient management. Prescribed burning will be used on vegetation rehabilitation and species enrichment projects where it is determined...</p>	<p>Page 2-11 <u>Disposition</u> - Fire will be used increasingly as one of several tools in economically efficient management. Prescribed fire and wildland fire use will be employed where it is determined...</p>
<p>Page 2-11 <u>Forest Goals and Objectives...</u> 1. Protection Goals Nos. 1, 2 2. Range Goals Nos. 1, 4 3. Soils and Watershed Goal No. 4 4. Timber Goal No. 3 5. Wildlife Goals Nos. 3, 7</p>	<p>Page 2-11 <u>Forest Goals and Objectives...</u> 1. Protection Goal No. 1-3 2. Range Goal No. 1 3. Timber Goal No. 3 4. Wildlife Goal No. 7</p>
<p>Page 2-11 <u>Forest Standards and Guidelines...</u> 1. Fire Nos. 1-13 2. National Environmental Policy Act Process Nos. 1, 2 3. Range Nos. 13, 21, 22 4. Sawtimber No. 8</p>	<p>Page 2-11 <u>Forest Standards and Guidelines...</u> 1. Fire Nos. 1, 8-16 2. National Environmental Policy Act Process Nos. 1, 2 3. Range Nos. 21, 22 4. Sawtimber No. 8</p>
<p>Page 2-14 <u>Forest Standards and Guidelines Which Apply to this Concern</u> 6. Range Nos. 1-42</p>	<p>Page 2-14 <u>Forest Standards and Guidelines Which Apply to this Concern</u> 6. Range Nos. 1-12, 14-42</p>
EXISTING DIRECTION	ALTERNATIVE B DIRECTION

<p>Page 2-16 <u>Forest Standards and Guidelines Which Apply to this Concern</u></p>	<p>Page 2-16 <u>Forest Standards and Guidelines Which Apply to this Concern</u></p>
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1. Fire Nos. 1-13	1. Fire Nos. 1, 8-16
Page 2-18 <u>Forest Standards and Guidelines Which Apply to this Concern</u> 1. Protection No. 1	Page 2-18 <u>Forest Standards and Guidelines Which Apply to this Concern</u> 1. Protection Nos. 1-3
Page 2-18 <u>Forest Standards and Guidelines Which Apply to this Concern</u> 1. Fire Nos. 11, 12, 13	Page 2-18 <u>Forest Standards and Guidelines Which Apply to this Concern</u> 1. Fire Nos. 11-13, 16

FOREST MANAGEMENT DIRECTION

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
Page 3-3 Regional Plan Goals...Fire Protection...	Page 3-3 Regional Plan Goals...Fire Management...
Page 3-5 Regional Plan Goals...Fuel Treatment, Res. Serv. or Use...MAC	Page 3-5 Regional Plan Goals...Fuel Treatment, Res. Serv. or Use...Acres (corrects error in units for this objective)
<p>Page 3-22 <u>Protection Goal No. 1</u> Emphasize the fuel management aspect of the fire management program through application of hazard reduction activities, primarily prescribed burning and/or removal of hazardous fuels through personal use firewood programs. Coordinate with other resources to attain multiple benefits when practicable.</p> <p><u>Objective Summary</u></p> <ol style="list-style-type: none"> 1. Attain fuel treatment targets through coordination with free use or charge fuelwood activities. 2. Maintain existing fuelbreaks, including the Wasatch Front firebreak and other treated areas. 3. Conduct fuel inventories in conjunction with compartment examinations and, as funds permit, on non-timbered areas to determine loading levels of natural and activity-generated fuel. 	<p>Page 3-22 <u>Protection Goal No. 1</u> Emphasize the fuel management aspect of the fire management program through application of hazard reduction activities, primarily prescribed fire and wildland fire use.</p> <p><u>Objective Summary</u></p> <ol style="list-style-type: none"> 1. Use firewood collection as a tool to accomplish fuel management needs. 2. Conduct fuel inventories, as funds permit, to determine loading levels of natural and activity-generated fuel.

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Page 3-22</p> <p><u>Protection Goal No. 2</u> Manage fire in an economically efficient manner based on resource values and risks to property and human life. Utilize all trained and able-bodied employees for fire suppression duties as needed.</p> <p><u>Objective Summary</u></p> <ol style="list-style-type: none"> 1. Implement, maintain, and monitor fire plans and operations. 4. Conduct on the ground fire readiness review on all Districts, with participation by Interagency Fire Dispatch personnel on two reviews. 	<p>Page 3-22</p> <p><u>Protection Goal No. 2</u> Manage fire in an economically efficient manner based on resource values and risks to property and human life.</p> <p>Delete.</p>
<p>Pages 3-22 and 3-23</p> <p><u>Protection Goal No. 3</u> Support interagency fire management programs designed to involve local citizens, city, county, State, and Federal levels of government.</p> <p><u>Objective Summary</u></p> <ol style="list-style-type: none"> 1. Meet with State and BLM personnel to update annual implementation plan for cooperative fire control. 5. Annually participate and coordinate with affected Forests, Regional Office, and other agencies regarding efficient use of Wasatch Front air operations. 	<p>Pages 3-22 and 3-23</p> <p><u>Protection Goal No. 3</u> Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.</p> <p>Delete.</p>
<p>Page 3-23</p> <p><u>Protection Goal No. 4</u> Use fire use to reduce unnatural fuel accumulations in wilderness areas and allow fire to play its natural role in the ecology of wilderness ecosystems.</p> <p><u>Objective Summary</u></p> <ol style="list-style-type: none"> 1. Permit trained specialists to ignite and manage prescribed fires in National Forest wilderness areas to accomplish management objectives. 2. Analyze site-specific needs with a team of specialists prior to recommending use of prescribed fire. 3. Include public participation prior to each decision to use prescribed fire. 	<p>Page 3-23</p> <p><u>Protection Goal No. 4</u> Use wildland fire to reduce unnatural fuel accumulations in wilderness areas and allow fire to play its natural role in the ecology of wilderness ecosystems.</p> <p>Delete.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Page 3-24</p> <p><u>Protection Goal No. 7</u> Emphasize coordination and cooperation with other Federal, State, county, and city government agencies to promote proactive rather than reactive response to major natural disaster emergencies.</p> <p><u>Objective Summary</u></p> <ol style="list-style-type: none"> 1. Promote and utilize NIIMS concepts among local agencies and the private sector directly involved. 4. Utilize available programs to reconstruct protect, and rehabilitate damaged or destroyed facilities. 	<p>Page 3-24</p> <p><u>Protection Goal No. 7</u> Coordinate and cooperate with other federal, state, county, and city government agencies to mitigate, prepare for, and respond to major natural disaster emergencies.</p> <p>Delete.</p>
<p>Page 3-47</p> <p><u>Wildlife Goal No. 7, Objective Summary Item #12</u> - Continue to provide fire suppression program input for protection of fish and wildlife habitat from the detrimental effects of fire.</p>	<p>Page 3-47</p> <p>Delete.</p>
<p>Page 3-47</p> <p><u>Wildlife Goal No. 7, Objective Summary Item #13</u> - Continue to work to identify the role of fire in each habitat type. Complete by 1990.</p>	<p>Page 3-47</p> <p>Delete.</p>
<p>Page 3-47</p> <p><u>Wildlife Goal No. 7, Objective Summary Item #14</u> - Continue to work to identify special wildlife habitats in which fire should be by 1990.</p>	<p>Page 3-47</p> <p>Delete.</p>
<p>Page 3-48</p> <p><u>Wildlife Goal No. 7, Objective Summary Item #19</u> - Continue to utilize prescribed burns to maintain or enhance wildlife habitat. Follow the scheduled activities in the Forest plan for forage diversity improvement.</p>	<p>Page 3-48</p> <p><u>Wildlife Goal No. 7, Objective Summary Item #19</u> - Employ prescribed fire and wildland fire use to maintain or enhance wildlife habitat.</p>

MANAGEMENT AREA PRESCRIPTIONS

**GOALS AND OBJECTIVES / STANDARDS AND GUIDELINES
POLICY, MANAGEMENT PRACTICES,
STANDARDS AND GUIDELINES**

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Page 3-92 FIRE (F) - Forest Policy: Provide an appropriate fire protection and use program which is economically efficient, responsive to land management objectives, and provides for public safety and property values. (Emphasize protection: Sociopolitical factors are overriding in many cases.)</p>	<p>Page 3-92 FIRE (F) - Forest Policy: Provide an appropriate fire management program which is economically efficient, responsive to ecosystem management needs and land management objectives, and provides for public safety and property values. Sociopolitical factors may be overriding in some cases.</p>
<p>Page 3-92 Fire Management Plan and Analysis</p> <p>F-1 Consider fire hazard and risk when locating improvements or planning activities.</p> <p>F-2 Prepare inventories for fire planning, based on specific rules or criteria only. Use QRD (Question-Rule-Data) process to respond to a public issue, management concern, or project need.</p> <p>F-3 Unplanned ignitions will not be used as a management tool for accomplishing Forest management objectives until such action can be justified through in-depth analysis and approved in a fire management area plan.</p>	<p>Page 3-92 Fire Management Plan and Analysis</p> <p>F-1 Consider fire hazard and risk when locating improvements or planning activities. (G)</p> <p>Delete.</p> <p>Delete.</p>
<p>Pages 3-92 and 3-93 Fire Prevention</p> <p>F-4 Implement annual fire closure agreement for the Wasatch Front portion of the Forest during the critical burning season, in cooperation with the BLM, State of Utah, and Wasatch National Forest.</p> <p>F-5 Implement the cooperative fire agreement developed annually with the state of Utah and the BLM. The operating plans are reviewed and revised on an annual basis.</p> <p>F-6 Conduct intensive prevention effort where resource or sociopolitical values are warranted.</p>	<p>Pages 3-92 and 3-93 Delete.</p> <p>Delete.</p> <p>Delete.</p> <p>Delete.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Page 3-93 Fire Detection</p> <p>F-7 Zone 1 (Land below 7500-foot elevation) Detect and report wildfire visible from Interstate 15 within 10 minutes of ignition 95 percent of the time.</p> <p>Detect and report all other wildfire within 30 minutes of ignition 80 percent of the time.</p> <p>Zone 2 (Land above 7500-foot elevation) Detect and report wildfire in pole and reforested stands before it exceeds 1/4 acre in size 80 percent of the time.</p> <p>The remaining fires will be detected and reported before they exceed 1 acre in size 70 percent of the time.</p>	<p>Page 3-93 Delete.</p> <p>Delete.</p>
<p>Fire Support and Facilities Services Page 3-94 Initial Attack Suppression</p> <p>F-10 Conduct fire suppression activities to dispatch equipment and on-duty personnel within 5 minutes of notification. For off-duty personnel, dispatch within 30 minutes.</p>	<p>Delete. Page 3-94 Delete.</p> <p>F-10 Human-caused fires (either accidental or arson) are unwanted wildland fires, and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan. (S)</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
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<p>Pages 3-95 and 3-97 Escaped Fire Suppression</p> <p>F-11 Objective of control action will be to prevent fire from exceeding the acreage limits indicated. To be used as a guide by resource manager in making escaped fire situation analysis, with additional input by Interdisciplinary Team as needed.</p> <p>(1) Not larger than average of natural openings in area, excluding smoke, which is temporary.</p> <p>(2) Must be subordinate to existing visual characteristics excluding smoke, which is temporary.</p> <p>Unplanned ignitions will not generally be utilized to meet management objectives on the Uinta. However, an all-out suppression action on escaped fires may not be justified in many situations because of excessive costs compared to values at risk. The above table has been formulated using Interdisciplinary Team specialists, to serve as a guide to the responsible fire officer on approximate upper limits that an unplanned burn could reach without excessive resource impacts. An escaped fire situation analysis should be developed to contain fires within listed acreages, subject to modification based upon more specific onsite Interdisciplinary Team inputs. (See page 3-97 for more detailed information on this standard/guideline).</p>	<p>Pages 3-95 and 3-97 Delete.</p> <p>F-11 The full range of suppression tactics is authorized forest-wide, consistent with forest and management area emphasis and direction. (G)</p>
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EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Page 3-95 Fuel Management Inventory</p> <p>F-12 In addition to complying with FSM, silviculture examinations compartments analysis will include a fuels inventory.</p> <p>Activity Fuels Treatment</p> <p>Treatment Natural Fuels</p> <p>Fuelbreak Construction</p>	<p>Page 3-95 Delete.</p> <p>(see F-12 below)</p> <p>Activity and Natural Fuels Treatment</p> <p>F-12 Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with Forest and management area emphasis and direction. (G)</p> <p>Delete.</p> <p>Delete.</p>
<p>Page 3-95 Vegetation Treated by Burning (Includes wilderness areas.)</p> <p>F-13 Prescribed fire will be used to benefit other resources where the risks, costs, and benefits warrant. All such use of fire will be conducted within State clean air standards.</p>	<p>Page 3-95 Prescribed Fire</p> <p>F-13 Prescribed fire is authorized where the risks, costs and benefits warrant. (Use prescribed fire in wilderness only to meet wilderness management objectives) (G)</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Pages 3-95 and 3-96 Vegetation Treated within Wilderness</p> <p>F-14 Allow lightning and other natural ignitions to burn within wilderness areas to allow fire to once again play its natural role in the ecology of wilderness ecosystems when the following conditions exist:</p> <ol style="list-style-type: none"> 1. Available fuels and other conditions will promote positive wilderness ecosystem regeneration. 2. Fire location does not constitute a hazard to resource outside the wilderness area. 3. State clean-air standards warrant open burning. 4. Public support and necessary fire prevention objectives on other National Forest System land are in agreement. <p>Note: Specific field standards will be further defined within the forthcoming wilderness operational prescriptions.</p>	<p>Pages 3-95 and 3-96 Wildland Fire Use</p> <p>F-14 Employ wildland fire use in wilderness areas to restore fire to its natural role in the ecology of wilderness ecosystems when the following conditions exist: (G)</p> <ol style="list-style-type: none"> 1. Available fuels and other conditions will promote attainment of a properly functioning wilderness ecosystem. 2. Fire location does not constitute an unacceptable risk to resources or property outside the wilderness area. <p>F-15 All wildland fire use and prescribed fire will be conducted to comply with State clean air standards. (S).</p> <p>F-16 Wildland fire use is authorized forest-wide except for administrative sites, developed recreation sites, summer home sites, designated communications sites, oil and gas facilities, above-ground mining facilities, above-ground utility corridors, and high-use travel corridors. The management response for these locations will be suppression. In areas authorized for wildland fire use, the full range of appropriate management responses, from full suppression to monitoring, may be used. (G)</p>
<p>Page 3-102 Develop interim fire management area plans and escape fire analysis as need arises.</p> <p>Ra-13 Address in each range management plan the use of prescribed fire as a management tool. If appropriate, fire management activities will also be addressed and an escape fire analysis prepared.</p>	<p>Page 3-102 Develop interim fire management area plans and escape fire analysis as need arises.</p> <p>Delete.</p>

WASATCH-CACHE NATIONAL FOREST

IV-1 FOREST MULTIPLE USE GOALS AND OBJECTIVES

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
	New Goal: Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildand fire use and prescribed fire.
IV-18 Protection--Goal #47: Provide a balanced fire management program which is cost efficient commensurate with threats to life, property, public safety, values, and resource management goals and objectives.	Delete, new standard: Human life (firefighter and public safety) is the highest priority during a fire. Once firefighters have been assigned to a fire, their safety becomes the highest value to be protected. Property and natural and cultural resources are lower priorities.
IV-18 Protection - Goal #48: Provide for an active, cost-efficient fire prevention program that is directed towards specific areas and causes.	Delete, refer to Fire Management Plan
IV-18 Protection--Goal #49: Maintain fire suppression capabilities which allow an appropriate suppression response to all wildfires.	Delete, add new standard: "Human life (firefighter and public safety) id the highest priority..."
IV-18 Objectives: a. Provide fire suppression action on all wildfires which is cost effective and protects life and property-- Each wildfire ignition will receive an appropriate response.(Confinement, containment, or control)	Delete, add new standard: "Human life (firefighter and public safety) id the highest priority..."
IV-18 Objectives: --Wildfire suppression shall be based on the threat to life, property, and a current National Fire Management Analysis.	Delete, add new standard: "Human life (firefighter and public safety) is the highest priority..."

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>IV-18 Objectives: a. Provide fire suppression action on all wildfires which is cost effective and protects life and property.</p> <ul style="list-style-type: none"> --Each wildfire ignition will receive an appropriate response.(Confinement, containment, or control) --If the wildfires escape initial attack, the suppression decision will be based on an escaped fire situation analysis. --The extent of the suppression will be based on resource values, costs, burning conditions, safety, protection of private property, and spread potential and fire organization commitment. --Wildfire suppression shall be based on the threat to life, property, and a current National Fire Management Analysis. These considerations result in the following management direction. <p>Zone I Wasatch and Logan Fronts</p> <ul style="list-style-type: none"> -Plan to suppress fires at 10 acres or less(except for condition classes four and five) -Maximum allowable fire size 500 acres because of air and watershed values. -Suppression action will be based on protecting watershed, critical big game winter range, and off-site damage potential. -No dozers on slopes over 40 percent. -Prescribed fire will be planned to minimize airshed pollution and risk of escape. <p>Zone II - The Bear River Mountains, North Slope of the Uinta Mountains, and Stansbury Mid-slope areas where most resource development occurs.</p> <ul style="list-style-type: none"> -Plan to suppress fires at less than 100 acres (except in condition classes four and five) -Suppression action based on resource loss versus suppression cost. <p>Zone III - Upper elevation of Bear River,</p>	<p>Delete, add new Wildland Fire Suppression standards and guidelines:</p> <p>standard: Human life (firefighter and public safety) is the highest priority during a fire. Once firefighters have been assigned to a fire, their safety becomes the highest value to be protected. Property and natural and cultural resources are lower priorities.</p> <p>guideline: When assigning protection priorities to property and natural and cultural resources, decisions will be based on relative values to be protected, commensurate with fire management costs.</p> <p>standard: Human-caused fires (either accidental or arson) are unwanted wildland fires and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan.</p> <p>guideline: The full range of suppression tactics is authorized forest-wide, consistent with forest management area emphasis and direction.</p> <p>Delete, add new Wildland Fire Suppression standards and guidelines from above.</p> <p>Delete, add new Prescribed Fire Guideline –</p> <p>1. Guideline – Prescribed fire is authorized forestwide. (Use prescribed fire in wilderness only to meet wilderness fire management objectives.)</p> <p>Delete, add new Wildland Fire Suppression standards and guidelines from above.</p> <p>Delete, add new Wildland Fire Suppression standards and guidelines from above.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>Uinta, and Stansbury Mountains above about 10,500 feet. -Plan to contain fires at less than 100 acres(except condition classes four and five). -Suppression action based primarily on minimizing suppression cost. -Dozers will not be used.</p> <p>b. Cooperative fire protection will be emphasized to provide for joint fire protection through offset agreements, paid protection, and combined fire forces.</p>	<p>Delete, refer to Fire Management Plan.</p>
<p>IV-19 Goal #50: a. Provide for the use of prescribed fire to protect, maintain or enhance the Forest resource.</p>	<p>Delete, add new Prescribed Fire Guideline.</p>

MANAGEMENT AREA DIRECTION

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>IV-64 MA#1--High Uintas Wilderness-"Protect the wilderness resource. Allow ecosystems to function naturally, except for the control of fire."</p>	<p>Delete, add new goal: Fire-adapted ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.</p>
<p>IV-72 Protection-Fire Suppression. "Suppress all wildfires."</p>	<p>Delete, add new Wildland Fire Suppression standards and guidelines from above.</p>
<p>IV-75 MA #2-North Slope. Protection-"Provide a level of fire protection, insect and disease control....."</p>	<p>Delete, add new Wildland Fire Suppression standards and guidelines from above.</p>
<p>Fire Management</p>	
<p>IV-102--PO2 "Provide a level of fire protection that is appropriate for the value of the resource, management direction, and threat to off-site developments. (S)Suppression actions on lands protected by other agencies will be in accordance with the appropriate agency's direction.</p>	<p>Delete, add new Wildland Fire Suppression standards and guidelines from above. Delete, refer to Fire Management Plan.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>PO2 Develop a fire prevention program directed toward heavily used developed and dispersed recreation sites. (G)Limit the number of person-caused fires annually to the previous 5 year average. (S)Continue to prohibit the use of fireworks on the Forest. PO2 cont. Fire protection will be based on the threat to life and private developments and management direction listed in each protection zone. Contain fires at less than 100 acres (except in condition classes 4 and 5). Base suppression action on cost plus net value change.</p>	<p>Delete, refer to Fire Management Plan.</p> <p>Delete management direction and six associated standards and guidelines. Add new Wildland Fire Suppression standards and guidelines.</p>
<p>IV-103 Primary-Initial Attack Forces PO4 If the wildfire escapes initial attack, base further suppression decisions on an escaped fire situation analysis. (S)Complete the escaped fire situation analysis before requesting support forces.</p>	<p>Delete, refer to Fire Management Plan.</p>
<p>IV-103 Initial Attack Fire Suppression Action - PO8 Maintain fire suppression attack capabilities to control wildfires so that land management objectives may be met at reasonable costs. Provide fire suppression action which is fast, energetic, thorough, and conducted with a high degree of safety. Base the extent of the suppression action on resource values, costs, burning conditions, safety, spread potential, and fire organization commitment. (G)The fire manning and specific action plan will be updated annually. (G)Investigate all person-caused fires. (G)Complete an interdisciplinary analysis immediately following all project fires to determine if site rehabilitation is needed.</p>	<p>Delete, refer to new Wildland Fire Suppression standards and guidelines from above.</p>
<p>IV-103 Treatment of Activity Fuel P11-Stress utilization as the primary method of fuel reduction with a follow-up treatment such as prescribed fire, if needed. Design vegetative modification projects to break-up continuous fuels and serve as fuelbreaks. Fuelbreaks or fuel reduction will not be undertaken in mountain pine beetle killed stands unless proven economically feasible. Use prescribed fire to manipulate vegetation to benefit timber, wildlife, or range resources when cost-effective. About 300 acres of fuels will be treated annually. Develop a fire prevention program directed towards dispersed recreation and fuelwood harvest activities. (G)Reduce woody materials less than 4 inches in diameter to less than 4 tons per acre. (G)Concentrate prevention efforts on elimination of unattended campfires. (G)Concentrate prevention efforts in areas with highest recreation, scenic, and wildlife values.</p>	<p>Delete, refer to new Fuels guideline: 1. guideline: Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with forest and management are emphasis and direction.</p> <p>Delete, add new Prescribed Fire guideline.</p> <p>Delete</p> <p>Delete, refer to new Prescribed Fire Guideline.</p> <p>Delete following 2 guidelines, refer to Fire Management Plan.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>MA#3-Mirror Lake Highway</p>	
<p>IV-107—Protection – “Provide a level of fire protection...”</p>	<p>Delete wording “a level of fire protection</p>
<p>IV-133 - Fire Prevention-PO2—Develop a fire prevention program directed toward heavily used developed and dispersed recreation sites. Cooperate with the State of Utah and Summit County to provide fire protection for state and private lands adjacent to National Forest Lands. Implement fire restrictions or closures during critical fire conditions when there is a high probability of person-caused ignitions.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.</p>
<p>IV-134 PO4 through PO9—Provide fire suppression adequate to protect the recreational, scenic, and wildlife values of the area. Plan to control fires at 10 acres or less except in condition classes 4 and 5. If the wildfire escapes initial attack the suppression decision will be based on an escaped fire situation analysis. Maintain forest fire support services to meet suppression objectives. Site rehabilitation will be done to restore the site and protect the resources from additional deterioration. Prescribed fire may be used for vegetative manipulation to benefit timber, wildlife, or range management.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.</p> <p>Delete, refer to new Prescribed Fire guideline.</p>
<p>IV-134 Fire Suppression – P10 through P14 – Fuels treatment and maintenance will be used to reduce the potential fire hazard, reduce cost of fire suppression, and contribute to other resource programs. Provide fire suppression action which is fast, energetic, thorough, and conducted with a high degree of personnel safety. Base extent of control on resource values, costs, burning conditions, safety, spread potential and fire organization commitment. Encourage utilization as the primary method of fuels reduction.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Fuels guideline and Prescribed Fire guideline.</p> <p>Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.</p> <p>Delete language and accompanying standards and guidelines. Refer to new Fuels guideline and Prescribed Fire guideline.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>MA#4-Weber-Provo IV-138 Protection – Provide a level of fire protection...</p>	Delete wording, "a level of fire protection"
<p>IV-163 Protection - Fire Prevention – PO2 – Develop a fire prevention program directed toward developed and dispersed recreation sites, firewood areas, and areas under special use permits.</p>	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan
<p>IV-164 Protection – Fire Suppression – PO4 through PO8 Provide a level of fire protection that is appropriate for the value of the resource, management direction of the land, and potential threat to off-site developments.</p> <p>Base extent of suppression on resource loss versus suppression costs.</p> <p>Maintain fire suppression attack capabilities and control each wildfire so that land management objectives may be met at a reasonable cost. Provide fire suppression action which is fast, energetic, thorough and safe. Fire support and facilitating service will be maintained to meet suppression objectives. Complete site rehabilitation to restore the site and protect resources from additional deterioration.</p>	<p>Delete, refer to new Goal – Fire-adapted ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.</p> <p>Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan</p>
<p>IV-164 Protection – Fuels Management – P10 through P14 Utilize fuels treatments to reduce the fire hazard and cost of suppression, and to manage other resources.</p>	Delete, refer to new Prescribed Fire guideline.
<p>IV-168 – Protection – Provide a level of...</p>	Delete wording, "a level of fire protection".
<p>MA#5-Lakes IV-182 - Protection – Fire Suppression – PO4 through P09 Provide fire suppression capabilities adequate to preserve backcountry values. Rehabilitate fire sites and protect the resources from additional deterioration. Suppress all wildfires. During low fire intensity periods or when natural barriers can be utilized, cost plus net value change will be a prime consideration in determining appropriate action.</p>	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan
<p>MA#6-RNA's-Red Butte, Morris Canyon, Mollens Hollow IV – 188 – Protection – PO1 Protect the area from fire damage. (S) Take appropriate suppression action on all wildfires. (S) All suppression damage will be promptly mitigated. (G) Tractors will normally not be used. The need will be determined in the escaped fire situation analysis.</p>	Refer to new Wildland Fire Suppression standards and guidelines including: standard; Human-caused fires (either accidental or arson) are unwanted wildland fires and will be suppressed. Natural ignitions will be suppressed in areas not covered by an approved fire management plan.

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>MA#7-Stansbury IV-191 "Suppress all wildfires."</p>	Delete
IV-202 - P11-Use prescribed fire from planned ignitions for resource management.	Delete language and accompanying standards and guidelines, refer to new Prescribed Fire Guideline.
<p>IV202-PO2 – Develop a fire prevention program directed toward reducing the number of man-caused fires in South Willow Canyon and other areas of concentrated use. Provide a level of fire protection that is appropriate for the value of the resource, management direction of the land, and potential threat to off-site developments. Plan to control wildfires at least 100 acres (except in condition classes 4 and 5). Suppression action will be based on resource losses versus suppression costs. Cooperate with the state of Utah and BLM in fire protection of state and private lands adjacent to National Forest land.</p>	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan
IV-203-PO4 – If the wildfire escapes initial attack, further suppression decisions will be based on an escaped fire situation analysis.	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
<p>PO8 – Maintain fire suppression attack capabilities to control wildfire so that land management objectives may be met at reasonable costs. Provide fire suppression action which is fast, energetic, thorough, and conducted with a high degree of personnel safety. Base extent of control on resource values, costs, burning conditions, safety, spread potential and fire organization commitment.</p>	
<p>IV-203 P11-"Utilization will be stressed as the primary method of fuel reduction with follow-up treatment such as burning as needed." Vegetative modification projects will be designed to break-up continuous fuels and serve as fuelbreaks. Fuelbreaks or fuel reduction will not be undertaken in mountain pine beetle killed stands unless proven economically feasible, or in conjunction with other resource management activities.</p>	Delete, refer to new Fuels guideline: 1. Guideline: Reduce hazardous fuels. The full range of fuel reduction methods is authorized, consistent with forest and management area direction.

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>MA#8-Deseret Peak Wilderness IV-205-Wilderness – Allow ecosystems to function naturally except for control of fire.</p>	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
IV-209 P33--Suppress all wildfires. During periods of low intensity or when natural barriers can be utilized, cost plus net change will be a prime consideration in determining appropriate actions.	Delete. Refer to new Wildland Fire Suppression standards and guidelines above.
<p>MA#9-Wasatch Front Wilderness IV-214 Wilderness-"Allow ecosystems to function naturally, except for control of wildfire."</p>	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
IV-219 P33-Suppress all wildfires. During periods of low intensity or when natural barriers can be utilized, cost plus net change will be a prime consideration in determining appropriate actions.	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
<p>MA#10-Wasatch Front IV-233 Protection-Suppress all wildfires with an appropriate response.</p>	Delete. Refer to new Wildland Fire Suppression standards and guidelines above.
IV-252- P02-Develop a fire prevention program directed toward reducing the numbers of fires along the urban-Forest interface and in heavily-used recreation areas.	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
<p>IV-252-PO4 – P08- Make an appropriate suppression response on all wildfires. Provide a level of fire protection that is appropriate to the value of the resource, management direction of the land and threat to off-site developments.</p>	Delete. Refer to new Wildland Fire Suppression standards and guidelines above.
IV 252-P10-P14- Fuels treatment and maintenance will be used to reduce the potential fire hazard, reduce cost of fire suppression, and break up the fuel continuity.	Delete. Refer to new Fuels Guideline.
<p>MA#11-Cache IV-256-Protection-The extent of fire protection will be commensurate with the value of the resources being protected.</p>	Delete. Refer to new Wildland Fire Suppression standards and guidelines above.
IV-279-Fire Management-P01-Annually update fire management plans. Emphasize cooperative fire protection through offset agreements, paid protection, and combined fire forces.	Delete, refer to Fire Management Plan.

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
IV-280-P02 Prevention- Direct fire prevention efforts towards eliminating abandoned campfires and contacting firewood gatherers.	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
IV-280 Detection-PO3- Provide a level of fire protection that is appropriate to the value of the resource, management direction of the land, and threat to off-site developments.	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
IV280-PO4-Maintain sufficient fire attack capabilities to control each wildfire so that land management objectives may be met at a reasonable cost. Rehabilitate the burned are and protect resources from additional deterioration.	Delete language and accompanying standards and guidelines.Refer to Fire Management Plan.
IV-280 P11-Activity Fuels – Design vegetative manipulation projects to break up continuous fuels and serve as fuelbreaks to reduce wildfire hazard and spread potential.	Delete. Refer to new Fuels guideline.
IV-280-P12-Treatment of activity fuelbreaks or fuels reduction will not be undertaken in mountain pine beetle killed stands unless economically feasible.	Delete language and accompanying standards and guidelines. Refer to new Fuels guideline.
MA#12-Mt. Naomi Wilderness IV-283 Wilderness Allow ecosystems to function naturally, except for control of fire.	Delete. Refer to new Goal: Ecosystems are restored and maintained, consistent with land uses and historic fire regimes, through wildland fire use and prescribed fire.
IV-289–P33-Suppress all wildfires. During periods of low intensity or when natural barriers can be utilized, cost plus net change will be a prime consideration in determining appropriate actions.	Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.
MA#13-Logan Canyon IV-292 Make an appropriate suppression response on all wildfires.	Delete
IV-312 –P01-Planning-Annually update fire management plans to increase the level of fire readiness.	Delete language and accompanying standards and guidelines. Refer to Fire Management Plan.
IV-312-P03-Direct fire prevention efforts towards eliminating unattended campfires and contacting summer home owners.	Delete language and accompanying standards and guidelines. Refer to Fire Management Plan.
IV-312-P03-Provide a level of fire protection that is appropriate for the value of the resource, management direction of the land, and threat to off-site developments.	Delete. Refer to new Wildland Fire Suppression standards and guidelines above.

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>IV-312-P04-Maintain the capability to suppress wildfires so that management objectives may be met at a reasonable cost. Make an appropriate suppression response on all wildfires.</p>	<p>Delete. Refer to new Wildland Fire Suppression standards and guidelines above.</p>
<p>IV-313-P11-Design vegetative modification projects to break up continuous fuel types and serve as fuelbreaks to reduce wildfire hazard and spread potential. Fuelbreaks or fuels reduction will not be undertaken in mountain pine beetle killed stands unless proven economically feasible or in conjunction with other activities.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Fuels guideline.</p>
<p>MA#14-Whitney IV-316 Provide a level of fire protection...that will preserve the forest environment and provide for public safety.</p>	<p>Delete. Refer to new Wildland Fire Suppression standards and guidelines above.</p>
<p>IV-338- PO2 Provide a level of fire protection that is appropriate for the value of the resource, management direction, and threat to off-site developments. Direct fire prevention program towards dispersed recreationists and fuelwood cutters.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.</p>
<p>IV339-P04-If the wildfire escapes initial attach, further suppression decisions will be based on an escaped fire situation analysis.</p>	<p>Delete language and accompanying standards and guidelines. Refer to Fire Management Plan.</p>
<p>IV-339-P08-Maintain fire suppression attack capabilities to control wildfires so that land management objectives may be met at reasonable costs. Provide fire suppression action which is fast, energetic, thorough, and conducted with a high degree of safety. The extent of the control action will be based on resource values, costs, burning conditions, safety, spread potential, and fire organization commitment. Plan to contain wildfires at less than 100 acres (except in condition classes 4 and 5). Suppression action will be based on resource losses versus suppression costs. Cooperate with the state of Utah and Summit County in fire protection of state and private lands adjacent to National Forest land.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Wildland Fire Suppression standards and guidelines and Fire Management Plan.</p>

EXISTING DIRECTION	ALTERNATIVE B DIRECTION
<p>IV-339-P11-Utilization will be stressed as the primary method of fuel reduction with follow-up treatment such as burning as needed.</p> <p>Design vegetative modification projects to break up continuous fuel types and serve as fuelbreaks.</p> <p>Fuelbreaks or fuels reduction will not be undertaken in mountain pine beetle killed stands unless proven economically feasible or in conjunction with other resource management activities.</p> <p>Use prescribed fire by planned ignitions, when cost effective, to manipulate vegetation to benefit timber, wildlife, or range.</p>	<p>Delete language and accompanying standards and guidelines. Refer to new Fuels guideline.</p> <p>Delete. Refer to new Prescribed Fire Guideline: Prescribed fire is authorized forestwide. (Use prescribed fire in wilderness only to meet wilderness fire management objectives.)</p>
<p>-Implementation of the Forest Plan</p>	<p>Need to add monitoring techniques for prescribed fire and Wildland Fire Use, such as acres burned each year, and fuel type burned.</p>
<p>V-9 Protection-Fire--Need to add prescribed fire and Wildland Fire Use.</p>	

A.8 Fire Ecology of Major Cover Types

The purpose of this appendix is to provide additional background information on the ecology and role of fire in each of the major cover types on National Forest lands in Utah.

Acreage Estimates and Trends of Major Cover Types

We used data from two statewide assessments of major vegetation cover types to estimate the number of acres in each cover type. The strength of O'Brien et al. data (O'Brien and Brown 1998; O'Brien and Collins 1997; O'Brien and Pope 1997; O'Brien and Tymcio 1997; O'Brien and Waters 1998; O'Brien and Woudenberg 1998) is the consistent wall-to-wall sampling of all forested lands in the state, regardless of ownership, and a statistically valid systematic grid sampling pattern. The disadvantage of the FIA (Forest Inventory Analysis) dataset for this analysis is that nonforest lands were not sampled. Because the data from O'Brien et al. came from actual plots on the ground, we used those data for all of the forested lands (woodland and timberland) on the six forests. Sagebrush/grass/forb and other nonforested types are derived from the GAP dataset. An advantage of using GAP data is that it was designed for use at the broad scale.

We determined the presettlement acreages of each cover type with the professional judgment of several specialists and the best interpretive data available. The historical acres for each cover type are intended to reflect respective abundances 150 to 300 years ago. These estimates are subjective, but demonstrate in a programmatic broadscale assessment the *trends and shifts* in the amounts of various cover types since the historical role of fire as an ecosystem process has changed in the past 150 years. Each forest was estimated separately and then we aggregated the data for all National Forest System (NFS) lands in the state. We rounded estimates of the historical abundance of each cover type to the nearest 10,000 acres. We did this to reinforce the notion that these are gross acreage estimates that are intended to illustrate trends in cover type over time. To report acres at a smaller scale would be to imply a false sense of accuracy.

Comparisons of historical acreages by cover type with existing condition for each cover type projects a trend of vegetation changes during the past 100 to 150 years (Tables/Figure). The pie chart provides a format to display trends for changes in the abundance of various cover types. To read the pie chart, the order of vegetation cover types in the legend starts at the top with "aspen" at 12:00 and goes clockwise back to 12:00 ending with "other". It has taken 150 years to get to this point. Correcting this trend will require decades of thoughtful management.

Figure A-1 displays the major plant communities found in Utah and the historic and current number of acres of each type.

Indirect evidence exists to reinforce the hypothesis that historically fires frequented these landscapes repeatedly and that they prevented most young trees from growing to maturity. Evidence for the absence of mature trees on Utah landscapes 200 years ago is found in **Figure A-2** (O'Brien 1999a; O'Brien 1999b). This table covers a much greater area than the NFS lands in Utah. However, it shows a statewide increase in the area occupied by relatively young trees. For the nearly 15 million acres displayed, more than 87% of acres have trees with stand ages less than 200 years old. Some of these species are capable of living more than 200 years. Although harvests occurred in the past 150 years, it is unreasonable to think that 80%+ of the 15 million acres were harvested.

FIGURE A-1
Major cover types in Utah and the historic and current number of acres of each type.

Vegetation Cover Type	Historical Acres	Existing
Aspen	2,070,000	860,000
Lodgepole pine	470,000	470,000
Mixed conifer	430,000	1,990,000
Ponderosa pine	920,000	410,000
Pinyon-juniper	320,000	1,410,000
Mountain shrub	240,000	200,000
Gambel oak	310,000	270,000
Sagebrush/grass/forb	2,260,000	1,500,000
Other*	1,100,000	1,010,000
Total**	8,120,000	8,120,000

* Indicates these cover types are not fire-adapted.

** Analysis based on net NFS acres from FIA data. Acres rounded to nearest 10,000.

FIGURE A-2
Stand-Age Classes

STAND-AGE CLASSES																
Forest Types	Non stocked/ Unclassified	1-50	51-100	101-150	151-200	201-250	251-300	301-350	351-400	401-450	451-500	501-550	551-600	601-650	651-700	All Classes
ACRES																
Aspen	12,017	348,038	925,799	120,766	2,997											1,409,617
Blue Spruce		3,069	14,209	3,542												20,820
Cottonwood		3,550		21,706	3,542											28,798
Douglas-fir	97,871	131,057	378,902	264,424	57,259	63,584	18,426	17,348								1,028,871
Engel. spruce		6,320	85,182	168,143	55,164	12,113	16,015	3,300								346,237
Juniper	10,253	155,725	675,684	288,391	97,880	45,006	17,536	27,274	14,390	7,252		5,691			11,383	1,356,465
Limber pine	8,908		10,166	28,173	4,173	6,833		2,321								60,574
Lodgepole pine		70,932	159,609	114,520	30,964	6,019										382,044
Maple woodland		80,476	52,478	3,550												136,504
Mtn. mahogany		126,256	157,211	26,865	5,691	5,634	3,542									325,199
Oak		342,956	290,440	93,252	7,332											733,980
Pinyon-juniper	24,959	800,685	2,562,515	1,543,582	1,043,211	586,260	482,600	251,250	93,592	68,607	35,795	20,236	3,760	5,436		7,522,488
Ponderosa pine	110,165	59,799	214,201	82,503	50,195	19,096	8,597	6,040	3,020							553,616
Spruce/fir		64,973	316,716	230,936	49,071	16,265										677,961
White fir	8,534	40,092	172,828	86,941	38,140	8,297	5,648									360,480
All Types	272,707	2,233,928	6,015,940	3,077,294	1,445,619	769,107	552,364	307,533	111,002	75,859	35,795	25,927	3,760	5,436	11,383	14.9 mm

Fire-Adapted Cover Types

Aspen Aspen differs from other cover types because it regenerates from suckers that arise from the parent root system. Generally, disturbance or dieback is necessary to stimulate regeneration. These self-regenerating clones have existed for thousands of years. If they are lost from the landscape, they will not return through normal seeding processes as do other tree species (Bartos and Campbell 1998).

Patch size is variable and dependent upon site quality and competing vegetation. Patch sizes tend to be larger where aspen is associated with subalpine fir and mixed conifer forests. Patches become smaller on drier sites associated with ponderosa pine and Gambel oak and colder sites associated with spruce/fir and lodgepole pine.

On sites where aspen is stable (no conifer encroachment), the mechanisms that keep aspen dominant have not been thoroughly studied and may be variable and site dependent. It may be that aspen dominance is related to soils and moisture conditions where conditions are not favorable to conifer establishment and growth. A viable conifer seed source may not be close enough to germinate in these sites. Many stable aspen stands are uneven-aged where regeneration is a gradual, continual process. Other stable stands are two-aged or even-aged without any substantial regeneration. Stable aspen burns infrequently or as a result of fires burning in other vegetation types that carry into the aspen.

Loss, or potential loss of aspen can be attributed primarily to a combination of successional processes, fire exclusion, and overgrazing. The absence of fire, coupled with excessive browsing of young aspen trees by livestock and wildlife, has led to rapid replacement of aspen communities by conifer forests (Bartos 1998). Some of the aspen clones in Utah are in a mid to old structural stage (O'Brien 1999) and seral aspen areas are being overtopped by conifers through plant succession.

Brown and Simmerman (1986) found that livestock grazing reduces fine fuels so that fire intensity and rates of spread may be as low as one-tenth that of ungrazed stands. Surface fuels in pure aspen stands are not typically conducive to prolonged flaming or burnout due to a lack of intermediate fuels (.4 to 3 inches in diameter). The presence of conifers increases stand flammability and therefore may be essential to carry the fire to regenerate aspen on the site.

Although aspen often depends on fire for successful regeneration, individual stems are extremely fire-sensitive. Even low-intensity fires can cause mortality because of aspen's thin bark. Trees not killed outright by the heat often suffer mortality by the second or third growing season, succumbing to disease or other stress. A low intensity fire may kill the overstory but it takes a very high intensity, high severity fire to kill the root system.

Lodgepole Pine These forests are characterized as heavily stocked, growing in pure stands, on cold sites, and in large patches (often exceeding 200 acres). Where lodgepole is associated with shade-tolerant species, the shade-tolerant species will replace lodgepole without fire or other disturbance because of its intolerance for shade and a bare mineral seedbed requirement. Lodgepole characteristically regenerates after disturbance.

Stand development, vegetation mortality, and fuel accumulation interact dynamically with fire. The type and degree of vegetation mortality affects the fuel buildup, which in turn determines the severity of later fires and subsequent stand regeneration. Historically, fire may have generated the most surface fuel. Competition between dense seedlings and saplings often results in further fuel buildup from suppression mortality.

Fire frequency varies with summer dryness and lightning occurrence, and it also depends on slope, aspect, elevation, and natural fire barriers. Fires tend toward one of two extremes. They may smolder and creep slowly on the soil surface consuming litter and duff, or act as a severe, stand-replacing crown fire. Most are low-intensity fires due to the generally sparse undergrowth. Cool, moist conditions prevail under a dense, closed canopy, and fires that start here usually remain on the ground, smoldering for days or even weeks before extinguishing.

A fire history in the subalpine fir zone in northern Utah found more frequent fire during European settlement favored the establishment of disturbance-related species lodgepole pine and aspen. The long fire return interval now being experienced by the area due to attempted fire exclusion favors more shade tolerant species, allowing them to eventually overtop the shade intolerant lodgepole pine. (Wadleigh and Jenkins 1996). Historically, low-intensity fires would have reduced both down woody and ladder fuels in the lodgepole pine type.

Mixed Conifer A wide range of fuel conditions exist in this cover type since it ranges across different kinds of stand conditions. Forest composition varies with elevation, exposure, and latitude. Fire frequency varies with summer dryness and lightning occurrence and also depends on slope, aspect, elevation and natural fire barriers. Associated species include most of the conifer species represented in Utah. Douglas-fir is most important in northern Utah, while lodgepole pine is the most dominant species on many sites in the Uintas. White fir, blue spruce, and limber pine may be common in stands in the central and southern mountains and high plateaus. Sometimes subalpine fir and Engelmann spruce may be the only tree species present.

In the dry, ponderosa pine/Douglas-fir type, ground fuels tend to be discontinuous with deep needle mats possible. Poor stocking rates and the resulting open stands make these stands less likely to experience widespread fire than more productive sites. On cooler, more moist sites where lodgepole, aspen, and Douglas-fir grow, the fuels are heavier since these are more productive sites. Closed stands with dense Douglas-fir understories present the highest fire hazard. Stands may have large amounts of downed twigs and small branchwood. Dense overstory trees and the presence of dead branches near the ground create a crown fire potential under severe burning conditions. Downed as well as standing dead trees resulting from dwarf mistletoe mortality may add greatly to fuel loads.

The white fir, spruce, and aspen type occupies the coolest, wettest sites of the mixed conifer zone. This zone is the most productive and consequently has the highest fuel loading. Ladder fuels and down woody material contribute to hazardous fuel conditions during drought years. Dense overstory canopies prevent shrub and herbaceous species from surviving underneath. Blue spruce is a component of the mixed conifer type type, found primarily in riparian and lowland areas. Some of the most extensive areas of blue spruce are on the Dixie National Forest.

Due to selective logging practices over the last 100 years, favoring the removal of ponderosa pine and Douglas-fir, and attempted fire exclusion, these stands are now dense and even-aged, with a larger component of fire sensitive white fir and subalpine fir. Once adapted to a frequent fire regime, they are now predisposed to high intensity fires from the development of ground and ladder fuels. Stand replacement fires, outside the historical range of intensity and severity are likely.

Ponderosa Pine The geographic distribution of ponderosa pine appears to be limited to areas with adequate moisture in the early growing season. They cover extensive areas of the plateaus and mountains in the central and southern portions of the State. The absence of disturbance has encouraged a conversion to a higher proportion of shade-tolerant species such as Douglas-fir and white fir. These stands are in the mid- to mature-age classes, are overly dense, and more susceptible to insect and disease epidemics (Fule et al. 1997).

The steady accumulation of tree biomass has contributed to progressively declining herbaceous productivity. Ladder fuels are well developed and contribute to unwanted wildland fires outside the historical range of intensity and severity. Additionally, there has been a build up of forest litter and down woody fuels increasing potential fire hazard and lethal effects of fires on vegetation by concentrating heat on the upper soil layers and around the stems of trees and shrubs.

Pinyon/Juniper Stand composition varies with climatic and topographic location. Both pinyon and juniper have broad ecological amplitudes. They occur from the upper fringe of the Mojave Desert to the lower fringes of alpine forests. This wide tolerance of environmental conditions has affected migration by providing these species with the ability to establish into and dominate a wide range of communities. Juniper has wider ecological amplitude than pinyon and dominates lower or drier sites. More moderate higher elevation sites favor pinyon.

Pinyon-juniper stands that are most likely to burn have small-scattered trees with abundant herbaceous fuel between the trees, or have dense, mature trees capable of carrying crown fire during dry, windy conditions. Such stands are often located just below the ponderosa pine belt. Stands of moderate tree density, where overstory competition reduces the herbaceous fuel, and the trees are more widely spaced, are unlikely to burn.

Closed pinyon/juniper stands do not have understory shrubs to carry a surface fire, and do not burn until conditions are met to carry a crown fire. Many woodland sites in the Great Basin are not productive enough to produce this amount of fine fuel, especially if they have an overstory of trees. Trees taller than 4 feet in open pinyon/juniper are difficult to kill unless there are heavy accumulations of fine fuel beneath the trees. Sites with a good growth of cheatgrass are at higher risk for large fires. Livestock grazing reduces fine herbaceous fuels and lowers fire probability but not necessarily fire severity. Grazing tends to favor woody species, which burn hotter. Grazing encourages the spread of exotic species, such as cheatgrass. When exotic annuals, like cheatgrass, take hold after disturbance, it is unknown what will happen to the plant community. There is no past example by which to judge these circumstances.

On dry sites, fire may never have been as important an influence as climatic fluctuations in governing the rate of tree replacement of shrubland or grassland because of the lack of undergrowth to act as fuel. Moister, more productive sites probably had more extensive and frequent fires when droughty periods occurred. The steady increase in crown fuels has allowed burning through areas with deep soils (formerly sagebrush communities) at higher than normal intensities. These sites had never experienced such intensities and therefore are not adapted to this new fire regime.

Mountain Shrub The range of mountain shrub has been shrinking due to fire exclusion and overgrazing by ungulates. Pinyon-juniper and sagebrush have encroached into sites where fires would have historically prevented their spread into the mountain shrub community. Mountain maple has been an exception, increasing in some areas in northern Utah (Wasatch National Forest). Many maple areas are so dense, herbaceous cover is reduced (USDA Forest Service 1997).

Gambel Oak Gambel oak is a broadleaf, deciduous white oak which typically forms dense stands or thickets. On drier sites, it is a slow-growing shrub, but on relatively moist sites, oak often assumes a larger, treelike growth form. The treelike form is much more common at the southern end of its range. Oak typically grows from 3 to 20 feet in height in spreading thickets connected by underground rhizomes.

The range of oak is estimated to be greater today than it was historically (Brown 1958; Christensen 1949; Christensen 1957). Fire exclusion and livestock grazing may be responsible for the expansion of oak on benchlands and lower slopes. Despite the lack of fire, stand structures and conditions are sustainable and viable statewide (USDA Forest Service 1997).

Oak is a fire-adapted species since it resprouts prolifically following a fire. Only extremely severe fires with maximum fuel consumption at the base of the tree would produce enough heat to kill the buried rhizomes. Oak is seldom killed by fire. Fire may stimulate the growth of many dormant buds on rhizomes (McKell 1950).

Sagebrush/Grass/Forb The amount of precipitation a site receives will dictate the amount of herbaceous cover that exists beneath and between sagebrush plants. Grass and forb species associated with these communities assist with the spread of fire. When sagebrush communities are heavily grazed by domestic livestock, the herbaceous understory becomes sparse and can prevent the spread of fire. Fuels in these communities are light due to the lack of an overstory of trees to contribute down woody material.

Cheatgrass may become dominant on overgrazed sites with sparse herbaceous understories and the fire regime may be altered to one where fire burns more frequently (every 2 years). On high elevation sites where cheatgrass is unable to survive, sagebrush stands are dense and decadent with little or no understory vegetation. In some locations, sagebrush grows in large, homogeneous stands. These sites have more than 15 percent sagebrush cover (USDA Forest Service 1997) which indicates these communities are not functioning properly. Ignition probabilities have declined substantially due to the lack of fine grass fuels. When these newer communities burn, it is typically only during very dry conditions, rather than during the fire intervals and intensity levels common for the native system. These fires may burn more severely than they did historically due to the increased amount of woody fuels (USDA Forest Service 1996).

Fire exclusion has allowed pinyon/juniper to encroach onto adjacent sagebrush sites. The result has often been reductions in the production and diversity of associated understory communities. This has reduced the suitability of the affected sites for many species of wildlife and for livestock grazing. Associated alteration of the hydrologic regimes has the potential to change nutrient cycling, and increase soil loss (Tausch and West 1995).

Nonfire-Adapted Cover Types

The results of the properly functioning assessments indicated that several ecosystems in Utah are not adapted to or are not dependent on the presence of fire to maintain them in a properly functioning condition. They include: alpine, high elevation spruce/fir, tall forb, desertscrub, and riparian. The role of fire in the ecology of these ecosystems has been minimal, and it is assumed these ecosystems are within their historic range of variation (Evers 1998; USDA Forest Service 1997).

Alpine Alpine communities occupy relatively small areas at high elevations above tree line. They are restricted to the Tushar and Uinta Mountains. These communities grow under extremely harsh conditions, and recovery is slow after the slightest disturbance (USDA Forest Service 1997). Fire is not a disturbance common to this cover type. Therefore, this community is not fire-dependent.

High Elevation Spruce/fir This cover type ranges from pure Engelmann spruce to pure subalpine fir forests. In most instances it occurs as a mixed species forest. Subalpine fir is similar in ecology to spruce but is shorter-lived (100 to 150 years). It regenerates readily in shaded conditions on humus and duff as well as bare mineral soil. Spruce is characterized as long-lived (>300 years), found on cool moist to wet sites or in riparian areas. Conifer patches intermingle with subalpine meadows.

Due to the high elevation, short snow-free growing season, and moist environment, these ecosystems have relatively few fires. Grasses and forbs cure in August or September; about the time late summer storms often begin, effectively ending the fire season. Summer lightning is generally accompanied by rain, making fire spread unlikely. When an ignition occurs, it usually goes out on its own or stays small (< 1 acre). Only under specific conditions (long periods of drought combined with dry, windy conditions when an ignition occurs) will these sites burn. These specific conditions are unusual and infrequent but they are possible and within the historic range of variability. In this case, a fire could become large (> 1,000 acres). While this ecosystem may occasionally burn, fire does not play a significant role in the ecology of spruce/fir (Bradley et al. 1992).

Timberline stands are frequently discontinuous, separated by talus, rocky cliffs, or expanses of herbaceous vegetation. Fire has its greatest impact when occasional large high-intensity fires spread from lower elevation forests during dry, windy conditions. Periods of high wind and low fuel moistures present the greatest fire hazard. Low-intensity smoldering fires of restricted area probably occur most often. This type of fire may remove single trees or a small group of trees rather than an entire stand. In subalpine forests opened otherwise dense stands, and created a mosaic of different ages and species compositions.

Specific fire history information in subalpine fir and spruce forests is lacking. Stand-replacing fires may have burned every 200 to 400 years (Jenkins et al. 1998).

The role of fire in the ecology of these forests has been localized and small in scale. On drier sites, small fires may have created small openings that have filled in with spruce/fir. The loss of these openings over large landscapes has resulted in the creation of homogeneous stands of spruce/fir. Similarly, fire exclusion may have allowed the encroachment of spruce/fir into adjacent meadows or grasslands.

Tall forb Historically, tall forb communities were common at elevations above 7,000 feet in annual precipitation zones greater than 35 inches (USDA Forest Service 1997). It is found on all aspects and slope gradients where soils are greater than 18 inches and where soil moisture is adequate for nearly season-long plant growth. Typical sites include areas near springs, along streams, in small openings in forest, and in larger open parklands within Douglas-fir and spruce/fir forest zones. The effects of fire in the tall forb cover type have not been studied. Moist conditions generally inhibit fire spread from wind-driven fires burning in surrounding vegetation types. This community is not considered fire-dependent.

Desertscrub The desertscrub community is located in southern Utah and occupies dry sites at low elevations. It is dominated by low shrubs and grasses. A single or a few species dominate large areas, creating homogeneous landscapes. Major shrubs include: blackbrush, greasewood, creosotebush, bursage, hopsage, pickleweed, and saltbush. Exotic annual grasses have invaded parts of this community. Several other nonnative grasses have been widely planted through the years to improve grazing, and these plants may reduce the potential for invasion by the annual grasses (Evers 1998).

The desertscrub community is not a fire-adapted community because most shrub species are fire sensitive. Even low-intensity fires can kill most species since most do not resprout or resprout weakly. The plant communities that may follow a fire in blackbrush community vary widely and rarely include species considered more desirable than blackbrush. The cryptogamic crust associated with blackbrush is very sensitive to disturbance (DeBano et al. 1998). This crust is very important to the hydrologic and nutrient cycling mechanisms of these harsh sites. Saltbush communities are considered fire tolerant, primarily because saltbush and many of its grass associates resprout vigorously and recover quickly (Evers 1998).

Riparian Riparian communities are composed of sites dominated by deciduous trees, shrubs, or herbaceous vegetation adjacent to seasonal or perennial free-flowing streams or open bodies of water. They are often found in a narrow strip along drainage bottoms or between streambeds and upland forest vegetation. Overstory dominants include cottonwoods, aspen, willows, maples, and alders. The understory may be lush and includes a diverse assemblage of forb and graminoid species.

The effects of fire in these communities have not been studied. Although riparian communities are productive and frequently have large amounts of live and woody fuels, moist conditions generally inhibit fire spread. Wind-driven fires originating in surrounding forests can carry in riparian communities during extended drought conditions. While many riparian species may resprout following a fire, this community is not considered a fire-dependent ecosystem.