ALASKA INTERAGENCY WILDLAND FIRE MANAGEMENT PLAN

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EXECUTIVE SUMMARY

Interagency Fire Management Plans (IFMPs) for thirteen geographic areas of the state were prepared under the oversight of the Alaska Interagency Fire Management Council between 1980 and 1988 to provide a coordinated and cost effective approach to fire management on all lands in Alaska. All fire management decisions by land manager/owner(s) are based on values warranting protection, protection capabilities, firefighter safety and/or land and resource management needs. Before the IFMPs, existing policy required the immediate suppression of all wildfires. This policy was costly, of questionable effectiveness, and had a negative effect on the diversity and productivity of the fire-dependent ecosystems in some regions of Alaska. In addition, during periods of high fire activity it was not possible to provide immediate and effective suppression on many fires because of the shortage of personnel, equipment, supplies or aircraft. It was recognized that an improved system was needed for establishing priorities and levels of suppression.

Prior to 1998, it was necessary to refer to three documents to understand fire management in Alaska. The three documents included: (1) Alaska Interagency Fire Management Plan, Tanana/Minchumina Planning Area; (2) the interagency fire management plan for the local area; and (3) the 1984 amendment entitled, “The Alaska Interagency Fire Management Plan. This 1998 amendment called the Alaska Interagency Wildland Fire Management Plan (AIWFMP) consolidates the original 13 plans and eliminates the need to refer to multiple documents while providing the land manager/owner(s) and fire suppression organizations a single reference for interagency fire management operational information. The amended AIWFMP also incorporates operational changes that have occurred since the inception of the statewide fire management planning effort. This amendment also accomplishes the Fire Management Planning Group objective to eliminate planning area boundaries once the 13 plans were completed (personal communication, F. Malotte).

The AIWFMP contains the common elements from the approved thirteen plans. Area-specific support documentation exists in the original planning documents. Copies of the 13 area specific plans are available at the locations identified in Appendix A. Local land and fire management agency/owners should have a copy of the area specific plan that applies to their area on file. The interim draft of this plan was entitled "Alaska Consolidated Interagency Fire Management Plan 1993.” It was also determined that dropping "consolidated" simplified the title. “Fire” was replaced with “Wildland Fire” to adhere to terminology changes approved by the National Wildland Fire Coordinating Group in June 1997.

Since the beginning of the statewide fire planning effort, the goal has been to provide an opportunity through cooperative planning for land manager/owner(s) to accomplish individual fire-related land-use objectives in the most cost-effective manner. Within the

AIWFMP, land managers/owners are defined as state and federal land managing agencies, Regional and Village Native corporations, and Native allotment owners represented by the Bureau of Indian Affairs or local tribal organizations.

The AIWFMP continues the requirement for an annual, pre-season land manager/owner review of the fire protection needs on lands under their management authority. Once fire protection needs are determined, the lands are placed in Critical, Full, Modified, or Limited management option. Option selections are based on land manager/owner(s) values to be protected as well as land and resource management objectives. The fire management strategies selected vary from initial attack and sustained suppression efforts in the critical and full management areas to surveillance in the limited management areas. This categorization and ensuing prioritization ensures that: (1) human life, private property, and identified resources receive an appropriate level of protection with available firefighting resources, (2) the cost of the suppression effort is commensurate with values identified for protection, and (3) the ability of land manager/owner(s) to achieve their individual management objectives is optimized.

The AIWFMP affirms that:

- Lightning caused wildland fires are an important component of the boreal forest and arctic tundra ecosystems, and the complete exclusion of these fires is neither ecologically sound nor economically feasible.

- In the Southeastern Alaska coastal forest, lightning caused wildland fire is not ecologically significant. People cause the majority of the fires while undertaking logging operations and recreational activities in the coastal forest.

- The natural role of fire in the environment must be tempered by the need to protect human life and health, private property, developments, and certain valued natural and cultural resources.

- During the fire season availability of suppression resources may become limited due to commitments on numerous initial attack assignments and/or large fires.

- The pre-fire season assignment of management options establishes priorities for allocation of suppression forces and substantially improves the cost-effectiveness of wildland fire management.

- Non-standard responses become necessary when situations such as unusual burning conditions, critical shortages of suppression resources, or human safety and health issues arise. These responses occur rarely and are limited to specific instances and specific geographic locations. A convened Multi-Agency Coordinating (MAC) group or the involved fire suppression organization and land manager/owner(s) will document all non-standard responses.

- Well-trained, well-equipped, and adequately funded suppression forces are essential to maintain public safety and public confidence in the fire management programs, and to provide cost effective suppression while recognizing the role of fire in Alaska ecosystems.

- Pre-suppression efforts, such as fuel break construction and prescribed fires for hazard fuel reduction will reduce the potential threat to human life and private property, and help meet fire-related land and resource management objectives to reduce fire suppression expenditures on adjacent lands.

- Prescribed fire is a viable fire management tool in a variety of situations including:

    -- Site-specific land and resource management objectives are not met by the existing fire regime.

    -- The spread of human developments makes it unsafe or not cost-effective to use any alternative fire management strategy other than prescribed fire.

    -- Reduction of accumulated vegetation (fuels) is necessary to protect human life, developments, and high-value resources.

In addition to the AIWFMP, the Wildland Fire Situation Analysis (WFSA) process is critical to the fulfillment of land manager/owner(s) and suppression organization responsibilities. A WFSA is completed when one of the following occurs:

- a fire escapes initial attack,
- resource shortages prevent prompt implementation of the appropriate suppression response,
- significant additional resources are required to meet suppression objectives because a significant change in suppression strategy/action is anticipated,
- an ongoing fire threatens to or moves into an area that requires an increased suppression response, or
- land manager/owner(s) or suppression organization requests the completion of a WFSA.

The land manager/owner(s) of burning and/or threatened lands together with suppression organization personnel prepare the WFSA to determine the appropriate suppression action. The land manager/owner(s) approve the WFSA, with concurrence by the suppression organization.

Fires are classified either as wildland fires that are managed under the AIWFMP, or prescribed fires, which are ignited to accomplish land and resources objectives, and are managed under agency policies and procedures.

The events of the 1994 wildland fire season created a renewed awareness and concern about the impacts of fire and firefighter safety among the Federal land management agencies, State land management agencies and their constituents. As a result of these concerns and in response to specific recommendations in the report by the South Canyon Fire Interagency Management Review Team (IMRT), the Federal Wildland Fire Management Policy and Program Review was chartered to ensure that Federal policies and cohesive interagency and intergovernmental fire management programs exist. Guiding principles outlined in the Final Report of the Federal Wildland Fire Management Policy and Program Review, dated December 18, 1995, are embodied in the AIWFMP. The Secretary of Agriculture and Secretary of Interior accepted and endorsed the principles, policies and recommendations in the Federal Wildland Fire Management Policy and Program Review Report.

The State of Alaska recognizes the importance of the Federal Wildland Fire Management Policy and Program Review. The State supports most of the concepts in the policy and is dedicated to working with its federal agency cooperators in assisting them in implementing it in Alaska. If contradictions occur between the Federal Wildland Fire Management Policy and State of Alaska Policy, they will be mitigated on a case-by-case basis.

INTRODUCTION

The Alaska Interagency Wildland Fire Management Plan (AIWFMP) combines the common elements in the existing 13 area Interagency Fire Management Plans into one operational document (Figure 1). The intent of this effort is to clarify and streamline the existing fire management planning documents and incorporate operational changes that have occurred during and since the inception of the statewide fire management planning effort. This consolidation does not alter the intent of the common elements, any fire management option selections or fire management option boundaries delineated in the area-specific plans and map atlases.

Before this consolidation effort, it was necessary to refer to three documents to understand fire management in Alaska: (1) Alaska Interagency Fire Management Plan, Tanana/Minchumina Planning Area; (2) the interagency fire management plan for the local area; and (3) the 1984 amendment to the original fire plans. This consolidated AIWFMP eliminates the need to refer to multiple documents and provides the land manager/owner(s) and fire suppression organizations a single reference for interagency fire management operational information. This also accomplishes the original Fire Management Planning Group objective to eliminate planning area boundaries once the 13 plans were completed (personal communication, F. Malotte).

The area specific interagency fire management plans were developed between 1980 and 1988. The Alaska Land Use Council, formed in 1980 by a provision of the Alaska National Interest Lands Conservation Act (ANILCA), designated the Fire Management Project Group (FMPG) to organize and coordinate interagency fire management. This initial planning group was composed of representatives from land and resource management agencies, fire suppression organizations, and regional Native corporations. The state was divided into 13 planning areas, based upon physiographic/hydrologic boundaries. Local planning teams were established with individuals from state and local government, land and resource management agencies, and regional and village Native organizations within the area fire planning boundaries.

The first area plan completed in that interagency fire planning effort was the Alaska Interagency Fire Management Plan, Tanana/Minchumina Planning Area. The Tanana/Minchumina (T/M) area plan served as the prototype for the remaining twelve plans. Specific sections of the T/M plan were referenced in the 12 plans that followed.

Each of the 13 area plans contains a description of the local environmental and socioeconomic conditions, natural and cultural resources, fire history and behavior,

Figure 1 - Original Alaska Interagency Fire Management Plans, Geographic Areas

and local subsistence activities. In addition to this information, land manager/owner(s) resource values and resource management objectives, mandates and policies were initially used to select the fire management options.

In June 1984, the plan titled, “Alaska Interagency Fire Management Plan” was amended. The environmental assessment for Tanana/Minchumina Plan was authorized to serve as the programmatic Environmental Assessment of the fire planning effort statewide. An U.S. Solicitor’s opinion was requested by two Federal agencies. The following language was added to the Environmental Assessment, “Federal solicitors have informally determined that planning for natural fire and fire suppression does not meet the threshold requirements of an ANILCA 810 evaluation.” Following review of the environmental assessment, a finding of no significant impact was determined for each of the area plans. Public meetings were held in each planning area prior to the approval of the area specific plan. The appropriate officials for state and federal land and resource management agencies, Native Regional and Village Corporations, and local governments approved the plans.

The 13 original area plans serve as reference materials for this AIWFMP. This consolidated plan does not change the intent of management options, existing management option boundaries or basic operations, nor will the information on local environmental and economic conditions, fire history and behavior, and subsistence activities be included. Copies of the AIWFMP and the area plans are available for review for anyone who is interested in the background information (Appendix A.). Copies of the specific area plans may be available for review at the local land/resource managing agencies and Native Regional Corporation offices within the planning area.

Although the fire plan is interagency by nature, each land/resource management agency's mandates and policies shape the selection and application of fire management options. Decisions regarding the appropriate suppression response to wildland fires will be consistent with departmental and/or individual land manager/owner policy. Land managers/owners recognize the beneficial role of fire in most Alaska ecosystems and manage fire with that consideration in mind within the constraints of policy and land management objectives. The AIWFMP does not supersede individual agency policies and mandates.

The map atlas is the official record that delineates the fire management boundaries, and identifies natural and cultural resources, structures, and locations of sensitive, threatened and endangered species to be protected (Appendix B.). The fire plan, supported by the map atlas, provides initial attack guidance and establishes priorities for the suppression organizations. Local land managers/owners are responsible for providing the suppression organizations (Figure 2) with current information on changes in human use patterns, development and natural and cultural resources pertinent to fire management concerns. The map atlas is maintained at the suppression organization's operation centers (Figure 3). The map atlases are dynamic and updated to show annual changes of fire management options designations and/or boundaries.

Until May 1995, two working groups comprised of land and resource managers, land owner representatives and fire suppression personnel provided guidance and direction on interagency fire management issues and activities. The initial Fire Management Project Group evolved into the Alaska Interagency Fire Management Council (AIFMC). The Alaska Interagency Fire Management Council addressed fire planning, fire weather data collection, fire management data archiving and use, prescribed fire, fire prevention and non-suppression fire management issues and research needs. The Multi-Agency Coordinating (MAC) group was created under the Department of the Interior Manual 910 DM 3.7. The MAC group addressed Type I team selection, alteration of evaluation dates for modified management option areas, open burning restrictions, suppression priorities during periods of suppression resource shortages, and emergency departures from planned responses.

The existence of two working groups resulted in confusion by the land manager/owner(s), fire suppression organizations, and the public. In addition, there was some overlap in responsibilities. To establish one statewide coordinating group and improve efficiency, effectiveness and productivity, the Alaska Wildland Fire Coordination Group (AWFCG) was created through a Memorandum of Understanding. The AWFCG assumes the responsibilities of the former Alaska Interagency Fire Management Council and the Multi-Agency Coordinating (MAC) Group. The AWFCG is responsible for the oversight of the AIWFMP and will determine when updates, amendments or revisions are needed. A MAC group of affected land manager/owners and suppression organizations will be activated on a situational basis during high levels of fire suppression activities.

The events of the 1994 wildfire season created a renewed awareness and concern about the impacts of fire and firefighter safety among the Federal land management agencies, State land management agencies and their constituents. As a result of these concerns and in response to specific recommendations in the report of the South Canyon Fire Interagency Management Review Team (IMRT), the Federal Wildland Fire Management Policy and Program Review was chartered to ensure that Federal policies and cohesive interagency and intergovernmental fire management programs exist. The policy and program review represents the latest stage in the evolution of wildland fire management. The new policy marks substantial changes from the previous policy while still directing federal agencies to manage fire to accomplish desired objectives. This policy, far from a one-dimensional fire control approach, attempts to associate suppression and management of wildland fire into a single direction achieving multi-dimensional fire, land and resource management objectives. This policy directs federal agencies to achieve a balance between suppression to protect life, property, and resources, and fire use to regulate fuels and maintain healthy ecosystems. Most of the previous barriers and constraints to expanded fire use are removed through this policy. The new policy provides opportunities to dramatically increase the use and accomplishment of resource management objectives.

The State of Alaska recognizes the importance of the Federal Wildland Fire Management Policy and Program Review. The State supports most of the concepts in the policy and is

dedicated to working with its federal agency cooperators in assisting them in implementing it in Alaska. If contradictions occur between the Federal Wildland Fire Management Policy and State of Alaska Policy, they will be mitigated on a case-by-case basis.

An international agreement between the U.S. Department of Interior and the Canadian government allows for cooperative detection and suppression of fires within a ten mile buffer zone on either side of the Alaska and Yukon Territory boundary (Appendix C.).

Figure 2 - Map of Fire Suppression Management Areas

Figure 3 - Fire Suppression Organizations' Administrative Units and Operation Centers

GOALS AND OBJECTIVES

For over 30 years, occurrence of wildland fire was treated as an emergency situation wherein aggressive and complete suppression was the only option available. It was demonstrated that the costs associated with suppressing all wildland fires had reached the point of diminishing returns; that damage created by the suppression action often was more harmful than the fire itself; and research documented the need for ecologically-based fire management policies.

Fire is now recognized as a critical feature of the natural history of many ecosystems. The evolutionary development of plants and animals has occurred in natural systems where fire was a dominant feature of the environment. Humans occupying an area were also subjected to the natural fire regime, and fire occurrence increased due to human activity. In Alaska, the natural fire regime is characterized by a return interval of 50 to 200 years, depending on the vegetation type, topography and location.

The goal of this plan is to provide an opportunity, through cooperative planning, for land and resource managers/owners to accomplish fire-related, land-use and resource management objectives in a cost-efficient manner, consistent with owner, agency and departmental policies. Management options selected should be ecologically and fiscally sound, operationally feasible, and sufficiently flexible to respond to changes in objectives, fire conditions, land-use patterns, resource information, and technologies.

The objectives of this plan are to:

1. Establish wildland fire management option boundaries based upon protection of human life, private property, high-value resources to be protected, and fuel types and their associated fire behavior -- not based on administrative boundaries.

2. Take aggressive and continued suppression action on fires that threaten human life, identified private property, or high-value resources to be protected without compromising firefighter safety.

3. Review annually the fire management needs of land manager/owner(s) with common boundaries and/or concerns.

4. Maintain land manager/owner(s) responsibility and authority for the selection of fire management options for the lands that they administer.

5. Enable land managers/owner(s) to select fire management options which help accomplish land and resources management objectives within the scope of their specific policies and regulations.

6. Ensure that the cost of fire suppression actions is commensurate with the value of the resources warranting protection.

7. Minimize adverse environmental impact of fire suppression activities.

8. Recognize prescribed fire as an important resource management tool to accomplish land and resource management objectives.

In addition to the aforementioned objectives, the AIWFMP embodies the Guiding Principles established in the Federal Wildland Fire Policy Program Review, 1995. The Guiding Principles are:

- Firefighter and public safety is the first priority of every fire management activity.

- The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.

- Fire management plans, programs, and activities support land and resource management plans and their implementation.

- Sound risk management is a foundation for all fire management activities.

- Fire management programs and activities are economically viable, based on values to be protected, costs, and land and resource management objectives.

- Fire management plans and activities are based upon the best available science.

- Fire management plans and activities incorporate public health and environmental quality considerations.

- Federal, State, Tribal and local interagency coordination and cooperation are essential.

- Standardization of policies and procedures among Federal agencies is an ongoing objective.

GENERAL GUIDELINES

1. The boreal forest and tundra environments are fire-dependent ecosystems, which have evolved in association with fire, and will lose their character, vigor, and faunal and floral diversity if fire is excluded.

2. Land ownership and land management objectives as well as knowledge of natural and cultural resources will continue to change. As a result of these ongoing changes, yearly review, modifications, and updates of the fire management options must be made accordingly. Each land manager/owner is expected to annually review the existing levels of protection afforded their lands to validate current designations (See Fire Management Option Revision section, page 37).

3. This plan documents fire management options that land manager/owner(s) can apply to their lands. Selection of fire management options does not preclude the development of a prescribed burn program by a land manager/owner in any fire management option area.

4. Cost effective strategies will be explored to reduce fire suppression costs while maintaining responsiveness to all land managers'/owners' objectives. This will be done within the scope of existing legal mandates, policies and regulations.

5. Suppression force preparedness and mobilization will be provided by the suppression organizations to the extent necessary to reasonably ensure that the management goals of the AIWFMP are met.

6. Documentation of wildland fire decisions will be in accordance with applicable Federal or State wildland fire management policies and procedures.

In addition to the aforementioned General Guidelines, the AIWFMP embodies the following key points from the Federal Wildland Fire Policy Program Review, 1995:

- Protection of human life is reaffirmed as the first priority in all wildland fire management activities. Property and natural/cultural resources jointly become the second priority, with protection decisions based on values to be protected and other considerations.

- Where wildland fire cannot be safely introduced because of hazardous fuel build-ups, some form of pretreatment must be considered, particularly in wildland/urban interface areas.

- Wildland fire management decisions and resource management decisions go hand in hand and are based on approved fire management and land and resource management plans. At the same time, agency administrators must have the ability to choose from the full spectrum of fire management actions – from prompt suppression to allowing fire to function in its natural ecological role.

- All aspects of wildland fire management should be conducted with the involvement of all partners; programs, activities, and processes will be compatible.

WILDLAND FIRE MANAGEMENT OPTIONS

The Alaska Interagency Wildland Fire Management Plan establishes four fire management options:

Critical
Full
Modified
Limited

These wildland fire management options range from immediate and aggressive suppression to periodic surveillance. The land manager/owner(s) select fire management option(s) for their lands from the four categories.

Land manager/owner(s) select wildland fire management options based upon an evaluation of their individual legal mandates, policies, regulations, resource management objectives, and local conditions. Local conditions include but are not limited to fire history, fire occurrence, environmental factors and identified values. Land manager/owner(s) should annually review selected options to ensure that they are appropriate (See Fire Management Option Revisions, page 37). Only the land manager/owner(s) can select or change the wildland fire management options for the lands that they manage or own.

The authority to determine fire management options for lands selected within the boundaries of federal conservation units rests with the Departments of the Interior and Agriculture. The State of Alaska and Native corporations may request fire management option(s) to the land manager/owner for lands they have selected but the conveyance process has not been completed. For the purposes of the AIWFMP, land managers/owners who have received interim conveyance or tentative approval for conveyance of land will select the fire management option for those lands.

Several areas exist within the State where lands are not classified as one of the four fire management options. These include a few areas where the land manager/owner did not participate in the planning process. These areas are identified as Unplanned on the map atlas and represent less than one percent of the lands within Alaska. Lands within this category receive suppression response equivalent to the Full management option.

Boundaries between management options should be readily identifiable from both the air and on the ground throughout the fire season and also be feasible for potential placement of suppression control lines. The absence of readily available boundaries should not result in providing protection to very large geographic areas when the land manager/owner only wants to protect a small area or specific site. Any management option may border against any other management option. Either the suppression

organization or land manager/owner(s) may make recommendations for relocating or reinforcing fire management option boundaries through prescribed fire or mechanical methods. Only the land manager/owner(s) can approve boundary changes or boundary reinforcement activities for the lands they manage or own. Consensus between land manager/owner(s) adjacent to proposed fire management option boundary changes should be attempted to minimize establishing boundaries that reflect administrative unit boundaries or creates boundaries that are not operationally or ecologically feasible. Hazard reduction plans may be developed to reinforce fire management option boundaries. Any reinforcement activities will be reviewed by the suppression organization, but can only be authorized by the land manager/owner(s).

Fire suppression organizations use the management options to determine initial attack priorities. The highest priority for suppression response is given to fires occurring in or threatening a Critical management site followed in order of priority by Full, Modified and Limited management areas. Although Modified management areas receive a higher priority in allocation of fire suppression resources than Limited management areas, the Limited management option is described before the Modified option because an understanding of both Limited and Full management options is necessary before the Modified option can be fully understood.

Critical Management Option

Intent

The Critical management option was specifically created to give the highest priority to suppression action on wildland fires that threaten human life, inhabited property, designated physical developments and to structural resources designated as National Historic Landmarks (Appendix D.). Fires that threaten a critical site have priority over all other wildland fires. The fire management strategy of the Critical management option is to provide complete protection of the specific identified sites from fire. For clarification, a site referred to in this section could range from a single inhabited structure to an entire village or town.

Policy

Fires occurring in or immediately threatening this designation will receive highest priority for protection from wildland fires by immediate and continuing aggressive actions dependent upon the availability of suppression resources.

Objectives

1. Protect human life, inhabited property and designated physical developments without compromising fire fighter safety. Protection of the aforementioned elements is the primary objective, not control of the wildland fire.

2. Limit damage to Critical sites from wildland fire.

Operational considerations

1. The Critical management option is restricted to designated sites or small areas made up of an aggregation of critical sites.

2. Place highest priority on the allocation of available suppression forces to fires threatening sites in this option.

3. Managers are encouraged to exercise restraint in designating physical developments for the Critical management option, limiting the application of this option to just those sites which are currently or routinely occupied as a dwelling.

Operational procedures

1. Preparedness

   Land manager/owner(s) are required to identify each critical site.

2. Operations

   A. Detection

      Critical sites will receive maximum detection coverage.

   B. Suppression response

      1) Fire occurring within or immediately threatening a critical management site will receive the highest priority in allocation of initial attack resources. Protection of life or occupied property will have priority over National Historic Landmarks (Appendix D.).

      2) The decision chart (Figure 4) describes the appropriate procedures and course of action for both the suppression organization and the land manager/owner(s).

   C. Notification requirements

      1) Land manager/owner(s) will be contacted immediately when fire threatens a critical site.

      2) When a fire escapes initial attack the affected land manager/owner(s) will be contacted immediately.

   D. Escaped Fire

      The completion of the WFSA report is required if a fire escapes initial attack.

Figure 4. Critical Management Option Operational Chart

Full Management Option

Intent

This option was established for the protection of cultural and historical sites, uninhabited private property, natural resource high-value areas, and other high-value areas that do not involve the protection of human life, and inhabited property. Either broad areas or specific sites within a lower management option may be designated as Full Management.

Policy

Fires occurring within or immediately threatening this designation will receive aggressive initial attack dependent upon the availability of suppression resources.

Objective

1. Control all wildland fires occurring within this management option at the smallest acreage reasonably possible on initial attack without compromising fire fighter safety.

2. Protect sites or areas designated as Full management from the spread of wildland fires burning in a lower priority management option.

3. Minimize damage from wildland fires to the resources identified for protection within the Full management designation commensurate with values at risk.

Operational considerations

1. Only wildland fires within or threatening a critical management area receive a higher priority for allocation of suppression resources.

2. Suppression tactics are selected after balancing suppression costs with the values identified for protection.

3. Structures on or eligible for inclusion on the National Register of Historic Places and non-structural sites on the National Register are placed within this category (Appendix D.).

4. Suppression activities must be coordinated with land manager/owner(s) to develop tactical responses in sensitive areas, including cultural resource sites being excavated (Appendix D.).

Operational procedures

1. Operations

   A. Detection

      Lands designated in this management option will receive the maximum detection coverage available.

   B. Suppression response

      1) Aggressively initial attack all fires occurring within or immediately threatening full management areas with available forces.

      2) The decision chart (Figure 5) describes the appropriate procedures and course of action for both the suppression organization and the land manager/owner(s).

      3) Wildland fires occurring within or immediately threatening a full management area will receive priority for the allocation of initial attack resources after the protection of critical management area/site(s).

      4) The suppression organization in conjunction with the affected land manager/owner(s) will determine the appropriate suppression action on fires that did not receive immediate initial attack and have grown beyond initial attack capabilities through the WFSA process.

   C. Notification requirements

      1) On wildland fires where initial attack is successful, the fire suppression organization will notify the affected land manager/owner(s) of these fires through normal briefing procedures.

      2) If initial attack is not possible or when a wildland fire escapes initial attack and requires continued suppression efforts, the affected land manager/owner(s) will be contacted promptly.

   D. Escaped Fire

      The completion of the WFSA report is required if a fire escapes initial response, requires a significant change in suppression strategy or if suppression response is delayed beyond 24 hours from discovery.

Figure 5. Operational Decision Chart for Full Management Option

Limited Management Option

Intent

This category recognizes areas where the cost of suppression may exceed the value of the resources to be protected, the environmental impacts of fire suppression activities may have more negative impacts on the resources than the effects of the fire, or the exclusion of fire may be detrimental to the fire dependent ecosystem. The Limited management option reduces both long-term suppression risks and costs by reducing the frequency of large fires that may burn out of boundaries of Limited management regardless of the suppression effort. It also reduces current suppression costs and makes suppression goals more attainable in years of drought and intense fire activity. The Limited management option may also be chosen for areas where fire occurrence is essential to the biodiversity of the resources protected and the long-term ecological health of the land. Suppression actions may be initiated to keep a fire within the boundary of the management option or to protect identified higher value areas/sites. Site-specific areas that warrant higher levels of protection may occur within limited management areas. Appropriate suppression actions to protect these sites will be taken when warranted, without compromising the intent of the limited management area.

Policy

Wildland fires occurring within this designation will be allowed to burn under the influence of natural forces within predetermined areas while continuing protection of human life and site-specific values within the management option. Generally this designation receives the lowest priority for allocations of initial attack resources; however, surveillance may be a high priority.

Objectives

1. Within land manager/owner(s) policy constraints, accomplish land and resource management objectives through the use of wildland fire while protecting identified values.

2. Reduce overall suppression costs through minimum resource commitment without compromising firefighter safety.

3. Prevent fires from burning out of the management area to protect human life and identified resources while ensuring that suppression costs and associated environmental impacts of suppression actions are commensurate with the potential damage to values to be protected.

4. Use low impact suppression tools and tactics whenever possible.

Operational considerations

1. Conduct periodic surveillance of fires within the management option to evaluate threats to sites assigned higher management levels, and assess the potential for escape from the Limited management area. Surveillance also provides land manager/owner(s) and suppression organizations with information on fire behavior, environmental conditions, fire weather, actual and potential fire growth to assist with management decisions and provide accurate information to the general public.

2. An immediate threat from a wildland fire in Limited to Critical, Full or Modified (before conversion date) management areas may receive an initial attack response if suppression forces are available. The land manager/owner(s) will be notified immediately, preferably before actions are taken, but actions will not be delayed for notification due to the imminent threat. The reasons for the action will be documented in writing, provided to the land manager/owner(s), and maintained in the fire record.

3. When a suppression action other than surveillance is needed because of a potential long-term threat to a higher management option, the fire suppression organization and the affected and adjacent land manager/owner(s) will jointly prepare a WFSA. The selected suppression alternative must be approved by land manager/owner(s).

4. Unless designated for protection by the land manager/owner, abandoned structures that are not eligible for inclusion on the National Register of Historic Places will be given the same level of protection as the surrounding lands (Appendix D.).

Operational procedures

1. Operations

   A. Detection

      Designated lands will receive detection effort commensurate with available detection resources and fire conditions. Additional detection will be provided when requested by individual agencies consistent with availability of detection resources and conditions.

   B. Suppression response

      1) The decision chart (Figure 6) describes the appropriate procedures and course of action for both the suppression organization and the land manager/owner(s).

2) If a suppression action in the Limited management option is necessary, low impact or indirect suppression methods will be used wherever possible.

3) Suppression responses on fires within the Limited management option will receive the priority for allocation of resources equivalent to the standard of protection given to the area/site to be protected. For example, if an action on a fire within the Limited management option is an attempt to keep the fire from burning into a Full management area, the priority for suppression resources allocation should be commensurate with that given to a full management area.

C. Notification requirements

1) The land manager/owner(s) will be notified through normal briefing procedures of all wildland fires detected and their subsequent status.

2) If a wildland fire threatens to burn out of the option boundary or requires a suppression action, the land manager/owner(s) will be contacted immediately.

D. Surveillance

1) The fire suppression organization will maintain the surveillance responsibilities on wildland fires while they are burning. Joint surveillance may be conducted when situations warrant or the land manager/owner(s) wishes to implement their own surveillance/fire effects monitoring procedures.

2) Any flights within the vicinity of an active fire, particularly fires with ongoing suppression actions, should be coordinated with the appropriate fire suppression dispatch office.

3) Routine surveillance will be performed and documented until resources are dispatched or the fire is declared out. Surveillance frequency will be determined by the suppression organization or in coordination with land manager/owner(s). This information will be used to update or revise the WFSA when necessary.

4) Surveillance responsibilities include:

a. 1-3 day weather forecast.

b. A local area weather summary including precipitation, drought indices, and fire danger indices.

c. A map of the fire which may include the following: fire perimeter, location, topography, fuel type(s), natural barrier locations and areas of special concern such as potential threats to higher management options or other resources requiring protection.

d. Fire behavior, including estimated rate of forward spread, direction of spread, estimated flame lengths, description of fire (i.e., crowning, ground fire, surface fire), and spotting activity (including distance).

e. Smoke behavior, including estimated plume height and direction of movement.

f. General weather forecast.

5) Projection of fire perimeter

a. Information obtained from the suppression organization and the fire site may be used to predict the fire perimeter at the close of the next 24-hour period if requested by land manager/owner(s). Using this information the land manager/owner(s) and the fire suppression organization will determine if a WFSA should be prepared to determine an appropriate suppression in response to changing conditions.

b. Information and analysis will be documented to provide a chronological administrative history of the fire.

E. Escaped Fire

A WFSA will be completed if a wildland fire threatens to cross the Limited management boundary and requires a suppression response (excluding Operational Considerations 2.), or a significant change in suppression strategy is needed.

Figure 6. Operational Decision Chart for Limited Management Option

Modified Management Option

Intent

The Modified management option is intended to be the most flexible option available to land managers/owners. The intent of the Modified management option is to provide a higher level of protection when fire danger is high, probability of significant fire growth is high, and probability of containment is low. A lower level of protection is provided when fire danger decreases, potential for fire growth decreases and the probability of containment increases. This option should reduce commitment of suppression resources when risks are low. This option also provides increased flexibility in the selection of suppression strategies when risks are high. The Modified option provides a management level between Full and Limited. Unlike Full management areas, the intent is not to minimize burned acres, but to balance acres burned with suppression costs and to accomplish land and resource management objectives. As stated in the original Alaska Interagency Fire Management Plan, Tanana/Minchumina Planning Area, “Lands placed in this category will usually be suited to indirect attack.” The essential elements of this option are the evaluation and conversion dates, described below, and the WFSA process.

Evaluation and Conversion Dates

Standardized evaluation dates will be established for the Modified Management option areas based on an assessment of the values to be protected and the historical seasonal fire occurrence. Evaluation dates serve as guidelines and are intended to be flexible enough to adjust suppression actions when weather conditions or fire activity appreciably change. The evaluation dates will be recorded on the map atlases.

The AWFCG is responsible for the adjustment, either later or earlier to the evaluation/conversion date for Modified management option areas. An individual may request, through an AWFCG representative, that the AWFCG consider an earlier evaluation date during unusually wet fire seasons or postpone the evaluation date during unusually dry fire seasons. The individual desiring the change must inform land manager/owners potentially affected by the proposed change and solicit their opinion. The Area Forester/Zone FMO may facilitate this process. The individual must provide the AWFCG representative a written rationale with supporting data for the change as well as the opinions of affected land manager/owners. The written rationale and supporting data will be included with the AWFCG decision record. If the conversion date is postponed, the AWFCG will reconsider a new evaluation date at intervals no longer than 10-days until conversion takes place. Unless altered by the AWFCG, the evaluation date becomes the conversion date and the Modified management option automatically converts to Limited management option.

If the AWFCG decides to convert the Modified management option area(s), the changes are communicated in writing to land manager/owner(s) and suppression organizations through their AWFCG representatives and to the general public through media releases coordinated through the Alaska Incident Coordination Center (AICC).

Policy

Fires occurring within this designation, before the conversion date, will receive initial attack, dependent upon availability of suppression resources, unless otherwise directed by the land manager/owner(s) and documented by a WFSA. After the conversion date, the default action for all fires occurring within the Modified management option areas will be routine surveillance to ensure that identified values are protected and that adjacent higher priority management areas are not compromised. Critical and Full management areas are higher priorities for suppression resources than Modified management areas.

Objectives

1. Reduce overall suppression costs with minimum resource commitment without compromising firefighter safety.

2. Within land manager/owner policy constraints, provide opportunities for wildland fire to help achieve land and resource management objectives.

Operational Considerations Before Conversion Date

1. If a wildland fire escapes initial attack, the fire suppression organization and the manager/owner will prepare a WFSA to determine the appropriate suppression response.

2. Suppression tactics are selected based upon balancing of suppression costs with values identified for protection and to accomplish land and resource management objectives.

3. Evaluation dates will be identified on the map atlas.

4. Unless designated for protection by the land manager/owner, abandoned structures that are not eligible for inclusion on the National Register of Historic Places will be given the same level of protection as the surrounding lands (Appendix D.).

Operational Considerations After Conversion Date

1. An immediate threat from a fire in Modified to an area in Critical or Full management option will receive an initial attack response if suppression forces are available. The land manager/owner(s) will be notified immediately, preferably

before actions are taken. Actions, however, will not be delayed for notification due to the imminent threat. The reasons for the action will be documented in writing, maintained in the fire record and identified in the situation report.

2. Unless designated for protection by the land manager/owner, abandoned structures that are not eligible for inclusion on the National Register of Historic Places will be given the same level of protection as the surrounding lands (Appendix D.).

Operational procedures

1. Operations

   A. Detection

      Before the conversion date, designated lands will receive detection coverage with available detection resources.

   B. Suppression response

      1) The decision chart (Figure 7) describes the appropriate procedure and course of action for both the suppression organization and the land manager/owner(s).

      2) Before the conversion date, all wildland fires will receive initial attack with available resources. Fire containment is the primary objective.

      3) Fires occurring within a Modified management area will receive priority for allocation of initial attack resources after the protection of Critical management site(s) and Full management areas from existing fires or new starts anticipated imminently in Critical or Full management areas.

      4) The suppression organization, in conjunction with the affected land manager/owner will determine, through the WFSA process, the appropriate suppression action on fires that did not receive immediate initial attack and have grown to a size that initial attack is not feasible.

      5) Any suppression action that is under way when the conversion date is reached may continue to completion with the approval of the land manager/owner(s).

   C. Notification requirements

      1) On wildland fires where initial attack is successful, the fire suppression organization will notify the affected land manager/owner(s) of these fires through normal briefing procedures.

2) When a wildland fire escapes initial attack and requires continued suppression efforts or if initial attack cannot be initiated, the affected land manager/owner(s) will be contacted immediately.

3) The land manager/owner(s) will be notified immediately if suppression actions are initiated after the conversion date, otherwise the status of the wildland fires will be communicated through usual briefing procedures.

D. Surveillance

See Surveillance section (page 25) in the Limited Management Option.

Figure 7. Operational Decision Chart for Modified Management Option

Non-Standard Responses to Selected Management Options

The four fire management options address a high percentage of wildland fire situations that occur in Alaska. On rare occasions, however, situations arise where non-standard responses to the selected management options are prudent and justifiable. All non-standard responses that occur will be reviewed at the annual fall fire review.

Individual Fire Response

- Land manager/owner(s) may authorize the suppression organization to provide an increased level of suppression on a fire regardless of the fire management option. Examples of the reasons for such an authorization are the amount of acreage that has already burned that year in a particular geographic area or the number of fires already burning in a particular administrative unit. The Decision Criteria Record (Appendix E., page 53) will be completed to document the rationale for increased suppression response and the action taken. The Decision Criteria Record must be completed immediately and placed in the fire record. The written record of this authorization must satisfy federal wildland fire policy documentation and timeframe requirements if federal/native lands or federal suppression organizations are involved. When a suppression action other than that of the selected management option is authorized by a land manager/owner the selected fire management option area must be re-evaluated during the next annual review period.

- A land manager/owner(s) may authorize the suppression organization to take a suppression action that is less than the pre-identified fire management option. The Decision Criteria Record will be completed to authorize a reduced suppression response within a Critical management option area, Full management option area, or a Modified management option area prior to the date of conversion. The Decision Criteria Record (Appendix E., page 53) must be completed immediately and placed in the fire record. The written record of this authorization must satisfy federal wildland fire policy documentation and timeframe requirements if federal/native lands or federal suppression organizations are involved. If the suppression organization does not concur with the request for reduced suppression response, their concerns will be documented in writing and included in the fire record within the identified timeframes. When a suppression action other than that of the selected management option is authorized by a land manager/owner the selected fire management option area must be re-evaluated during the next annual review period.

Geographic Area Response

- A statewide Multi-Agency Coordinating (MAC) group may be convened to implement a temporary change from the selected management options for a specific geographic area(s) during periods of unusual fire conditions (e.g., numerous fires, predicted drying trends, smoke problems, unusually wet conditions or suppression resource shortages). This does not include adjustment of the evaluation/conversion date for Modified management option levels. Past actions have included discretionary suppression of all new starts regardless of fire management options. These departures usually do not apply statewide but to specific regions of the state.

  An individual may request a temporary management option change for a specific geographic area through a representative on the MAC group. The individual desiring the change must inform manager/owners potentially affected of the proposed change and solicit their opinion. The Area Forester/Zone FMO may facilitate this process. The individual requesting the change must provide to the MAC group representative a written rationale with supporting data for the change as well as the opinions of affected land manager/owners. The written rationale and supporting data will be included with the MAC group decision record.

  The changes are communicated in writing to land manager/owner(s) and suppression organizations through their MAC group representatives and to the general public through media releases.

WILDLAND FIRE SITUATION ANALYSIS

The Wildland Fire Situation Analysis (WFSA) is a systematic and documented decision process employed to determine the most appropriate suppression strategy for a particular situation. A WFSA is prepared when a fire: (1) escapes initial attack, (2) threatens to escape a fire management option into a higher management option, (3) warrants suppression actions but was not initial attacked due to resource shortages, (4) is beyond the capabilities of initial attack forces, or (5) fire and/or resource management objectives are not being met and a significant change in strategy/action is required.

A WFSA is jointly prepared by the land manager/owner(s) and suppression organization. The land manager/owner(s) approves the WFSA and any revisions with concurrence of the suppression organization. It is incumbent upon both the land manager/owner(s) and the suppression organization ensures that knowledgeable and qualified representatives are available to assist with preparing and reviewing the WFSA.

A WFSA identifies several alternative suppression strategies/actions within the constraints of the selected management option, which may range from commitment of resources until a fire is extinguished to routine surveillance. The alternatives are analyzed in terms of probability of success, environmental consequences, social and political considerations, consequences of failure and cost. The selected suppression alternative must clearly identify the suppression objectives. The assigned Incident Commander and the land manager/owner(s) must validate the WFSA to insure that the selected alternative is still achievable. When the selected alternative or fire/resource management objectives are not met, the WFSA must be re-written to determine new suppression strategy/action.

Escaped wildland fires may be placed under the management control of an appropriate level Incident Commander. Transfer of authority to the Incident Commander must be documented in a Limited Delegation of Authority. The need to place a land manager/owner's representative at the Incident Command Post (ICP) or the suppression organization's headquarters will be at either the discretion of the affected agency or owner or at the request of the suppression organization. An environmental and/or cultural resource management specialist may be assigned to the Incident Management Team to provide on-site assessment of potential resource impacts. Each agency will furnish expertise as needed.

LIMITED DELEGATION OF AUTHORITY

The Limited Delegation of Authority transfers authority for suppression actions to the Incident Management Team (IMT). An IMT may assume the authority to manage suppression actions only after receiving the Limited Delegation of Authority.

The Limited Delegation of Authority is part of the briefing package provided to the incoming IMT by the organization that initiated the suppression action on the fire and/or the land manager/owner(s). The authorization may include: (1) suppression standards or guidelines, (2) air operation guidelines, (3) personnel work/rest guidelines, (4) monetary guidelines, (5) extraordinary fire situation, strategies and critical values and indicators to assist with identifying and responding to extreme fire conditions or events, (6) incident status reporting, rehabilitation standards, and release of incident management, and (7) initial attack authority for new fire starts within a designated radius of the fire.

SURVEILLANCE PROCEDURES

The plan specifies that fires in Limited management areas, and in Modified management areas after the conversion to Limited management option receive routine surveillance. Surveillance is defined as the "systematic process of collecting, recording or mapping the fuels, topography, weather, fire behavior, and location of values to be protected to provide suppression agencies or land manager/owner(s) the information necessary to make the appropriate suppression action decisions on a wildland fire." Surveillance is generally conducted from aerial observations. The information also provides a chronological administrative history of the fire and suppression decisions.

Monitoring is defined as the "systematic process of collecting, recording and mapping of fuels, topography, weather, fire behavior, and fire effects data to provide a basis for evaluating and adjusting wildland fire management programs." Monitoring generally requires both on-the-ground and aerial observations. Although monitoring is usually associated with prescribed fire, land manager/owner(s) may elect to use agency personnel to collect fire effects monitoring data to assess the ecological impacts of the wildland fire.

Basic surveillance procedures and responsibilities are described under the Limited management option section.

MAP ATLAS

The map atlas is the official record of management boundaries, values to be protected or enhanced, and sensitive resource areas to be avoided during suppression actions. The atlas assists suppression organizations and land manager/owner(s) during suppression strategy development and suppression actions. The map atlas is comprised of 1:63,360 scale maps for the planning area (1:250,000 scale maps are used when 1:63,360 scale maps are not available).

The recorded information includes, but is not limited to: (1) fire management boundaries, (2) Native allotments, (3) natural and cultural resources to be protected or receive special consideration during suppression activities, (4) human developments, (5) threatened or endangered species, (6) transportation/ utility facilities and corridors, (7) sensitive areas or hazards to avoid during suppression actions, and (8) evaluation dates for Modified management option areas. The land manager/owner(s) are responsible for providing the fire suppression organizations with up-to-date, accurate information on natural and cultural resources, land status changes, and changes in human-use patterns and developments. The map atlas is reviewed and updated annually.

FIRE MANAGEMENT OPTION REVISIONS

The land manager/owner(s) determines the fire management option for the lands under their jurisdiction or ownership. An essential attribute of the fire planning effort in Alaska is providing the land manager/owner(s) with the flexibility to change the fire management option for lands they manage/own as warranted due to changes in land use, protection needs, laws, mandates or policies. The suppression organizations are encouraged to suggest option changes to land manager/owners based upon suppression concerns.

To accommodate changes in the map atlas and distribution of maps, land manager/owner(s) are encouraged to make changes in their selected fire management option boundaries between September 30 and March 1. All changes should be recorded on the map atlas by April 1. Fire management options boundaries should not be changed during the fire season. However, if a change of the selected management option is requested and can be accommodated by all affected land manager/owner(s) and the suppression organization it may be accepted and recorded on the Map Atlas outside the aforementioned time period.

Any changes proposed by a land manager/owner will be provided to all adjacent and affected land manager/owner(s) and resource management agencies. Consensus on a proposed fire management option boundary change should be attempted to minimize creating boundaries that reflect administrative units or boundaries that are not operationally or ecologically feasible. The proposed management option boundary change will also be evaluated by the suppression organization to determine if the change is operationally feasible. The AICC should serve eventually as the central repository for map atlas information.

ANNUAL FIRE SUPPRESSION PROGRAM REVIEW

At the end of each fire season an interagency review of the fire plan implementation and fire suppression operations is held with fire suppression personnel and land manager/owner(s). Land manager/owner(s) and fire suppression personnel are given the opportunity to identify plan implementation problems and operational concerns.

Land manager/owner(s) should evaluate how the suppression organizations responded to the selected fire management options. Instances where actions other than the selected fire management option were initiated will be re-evaluated to determine if the selected fire management option is appropriate. If the land manager/owner(s) determine that an option change is necessary, they will request the change to the local fire suppression organization through the fire management option revision process.

Figure 8

FIRE SUPPRESSION CONSTRAINTS

The following is a compilation of general constraints on the use of fire suppression tools and tactics identified by land manager/owner(s). They are provided to the suppression organizations as general guidelines during suppression activities. Land manager/owners should be contacted for specific details. Additional constraints on the use of suppression tools are at the discretion of the land manager/owner(s) and are documented in a WFSA, Limited Delegation of Authority, or in local agency-specific fire management plans.

1. To the extent possible, minimum impact suppression tactics (MIST) should be used. Fireline will be constructed in a manner that minimizes erosion and will follow natural contours wherever possible. Indirect attack will be used to the extent practical. A fireline rehabilitation plan, as approved by the land manager/owner, must be completed before the final demobilization occurs.

2. The use of tracked or off-road vehicles (for example, bulldozers or all-terrain vehicles) and fireline explosives requires written authorization by the land manager/owner(s) on a case-by-case basis prior to use.

3. Application of aerial fire retardant near lakes, wetlands, streams, rivers, and sources of human water consumption or areas adjacent to water sources should be avoided.

4. Base camps, spike camps, helispots and other support areas should be located in natural clearings if possible. The construction of helispots should be minimized. Any opening created for support areas will be cut with an irregular perimeter. Such areas will be kept clean so as not to attract animals and will be cleaned up before departure of the last suppression personnel.

5. Support areas such as camps, staging areas, and helibases will not be located on Native allotments or any resources used on or removed from a Native allotment (e.g., firewood) without an approved agreement. The local tribal organization or the BIA may prepare the agreement.

6. Flight patterns and suppression activities will be restricted around designated Avoid areas such as peregrine falcon nesting areas, threatened or endangered species, or sensitive sites identified by land manager/owner(s).

7. Suppression activities must not be conducted on identified non-structural cultural resource sites, including sites being excavated.

ALASKA INTERAGENCY WILDLAND FIRE MANAGEMENT PLAN OVERSIGHT

The AWFCG is responsible for the management, amendment and revision of the Alaska Interagency Wildland Fire Management Plan. The AWFCG will review the AIWFMP annually and determine if amendment or revision is appropriate. Proposed changes to the AIWFMP will be submitted to AWFCG in writing with a rationale for the proposed change(s). Proposed changes should be submitted through the agency or owner AWFCG representative. It is the responsibility of the agency or owner representative to communicate the status or AWFCG decision concerning the proposed change(s). Amendments to the AIWFMP will be reviewed by the AWFCG representatives with recommended changes submitted for approval by the Agency/Land Owner Administrators who are represented on the AWFCG.

AIR QUALITY/SMOKE MANAGEMENT

The Alaska Department of Environmental Conservation (ADEC) is the regulatory agency responsible for air quality and smoke management on both state and federal lands in Alaska. Prescribed burns, other than burning to combat a wildland fire, requires written approval from the department. ADEC is also responsible for declaring air episodes and issuing air quality advisories, as appropriate, during periods of poor air quality of inadequate dispersion conditions. The Alaska Interagency Coordination Center (AICC) is notified of any advisories or declarations.

ADEC is represented on the Alaska Wildland Fire Coordinating Group. During periods of wildland fire activity the Multi-Agency Coordinating (MAC) group addresses air quality and smoke management issues. Press releases with recommended actions that individuals can take to protect their health will be issued by ADEC, in coordination with the MAC group.

Concerns about public health related to air quality and visibility are considered in actions taken within all fire management option areas. Incident Commanders, suppression organizations and land manager/owner(s) of ongoing fires consider smoke and its affects in selection and implementation of suppression strategies including, if necessary, the evacuation of individuals if health concerns arise. Air quality and visibility impacts are also considered during the preparation of the Wildland Fire Situation Analysis and the selection of the appropriate suppression strategy. During periods of extensive fire activity the MAC group in conjunction with ADEC may determine that new fire starts will be suppressed due to smoke and air quality concerns regardless of fire management options.

Smoke and other air quality impacts must be considered when making fire management decisions. Fires emit small particles, organic vapors, carbon monoxide, carbon dioxide, and water vapor. The quantity and type of combustion products is dependent on the amount and type of fuel burned, the amount of air (oxygen) around the fuel, and the combustion temperature. Fires with insufficient oxygen produce relatively large amounts of particles, organic vapors, and carbon monoxide. "Cool" burning fires also produce relatively large amounts of these pollutants.

As these compounds are emitted, they disperse in the surrounding air and are carried off by the wind. The concentration of these products in surrounding areas is basically dependent on the quantity emitted, wind direction, wind speed, ambient temperatures, and inversion layers. A low inversion layer keeps combustion products close to the ground, rather than allowing them to be carried to the upper atmosphere. The pollutants will continue to accumulate under the inversion, until the inversion lifts.

Some of the products emitted from a forest/brush fire can cause health problems. The most apparent problem is related to short-term exposure to respirable particles (smoke). People with lung diseases (e.g., asthma or bronchitis) are especially sensitive to smoke. ADEC receives several health-related complaints each fire season. Some individuals have been hospitalized with smoke-induced problems. In some parts of the United States large fires have caused the carbon monoxide concentration in nearby towns to reach unhealthy levels. Some of the combustion products are probable or known carcinogens. While long-term effects have not been documented, repeated or continuous exposure to combustion products may contribute to the development of chronic diseases. The effect of smoke on human health is a function of the concentration of pollutants and the duration and number of exposures. Obviously, firefighters are the individuals most susceptible to acute and chronic health problems due to their extensive exposure to smoke.

The smoke produced by burning vegetative fuels may also temporarily interfere with air and surface travel. Visibility along roads can be reduced to hundreds of feet in the vicinity of a fire. Aircraft operations can be affected if smoke reduces visibility to less than six miles.

Data from the Alaska interior indicate that smoke conditions severe enough to impact aircraft operations is typically limited to a few occasions annually (Barney, R.J. and E.R. Berglund, 1974). Occurrences of "heavy smoke" range from an average of six days per year at Tanana to two days per year at McGrath. When heavy smoke is present, visibility exceeds the minimum visual flight rules (VFR) 60 percent of the time for aircraft within a control zone airspace. For aircraft outside of a control zone airspace, visibility exceeds VFR minimums 85 percent of the time.

PRESCRIBED FIRE

Prescribed fire is defined as: "Any fire ignited by management actions to meet specific objectives." A written, approved prescribed fire plan must exist, and NEPA requirements (agency dependent) must be met, prior to ignition. Prescribed fires in Alaska are used for a variety of purposes including: (1) fuel reduction to protect structures and developments, (2) fuel reduction to strengthen fire management area boundaries, (3) resource management, and (4) reintroduction of fire into areas were fire has been excluded or to simulate natural fire frequency. Although the use of prescribed fire has not been widespread, interest is increasing and an interagency prescribed fire working group has been formed.

Policies and procedures for prescribed fires are agency specific. Interagency sharing of expertise, resources, and personnel for prescribed fire is encouraged.

Appendix A. Locations where the Alaska Interagency Wildland Fire Management Plan and Area Specific Interagency Fire Management Plans are Available for Review

Alaska Resource Library &
Information Services
3150 C Street, Suite 100
Anchorage, AK 99513-7589

Alaska Fire Service
P.O. Box 35005
Ft. Wainwright, AK 99703

Bureau Of Indian Affairs
Fire Management
1675 C Street, Suite 223
Anchorage, AK 99501-5198

Department of Natural Resources
Division of Forestry
3601 C Street, Suite 1058
Anchorage, AK 99503

Department of Natural Resources
Division of Forestry
Fairbanks Area Office
3700 Airport Way
Fairbanks, AK 99709-4699

University of Alaska, Fairbanks
Elmer E. Rasmuson Library
310 Tanana Drive
Fairbanks, AK 99775

Bureau of Land Management
Alaska State Office
222 W. 7th Avenue, #13
Anchorage, AK 99513-7599

National Park Service
Education & Ranger Activities
2525 Gambell, Room 306
Anchorage, AK 95503

State & Private Forestry
USDA Forest Service
3301 C Street, Suite 1058
Anchorage, AK 99503-3956

US Fish & Wildlife Service
Fire Management
1011 Tudor Road
Anchorage, AK 99503

Appendix B. MAP ATLAS LEGEND

The map atlas legend symbols were standardized to insure that the same symbols were used for all mapping. The symbols are used to identify five broad categories of information and specific suppression standards for sensitive features. The symbols were chosen to be compatible with the digitizing/computer graphics system.

FIRE MANAGEMENT OPTION BOUNDARY LINES

Large capital letter symbols are used to designate each of the four management options: Critical (C), Full (F), Modified (M), and Limited (L). These should be placed along the appropriate side of the boundary lines frequently enough to insure that the dispatchers and users of the plan remain oriented correctly.

C F M L

EVALUATION DATES FOR MODIFIED AREAS

The initial evaluation dates for Modified management areas will be noted on the map atlas.

ALL STRUCTURES (including historically significant structures)

A small point designator symbol (✡) is to be placed on the structure site. A small letter qualifier symbol is to be placed next to the point designator to specify what level of suppression the structure requires.

C CRITICAL
F FULL
N NOT SENSITIVE (given the same protection as surrounding lands)

Appendix B. MAP ATLAS LEGEND (cont.)

CULTURAL/HISTORIC/ARCHEOLOGICAL RESOURCES (Not including structures)

The symbol (—) is the best point designator for these resources. Use the small letter qualifiers next to the point symbol to define activity level.

C CRITICAL
F FULL
A AVOID

THREATENED AND ENDANGERED SPECIES

The symbol () is the point designator for these resources.

F FULL
A AVOID

Appendix C. CANADIAN INTERNATIONAL AGREEMENTS

I. U.S. State Department and Canadian Government

A. Synopsis. Agreements have been consummated by exchange of diplomatic notes between the US State Department and Canadian Government. These agreements have been signed by Minister of Indian Affairs and Northern Development of Canada and Secretary of the Interior; and the Regional Manager for the British Columbia Forest Service and Regional Forester for the USDA Forest Service, respectively. These agreement identifies the parties as follows: Canada - Department of Indian Affairs and Northern Development (Canadian Forest Service) and United States - Department of the Interior (BLM); and Prince Rupert Region of the British Columbia Forest Service and Region 10 of the USDA Forest Service.

The purpose of these agreements is for cooperation of all parties in the detection and suppression of fires in the buffer zone (an area 10 miles on either side of the boundary of Yukon Territory, British Columbia, and Alaska). Upon detection of a fire anywhere in the buffer zone, either party may commence suppression action without prior notice to the other party. However, when the fire is on land of the other party, the party that initiated suppression action will notify the other party of its intentions. In the event one party commences suppression in the buffer zone and notifies the other party, the other party may appoint a liaison officer charged to observe the progress and report on it or actively join the party, which has commenced suppression action, and participate in it. Unless otherwise agreed upon a fire in the buffer zone that both parties take action on will be taken over by the party in whose territory the fire has occurred.

B. Reimbursements. There are no reimbursements between either party, thus waiving all claims on liability against each other for any loss, damage, injury, or death resulting from failure of either party to begin suppression action or discontinue action. Each party will provide its own fire control resources in suppression action with the buffer zone, and assume its costs, expenses, and liabilities without any right of reimbursement from the other party.

C. Fire Plan Operational Procedures. Where Alaska fire plans identified Limited action areas (no initial attack) within the ten-mile buffer zone, the following procedures will be adhered to:

1. Intent

It is our intent to prevent all fires originating within the ten-mile buffer zone on either side of the boundary from crossing the boundary, unless specific written agreements between adjacent land managers/owners permit exchange of wildland fire across the border. If in the professional judgment of the evaluator,

the fire poses a clear and immediate threat to burn onto Canadian lands, immediate suppression action will be taken (unless modified by specific written agreement), commensurate with other suppression priorities.

2. Procedures

All fires detected within the ten-mile buffer zone will be immediately reported to the responsible management agency. The affected Zone FMO/Area Forester (or his/her representative) is responsible or follow-up communication with the involved land manager/owner(s), Canadian suppression organization, and AICC. In all cases, the involved land manager will be immediately notified of actions taken and/or actions recommended.

II. State of Alaska and Yukon Territory

The State of Alaska and the Yukon Territory have a Memorandum of Understanding for the purpose of mutual fire suppression assistance. This Memorandum of Understanding does not interfere with the provisions for protection agreement between the U.S. State Department and the Canadian Government along the United States-Canada border and is in consideration for exchange of resources outside the provisions outside of that agreement.

Appendix D. PROTECTION OF CULTURAL RESOURCE VALUES FROM WILDLAND FIRE

The interagency wildland fire planning process recognized management requirements for cultural and historic resources pursuant to CFR 36 Sec. 800(a) for non site-specific areas, and 800.8(a)(3) for programs designed to further preservation and enhancement of National Register or eligible properties.

Implementation of final decisions will result in a higher level of protection for cultural resources than is currently provided. Specific objectives to be accomplished are:

1. Cultural values needing protection will be identified and mapped.

2. Cultural resources will be given a relatively high value rating as compared to other resource concerns.

Background

Fire is recognized as a normal feature of the natural history in many areas. The evolutionary development of plants and animals has occurred in a natural system where fire was a part of the environment. Human occupation of any area was also subjected to the natural fire regime as well as the increase in fire occurrence due to human activity. In Alaska, the natural national fire regime is characterized by having a return interval of 50 to 200 years, depending on the cover type and location under consideration.

The natural fire cycle has implications for cultural resources: Sites in excess of 200 years old are likely to have been burned over, and some site locations may have been burned repeatedly. Structural elements made of flammable materials have in all probability been lost. Conversely, non-flammable materials have likely been burned, but not damaged, since scientifically valid data have been excavated in recent years.

Site Protection

For fire protection purposes, cultural resources are divided into two classes; structural and non-structural sites:

> Structural Sites are those values, which stand above the ground and are made of flammable materials. Non-Structural Sites are values on or under the ground and are typically non-flammable.

Structural sites are vulnerable to damage from fire, but because they are relatively obvious, they are less likely to be endangered by suppression activity. Non-structural sites are not likely to be harmed by fire, but are vulnerable to fire suppression activities such as construction of control lines, temporary fire camps, and other activities. All fire crews will be briefed as to their responsibility for cultural resources. Illegal collecting by fire crews will not be tolerated.

Appendix D. PROTECTION OF CULTURAL RESOURCE VALUES FROM WILDLAND FIRE (cont.)

Cultural resources will be protected and mapped according to the following criteria:

- Critical protection is given to structural resources designated as National Historic Landmarks. Only protection of life or occupied homes may have higher priority.

- Full protection is given to structures on, or eligible for inclusion on the National Register of Historic Places.

- Not sensitive is for abandoned structures that are not eligible for inclusion on the National Register of Historic Places. Protection is given to the same level as surrounding lands.

- Full protection is given non-structural sites on the National Register. Suppression activity must be off the site. This includes any site currently being excavated.

- The National Park Service (NPS) may wish to protect cultural resource sites on a park's List of Classified Structures or Cultural Sites Inventory. Sites on this list may be given the same level of protection as sites designated on the National Register of Historic Places.

Maps will be based on existing data and will be updated each winter to accommodate new information.

Appendix E. DECISION CRITERIA RECORD

Fire Number: Fire Name:

Land Manager/Owner: Fire Management Option:

Adjoining Land Manager/Owner(s): Adjacent Fire Management Option(s):

Current Fire Size: Location (Legal Description):

Map Quad:/Meridian: Lat/Long (if available):

Decision Criteria

Public Safety at Risk	Yes	No
Firefighter Safety at Risk	Yes	No
Threatening Private Property	Yes	No
Improvements at Risk	Yes	No
Threat to Natural/Cultural Resources	Yes	No
Initial Attack Resources Not Available	Yes	No
Unacceptable Factor(s) to Land Manager/Owner(s)	Yes	No
Other Unacceptable Factors	Yes	No

Weather

Current:

Past:

Predicted:

Fire Behavior

Current:

Past:

Appendix E. DECISION CRITERIA RECORD

Predicted:

Resistance to Control/Extinguish:

Topography/Natural Barriers:

Fuels:

Other Contributing Factors: (Fire Danger Ratings, Greenness, etc.):

Fire Representative Summary Statement:
Objectives:

Strategy:

Estimate Duration of Actions:

Signature: _____ Date: _____
Fire Representative

Land Manager Summary Statement and Authorization:
Objectives:

Constraints:

Authorization: _____ Date: _____
Land Manager/Owner(s) Representatives

GLOSSARY

ANSCA: Alaska Native Claims Settlement Act; Public Law 92-203, the 1971 act authorizing land conveyances to Alaska Natives.

ANILCA: Alaska National Interest Lands Conservation Act. Public Law 96-487, the 1980 bill which established national parks, monuments, and wildlife refuges, and other national conservation units in Alaska.

APPROPRIATE MANAGEMENT RESPONSE: Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

CONTINGENCY PLAN: Predetermined alternative course of action and its consequences. The plan provides for smooth transition of the control effort when new direction is required.

CONTROL OF A FIRE: The completion of control lines around a fire, any spot fires, and interior islands to be left unburned; burning out any unburned areas adjacent to the fire side of the control lines; and cooling down all hot spots that constitute immediate threats to the control lines until these can reasonably be expected to hold under foreseeable conditions.

CONVERSION DATE: That day after which most fires in the Modified Protection Option will be treated as being in a Limited Protection Option area. Conversions dates are not uniform and may change from one geographic area to another.

COOPERATIVE AGREEMENT: A written document which identifies who, what, when, where, why, and how certain actions will be done by each individual or agency involved. This is signed by the designated land manager(s).

CULTURAL RESOURCES: Prehistoric and historic remnants and physical and oral evidence of human activities.

DEFICIENCY LANDS: Lands designated for selection by village and regional corporations when there is insufficient land for selection in their core townships or regions.

DESIGNATED PHYSICAL DEVELOPMENT: Physical structures, improvements or specific sites that the land manager/owner selects and lists as needing the highest priority fire protection.

DIRECT ATTACK: Fireline is built at the edge of the fire or the edge and interior of the fire are worked on directly.

GLOSSARY (cont.)

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ECOSYSTEM: (1) In Tansley's original concept, any complex of living organisms with their environment that we may isolate mentally for purposes of study. (2) Totality of an environment plus its included organisms, or habitat and community as an interacting unit. (3) A community, including all the component organisms, together with the environment, forming an interactive system. The fundamental unit in ecology. Ecosystems exist in both space and time but their exact outlines are somewhat arbitrary because each is interconnected with other ecosystems as components of larger systems.

ESCAPED FIRE: A fire that has escaped initial attack or was beyond the capabilities of available initial attack forces to contain the fire when those forces arrived at the fire.

FIRE BEHAVIOR: Manner in which a fire reacts to fuel, weather, and topography; common terms used to describe fire behavior include smoldering, creeping, running, spotting, torching, and crowning.

FIRE BREAK: A natural or constructed barrier utilized to stop or check fires that may occur, or to provide a control line from which to work.

FIRE DEPENDENT ECOSYSTEM: An ecosystem can be called fire-dependent if periodic changes in the system due to fire are essential to the functioning of the natural system. In such systems fire is a significant environmental factor that initiates and terminates key vegetation successions, controls the age structure and species composition of the vegetation, produces the vegetative mosaic on the landscape, affects insects and plant diseases, influences nutrient cycles and energy flows, regulates the productivity of the system, and determines the habitats for wildlife.

FIRE EFFECTS: Physical, biological, and ecological impacts of fire on the environment.

FIRE MANAGEMENT OPTIONS: A range of alternatives which defines the extent of fire activity and management acceptable or desirable on a given land area.

FIRE REGIME: The type, intensity, size and frequency of fires typical for a specified land area. The fire regime determines the scale of fire effects and the way fire influences an ecosystem.

GLOSSARY (cont.)

HEADQUARTERS SITE: A parcel of land not to exceed five acres, which must be used in conjunction with a business. Applicant does not have to occupy for any definite period of time.

INITIAL ATTACK: The first suppression actions, excluding monitoring, taken on a fire taken consistent with firefighter and public safety, and values to be protected.

INTERIM CONVEYED LANDS: Lands approved for conveyance to the Native corporations and a document of interim conveyance issued. This document is used for conveyance until survey has been accomplished and a patent issued. After lands have been interim conveyed (IC'd) they are administered and managed by the Natives.

LAND MANAGER/OWNER: The responsible Line Officer for the Federal agencies or designated individual in Federal, State, and private organizations who is authorized to make decisions concerning the management of specified land areas.

MONITORING: The systematic process of collecting, recording and mapping of fuels, topography, weather, fire behavior, and fire effects data to provide a basis for evaluating and adjusting prescribed fire programs." Monitoring generally requires both on-the-ground and aerial observations.

NATIVE ALLOTMENTS: Prior to the passage of the Alaska Native Claims Settlement Act, any Indian, Aleut, or Eskimo of full or mixed blood who resides in and is a Native of Alaska, who is head of a family or twenty-one years of age can be allotted land not to exceed 160 acres of non-mineral land. The selected land can consist of up to four parcels of land. The allotted land shall be deemed the homestead of the allottee and their heirs in perpetuity, and shall be inalienable and nontaxable until otherwise provided by Congress. Allotment applications on record, if not appealed or in conflict with other land selections, were administratively approved by ANILCA. The BIA is responsible for administering the land, trust responsibility, for pending, approved or after it is conveyed to the Native allottee and so long as it remains in restricted status.

NATIVE SELECTED LANDS: Lands withdrawn for Native selection and selected by Native village or regional corporations.

GLOSSARY (cont.)

NATURAL FIRE REGIME: A natural fire regime is the total pattern of fires in vegetation, over time, characteristic of a natural region or ecosystem, variations in ignition, fire intensity and behavior, fire size (area of burns), recurrence (or return) intervals, and ecological effects.

OVER SELECTED LANDS: Lands selected by the Native corporations and State in excess of their entitlement.

PATENTED LANDS: Lands for which the Native corporations, State of Alaska, or individuals have received the final document of ownership, subject to reservations by the U.S. Government.

PATENTED MINING CLAIMS: A mining claim that has had a validity check and been approved for a patent, and a patent has been issued. This patent conveys surface rights as well as subsurface, subject to valid existing rights.

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.

PRIVATE PATENTED LANDS: Lands that have been conveyed to private individuals or organizations. These lands are owned in "Fee Simple." They have a patent, which assures ownership.

PROJECT FIRE: A fire normally of size and/or complexity that it requires a large organization and possibly several days or weeks to control or confine the fire or the portion of the fire designated for control or confinement..

REGIONAL CORPORATION: An Alaska Native Regional Corporation, established under the laws of the State of Alaska in accordance with the provisions of ANCSA. The State of Alaska has been divided into 12 Native Regional Corporations with a thirteenth formed for Alaska Natives who live outside of Alaska. Regional Corporations receive all subsurface rights of lands acquired by Village Corporations within their region. They also receive the surface and subsurface rights of lands conveyed to the region.

RESOURCE OBJECTIVE: A desirable management decision of a course of action, which provides targets for program accomplishment.

SERAL: (1) Refers to sere. (2) Nonclimax, i.e., a species or a community demonstrably susceptible to replacement by another species or community, usually within a few decades or a few centuries at most.

GLOSSARY (cont.)

SERE: A sequence of plant communities that follow one another in an ecological succession on the same habitat from a pioneer stage to, and terminate in, a particular kind of stable (climax) association.

STATE SELECTED: Land selected by the State for possible future conveyance.

STRATEGIC ACTION PLAN: A plan, which identifies and takes into consideration all information about a fire, how the various resources are affected, and specific agency and/or management concerns, and develops a recommended course of action for control of the fire.

STRATEGY: Overall plan of attack for fighting a fire which gives regard to the most cost-efficient use of personnel and equipment in consideration of values threatened, fire behavior, legal constraints, and objectives established for management of natural resources.

SUPPRESSION: The work of confining, containing, controlling or monitoring a fire or portions of a fire beginning with its discovery.

SUSTAINED ATTACK: Continuing suppression action on a fire until control is achieved.

SURVEILLANCE: The systematic process of collecting, recording or mapping the fuels, topography, weather; fire behavior and location of values to be protected to provide suppression agencies or land manager/owner(s) the information necessary to make the appropriate suppression action decisions on wildland fires.

TACTIC: The selection of suppression methods and the coordination of all forces committed to a fire to accommodate a designated strategy.

T & M SITE: A parcel of land up to 80 acres in size conveyed under the trade and manufacturing site regulations. Applicant must have a going business when land is conveyed.

TRIBAL ORGANIZATION: An Alaskan Tribe/Village, Tribal Consortium, or other group formed by Tribes/Villages that have either by a compact or 638 contract under the Indian Self-Determination and Education Act has assumed the delivery of Bureau of Indian Affairs services to Natives, including Native allotments.

GLOSSARY (cont.)

TRUST LANDS: Is land (or an interest in land) which is held between the United States as legal owner and the Native individual(s) as equitable owner. The legal owner holds the legal title to the property but only for the benefit of the equitable owner. The equitable owner (Native allottee) has the full right to use and occupy the property and do anything with it except to sell or lease it, grant rights-of way, or sell the natural resources off it.

TUNDRA: (1) From the Finnish "tunturi," meaning a treeless plain and describing the landscape beyond the cold limits of tree growth. (2) A cold climate landscape having vegetation without trees. A complex of conditions that is ultimately related to regional climate causes the absence of trees. This regional aspect distinguishes tundra from treeless bogs and similar local areas without trees due to edaphic extremes in areas that otherwise support a forest cover. (3) The landscape beyond the temperature limits of tree growth, both to the north and west of treeline in Alaska and at elevations above treeline on mountains. (4) The so-called "barren ground" north of the circumpolar coniferous forests. (5) Treeless areas where dwarf shrubs and low herbaceous plants predominate, often with many lichens and mosses, on a permanently frozen subsoil.

TUSSOCK TUNDRA: A tundra landscape (beyond the limits of tree growth) with a herbaceous vegetation of tussock forming plants, particularly Eriophorum spp.

UNPATENTED MINING CLAIM: A parcel of land upon which a mining claim has been filed but no document of fee simple ownership has been issued. Applicant has only rights to subsurface estate and limited rights to surface estate.

VILLAGE CORPORATION: An Alaskan Native Village Corporation, organized under the laws of the State of Alaska as a business for profit or nonprofit corporation to hold, invest, manage and/or distribute lands, property, funds and other rights and assets for and on behalf of a native village in accordance with the terms of ANCSA. Village Corporations receive ownership of the surface estate on the land conveyed to them. The Village Corporation entitlement varies from three to seven townships, depending on their population as of 1970.

WILDLAND FIRE: Any non-structure fire, other than prescribed fire, that occurs in the wildland.

WILDLAND FIRE MANAGEMENT PROGRAM: The full range of activities and functions necessary for planning, preparedness, emergency suppression operations, emergency rehabilitation, and prescribed fire operations, including non-activity fuels management to reduce risks to public safety and to restore and sustain ecosystem health.

GLOSSARY (cont.)

WILDLAND FIRE SITUATION ANALYSIS: A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

WILDFIRE: An unwanted wildland fire.