

Stage III

Stage III: Long-Term Assessment and Implementation Actions

Maximum completion timeframe: Within 24 hours after Stage II or Periodic Assessment indicates need.

This stage represents completion of long-term implementation actions necessary to successfully accomplish the desired objectives. The WFIP has been progressively developed throughout all stages, and this represents the final stage. It presents tactical implementation information and will be attached to information developed in previous stages.

This stage will provide a definition of Maximum Manageable Area (MMA), the geographic area the fire will be allowed to burn within. It will consider long-term fire behavior predictions and risk assessment. It will assess the probability of the fire reaching the MMA perimeter, and will document those operational management actions necessary to manage long duration fires that will need mitigating measures to strengthen and defend the MMA.

Stage III, as presented in the standard format (Stage III: Long-Term Implementation Actions form) consists of the information shown below:

- Objectives and Risk Assessment considerations
- Natural and Cultural Resource Objectives and Constraints/Considerations
- MMA Definition and Maps
- Fire Projections and Maps
- Weather Season/Drought Discussion and Prognosis
- Long-Term Risk Assessment
- Probability of Success
- Threats
 - Threats to MMA
 - Threats to Public Use and Firefighter Safety
 - Smoke Dispersion and Effects
 - Other
- Monitoring Actions
- Holding Actions
- Resources Needed to Manage the Fire
- Estimated Costs of Long-Term Implementation Actions
- Contingency Actions
- Information Plan
- Post-Burn Evaluation
- Signatures and Date

Completion of this stage is triggered by indications from Need Assessment Chart, Stage II, WFIP or through the Periodic Fire Assessment, Part 2. Once Stage III has been completed, the WFIP is completely developed.

MMA Decision Authority

As previously stated, decision authority to approve wildland fire use lies with the Forest Supervisor, but may be delegated to a District Ranger, but only if the District Ranger has the requisite fire management knowledge, experience, and staff available (FSM 5140.42). In order to ensure management oversight, the districts will forward copies of approved WFIPs to the Fire Staff at the Supervisor's Office, who in turn forwards copies of the plans to the Regional Fire Use

Specialist. When a fire is expected to burn on two or more agency jurisdictions, all affected Agency Administrators will approve the WFIP (GYACG 2000).

MMA's that cross administrative and/or jurisdictional boundaries require approval from all the affected units. The following outlines the necessary approval authority:

- MMA's exclusively on one Ranger District: Forest Supervisor or delegated District Ranger have WFU approval authority.
- MMA's on two Ranger Districts of the same forest: Forest Supervisor, or both District Rangers who have been delegated the authority for WFU approval. The District where the WFU originated will be responsible for management, unless otherwise agreed upon in writing.
- MMA's on two or more forests: Each Forest Supervisor or all District Rangers who have been delegated the authority for WFU approval. The district recommending the WFU approval shall take the lead in developing the WFIP, with input from the other affected districts. The lead district will be responsible for management of the WFU unless otherwise agreed to in writing.
- MMA's on one or more forests and National Parks: Each Forest Supervisor and Park Superintendent or their designees who have been delegated authority for WFU approval.

MMA Determination

All wildland fires being managed under appropriate management response strategies where WFIP planning has progressed to Stage III will have a defined MMA. This is to ensure that there is clear and common understanding of the authorized size and location of the fire among agency administrators and cooperators.

The MMA delineates the ultimate acceptable size for a given wildland fire. It provides for closely directed fire management application in a specific area defined by resource objectives, fire and weather prescription elements, social needs, political considerations, and management capability.

All MMA's will:

- Be based on predetermined MMA's or be developed as part of a WFIP, Stage III.
- Be fixed and not subject to change once established and approved by the agency administrator
- Serve as definition of firm limits of management capability to accommodate the social, political, and resource impacts for all wildland fire managed for resource benefits or other management considerations.

Note - the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide provides the following direction: *The complex nature of fires and land management precludes the ability of managers to write a set of guidelines or directions that cover all the potential situations. Past experiences and recognition of potential future situations require the following considerations regarding the rigid nature of drawing lines on a map.*

There may be isolated cases where formal implementation of the Wildland Fire Situation Analysis (WFSA) process is not prudent or logical because a wildland fire exceeded the MMA. In these

situations, experience may indicate that the MMA will be exceeded by the wildland fire on a very small or non-threatening scale. Management options in this situation include:

- *Constraining the fire spread to the small or non-threatening overrun of the original acceptable area using the available holding forces, and identified in the WFIP, Stage II or III. This must be accomplished within two burning periods.*
- *In the case of relatively long-range spotting, treat an isolated spot generated by this natural process as a separate fire. Determine the appropriate management response for this new ignition separately from the original wildland fire, based on criteria specific to the new ignition.*

If the agency administrator and FUMA determine that the fire cannot continue to be managed within the original approved boundary, a WFSA will be utilized to analyze new strategic and tactical alternatives, and to select an appropriate management response.

The following information clarifying MMA implementation was taken from the USDA Forest Service Fire and Aviation web page: <http://www.fs.fed.us/fire/fireuse/rxfire/5140/index.html>

MMA Determination with multiple fires

Recent interpretations and 1` applications of the Federal Fire Policy have produced some conflicting opinions. Those conflicts -- regarding determinations made in completing the Wildland Fire Implementation Plan (WFIP) for wildland fire decisions that do not result in direct control actions -- are complex and require additional direction. There continues to be discussion regarding the intent and definition of the Maximum Manageable Area (MMA). Reference the definition provided in the Implementation Guide, FSM 5140.32, Chapter 3, page 12. Those needing additional interpretation of this term and its application are encouraged to contact Dave Bunnell.

The MMA applies to a single wildland fire or complex of fires, depending on the direction and provisions contained in the WFIP Stage III analysis. The MMA represents the quantification of management capability and the potential to accommodate fire activity within a specific area defined by the MMA perimeter. Completion of this step provides a measure for success in evaluating the effectiveness of the WFIP. Success of the WFIP will be measured by the management of the fire within planned limits and management capability described in Stage III. Unsuccessful management will be measured as the inability to manage the fire under planned strategies, tactics, and limits described in Stage III analysis.

Fire activity is the combination of actual fire movement and the associated actions taken to influence the spread and intensity of the fire. Management capability may be defined as the combination of both direct actions required to manage fire perimeters and associated actions required to manage recreation use, personnel safety, notification, logistics, operations, coordination, and protection of resources (such as bridges, camps, lookouts, cabins) if required. The examples below provide guidance for several situations that have a high probability of occurring. The intent of these interpretations is to provide consistency in process application, reduce confusion over policy, and increase efficiency. The Implementation Guide provides policy for the process of developing the Wildland Fire Implementation Plan, and three distinct analysis stages are outlined. The examples provided in this enclosure are negotiated decisions provided to increase specific interpretation of various scenarios that have been encountered. It is recognized that many others exist and will eventually be encountered for which there is no inclusive direction or guidance provided. It is suggested that using your best judgment based on experience and close adherence to what is provided by policy and interpretive example will produce positive results.

BASIC IMPLEMENTATION DETERMINATIONS

The following situations have occurred in past implementations involving wildland fire use and confinement suppression fires. These examples are based on the primary assumption that the Stage III analysis step has been completed or that the appropriate Line Officer (Agency Administrator) determines the need for Stage III analysis for any fire or group of fires.

DETERMINATION 1:

For wildland fire occurring in areas approved in FMP for wildland fire use, and for a wildland fire determined by the Stage I analysis of the WFIP to meet resource management objectives:

1. Develop an MMA in association with Stage III portions of the WFIP; or
2. Utilize a predetermined (predesignated) MMA identified in the FMP at Stage III



Figure 1

NOTE: Develop an MMA and Stage III WFIP for a wildland fire where the appropriate management response is determined to be confinement suppression strategy and the fire activity has not exceeded initial attack or management capability. SEE FIGURE 1.

DETERMINATION 2:

Additional wildland fires may ignite within a predesignated MMA or within an MMA developed by WFIP Stage III. Additional wildland fire(s) occurring within an MMA designated in an approved Stage III WFIP will be evaluated individually to determine whether they meet the operational constraints described in the original WFIP on a spatial, temporal, and management capability basis. If so, the additional fire(s) can be included in the original WFIP. If not, a separate WFIP must be developed (Determination 3) or an appropriate response suppression must be implemented. SEE FIGURE 2.



Figure 2

NOTE: When two or more wildland fires are managed under the same strategy, they may be reported individually or in combination as a complex of fires.

DETERMINATION 3:

For a new wildland fire use fire(s) occurring within an established MMA under an approved Stage III WFIP that is determined not to meet the management constraints of the existing WFIP. If an existing WFIP cannot accommodate a new fire determined in Stage I for wildland fire use, and due to a changed condition in spatial, temporal, management capability, or fuels and weather conditions, the fire is identified to be managed for wildland fire use through the **Go / No Go** decision process of Stage I analysis:



Figure 3

1. Develop a new Stage II and Stage III WFIP, when needed.
2. Develop a new MMA to accommodate fire activity anticipated by the new fire and associated management actions within the MMA boundaries. (See Figure 3)

NOTE: If wildland fires 1, 2, and/or 3 exceed the original MMA 1 boundary and cannot be returned to planned management capability as described in WFIP 1, then it (they) will be measured as unsuccessful and a WFSA will be used to determine the appropriate suppression response.

DETERMINATION 4:

When a new fire starts within an existing MMA and is determined not to be manageable for resource benefits in the Stage I analysis portion of the WFIP, select and implement an appropriate management response by either:

1. Initiating aggressive initial attack actions; or
2. Initiating a WFSA process when current or projected initial attack or management capability is exceeded; or
3. Prepare to implement Stage II and III of the WFIP if the decision is made to implement a confinement suppression strategy. (Reference Determination 1 Note)

If a wildland fire within a MMA, managed under an approved WFIP is anticipated to exceed, or exceeds the MMA boundary and cannot be returned to planned management capability (re: Implementation Guide, page 50), then the fire(s) will have exceeded planned limits and a WFSA must be prepared that:



Figure 4

1. Selects and directs the implementation of an appropriate suppression alternative; and
2. Requires that the total fire(s) area be managed under the selected suppression alternative. (See Figure 4)

(MULTIPLE FIRE PROGRAM CAUTION)

DETERMINATION 5:

When a new fire start will potentially (based on most severe fire spread calculations) overlap two or more existing MMA's, follow directions provided in Determination 3. Caution is advised because of the added complexities of managing multiple wildland fires occurring in overlapping MMA's; these situations can quickly exceed management capabilities. (SEE FIGURE 5)

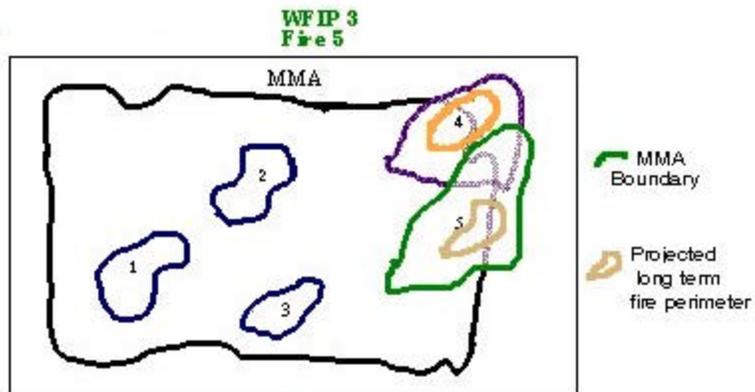


Figure 5

NOTE: The complexity of managing fire (5) offered in this example is difficult to quantify. Experience in past management actions has occasionally produced confusion and poor results. In many cases, quick suppression actions may resolve these potentially confusing management scenarios.

Trade-offs in resource benefits potentially gained by the new wildland fire use may be offset by potential losses incurred if one or more of the previous wildland fire use fires are converted to a suppression response due to management focus on the newly designated wildland fire use and MMA.

DETERMINATION 6:

Multiple fires occurring in a short timeframe (24 hours) where no current approved MMA and WFIP (Stage III) currently exist. When multiple ignitions occur in a short timeframe, they may be managed under a single WFIP, or each fire may be analyzed individually. (SEE FIGURE 6)

Each individual fire start must be evaluated through Stage I analysis to determine the appropriate management response. All fires selected for wildland fire use objectives may be managed together as a complex of fires. All fires in the complex may be managed together, regardless of strategy selected. Reporting requirements for the complex will be the same as for individual fires. Periodic

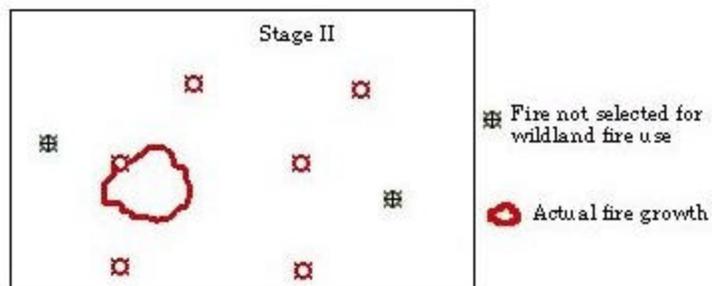


Figure 7

assessment will determine which fire(s) require Stage II or Stage III analysis or WFSA preparation. (SEE FIGURE 7)

An MMA must be developed in conjunction with these fires at the time they are summarized as a complex and/or when any single fire in the complex requires Stage III analysis.

The WFIP will then be fully developed with specific management actions determined for each individual fire area. (SEE FIGURE 8)

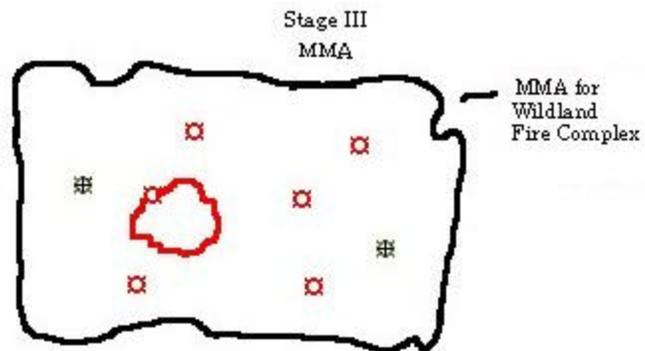


Figure 8

DETERMINATION 7:

Recent program analysis suggests that some unsuccessful wildland fire use management actions can be categorized by the following situations. In an effort to minimize unsuccessful wildland fire use decisions, the following situations should be closely evaluated and trade-offs identified in the Go / No Go phase of the Stage I analysis:

1. When a new wildland fire(s) is located in close proximity to an area not planned for wildland fire use.
2. When the designated MMA is defined to accommodate fire activity that is substantially below historic fire sizes documented in the affected fire regime(s).
 1. Analyze the risk of unsuccessful management actions and actions required for mitigation as well as costs and loss estimates.
 2. Develop and describe potential results of successful and unsuccessful actions.

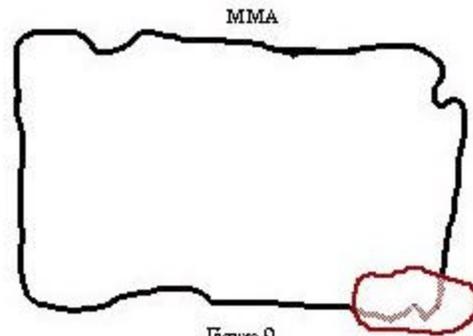


Figure 9

The intent here is not to eliminate boundary fires from achieving resource benefits. The direction is to ensure that line officer recognition is clear and apparent regarding the risk of implementation. (SEE FIGURE 9)

Long-Term Risk Assessment

Decision-making associated with managing wildland fire for resource benefits may have critical impacts. It is important to make the highest quality informed decisions as possible. The importance of risk assessment is reinforced through the Guiding Principles from the Federal Wildland Fire Policy and Program Review Recommendations that state "sound risk management is a foundation for all fire management activities," and "Fire management plans are based on the best available science."

Arrays of decision-making support aids are available to address and assess wildland and prescribed fire risk. These technological tools are appropriate when a specific tool can clarify the uncertainty, reduce the risk of undesirable outcomes, and facilitate a reasoned decision.

The choice of technique will depend on the information needed and the state of knowledge regarding the subject area. Techniques may range from a subjective, descriptive comparison to a very objective, in-depth analysis using sophisticated mathematical models.

Specific assessment products useful in evaluating risk include:

- Probability of the fire reaching the MMA perimeter
- Probability of a season-ending weather event
- Indications of where the fire may spread, or total area that may be burned by the fire
- How fast the fire will spread
- How soon the fire may reach critical sites or the MMA perimeter
- Predictions of fire intensity and severity
- Fuel conditions, moisture conditions, departure from average conditions
- Fire dynamics - indicators of potential rapid escalation in fire behavior
- Analysis of fire behavior indicators, comparison with 10 years statistics
- Fire history reviews, records of past fires in terms of area burned and type of fires (i.e. low-moderate intensity, surface fire, stand replacement, etc.)
- Predictions of the range of potential fire effects on natural and cultural resources
- Probability of adverse smoke effects and dispersal

There are no mandatory requirements for risk assessment. However, an assessment must be completed that yields the above information ensuring an informed decision-making process. Units are encouraged to acquire and utilize available long-term risk assessment techniques, such as the Rare Event Risk Assessment Process (RERAP), and the Fire Area Simulator (FARSITE). As the quality of risk assessment increases, the quality of subsequent decisions and probability of achieving the desirable outcomes increases. Units should strive for an informed and reasoned decision making process.

Wildland Fire Implementation Plan - Stage III

Stage III: Long-Term Implementation Actions

Attach Stage I and Stage II information. Update and/or revise Stage I and II as necessary.

Objectives and Risk Assessment Considerations

Natural and Cultural
Resource Objectives and
Constraints/
Considerations

Maximum Manageable Area (MMA)

Acres in MMA:

Attach Map of MMA

Fire Projections, Weather, and Map

Projected Fire Area Under **Expected**
Weather Conditions

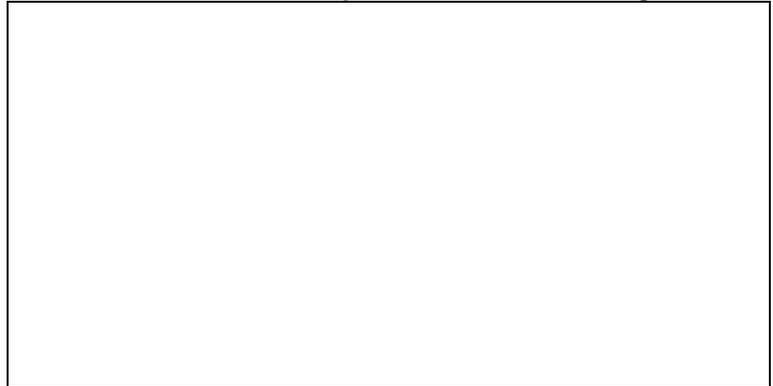
For date:
Area:

Projected Fire Area Under Experienced **Severe** Weather
Conditions

For date:
Area:

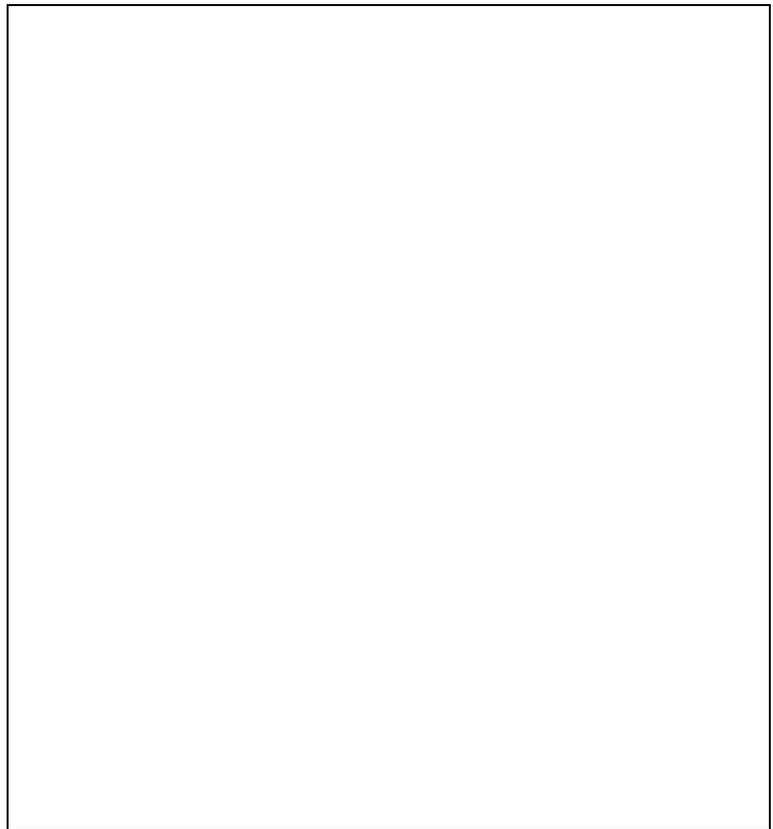
Wildland Fire Implementation Plan - Stage III

Weather Season/Drought:
Discussion and Prognosis



Long-Term Risk Assessment and Map (if applicable)

Risk Assessment
(Describe techniques
utilized and outputs,
include maps as
appropriate)



Probability of Success

Describe Probability of
Success



Wildland Fire Implementation Plan - Stage III

Threats

Threats to MMA

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**Threats to Public Use and
Firefighter Safety**

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**Smoke Dispersion and
Effect**

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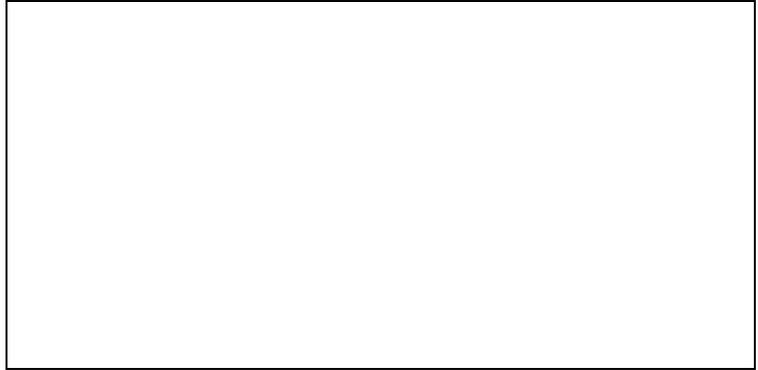
Other

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Wildland Fire Implementation Plan - Stage III

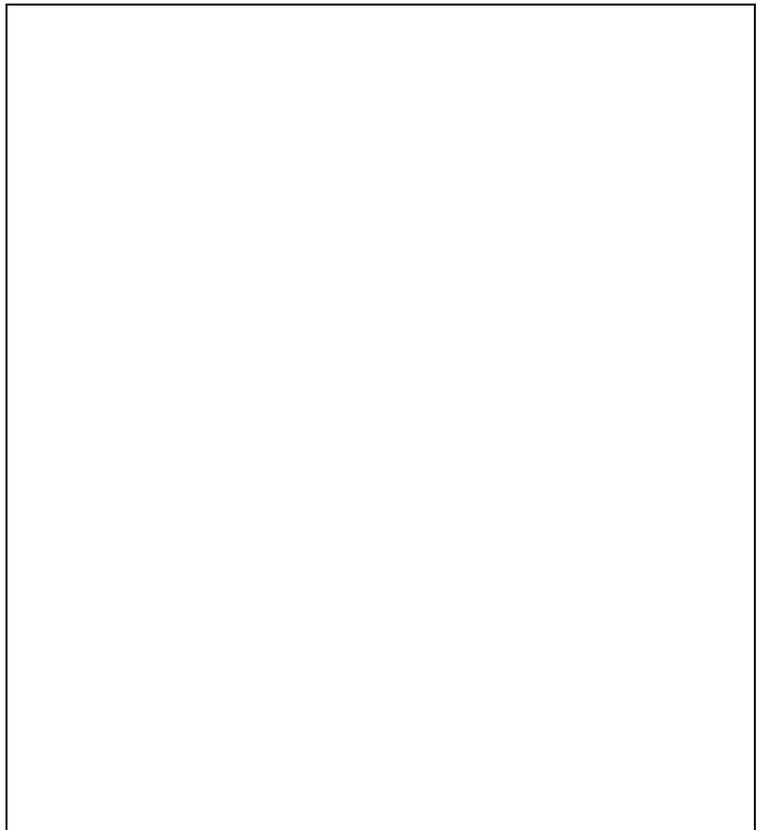
Monitoring Actions

**Describe Monitoring
Actions, Frequency,
Duration**



Holding Actions

**Describe Holding Actions,
Management Action
Points that initiate these
actions, and Key to Map if
necessary**



Wildland Fire Implementation Plan - Stage III

Resources Needed To Manage the Fire

Describe resources necessary to accomplish ignition, holding, and monitoring

Estimated Costs of Managing the Fire

Describe costs in terms of resources needed, projected duration, etc.

Contingency Plans

Describe Contingency actions, management action points that initiate them, resources needed, etc.

Wildland Fire Implementation Plan - Stage III

Information Plan

Describe Information Plan, Contacts, Responsibilities, etc.

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Post-burn Evaluation
Describe post-burn evaluation procedures, resource requirements, costs, duration, etc.

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Signatures
Include signatures/ dates for preparing, approving, and any concurring individuals

WILDLAND FIRE USE RECORD FORM

Fire Name _____ District _____ S..O.# _____
 Fire Size _____ Ignition Date _____ Ignition Location _____
 Cover Type at ignition point _____ Recorder/Report Date _____
 Fire Suppression action taken (none, confine, contain, control)

Acres Burned by Severity Class and Cover Type

Vegetative Cover Type	Crown Fire	Lethal Underburn	Nonlethal Underburn	Acres Unburned	Total Acres
Total acres burned in each severity class					

Give a narrative description of fire characteristics observed. For example, was the fire predominately a backing or head fire? What were the predominate surface fuels affecting fire growth? Did the fire leave patches of unburned vegetation? What weather factors accounted for most of fire growth? Indicate whether ground or aerial observations were the source of this information.

Map daily growth and final perimeter on a 7.5" topo. map. Quad Name

Photos of the following provide useful information: burning behavior in ground fuels, panoramic shots showing burning pattern, cover types burned. Please describe type, number, and location of available photos.

WFU OBSERVATION RECORD

Fire Name:		Fire#:	
Date:		Time:	
Management Unit:			
Current Fire Size:			
Observation Location:			

*Attach current map indicating active fire perimeter, spread direction, and other significant information.

Vegetation type/fuel model (of area burned)
Fire Activity (narrative description of fire spread, perimeter growth, & relative intensity)
Projected fire activity (based on forecasted weather and changes in topography and fuels)
Smoke dispersal, including both plume trajectory and subsidence movement
Special concerns/threats and/or recommendations

*Attach weather observation/fire behavior observations with location/elevation - there are several tally sheets to record these observations. Units may prefer to use their own.

Prepared by: Name, title, qualification		Date	
Reviewed by: Name, title, qualification		Date	