

Stage 1

Stage I Analysis (Completed Within Two Hours)

The following process is taken from the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide. As policy contained within the Implementation Guide is modified, the guidebook will incorporate the resulting changes as they are released.

Federal Wildland Fire Management Policy requires a Wildland Fire Implementation Plan (WFIP) be initiated for all wildland fires. However, only the most complex fires being managed for resource benefits will require completion of all parts of a WFIP. The full WFIP consists of three distinct stages (Stage I - III). Progressive development of these stages will occur for wildland fires managed for resource benefits or where initial attack is not the selected response. Most wildland fires will require completion of Stage I and Stage II information during their management. As resource benefits become more important, strategic decision factors, additional planning and documentation requirements (additional WFIP stages) are involved. As each stage is prepared, it will be attached to previous stages until completed or management of the fire accomplishes the objectives. When the complete WFIP has been developed, it will be a highly specific operational management plan. Preparation of the WFIP may be accomplished through the forms provided in this plan or using the WFSA software program. It is recommended that units consider using the WFSA computer program as much of the required data can be assembled and pre loaded prior to managing a WFU. The program is free and can be downloaded from:

<http://www.fs.fed.us/land/fire/wfsa.htm>

The WFIP Stage I represents the Initial Fire Assessment step. It is necessary to establish the foundation information critical to manage the fire. It documents the current and predicted situation, documents all appropriate administrative information, and aids managers by providing them with decision criteria to make the initial decision whether to continue management of the fire for resource benefits or to take suppression action. It also provides the manager with a recommended response action. Stage I consists of two specific components: Fire Situation, and Initial Go/No-Go Decision Criteria Checklist.

Federal Wildland Fire Policy requires Stage I completion within 2 hours after fire confirmation. Time constraints on the initial fire assessment are imperative so appropriate ranges of management responses remain available to the fire manager.

Decision Authority

Decision authority to approve wildland fire use (WFU) lies with the Forest Supervisor for all complexity levels at Regional and National Preparedness Levels I, II, III, but may be delegated to a District Ranger if the District Ranger has the requisite fire management knowledge, experience, and staff available (FSM 5140.42). At National Preparedness Levels IV and V, the Regional Forester must approve all wildland fire use *and* prescribed fire implementation (FSM 5140.32). Upon the approval of Stage I of a wildland fire implementation plan; the Forest Supervisor will notify the Regional Director of Fire and Aviation Management of the decision to initiate management of a wildland fire use event (FSM 5140.32). In order to ensure WFU management oversight, districts will forward copies of the approved WFIP 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 1998).

Fire Situation

The information needed for this step comes directly from the initial fire assessment or size-up. This information will be recorded on the following forms and can be transferred, as needed, to later planning stages or to the Wildland Fire Situation Analysis (WFSA).

Decision Criteria Checklist (Initial Go/No-Go Decision)

The Decision Criteria Checklist provides the agency administrator/line officer with standard decision elements to determine if the current wildland fire meets criteria to be managed as WFU. These decision elements assess threats from the fire, potential effects of the fire, risk from the fire, effects of other fire activity on management capability, and allow the agency administrator to evaluate other, possibly unforeseen or unanticipated issues.

To complete the checklist, the agency administrator evaluates the criteria, based on staff input, and determines the appropriate management response. A "yes" response to any of the decision elements indicates that management should consider a suppression-oriented response. All "no" answers to the decision elements indicate that the fire is a viable WFU candidate. Once the Decision Criteria Checklist is complete, managers can determine the appropriate management response. At the bottom of the Decision Criteria Checklist is a check box identifying the Recommended Response Action. Detailed explanations of the decision elements follow:

Is there a threat to life, property, or resources that cannot be mitigated?

Does the current fire have a high probability of impacting inholdings, permitted facilities, or administrative sites or structures?

Protection of human life is reaffirmed as the first priority in wildland fire management. Protection of property and natural and cultural resources is secondary to firefighter and public safety. In the event that resources are committed to a wildland fire, safety of the personnel becomes the first priority for management of that fire.

Outfitter itineraries provide Forest Service Personnel the means to furnish ample warning for the protection of life and property under forecast conditions. Indications that camps are occupied can be monitored by routine air patrol, and contacts can be made by wilderness rangers.

General areas where an ignition may pose a threat to property under specified conditions have been identified on the fire plan risk zone map. Site protection plans provide specific guidance regarding structure defensibility under various conditions and describe resource and equipment needs to protect structures. Document mitigating factors (e.g. wet season, late in season, Normalized Difference Vegetation Index (NVDI) greenness, fuel loading and arrangement), which support wildland fire use (WFU) in the risk zones.

Forest Service Officials shall avoid giving the agency the appearance of being prepared to serve as a structure fire suppression organization (FSM 5138.2). Forest Service personnel shall limit structural fire suppression actions to structure protection (FSM 5138.3).

Are potential effects on cultural or natural resources outside the range of acceptable effects?

This decision element relates to the Forest Service Manual objectives and site-specific objectives found in the plan introduction. Potential outcomes will be closely related to burning conditions and fire behavior. Identify RNA's, cultural sites, or other resources within the immediate fire area. Refer to the RNA descriptions in Appendix B for specific fire management direction. If the ignition is outside designated wilderness, fully discuss the fire and land management objectives of the area. If the projections indicate possible impact to historic sites, refer to Site Protection Plans and

evaluation worksheets for specific objectives and level of fire protection needed for their protection.

Are relative risk indicators and/or risk assessment results unacceptable to the appropriate Agency Administrator

This decision element involves risk assessment for the fire. Since the decision to suppress or manage the fire is time constrained (2-hour decision space), it may not be possible to complete a long-term assessment of risk. In lieu of the quantitative long-term risk assessment, a qualitative assessment process has been devised to provide the agency administrator with a quick and fairly comprehensive assessment of the "relative risk" of the fire. This indicator can be completed in a matter of minutes and will provide information for the agency administrator to answer the third decision element of the checklist.

Is there other proximate fire activity that limits or precludes successful management of this fire?

This decision element gives an indication of other local and regional fire activity, commitments of unit and cooperator resources, and availability to fill special skill positions from local resources for this fire. If current fire activity precludes the ability to manage fire with adequate resources and skill mixtures, then the response to this element will be "Yes" and a suppression-oriented response is indicated.

The Regional Forester must approve all wildland fire use and prescribed fire implementation at National or Regional Preparedness Levels IV and V (FSM 5140.32).

Base approval of wildland fire use and prescribed fire implementation on an assessment of all fire activity in the Region, on-going or planned; risk assessments; and impacts to Geographical Area resources and to other fire activities which may be in competition for those resources. Include feedback from the Geographic Area Multi-agency Coordinating Group (MAC) at Regional Preparedness Level IV or the National Agency Representative and National MAC Group at National Preparedness Level V.

Are there other Agency Administrator issues that preclude wildland fire use?

The final decision element allows agency administrator discretion in the event there are other issues that were unknown to fire staff that need to be considered when making the decision to manage the fire for resource benefits.

Wildland Fire Implementation Plan - Stage I

FIRE SITUATION

FIRE NAME:		FIRE NUMBER:		
Jurisdiction(s):				
Administrative Unit(s):				
FMP Unit(s):				
Geographic Area:				
Management Code:				
Start Date/Time:				
Discovery Date/Time:				
Current Date/Time:				
Current Size:				
Legal Description(s):	T.	R.	Sec.	Sub
Latitude:				
Longitude:				
County:				
Local Description:				
Cause:				

Wildland Fire Implementation Plan - Stage I

FUEL MODELS / CONDITIONS:

WEATHER - Current:

WEATHER - Predicted:

FIRE BEHAVIOR - Current:

FIRE BEHAVIOR - Predicted:

AVAILABILITY OF RESOURCES:

Wildland Fire Implementation Plan - Stage I

Decision Criteria Checklist

<i>Decision Element</i>	YES	NO
Is there a threat to life, property, or resources that cannot be mitigated?		
Are potential effects on cultural and natural resources outside the range of acceptable effects?		
Are relative risk indicators and/or risk assessment results unacceptable to the appropriate Agency Administrator?		
Is there other proximate fire activity that limits or precludes successful management of this fire?		
Are there other Agency Administrator issues that preclude wildland fire use?		

The Decision Criteria Checklist is a process to assess whether or not the situation warrants continued wildland fire use implementation. A "YES" response to any element on the checklist indicates that the appropriate management response should be suppression-oriented.

Recommended Response Action (check appropriate box)

NO-GO (Initial attack/suppression action)	
GO (Other appropriate management response)	

Signature: _____ Date: _____

Wildland Fire Relative Risk Rating Chart

To use this chart, assessments must be made of four variables:

Fire Danger Indicator

The appropriate fire danger indicator can be derived from components or indexes from the National Fire Danger Rating System (NFDRS) outputs.

Time of Season

The time of season is an indicator of the potential duration of newly ignited fires. The earlier the season, the longer potential duration of the fire.

Fire Size

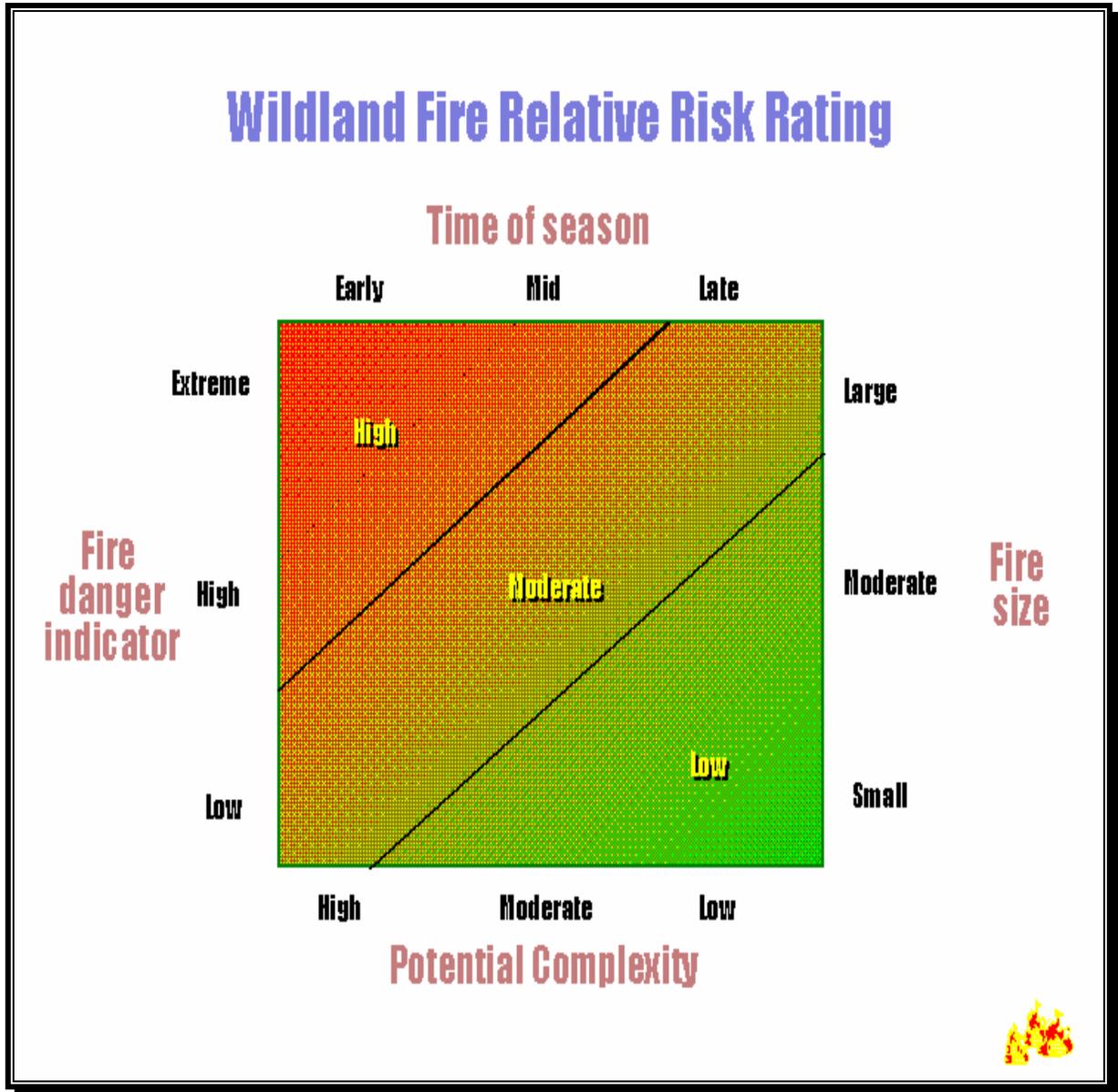
The fire size represents the current fire size and should be available from Fire Situation Information.

Potential Complexity

Potential Complexity is an estimate of complexity. If time and sufficient information are available to complete the full Wildland and Prescribed Fire Complexity Rating, then the result of that analysis can provide this information. If sufficient time and information are not available, then complexity must be estimated by local fire staff and used for this variable.

To obtain the relative risk rating, connect the top and bottom variables with a single line, and then connect the left and right variables with a single line. Determine the relative risk of this fire at the intersection of the two lines. Use the relative risk as input information for the Decision Criteria Checklist. ***Neither a high or low rating necessarily predisposes a "yes" or "no" answer. They provide an indication, but the line officer must still decide what area of risk is acceptable.***

Relative Risk Rating Chart



Fire Management Prescriptions

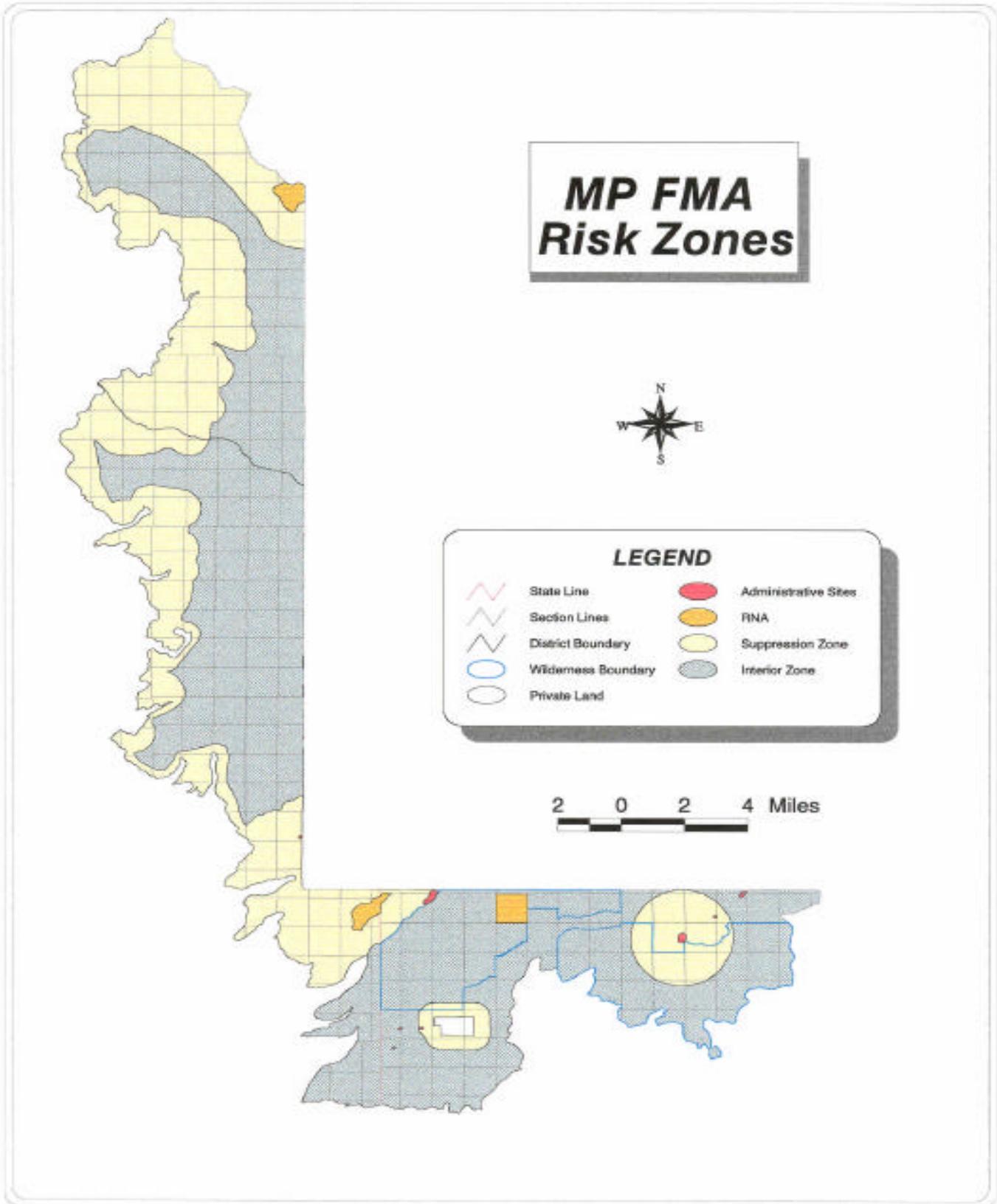
Natural ignitions will be allowed to burn under varying weather and fire behavior conditions. The ecological significance of large fires in the plan area is recognized, and naturally caused fires will be allowed, provided they meet the prescription criteria.

- A site specific Wildland Fire Implementation Plan will be prepared for each fire managed as WFU.
- National, Intermountain Region and Greater Yellowstone Preparedness levels allow declaration of a WFU.
- The WFIP will be reviewed and revalidated each day by the appropriate line officer.
- Protection of life is assured. There will be adequate time to warn Forest visitors of potential threats from the fire, and there is no predicted threat to visitors and residents outside of the plan area.
- Protection of property is assured.
- Acceptable air quality predicted. Smoke modeling predictions combined with current smoke dispersal forecasts indicate that WFU will not cause significant impacts to neighboring communities and residents. In addition, many smoke complaints by neighboring communities will be considered a "smoke impact".
- Adequate resources are available to carry out the WFIP. Adequate resources include, but are not limited to a Fire Use Manager, Fire Monitors, Public Information Specialists, etc. to implement the plan properly.
- Fire behavior forecasts indicate that WFU will meet prescription elements of the WFIP.
- A risk assessment of impacts to Threatened and Endangered Species and their habitat shows no predicted long-term significant impacts to the recovery of any listed species.
- Social, political and economic assessments indicate no significant impact to neighboring communities and residents.
- Energy Release Component (ERC) is used as one of the initial evaluation criteria. ERC is calculated daily as part of the National Fire Danger Rating System (NFDRS), and is related to the available energy (BTU) per unit area (square foot) within the flaming front at the head of the fire. ERC is considered a "composite" fuel moisture index based on both living and dead fuel moisture. Actual ERC is compared to the historic fire weather charts for the representative weather station. Current ERC is compared to the historic 90th, 97th, and normal percentile values; and compared to the selected years. A best estimate of the high ERC for the remaining fire season will be predicted based on long-term forecasts and climatological data. Fire behavior predictions will be adjusted to reflect the current and predicted ERC.
- Current drought index and large fuel moisture are assessed. Actual 1000 hour and Keetch-Byrum Drought Index are compared with historic records. Fire behavior predictions are adjusted to reflect current drought conditions. ERC, 1000 hour and Keetch-Byrum Drought Index historic weather charts are located in this chapter and will be updated as necessary.

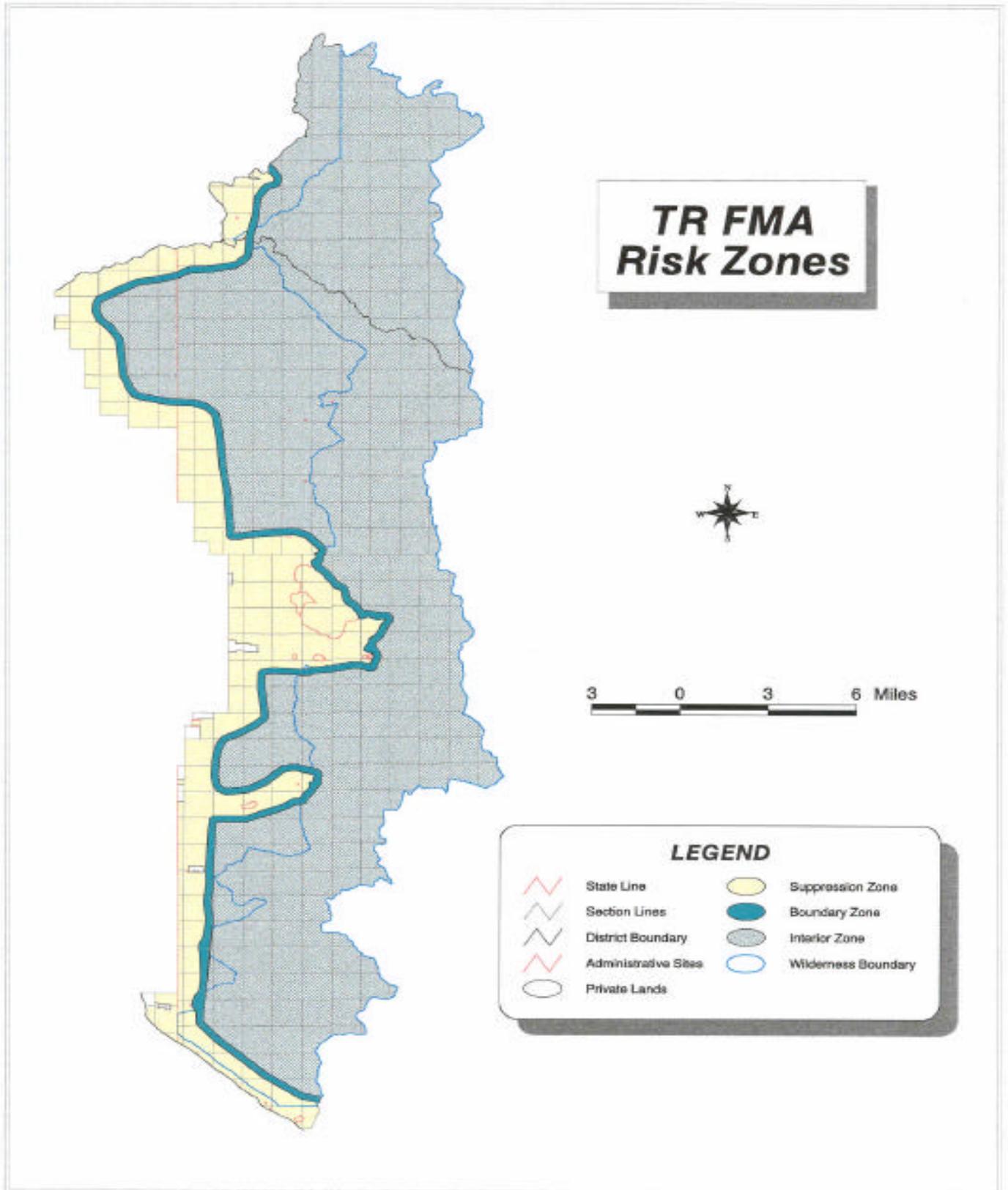
- The land within each FMA has been categorized into three risk zones: *Suppression Zone*, *Boundary Zone* and *Interior Zone*. Fire managers analyzing values at risk, topography, fuel type, historic fire behavior/occurrence, and weather/climatological patterns determined the location and extent of these zones. Prescriptive criteria for each zone follows:
 - **Suppression Zone** All ignitions human or natural will be aggressively suppressed within these areas.
 - **Boundary Zone** A ¼ mile boundary zone has been established in the TR FMA between the suppression zone and the interior zone. Natural ignitions in the boundary zone before August 15th **and** >90th percentile 3-day average ERC are out of prescription. All ignitions occurring after August 15th are within prescriptive limits for this zone as well as ignitions occurring prior to August 15th with ERCs < 90th percentile. There is no Boundary Zone in the MP FMA.
 - **Interior Zone** Natural ignitions occurring within the Interior zone should normally pass the initial decision criteria with regard to threat to life, property, or the management area boundary. Provided other criteria are met, ignitions in this area should proceed to the Stage II analysis.

In general, WFU events within the MP-FMA will utilize the Island Park weather station while WFU within the TR-FMA will use the Swan Valley and Moody RAWS stations. All ERC plots from these stations utilize fuel model G. Exceptions to the default weather station can be made if conditions at the fire site are better reflected by some other station. The Pine Creek RAWS has recently been established Pine Creek Pass area. While having very little historical weather information, this station will likely better represent conditions in the TR FMA. The station was operational in 2002. Document rationale for station selection.

MADISON PITCHSTONE (MP) RISK ZONES



TETON RANGE (TR) RISK ZONES



Historic Fire Weather Charts

The following graphs were generated from historic weather data for the Island Park (102105), Moody RAWS (102301) and Swan Valley (103101) weather stations. None of the current primary weather stations on the Forest represent weather at high elevation. The graphs display the Energy Release Component, 1000-hour fuel moisture, and Keetch-Byrum Drought Index values starting in 1970 for the Island Park Station and Swan Valley stations and 1982 for the Moody RAWS Station. A RAWS station has recently been installed in the Pine Creek Pass area. This station is located at approximately 7200 feet and when operational should better reflect higher elevation conditions.

The graphs were calculated with the program Firefamily Plus. This is a software system for summarizing and analyzing daily weather observations while computing fire danger indices based on the National Fire Danger Rating System (NFDRS). Three-day averages are used to eliminate noise in the data and smooth the line, which serves as the prescriptive limit. Averaging helps to eliminate being in prescription one day and out of prescription the next, particularly during the early and late season when fewer observations are recorded. When plotted, this method results in a graph, which reflects the curve of wetting and drying through the season. Current indices can then be compared with the historical plots.

Historically, weather observations have stopped as the fire season ended. Late season weather observations are skewed toward dry years in which fire activity continued into this period. As a result, the late season portion of the graphs generally indicates drier conditions than actually occurred on average.

Energy Release Component

Energy Release Component is a measure of seasonal drying trends and includes both live and dead fuel moisture inputs. ERC is valuable for displaying fire risks and as an element of a fire prescription. Prescriptive criteria are based on fuel model G (dense conifer, heavy down dead), which, due to its greater 100-hour and 1000-hour time lag fuel components, better represents potential for extreme fire behavior in natural fuels. Fuel Model G's responsiveness to drying is not as rapid as fuel models C (open pine, grass understory) or H (short-needle conifer, sparse undergrowth).

The ERC graph developed for the Caribou-Targhee Fire Use Guidebook represents current and historical weather conditions to provide a reference when evaluating fire management options.

The gray line on the graph is the 3-day average for the data. This line reflects the average of the ERC values for the day in question and the two previous days, for all available data.

The maximum ERC line (blue) represents the highest ERC observed for that date.

The final two lines are the 3-day average lines for the year 1993, a relatively wet year (dashed purple line), 1988 and 1994, relatively dry years (dashed teal green line and dashed pink lines respectively). These lines are provided as a basis for comparison. By comparing current ERC values to the 1993, 1994, and 1988 values, Fire managers can make some general expected fire behavior assumptions and ascertain trends in the current fire season.

Current year ERC can be added by plotting the three day average using a separate color on the chart. By adding up to date weather data to the weather file used by Firefamily Plus, a current year ERC can be generated. Weather files are currently updated biweekly by personnel at EIFC during fire season and are posted on the K drive at K/fire/historical data/targhee.mdb.

1000-Hour and Keetch-Byrum Drought Index

The 1000-hour graph is an indicator of long-term seasonal drying. Keetch-Byrum Drought Index represents the net effect of evapotranspiration and precipitation in producing moisture deficits in deep duff and the upper soil layers.

The graphs generated for 1000-hour fuel moisture and Keetch-Byrum Drought Index are similar to the above description for ERC. Both include an average line plot and the 1993 (wet year) and 1994 and 1988 (dry years) plots for historical comparison. The KBDI includes a maximum, 90th and 97th percentile plots, while the 1000-hour graph includes minimum and 10th and 3rd percentile plots.

