

# 7 - Preparedness

## Preparedness

The Bureau of Land Management (BLM) maintains appropriate levels of preparedness to meet BLM fire management objectives. Preparedness is based on the assessment of fuel and weather conditions from the National Fire Danger Rating System (NFDRS), or for Alaska, from the Canadian Forest Fire Danger Rating System. Preparedness Plans, Seasonal Risk Analyses, and severity funding are based at a minimum on locally produced fire danger operating plans.(FWS USFS)

## Fire Danger Operating Plan

The Fire Danger Operating Plan documents the establishment and management of the unit fire weather system, and incorporates NFDRS fire danger modeling into unit fire management decisions. (It should not be confused with the National Weather Service Fire Weather Operating Plan.) Fire danger operating plans are required for each dispatch unit.(FWS)

A standard Fire Danger Operating Plan has the following minimum components:

- Roles and Responsibilities – Defined for those responsible for maintenance and daily implementation of the plan, program management related to the plan, and associated training.
- Fire Danger Rating Areas – Aggregates of basic response areas, fire danger rating areas are defined by location of weather stations, NFDRS fuel models, and slope and climate classes. In most cases the fire danger rating areas will be the same as fire management zones (FMZs) developed in the most current fire planning process. Training for development of fire danger rating areas is available at NARTC.
- NFDRS Thresholds – Thresholds, or breakpoints, are used to define fire danger input for management decisions in each fire danger rating area. Activities, events, and fire operations affected by fire danger are identified, and appropriate NFDRS components or indices are selected as decision guides. Historical analysis of fire weather data is used to identify thresholds for staffing class, adjective rating, and preparedness level.
  - Staffing Class (1, 2, 3-, 3+, 4, 5) is based on the energy release component (ERC) or the burning index (BI). It is used to make daily internal fire operations decisions.
  - Adjective Rating (low, moderate, high, very high, extreme) is based on staffing class and the ignition component. It is a general description of fire danger for the purpose of informing the public.
  - Preparedness Level (1–5) is based on staffing class or index value and other local/area preparedness parameters and is meant for internal management direction and operational support.

Thresholds are established for each decision class to assist all appropriate management responses. (See Table 1.) Thresholds are based on both historical weather (climatology) and fire occurrence (fire business). BLM climatological thresholds are the 80th and 95th percentiles of the appropriate component or index and are used in each weather station catalog in the Weather Information Management System (WIMS). BLM fire business thresholds are based on climatological and fire occurrence and best reflect the relevant decision points for a response area.

Fire business thresholds are developed with the FIREFAMILY PLUS program and used locally to define fire danger input to the preparedness plan. Training for the FIREFAMILY PLUS program is available at local, regional, and national NFDRS courses.

**Table 1** Example of decision thresholds defined for each fire danger rating area.

Danger Rating Area	Weather Station	Fuel Model	Index	PL 1	PL 2	PL 3	PL 4	PL 5
ELK001	269999	T	BI	0 - 12	13 - 20	21 - 35	36 - 45	>45
ELK002	268888	A	BI	0 -				
ELK003	267777	C	BI	0 -				
ELK004	266666 266677	F	Live FM	0 -				
ELK005	265555	G	ERC	0 -				

- Operational Procedures – Greenup and threshold settings are established on weather station catalogs.

## Preparedness Plan

Preparedness plans are required at the national, state, and local levels. They are determined by using (at a minimum) a logical combination of the following parameters (see Table 2): **(USFS)**

- The magnitude of a NFDRS component or index (or live fuel moisture indicator) compared to decision thresholds as described in the fire danger operating plan, i.e., Table 1;
- An indicator of fine fuel loadings, described as a departure from normal;
- Committed IA resources on and off unit;
- Current and expected fire occurrence (number and size of fires);
- Fire Weather Watches and Red Flag Warnings;

**Table 2** Example of preparedness level descriptions

Parameters	Level 1	Level 2	Level 3	Level 4	Level 5
* NFDRS	¾ FDR Areas	¾ FDR Areas	¾ FDR Areas	_ FDR Areas	_ FDR Areas
Fuel Load	Below Normal	Normal	Above Normal	Much Above	Much Above
Crew Commitment	0 - 5	5 - 10	10 - 20	20 - 40	40 +
Large/Multiple Fire Activity	_	Yes	Yes	Yes	Yes
Fire Wx/ Red Flag Warning		Wildcad	Wildcad	Wildcad	Wildcad

\* Indicates that some majority fraction (for example, 2/3 or 3/4) of the fire danger rating areas are in the Preparedness Level of the respective column, according to the magnitude of the NFDRS indicator (as seen in Table 1) computed from the weather stations in each fire danger rating (FDR) area.

### Preparedness Level Action Items

A set of actions are taken at each planning level, with safety being the primary consideration for any action taken. Local preparedness plans serve as guides and should not duplicate items addressed in a geographic or national preparedness plan. They should include, but are not limited to, the following items:

- Management direction and considerations.
- Fire prevention actions including closures/restrictions, media messages, signing, and patrolling.
- Prepositioning suppression resources.
- Cooperation discussion and/or involvement.
- Safety considerations: safety message, safety officer.
- Augmentation of suppression forces.
- Support function: consideration given to expanded dispatch activation, initial attack dispatch staffing, and other support needs (procurement, supply, ground support, and communication).
- Support staff availability outside of fire organization.
- Communication of Fire Weather Watch and Red Flag Warning conditions.
- Fire danger/behavior assessment.
- Briefings for management and fire suppression personnel.
- Fire information—internal and external.

- Multi-agency coordination groups/area command activation.
- Prescribed fire direction and considerations.

## Mobilization Guide

The National Interagency Coordination Center (NICC) at the National Interagency Fire Center (NIFC) is responsible for cost-effective and timely coordination of national emergency response for wildland fire suppression. This is accomplished through planning, situation monitoring, and expediting resource orders between the federal wildland fire agencies and their cooperators.

The *National Interagency Mobilization Guide* contains standard procedures that guide the operations of multi-agency logistical support activity throughout the coordination system. It is designed to accommodate amendments as needed, and will be retained as current material until amended. Local mobilization guides should be used to supplement the *National Interagency Mobilization Guide*. Geographic areas will provide NICC with two copies of their mobilization guide and will provide amendments as issued. Local mobilization guides should be prepared on an interagency basis. Local units will provide their geographic area coordination center with two copies of their mobilization guide and amendments as issued.

## Seasonal Risk Analysis

A Seasonal Risk Analysis requires fire managers to review current and predicted weather and fuels information, compare this information with historic weather and fuels records, and predict the upcoming fire season's severity and duration for any given area. It is important to incorporate drought indices into this assessment.

Information from a Seasonal Risk Analysis can be used to modify step-up and pre-attack plans. It provides the basis for actions such as pre-positioning critical resources, requesting additional funding, or modifying memoranda of understanding (MOU) to meet anticipated needs.

Each field office selects and compares to normal, the current value and seasonal trend of one or more of the following indicators which are most useful in predicting fire season severity and duration in its area:

- NFDRS (or CFFDRS) index values (ERC, BI)
- Temperature levels
- Precipitation levels
- Humidity levels
- Palmer Drought or Standardized Precipitation Index
- 1000-hour fuel moisture (timber fuels)

- Vegetation moisture levels
  - Live fuel moisture (brush fuels)
  - Curing rate (grass fuels)
- Episodic wind events (moisture drying days)
- Unusual weather events (early severe frost)
- Fires to date

The seasonal trend of each selected indicator is graphically compared to normal and all-time worst. This comparison is updated regularly and posted in dispatch and crew areas.

If the Seasonal Risk Analysis suggests that an abnormal fire season might be anticipated, a field office should notify the state office and request additional resources commensurate with the escalated risk.

Local risk analyses should be compiled at the state office to determine the predicted fire season severity within the state, and then forwarded to the Office of Fire and Aviation for use in determining national fire preparedness needs.

Risk analysis is on-going. It should be reviewed periodically and revised when significant changes in key indicators occur. All reviews of risk analysis, even if no changes are made, should be documented.

## Severity Fund Guidance

### Objective

The objective of fire severity is to mitigate losses when abnormal fire conditions occur. This occurs when fire seasons start earlier than normal, last longer than normal, or exceed average high fire danger rating for prolonged periods. Abnormal conditions exist when weather and fire history conditions used in the initial attack workload analysis for the planned organization exceed the workload.

Typical uses of severity funds are to increase prevention activities, temporarily increase firefighting staffing, pay for standby, preposition initial attack suppression forces in areas of abnormally high fire danger, provide additional aerial reconnaissance, provide for standby aircraft availability, and other supplemental contractual services. These funds are not provided to restore lost funding or to raise funding levels to those identified in the fire management plans (FMPs) as the Normal Year Readiness & Program Management Capability (NYRPC) (formerly most efficient level [MEL]), and thus are not an "augmentation" in funding.

The authorization to use suppression operations funds for severity preparedness is controlled by individual project approval tied to dollar ceilings, time frames, and the preparedness resources. Regardless of the length of severity authorization,

funding activities must be terminated when abnormal conditions no longer exist. There are two levels of severity funds: state and national.

*State Level Severity Funds* Each fiscal year, State Directors have the authority to spend up to \$100,000 for state “short term” severity needs. Short-term needs refer to special preparedness activities that address situations anticipated to last less than a week. State Directors are responsible and accountable for ensuring that these funds are used only to meet objectives of severity, and that amounts are not exceeded. **(USFS)**

Each state office is responsible for establishing a process to document needs, approvals, and how the funds are utilized. At a minimum, the process should require the field office to document the reason for the request by providing some technical data (e.g., wind events, cold dry front passage, lightning events, and unexpected social events such as OHV rallies) as well as a line officer’s or formally delegated official’s signature. The request and the state’s decision should be maintained in a state office severity file.

Every fiscal year the National Office of Fire and Aviation will provide each state with a project number to implement state level severity funding activities. The National Office will also notify the State Director, State Budget Officer, and the SFMO when the number is provided and will request the National Business Center (NBC) to enter the projects in the accounting system.

*National Level Severity Funding* The Director of the Office of Fire and Aviation has the authority to allocate funds from the suppression operations subactivity for specified preparedness activities and specified time frames (two weeks to 30 days) that will increase preparedness capabilities. The need for these funds must be based upon fuels and weather conditions which are creating, or have the potential to create, abnormal fire preparedness workloads. The following is the process to implement the use of these funds: **(USFS)**

**Request**—A formal documented request should be concise, but include at a minimum, the following information:

**Quantification of need**— Requires that all of the following items be addressed and that at least one must be shown to demonstrate that fuel and weather conditions exceed those used in the fire management workload analysis and, therefore, the planned workload.

- Fire danger models—Using fire danger analysis software (Firefamily Plus, FIRES, or PC Season) that graphically displays the current seasonal trend for ERC and/or BI vs. all-time worst and historical average.
- Precipitation/drought—Palmer or standardized precipitation indices that specify the departure from normal.
- Fuel loading—Quantitative information comparing current to the average.

- Fuel moisture—Live and dead fuels for current vs. average, and the all-time worst. (Local current fuel moisture compared to the average, trend, and all-time worst provided by NDVI and/or Great Basin Live Fuel Moisture Project reports.) Note: data from the normalized difference vegetation index (NDVI) and the Great Basin Live Fuel Moisture Project may be a week old or older.
- NWS 30-day weather outlook.

**Amounts, types, and costs**— In a table format identify the requested preparedness resources (see sample below).

**Narrative statement**— Provide a brief statement of the interagency situation (local and/or geographic). Note: Each agency should request funds only for its own needs, not for the needs of another agency. Sharing resources when all parties have needs is desirable.

**Approval signature**— The request should contain the signature and date of the relevant line officer.

**Severity file**— Set up a severity file where all documents are maintained for reference, monitoring, and evaluation.

**Modifications and extensions**— Extensions and modifications to the request(s) are made through the same process.

**Sample Field Office Severity Request**

Item	Quantity	Unit Cost	Total Cost
Fire Prevention Team	1	average cost/day	\$\$\$\$
Type 4 engine	1	use rate per day (not FOR)	\$\$\$\$
Engine crew labor	5	average cost/day	\$\$\$\$
Engine crew travel and per diem	5	Government rate	\$\$\$\$
SEAT	1	daily minimum & hourly rate	\$\$\$\$
Type 3 IC labor	1	average cost/day	\$\$\$\$
Type 3 IC travel and per diem	1	Government rate	\$\$\$\$

**Responsibilities/Approval Process**

Responsibility/Actions	Responsible Official

Responsibility/Actions	Responsible Official
Identify and develop request.	Field Office, FMO
Approve and transmit to state office.	Field Office, Line Officer
Review technical analysis, verify, modify, and consolidate requests within 48 hours.	State Office, SFMO
Identify and add to the request state needs not efficiently met by field offices.	State Office, SFMO
Approve and transmit to Director, Office of Fire and Aviation (informally notify fire budget staff).	State Director
Review technical analysis, verify, and modify within 48 hours.	Office of Fire and Aviation
Approve and transmit to NBC, Washington Office budget, and state director/SFMO.	Office of Fire and Aviation
Establish projects in FFS within 24 hours.	NBC, Accounting Group
Notify field office(s) and state budget lead on receipt of National Office approval.	State Office, SFMO
Execute severity project, monitor program and expenditures on a real-time basis.	Field Office
Severity files: include requests, approvals, summary of expenditures and activities.	Field/State/National Offices

### Appropriate Severity Charges (usfs)

#### *Labor*

##### **Labor cost coding**

- BLM fire personnel outside their normal activation period, BLM employees whose regular salary is not funded by (2810), and Administratively Determined (AD) employees hired under an approved severity request should charge regular time and approved non-fire overtime to the severity suppression operations subactivity (2821-HT) and the requesting office's severity project number. Regular and overtime spent in fire suppression operations should be charged to suppression operations (2821-HU) with the appropriate project number.
- BLM fire funded personnel should charge their regular planned salary (base-eight) to their home unit's location code. Overtime associated with



the severity request should be charged to the severity suppression operations subactivity (2821-HU) and the requesting office's severity project number. Regular hours worked in suppression operations will require the use of the appropriate fire project code (2810-HU) with the appropriate fire project number. Overtime in fire suppression operations will be charged to the suppression operations subactivity (2821-HU) with the appropriate project number. For example:

An Idaho Falls fire management employee detailed to Arizona on a severity request, codes their base-eight to (ID 030 2810-HT); when assigned duty outside of their normal workday associated with the severity request, time is charged to (ID 030 2821-HT-severity project number); when assigned to fire suppression operations during their base eight, their time is charged to (ID 030 2810-HU-fire project number); overtime on fire suppression is charged to (ID 030 2821-HU-fire project number).

An Idaho Falls range specialist detailed to Arizona on a severity request, codes their base eight and hours outside their normal duty day associated with the severity request to (ID 030 2821-HT-severity project number). All duty hours (both regular and overtime) associated with fire suppression operations should be charged to (ID 030 2821-HU-fire project number).

Employees from non-federal agencies should charge their time in accordance with the approved severity request and the appropriate local and statewide agreements. A task order for reimbursement will have to be established and is authorized under the Interagency Agreement for Fire Management.

Other federal agency fire employees (BIA, FWS, USFS, NPS) should follow the procedures established by their agency.

**Labor considerations:**

- All overtime is funded by severity unless assigned to a wildland fire. Overtime is not guaranteed; it must be based on need.
- Severity assignments/details frequently last up to 30 days and should not be constrained by 14-day fire assignment limitations.
- In general, personnel obtained under severity authorizations should not be used to fill wildland fire resource orders outside the local dispatch area.
- Resources obtained under fire severity funding must be available for "immediate" initial attack regardless of the daily task assignment.
- When personnel and preparedness resources are assigned to a wildland fire, the wildland fire number will be used. There will be no use of any severity project number while assigned to a wildland fire.

*Vehicles and Equipment* The severity request should include funding to cover expenses for any additional equipment necessary to help mitigate the severity situation. These expenses might include GSA rental and mileage,

BLM-owned use rate (but not fixed ownership rate [FOR]), and commercial rentals and contracts.

*Aircraft* The severity request should include funding for additional aviation needs, including contract extensions, the daily minimum for call when needed (CWN) aircraft, flight time related to repositioning, and facilities and expenses necessary to support aircraft brought on with severity funds (facility rentals, utilities, telephones, etc.).

*Travel and Per Diem* (Detailed personnel and pre-positioning) Off-unit personnel assisting in severity request details are fully subsisted by the government in accordance with their agency regulations. Severity requests should include funding for lodging, government provided meals (in lieu of per diem), air fair (including returning to their home base), privately-owned vehicle mileage (with prior approval), and any other miscellaneous expenses associated with the detail.

*Supplies* Supplies are normally available in fire caches and should not be purchased.

### Inappropriate Charges

Severity funding is not approved for the following items:

- Administrative surcharges, indirect costs, fringe benefits.
- Equipment purchases.
- The purchase of vehicles or maintenance, FOR, repairs, and upgrades.
- Radios (unless approved by the national office because of a national shortage).
- Telephones (including cellular).
- Pumps, saws, and similar suppression equipment.
- Aircraft availability during contract period.

## Fire Prevention/Mitigation

### Wildland Fire Cause Determination & Fire Trespass

"The Bureau's policy requires any wildfire to be investigated to determine cause, origin, and responsibility. ...For all human-caused fires where the suspect can be determined, actions MUST be taken to recover the cost of suppression activities, land rehabilitation, and damages to the resources and improvements..." (source BLM Manual 9238 - *Fire Trespass and BLM Handbook H-9238-1 Fire Trespass*)

### Wildland Fire Mitigation/Prevention

To “proactively” mitigate damages and losses from unwanted wildland fires, reduce undesirable human-caused ignitions, reduce suppression costs and mitigate the risks of wildland fire to natural and cultural resources, private property and the lives of the firefighters and the public, BLM field offices are required (BLM Manual 9212 - Fire Prevention) to fund and implement a unit Fire Prevention Plan by completing a wildland mitigation/prevention assessment (see RAMS below).(usfs)

Wildland fire mitigation/prevention programs based on risks, hazards and values as determined through the Risk Assessment and Mitigation Strategies (RAMS) process are extremely effective in reducing damages and losses during periods of “average” weather, fuels and human activity conditions. As “fire season” weather and fuel conditions move from normal to above average or severe and/or human activity increases substantially, mitigation/prevention programs must be “stepped-up” to maintain their ignition and loss prevention effectiveness.

Therefore, as the components of wildland severity, human activities, Fire Danger Operating Plan thresholds and other signals indicate, additional mitigation/prevention actions must be initiated and/or additional resources (Fire Prevention/Education Teams, etc.) should be obtained through fire severity requests or other means. With these addition efforts and resources in place BEFORE conditions and fire activity become problematic, suppression resources become more efficient (with reduced human-caused ignitions suppression resources are available for response to unpreventable ignitions) and exposure to all firefighters and the public is reduced.

The mitigation of risk and losses during periods of wildland severity can be addressed by:

- 1) Conducting local/regional interagency fire prevention needs assessments which determine an appropriate level of mitigation/prevention actions and resources, then obtaining these resources through details, field/state office severity requests, regional/national resource orders, etc.
- 2) Mobilizing local or regional “fire prevention/education” team(s) to quickly assess, plan and implement immediate mitigation and outreach strategies during periods of abnormal wildland fire risk and/or human activity. Refer to the *National Interagency Mobilization Guide* (Chapter 20) or regional mobilization guides for prevention/education team information and mobilization procedures.

## U.S. Fish and Wildlife Service (FWS) Agency Specific Directions

### **Page 7-1 Preparedness**

Refer to Service Manual 621 FW 2 *Fire Management Preparedness and Planning and Fire Management Handbook* Chapters 1 and 3 for specific and/or additional information on preparedness concerning Fire Danger Operating Plan, NFDRS Thresholds - 90<sup>th</sup> & 97<sup>th</sup>, Severity Fund Guidance, Appropriate Severity Charges Labor.

## U.S. Forest Service (USFS) Agency Specific Directions

**Page 7-1 Preparedness**

US Forest Service direction for preparedness is FSM 5120.

**Page 7-2 Preparedness plans**

Add Regional office level.

**Page 7-6 Objective**

Forest Service severity funding direction in FSM 5190.

**Page 7-8 Severity charges**

Forest Service severity funding direction in FSM 5190.

**Page 7-11 Fire prevention Mitigation**

Forest Service direction for wildland prevention and investigation found in FSM 5110 & 5300.