



ROCKY MOUNTAIN COORDINATING GROUP

Bureau of Indian Affairs (Southwest, Rocky Mountain and Great Plains Regions)
Bureau of Land Management (Colorado and Wyoming)
Fish and Wildlife Service (Mountain/Prairie Region)
Forest Service (Rocky Mountain Region)
National Park Service (Intermountain and Midwest Regions)
State Agencies in Colorado, Wyoming, South Dakota, Nebraska and Kansas

Date: July 30, 2009

To: Rocky Mountain Area Coordinating Group Representatives

From: Chair, Rocky Mountain Area Coordinating Group

Subject: 2009 Protocols & Composition of Decision Support Group

Earlier this year RMCG tasked an adhoc group comprised of representatives of the Operations, Geospatial, and Fuels and Fire Use Committees to update RMA WFDSS protocols and develop protocols for a Decision Support Group. The purpose and need for such a group has its origins in new decision support technologies (WFDSS), the RMA IMT Succession Strategy (2008), as well as recent changes in the implementation of Federal Fire Policy (2009).

The purpose of the Decision Support Group (DSG) is to assist Agency Administrators (AA) and Incident Commanders (IC) with the analysis and development of a Decision Analysis Reports (DAR) and the associated course of action for an extended or long duration wildfires managed by local unit T3 Incident Management Organizations (IMOs).

On July 2nd RMCG adopted the attached Decision Support Protocols for 2009. Additionally, you will find an attachment which addresses the composition (recruitment, staffing, etc.) of this Decision Support Group.

Please share this information with your respective agency executives, unit line officers and fire management personnel.

A handwritten signature in black ink, appearing to read "Ross Hauck".

ROSS HAUCK
Chair, RMCG

Encl: 2



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TOPIC: 2009 Rocky Mountain Area Decision Support Protocols

INTENT: The purpose of this paper is to describe the process for requesting Wildland Fire Decision Support System (WFDDSS) assistance and tools during the 2009 fire season for emerging and/or large fires within the Rocky Mountain Geographic Area.

The WFDDSS provides a scaleable decision support tool that helps agency administrators and wildland fire managers make informed decisions for all unplanned ignitions. The WFDDSS uses appropriate fire behavior modeling, economic principles, and information technology to support effective wildland fire decisions consistent with Resource and Fire Management Plans

WFDDSS is constructed as a web-based system but can also generate a variety of standard or custom reports. One report, the Decision Analysis Report (DAR), represents the compilation of WFDDSS subsection information into a single report that becomes the formal decision documentation for the incident. The WFDDSS Decision Analysis Report (DAR) replaces the Wildland Fire Situation Analysis (WFSA), Wildland Fire Implementation Plan (WFIP) and Long-Term Incident Planning (LTIP) processes.

EXPECTATION: Units in the Rocky Mountain Area will build local capacity sufficient to utilize the basic WFDDSS tools to create an incident, prepare a course of action to meet strategic and incident objectives, and create a Decision Analysis Report.

An RMA Decision Support Group (DSG) may be requested to assist Agency Administrators (AA) and Incident Commanders (IC) with the analysis and development of a DAR and the associated course of action for moderate to long term wildland fire event managed by local unit T3¹ Incident Management Organization (IMO).

Decision support tools that can be utilized to provide additional information concerning the fire environment include:

- WFDDSS Fire Spread Probability (FSPro) is a spatial model that calculates and maps the probability of fire spread, in the absence of suppression, from a current fire perimeter or ignition point for a specified time period,

¹ See RMA Decision Support Group Protocols (07/2009). The focus of the DSG is to support local T3 organizations and units with Response Level 2 and 3 Decision Analysis Report development, not to "mentor" or support RMA T1 and 2 teams. The RMA T1 and 2 teams were configured beginning in the 2009 season to be capable of managing the full spectrum of wildland fire strategic and tactical responses. The DSG is not intended to be an overhead team; it is strictly for support to local units.

- WFDSS Rapid Assessment of Values at Risk (RAVAR), is a spatial model that shows the primary resource values to be protected and/or at risk from ongoing large fire events. RAVAR can be directly integrated with the WFDSS-FSPro model to identify the likelihood of different resources being threatened.
- WFDSS Values Inventory is a list of the tier 1 RAVAR data within a specified radius of the incident. It is a non spatial display of available on the INFO tab for all incidents.
- WFDSS Basic Fire Behavior gives "snapshot in time" fire behavior outputs (flame lengths, rates of spread, fireline intensities, etc.) for an entire user-defined landscape extent using one set (per cell) of wind and fuel moisture conditions. WFDSS BFB can be thought of as a "spatial BEHAVE or BehavePlus". Using fuels, topography, and weather data, fire behavior characteristics are calculated and displayed for every cell of the landscape extent.-
- WFDSS Short Term Fire Behavior is a two-dimensional fire growth model. This web-based application calculates spread rates and maximum spread direction at each cell. Holding all environmental conditions (wind and fuel moistures) constant for the duration of the simulation, STFB calculates fire growth and behavior by searching for the set of pathways with minimum fire spread times from an ignition (point) source. Using one set of wind and fuel moisture conditions, STFB provides potential fire spread (arrival times and major paths) for a user-defined length of time.
- WFDSS-Stratified Cost Index (SCI) provides an analysis of comparable fire suppression expenditures from historic data.

Units may utilize the available WFDSS tools to assist fire managers and agency administrators in making decisions regarding strategies on wildland fires as appropriate.

Mandatory Use (Forest Service Only):

- 1) For all fires expected to exceed \$5 million, a WFDSS-SCI analysis will be completed.
- 2) For all fires reaching or anticipated to reach \$10 million or more a WFDSS-FSPro, WFDSS-SCI, and WFDSS-RAVAR assessments will be completed

Optional Use:

- 1) Fires reaching or anticipated to reach \$5 to \$10 million would benefit from WFDSS-FSPro and WFDSS-RAVAR assessments and units will be strongly encouraged to use these tools.
- 2) Any event where conditions indicate moderate to long duration persistence and management. Units are strongly encouraged to request a RMA DSG early on, as the modeling results will assist in the development of the course of action and assessment of potential risks.
- 3) Any wildland fire incident that escapes initial attack and transitions into extended attack with a Type I or II IMT or FUMT ordered where the strategy to be utilized is uncertain.

PROCESS: To ensure WFDSS tools are available in a timely manner, the Rocky Mountain Geographic Area Coordinating Group will implement the protocols described below.

1. For WFDSS support needs, the Unit's first point of contact is their Agency's identified Point of Contact (POC) within the RMA.

Agency	Name	Number
USFS	Paul Langowski	303-275-5307
USFS	Brenda Wilmore	970-328-5891
CO BLM	Ken Kerr	303-239-3693
CO/WY BLM	Gwenan Poirier	303-239-3689
NPS	Linda Kerr	303-969-2883
USFWS	Neal Beetch	303-445-4367
BIA	TBA	
States	TBA	

If the Agency POC is not available, contact Rocky Mountain Area Coordination Center (RMACC) to request WFDSS support and/or incident analysis prioritization.

2. Prior to initial contact, the Unit (Forest, Park, Monument, Refuge, Field Office etc) will assign a point-of-contact (POC), with WFDSS author role to initiate and review incident analysis.
3. For WFDSS-FSPro or "supervised" fire behavior analyses, a Fire Behavior Specialist will be assigned to the incident to coordinate with the Unit assigned POC. The specialist will work with the Unit POC to either create a fire perimeter in WFDSS or upload the fire's most current shape file.
4. The Fire Behavior Specialist will complete the WFDSS-FSPro assessments. Depending upon National and Geographic Area fire activity and the incident's priority status within the National WFDSS structure, results may take from one to seventy-two hours to run, validate, and be prepared for decision maker use.
5. The Values Inventory process has been automated for the 2009 Fire season and it is the Unit's responsibility to complete this assessment on the Situation tab in WFDSS. Since the RAVAR analysis tool is not yet completely automated, some manual effort is required to complete a RAVAR analysis. Units will initiate the RAVAR request in WFDSS following concurrence with their Agency POC.
6. The WFDSS-SCI analysis has been automated for the 2009 season. The WFDSS-SCI analysis will be based upon the fire information entered by the Unit POC. It is the Unit's responsibility to request the WFDSS-SCI analysis on the View Information tab for the incident in question. Agency POC's can assist Units in interpretation of the analysis,
7. When WFDSS-FSPro or RAVAR results are available, the analyst will notify the Unit POC to coordinate a briefing of the results to the appropriate audience. The Fire Behavior Specialist will assist units in downloading files for viewing and printing. Briefings may occur over the phone or in person, depending upon activity. Units will take the lead role in identifying who should be involved in the briefing (Agency Administrators, FMO, FUMA, IMT, etc.).
8. Updates to the original WFDSS-FSPro run should be requested through their Agency's identified POC or RMACC as specified in item 1 above.

UNIT RESPONSIBILITY:

1. Prior to the fire season, request and obtain a user's login and password. The WFDSS tools are located at http://wfdss.usgs.gov/wfdss/WFDSS_Home.shtml. At a minimum,

Unit FMOs and AFMOs, should request a user profile with sufficient edit access (author) privileges to initiate and review incident analysis.

- a. Develop a local Unit level Fire Behavior Specialist cadre
- b. Review the Landfire fuel model and canopy fuels layers for the Unit to be able to provide any necessary local adjustment/modifications to the assigned analyst.
2. Provide ongoing prioritization of Unit incidents requiring WFDSS support.
3. Identify Unit point-of-contact to work with the assigned WFDSS analyst. These individuals need to be able to articulate to the analyst what values are at risk to the fire; understand the fire strategy and be able to provide information on fire behavior, line constructed, natural barriers to fire spread, fuel models, vegetation, fuel moistures, representative weather stations; and provide current fire perimeter shape file for program uploading.
4. If an Incident Management Team (IMT) is assigned, the Unit will determine if the team will be formally delegated WFDSS responsibilities or if the Unit assigned POC will continue working with the analyst and coordinate IMT involvement and needs.
5. Request an RMA Decision Support Group if needed.
6. Request preseason assistance and training if needed.
7. Identify individuals who are willing to train and participate as WFDSS Fire Behavior Specialist.

ROCKY MOUNTAIN COORDINATING GROUP/RMACC RESPONSIBILITY:

1. Provide ongoing prioritization of incidents within the Geographic Area requiring WFDSS support.
2. Recruit and coordinate an RMA DSG cadre including a Fire Behavior Specialist support/mentoring cadre.
3. Assign a Fire Behavior Specialist to work with the Unit’s identified POC Fire Behavior Specialist if the Agency POC is not available.
4. Establish a Decision Support Group at RMACC at PL IV or higher.

Table 1 – WFDSS USER ROLES and Minimum RMA Prerequisites

USER ROLE	WFDSS Privileges	RMA Minimum Qualifications
Viewer	<ul style="list-style-type: none"> • Is the minimum level of access for all WFDSS users. • View incident information for all WFDSS incidents and groups. • Cannot Edit 	<ul style="list-style-type: none"> • None – To Be granted WFDSS access non-federal users need to provide documentation that they have completed an approved computer security awareness training. For users who have a Federal e-mail address, it is assumed that they have taken an approved security

USER ROLE	WFDSS Privileges	RMA Minimum Qualifications
		awareness training
Dispatcher (Incident Initiation)	<ul style="list-style-type: none"> • Enter information for a new WFDSS incident within their geographic area. • Edit incident information for incidents they created, until ownership is assigned • Run simple (unsupervised) fire behavior analyses 	<ul style="list-style-type: none"> • Complete basic WFDSS training on how to create and incident available on the WFDSS website
Author	<ul style="list-style-type: none"> • Enter information for a new WFDSS incident. • Edit incident information for incidents they create. • Grant privileges to other users for incidents they have authored. • Run simple (unsupervised) fire behavior analyses. • Request an analyst be assigned for fire behavior modeling and RAVAR analysis. • Create a group or complex from individual incidents. 	<ul style="list-style-type: none"> • Needs to complete basic WFDSS training available on the WFDSS website
Fire Behavior Specialist² Requires previous fire behavior modeling experience	<ul style="list-style-type: none"> • Conducts “supervised” fire behavior analyses and modify inputs as needed. • Accept (or reject) the results of the fire behavior analyses. • Grant privileges to other analysts for analyses they have created. • Interpret fire behavior analyses for other users. 	<ul style="list-style-type: none"> • Users requesting this role should have previous fire behavior modeling experience, including evaluating and modifying landscape files, historic climate, and forecasted weather as this role utilizes geospatial fire behavior models. • The minimum qualifications are approached in the same manner as the RERAP and FARSITE technical specialist positions. S-490 along with S-492 and S-493, or S-495 and/or being a qualified FBAN or LTAN with FSPRO

² Any role higher than Viewer can complete a short-term fire behavior analysis. Training is available on the WFDSS website. S-490 is the minimum RMA suggested prerequisite.

USER ROLE	WFDSS Privileges	RMA Minimum Qualifications
		<p>training/experience is required.</p> <ul style="list-style-type: none"> • Users requesting this role should provide their agency POC documentation of their completion of the minimum requirements
<p>Geographic Area Editor (Agency Point of Contact)</p>	<ul style="list-style-type: none"> • Edit WFDSS incidents within their geographic area (GA). • Request and cancel analyses for WFDSS incidents in their GA. • Prioritize analysis requests within their GA. • Authorize new Viewer, Author, Dispatcher, and Fire Behavior Specialist roles in their GA. 	<ul style="list-style-type: none"> • As determined by the individual Agency



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Rocky Mountain Area Decision Support Group

The purpose of this document is to provide the background for the development and deployment of a Decision Support Group in the Rocky Mountain Area. The document describes:

1. The Purpose of the Decision Support Group (DSG)
2. Recommended Composition of the DSG
3. Recruitment strategy of a cadre for the DSG and
4. Dispatch protocols for the DSG

PURPOSE

The purpose of the Decision Support Group (DSG) is to assist Agency Administrators (AA) and Incident Commanders (IC) with the analysis and development of a Decision Analysis Reports (DAR) and the associated course of action for an extended or long duration wildfires managed by local unit T3¹ Incident Management Organizations (IMOs).

The DSG is not a separate IMO but assists the AA/IC with:

- Identifying current and future needs relative to develop a course of action for potential medium to long duration events relative to strategic and incident objectives using any or all of the following:
 - Fire Behavior Modeling (Short and Long Term)
 - Risk/Values Assessment
 - Developing Management Action Points and associated organizational or staffing needs

During an incident, the DSG can provide mentoring and skill development to local unit organizations. The DSG or its members can be available for off-site/consultation and remote support depending on local unit needs and incident complexity.

¹ The focus of the DSG is to support local T3 organizations and units with Response Level 2 and 3 Decision Analysis Report development, not to “mentor” or support RMA T1 and 2 teams. The RMA T1 and 2 teams were configured beginning in the 2009 season to be capable of managing the full spectrum of wildland fire strategic and tactical responses. The DSG is not intended to be an overhead team; it is strictly for support to local units.

Recommended Composition of the DSG

The recommended composition of the DSG is as follows:

1. **FUM1/2/SOPL** – The Fire Use Manager (FUMA) position has recently transitioned to a Strategic Operational Planner (SOPL) position. Regardless of this transition, the FUMA skills developed for wildfires managed for resource objectives remain relevant to/for any extended to long term wildfire. FUMAs/SOPLs, provide expertise and experience in developing courses of action and mitigation measures to assess trade-offs between risks, costs, and benefits. These personnel are skilled in the use and interpretation of many of the new decision support tools which are available through WFDSS.
2. **Fire Behavior Specialist** - (FSPro, Analyst Assisted Short-Term Fire Behavior, BEHAVE, RERAP and FARSITE). – The Fire Behavior Specialist predicts the potential area and extent of burning to assist in assessing long-term risk. The Fire Behavior Specialist also predicts the potential of a fire to reach certain values that may be threatened over the long term and the potential timing of a fire ending event. Depending on the complexity of the incident the role of the Fire Behavior Specialist role may be filled with a qualified FBAN or LTAN, or FBAN/LTAN trainees; or WFDSS fire behavior technical specialists (see Recommended RMA minimum WFDSS qualifications).
3. **Operations Specialist** - The Operations Specialist (who should have experience in incident operations from managing fires for resource objectives) develops management actions and estimated costs with local unit input commensurate with predicted fire behavior, risk assessment, fuel types, fuel continuity, overall objectives, and defined management concerns. Depending on the complexity of the incident the role of the Operations Specialist may be filled by a STxx, TFLD, DIVS, OPS2, etc.
4. **Fire GIS Specialist** – The Fire GIS Specialist using available technology produces maps and other products required to prepare incident maps and displays. The Fire GIS Specialist supports the Fire Behavior Specialist in the development of data layers for fire behavior analysis and the Operations Specialist in displaying Management Action Points (MAPs) and other critical Incident Information. The Fire GIS Specialist must have sufficient fire experience to adapt to the fire management environment. This background helps GIS technical specialists perform GIS on fires and other risk incidents that require a spatial component. It is recommended that a fully qualified GISS be requested to fill the Fire GIS specialist role for complex incidents and a GISS (T) can be used on simpler incidents.

Organizational needs to provide decision support will vary significantly with site-specific circumstances. Position skill level should be commensurate with the fire situation and needs.

Recruitment strategy

The RMCG will recruit for and maintain a list (cadre) of individuals for the four recommended positions (above) to fill resource orders for the Decision Support Group. It is recommend that

the Fire Behavior Specialist and Operations Specialist have had previous experience and skills managing or participating in long duration fires.

At this point time we do not recommend recruiting a trainee cadre for the DSG. Instead local units will be strongly encouraged to identify fuels or other resource specialists who demonstrate competency/interest in technical fire behavior modeling and analysis along with operations skills positions to shadow/assist the DSG. This element of the task group's recommendation should be evaluated following the 2010 fire season to determine the effectiveness of this approach in building local capacity.

Dispatch Protocols

If a Decision Support Group is needed the following procedure should be utilized:

1. Contact your Agency Point of Contact as specified below.

Agency	Name	Number
USFS	Paul Langowski	303-275-5307
USFS	Brenda Wilmore	970-328-5891
CO BLM	Ken Kerr	303-239-3693
CO/WY BLM	Gwenan Poirier	303-239-3689
NPS	Linda Kerr	303-969-2883
USFWS	Neal Beetch	303-445-4367
BIA	TBA	
States	TBA	

If the Agency POC is not available, contact the Rocky Mountain Area Coordination Center (RMAACC) Coordinator on Duty.

2. With your Agency POC determine the positions and skill level/expertise needed
3. Name request the identified positions.
 - a) Note in Special Needs field in the ROSS order – “For Decision Support Group”

Proposal and Protocols developed by,

Paul Langowski – Chair – Fuels and Fire Use Committee
Todd Richardson - Chair Operations Committee
Elise Bowne – Chair Geospatial Committee
Shane Delgrosso – Member Fuels and Fire Use Committee
Jim Fletcher – Rocky Mountain Area Coordination Center