

Appendix N

Wildland Fire Decision Support System Information

WFDSS Overview

The Wildland Fire Decision Support System (WFDSS) is an interagency, web-based application that helps agency administrators and fire managers make risk-informed decisions for all types of wildland fires, regardless of complexity. WFDSS integrates the various applications used to manage incidents into a single risk-informed, collaborative system to streamline the analysis and reporting processes, providing one decision documentation system tiered to Land and/or Resource Management Plans.

The application's home page can be accessed at <https://WFDSS.usgs.gov>.

WFDSS Account Information

The WFDSS application is intended for use by the US federal government for managing wildland fires.

Qualified users (Federal and Tribal Employees and non-Federal WFDSS partners) can request accounts on the WFDSS Production (for live incidents) or Training (training incidents only) login pages and a single account provides access to each system. Additional information about requesting an account can be found at https://wfdss.usgs.gov/wfdss_help/WFDSShelp_request_acct.html.

Federal accounts are granted automatically, non-federal accounts are granted by Geographic Area Editor (GAE) or National Editors (NE), depending on the geographic area a user's account is associated with (Note: Each federal entity has different overlapping regions which may not coincide with geographic areas. A GAE from a perceived different geographic area may assist you as a result.).

Users work with GAEs, NEs, and the Customer Help Desk to manage locked accounts, disabled accounts and password resets. The help topics Requesting a Password Reset, Understanding Locked User Accounts and Re-enabling a Disabled Account provide additional information, they can be located in the WFDSS Online help available at https://wfdss.usgs.gov/wfdss_help/index.htm.

WFDSS User Roles

User Roles in WFDSS correspond to permissions which allow users to perform certain tasks within the application. Newly activated accounts are assigned a Viewer role but within the application, users can request Author, Dispatcher, Data Manager, or Fire Behavior Specialist roles as necessary. Various support roles exist as well, and include Geographic Area Editor, National Editor, Administrator and Help Desk. User role requests are granted by Geographic and National Editors, depending on the geographic area and role requested.

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- Users assigned the Viewer role can view published content but can only engage in incident documentation if assigned incident privileges.
- The Author role is required for users to create and/or own incidents and manage the decision documentation process.
- The Dispatcher and Data Manager roles are typically designated at the local level to manage an Administrative Unit's incident information and spatial data.
- The Fire Behavior Specialist role can be requested/granted when a certain degree of fire behavior analysis training has been completed (training and experience culminating in S491 and S495).
- The Geographic Area Editor role is a primary support role for Authors, Dispatchers, Data Managers and Fire Behavior Specialists; users assigned this role have implicit ownership of incidents within their geographic area, regardless of agency. Additional information about GAE duties is included in the WFDSS Training and Support section.
- The National Editor role has maximum authority relative to WFDSS incident management; users assigned this role have implicit ownership of all incidents in WFDSS.

The WFDSS User Roles help topic provides additional information about user roles and can be found in the WFDSS online help available at https://wfdss.usgs.gov/wfdss_help/index.htm.

WFDSS Incident Privileges

Incident privileges are assigned and managed by incident owners at the time of (and are specific to) an incident. These privileges allow users to Own, Edit, Review, or Approve decision content. Users must be assigned the Author user role to own incidents, but users with any role can edit, review or approve decisions. If a change in incident privileges is necessary for an incident, contact the incident owner(s) to coordinate the change. Incident Privileges and Managing Incident Privileges are two topics that provide additional information; they can be searched for in the WFDSS help.

WFDSS Training and Support

A variety of WFDSS training and support materials are located on the WFDSS home page. Here you can access modeling and decision learning resources, videos and various white papers and supporting documents. The Hot Picks section provides links to annual refresher materials as well as the most common WFDSS-related offerings; it's a column located on the right side of the WFDSS home page. The Training and Related References sections of the WFDSS home page are available here, respectively:

https://wfdss.usgs.gov/wfdss/WFDSS_Training.shtml and

https://wfdss.usgs.gov/wfdss/WFDSS_Resources.shtml.

Within the WFDSS application, the online help is a comprehensive set of help topics that are mapped to corresponding pages in the application. Click the help icon in the upper right of any page to access specific help information for any page in the application. The online help can also be accessed here: https://wfdss.usgs.gov/wfdss_help/index.htm.

Geographic Area Editors Support of WFDSS Users, Incidents and Agencies

Geographic Area Editors (GAE) are another source of WFDSS training and support. Their primary role is to support WFDSS users and incidents within their Geographic Area (GA), serve as interagency technical experts, and Point of Contacts for their agency or bureau.

GAEs from various agencies are typically designated within each GA. GAEs work cooperatively for the benefit of all users within their GA and are both able and expected to assist any caller from any agency within their GA.

Geographic Area Editors WFDSS Duties

- Grants and removes user roles (Viewer, Author, Dispatcher, Fire Behavior Specialist, and Data Manager) in the Training and Production systems within their GA.
 - Serves as a WFDSS expert to support WFDSS users within their GA.
 - Assists or otherwise provides oversight in the development of decision content for WFDSS decisions.
 - Provides “WFDSS Point of Contact (POC)” technical help during off hours and weekends.
 - Provides training and answers technical “how to” questions.
- Provides incident support within their GAs as needed, and when an incident owner is unavailable. Geographic Area Editors can:
 - Edit any WFDSS incident within their GA, in coordination with incident owners, editors and/or Approving Official(s);
 - Develop and share filters (groups, incident, analysis, and intelligence);
 - Upload incident and/or analysis shapefiles;
 - Transfer/modify incident ownership;
 - Grant incident privileges; and
 - Edit jurisdictional point of origin (in coordination with local unit and incident).
- Serves as Geographic Area POC for their agency or bureau:
 - Facilitates interagency cooperation and coordination in support of multijurisdictional incidents and field users.
 - Consults fire and resource management staff and agency leadership as needed on WFDSS decision content.
 - Coordinates with and provides backup to other GAEs within their GA.
 - Disables agency/bureau user accounts within their GA.
 - Disseminates technical information such as upgrades to the WFDSS system, “how to” guidance and training materials/announcements.

- Participates in GAE calls to keep up to date on system changes or other relevant information to be shared with field units.
- Verifies completion of security training for non-federal account requests.
- Assists with the reactivation of disabled accounts within their GA. When a user with a disabled account contacts a GA editor, the GA can assign the user a role in WFDSS Production and it automatically syncs with the user's Training account. The user can then contact the Help Desk to reset their password and unlock the account.

Geographic Area Editors WFDSS Limitations

- Cannot reset passwords (users must contact the help desk to reset their password and unlock their account).
- Do not have privileges specific to Fire Behavior Specialist, Administrator or Helpdesk.
- Cannot view disabled accounts for users in other GAs.

Fire Behavior Analysis

Fire behavior analysis is incorporated into WFDSS, in the form of the Fire Spread Probability model (FSPro), Basic Fire Behavior (Basic), Short Term Fire Behavior (STFB) and Near Term Fire Behavior (NTFB). A comparison of these models (as well as FlamMap and FARSITE) can be found on the WFDSS homepage under the Training menu option (https://wfdss.usgs.gov/wfdss/WFDSS_Training.shtml), Modeling Learning Resources section.

WFDSS users assigned the Fire Behavior Specialist (FBS) role are responsible for fulfilling analysis needs for incidents. FBSs can be local; assigned to incident management teams in the form of LTANs, FBANs or GSANs; or provide assistance remotely. It's helpful to identify local FBSs pre-season to understand the local capacity for analysis assistance.

If a local FBS is not available to provide analysis for an active incident, you can request assistance by selecting Fire Behavior Request from the Information tab of an Incident and submitting the request, contacting a Geographic Area Editor, or calling the Analysis & Decision Content Support number listed on the WFDSS home page (208-473-8107). Additional information about requesting assistance for an incident can be found on the Decision Support section of the Wildland Fire Management Research, Development and Application group home page at https://www.wfmrda.nwec.gov/decision_support.php.

Relative Risk Assessment

The Relative Risk Assessment is required before publishing a Decision for an incident. Its purpose is to assist you in planning for, assessing, and managing your incidents. Incident Owners or Editors can perform the assessment, which

provides a quick but comprehensive assessment of the risk of the fire. This is a qualitative process that can be completed in less time than a quantitative long-term risk assessment. The Relative Risk Assessment chart uses three risk components:

- values
- hazard
- probability

Each of these components is assessed independently. As the graphs for each component are completed, you can document thoughts/reasons for inputs in accompanying text boxes. This text automatically populates in the WFDSS decision but the graphs themselves do not (they can be manually added if you choose). The three outputs are then evaluated in a final step that provides the Relative Risk rating for the fire. From the Relative Risk rating, guidance is provided within the system to assist the Owner/Author in determining the level of analysis needed, considerations for the incident and documentation of the Decision. The help topics About Relative Risk and Calculating Relative Risk provide additional information and can be located in the WFDSS online help available at https://wfdss.usgs.gov/wfdss_help/index.htm.

Organization Assessment

The Organization Assessment (OA) is required to publish a Decision for an incident. It guides Agency Administrators in their incident management organization selection, both in escalating and moderating situations (i.e., this process can be used to expand or contract organizations). The OA is based on Relative Risk, implementation difficulty, and socio-political concerns. The final part of the OA combines these variables to allow users to select the level of incident management needed. The help topics Organization Assessment Reference provides additional information and can be located in the WFDSS online help at https://wfdss.usgs.gov/wfdss_help/index.htm.

Incident KMZ (left menu)

Incident KMZ files can be downloaded to include all of the incident spatial data and completed analyses from the Published Decision(s). The spatial data is composed of incident and analysis shapes found in the Incident and Analysis map layers on the Situation map. Shapes include planning areas, fire perimeters, management action points, incident objective shapes, analysis outputs and analysis ignition files. If a decision is pending, only spatial information available to all users will be provided in the KMZ.

WFDSS Suggested Refresher and Preseason Items

It's recommended that units provide annual WFDSS refreshers to all individuals that may be involved in incident decision-making and documentation. It's also important to identify individuals assigned the Fire Behavior Specialist role in

WFDSS to understand a unit's capacity for providing analysis products, and to identify future analysts for training and exposure come fire season.

WFDSS Refresher Training Recommendations are located in the Line Officer Resources section of the WFM RD&A web page (https://www.wfmrda.nwcg.gov/line_officer_resources.php). Additional refresher information can be found on the WFDSS home page (Training and Related References menu options, annual refresher documents in Hot Picks) and from GAEs. Suggested minimum duration for review is two hours.

It is suggested that the following items are covered in annual WFDSS refreshers:

- *Strategic Objectives and Requirements* – briefly review what is currently pre-loaded in WFDSS, discuss if there is conflicting information within the same Strategic Objective (SO) or FMU, and evaluate what fire management options can be utilized within each SO/FMU. Determine if edits are needed to update the information currently in WFDSS.
- *Relative Risk* – can be visited pre-season to define some local inputs.
- *Boundary Fires* – discuss, with interagency partners, how fires will be managed along boundaries. Utilize a fire scenario for this discussion if possible and work through the WFDSS process.
- *Unit Fire Planning* – review planning-related shapes associated to ensure they are still applicable and to identify potential needs for one or more Other Unit Shapes.
- *Fire Scenario* – utilize WFDSS Training to develop one or more fire scenarios and guide corresponding discussions. Utilize a fire scenario that is somewhat complex and includes interagency partners.
 - Planning Area – draw a planning area with dialogue around how to draw it and what to include within it.
 - Values Inventory – review the values inventory that's derived from drawing the planning area. Document missing values, if any, and determine if shapes are available to represent them.
 - Situation Map/Tab – review available map layers and the data they contain, and check system preferences to ensure that all applicable map layers are available for viewing.
 - Relative Risk and Organizational Assessment – complete this process making notes of what various elements were rated and why.
 - Incident Objectives / Incident Requirements – write them for the scenario. Review to ensure they address the what, when, where and why to communicate leader's intent and indicate priority.
 - Course of Action – develop a course of action that further explains leader's intent, the priorities for the incident, and as needed, what not to do.
 - Scenarios – as the above information is developed, discuss the potential scenarios and document those actions not taken in the assessment or rationale.

- Rationale – draft the rationale to include “My decision is...” information. This is the executive summary of the document. Consider documenting what is allowed in the management plan, the probability of being successful, the expected duration, and what was considered but rejected. The Rationale section provides a list of items to consider addressing and discussing.
- If interagency partners are not involved in the scenario, discuss who, when and how they would have been involved during an incident.
- *Fire Behavior Models*
 - Discuss the various models (FSPro, NTFB, STFB, Basic) and how any of them might be utilized to inform decision content.
 - Review the values at risk information provided by the models and how it varies from the values inventory.
 - Discuss how the models might be utilized to answer what types of questions (practice forming the questions first, and then determining which modeling tool would provide the best answer).
 - Review products previously utilized by the Unit to evaluate risk on a fire or assist with decision-making.