

**Wildland Fire Decision Support System Information****WFDSS Subsections**

The Wildland Fire Decision Support System is divided into 8 subsections represented by tabs within the program. These sections are: Information, Situation, Objectives, Courses of Action, Validation, Decisions, Periodic Assessment, and Reports.

**Information**

Basic information for an incident is found in this section, which includes: Incident Name, Point of Origin, Unique Fire Identifier, Fire Code, Fire Perimeter / Incident Size, Discovery Date, Containment Date, Controlled Date, Out Date, Landscape Data Source, Geographic Area, Responsible Unit at Point of Origin, Incident Cause, and Jurisdictional Agency at Point of Origin. Updating this information is essential for ongoing incidents (especially acreages and dates) as this information is automatically populated into the WFDSS Decision content. It is also important that the incident Owner(s) are available when the incident is updated or transferred. Incident ownership may be associated with an individual or group, depending on fire complexity, jurisdictions involved, and other considerations.

**Situation**

The Situation section provides a map interface displaying a variety of incident and reference information. It reduces the need for paper maps by giving users a dynamic and intuitive interface in which information needed for decision support is timely and easily accessible from anywhere with an internet connection. This section allows users to create new shape files, view values and boundaries, and conduct Basic and Short-Term fire analysis.

Map (sub tab) – has several spatial layers available:

- Base Layers- WFDSS Topos, Google Maps, Google Physical, U.S. States;
- Incident- Planning Areas, Fire Perimeters, Management Action Points, Points of Interest, Objective Shapes, Point of Origin;
- Analysis- Ignitions, Barriers, Landscape Masks, Basic Fire Behavior, Short Term Fire Behavior, Near Term Fire Behavior, FSPro (Values at Risk);
- Fire Environment and Safety- Active MODIS 6, Active MODIS 12, Active MODIS 24, MODIS YTD, Est Ground Evac Time, Retardant Avoidance, Aquatic Res Avoidance;
- Disturbance History- WFDSS Fires Since January 1 of Current Year, Historical Wildfires;
- Fire Weather and Danger- Significant Fire Potential, Fire Wx Zones, RAWs Stations
- Boundaries- Jurisdictional Agencies, Responsible Agencies, Federal Admin Areas, TNC Lands, Counties, Landscape Source;

- 1 • Designated Areas- Wilderness, Potential Wilderness, Special, Other, BLM;
- 2 • Infrastructure- Facilities, Communication, Energy, Roads and Trails;
- 3 • Natural and Cultural Resources- Air Quality, Critical Habitat (T&E), Sage
- 4 Grouse Habitat;
- 5 • Unit Fire Planning- Unit Outlines, FMUs, and Other Unit Shapes for each
- 6 agency unit shown on the map. Data managers can upload shape files that
- 7 contain information about local values.

8

9 Map Capture (sub tab) – using the camera button at the top of the map users can  
10 create (save) a screen capture of the map that can be later incorporated into a  
11 Decision.

12

13 Info (sub tab) – the user can access: Feature Information, Fire Danger (ERC  
14 charts), Smoke Dispersion, Strategic Objectives, Fire Weather Forecasts,  
15 Predictive Services Significant Fire Potential, and Hourly Weather Forecast.  
16 Additionally users can access basic information about the underlying landscape  
17 file: Source, Elevation, Aspect, Slope, Fuel Model, Canopy Cover, Bulk  
18 Density, Stand Height, Base Height.

19

### 20 **Objectives**

21 Strategic Objectives and Management Requirements as entered from approved  
22 plans (Land & Resource Management Plans, Fire Management Plans) can be  
23 viewed and Incident Requirements and Objectives can be developed. Based on  
24 the Planning Area, Strategic Objectives and Management Requirements are  
25 automatically loaded to the Decision content.

26

27 Incident Requirements and Incident Objectives are created which are tiered from  
28 the overarching Strategic Objectives and Management Requirements. Users can  
29 control the activation or deactivated status of Incident Objectives and Incident  
30 Requirements based on fire location and activity.

31

### 32 **Courses of Action**

33 Documentation for action items and associated cost is completed in this section.  
34 Users can edit, include, or exclude action items each time a decision is made.  
35 Several methods for determining cost can be found here; follow your agency  
36 direction and include a summary of how the cost was constructed.

37

38 Cost can be developed using the Stratified Cost Index (SCI) located in the left  
39 hand menu. The SCI is available for USFS and DOI. The correct model is  
40 automatically chosen by the Unit ID in the Unique Fire Identifier. The model  
41 requires input for the estimated final acreage of the incident. Users can input up  
42 to four different estimated acreages.

43

44 Management Action Points (MAPs) (left menu) may be developed to define a  
45 condition which when met, prompts implementation of a pre-determined action.

1 The Condition, Action, and optional Cost can be defined and linked to  
2 geospatial MAPs drawn in the Situation tab.

3

#### 4 **Validation**

5 The default Course of Action (pre-planned response) and decisions are validated  
6 in this section. It is important to document your justification in the comment  
7 section as completely as possible for answering the question – “Does the default  
8 or proposed Course of Action satisfy the strategic and/or incident objectives?”

9

10 WFDSS users should consider the following when writing this justification:

- 11 • Are there adequate resources to achieve your COA?
- 12 • Has the cost been developed to achieve the COA?
- 13 • Does the current fire behavior and weather assessment support the COA?
- 14 • Have you completed the Relative Risk Assessment and assessed the  
15 Planning Area’s Value Inventory?
- 16 • Have you checked your Relative Risk Advice considerations?

17

18 This information will be viewable throughout the decision process and will be  
19 automatically populated in the WFDSS Decision content.

20

#### 21 **Decisions**

22 In this section, users create, view, edit, and download published decisions. It is  
23 important that Owners, Editors, and Reviewers become familiar with their role  
24 and understand how to manipulate the incident content into the Decision  
25 Content. Additionally, knowing and understanding how and where to save  
26 information as agreed upon by the incident Owner(s) are essential. From this  
27 tab, an Owner(s) starts the review and approval process. Incident decisions can  
28 be edited by incident Owners or by those users who have been granted access  
29 through incident privileges. Users will access the decision editor by checking  
30 the radio button next to the pending decision, then clicking EDIT. Once editing  
31 is completed, users click the Check-In button to allow access by others.

32

33 The WFDSS Decision content is outlined into several sections: Assessment  
34 (Information, Weather, and Other content), Objectives (includes all FMUs,  
35 Strategic Objectives and Management Requirements included in the Planning  
36 Area as well as all included Incident Objectives and Incident Requirements),  
37 Course of Action (includes MAPs), Validation (Includes the Relative Risk text)  
38 and Rationale. Multiple editors can be working on different sections of the  
39 WFDSS Decision content with a little coordination and using the edit / check-in  
40 process. Additional information that supports the Decision should be added to  
41 each of these sections.

42

43 The users who are editing the Decision content should include maps captures or  
44 uploaded images that support the Decision or help tell the story of the incident  
45 and the Decision. These images can be added to any section of the content as  
46 needed. Additionally, the Editors should also include all support information:

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**APPENDIX N-3**

1 cost development summary, Relative Risk, social/political concerns, fire  
2 behavior models, Values at Risk, long term assessment information.  
3  
4 Information from past planning documents that supports the Decision, now  
5 must be included in the Decision content in WFDSS. It is typically added in the  
6 Assessment portion of the Decision content. This information should also be  
7 summarized and referenced in the Rationale portion of the Decision.  
8  
9 Prior to submitting a Decision for the Review and Approval process, the  
10 Rationale portion of the Decision must be completed. The Rationale content  
11 should describe why the Decision was made to implement the Course(s) of  
12 Action. Consider explaining what caused you to make this Decision, what  
13 caused you to choose the Course(s) of Action, what are the causes and  
14 influences on the incident, what are the social and political concerns/pressures,  
15 what does the Relative Risk Assessment tell you, are their smoke concerns, and  
16 what fire behavior models informed the Decision.  
17  
18 Once a Decision has all the sections completed, it can be submitted for the  
19 Review and Approval process. If a Decision has not been published, it can be  
20 edited or deleted. However, once a Decision has been published, it is part of  
21 that incident record and cannot be changed or removed.  
22  
23 The Incident Objectives, Incident Requirements, Course of Action and Planning  
24 Area cannot be viewed by users who do not have incident ownership or  
25 privileges until a Decision is published. A new Decision must be made if  
26 updated information or findings are to be documented.  
27  
28 **Periodic Assessment**  
29 This is the section where the Approver(s) will complete the Periodic Assessment  
30 and view the previous actions and comments. The Periodic Assessment must be  
31 completed based on the timeframe specified by the Approver. Depending upon  
32 the complexity and activity on the incident, the timeframe can be set to 1-14  
33 days while publishing the Decision or during the Periodic Assessment process.  
34  
35 It is beneficial to document clear, concise information about the incident when  
36 completing the Periodic Assessment. The Periodic Assessment information will  
37 be part of the project record and a way for someone to gather situational  
38 awareness of the incident. It should be useful information, not only during the  
39 incident, but also for years to come when reviewing incidents. The comment  
40 section is especially pertinent because Approvers can outline the thought process  
41 and reasons for either continuing a current decision or requiring a new one.  
42  
43 **Reports**  
44 This section allows users to create custom reports consisting of portions of  
45 Decision content, (e.g. the MAP content or Fire Behavior content). A report can  
46 be viewed, edited, published, and downloaded. The Report section does not

1 provide a report on a Published Decision. Reports on Published Decisions can  
2 be found in the Decisions tab by using the PDF or HTML button, depending on  
3 desired format. When creating a report the user can decide on a custom,  
4 Delegation of Authority, or a Management Action Point report. These reports  
5 give the user the ability to select pertinent information from the incident for the  
6 report they are constructing.

7

## 8 **WFDSS Tools and Functions**

9

### 10 **WFDSS User Roles and Incident Privileges**

11 User Roles within WFDSS correspond to permissions which allow users to  
12 perform certain tasks within the application, such as creating an incident or  
13 conducting fire behavior analysis. Typical User Roles are Viewer, Dispatcher,  
14 Author, Data Manager, and Fire Behavior Specialist.

15

16 Incident privileges are assigned at the time of (and are specific to) an incident.  
17 These privileges allow you to Own, Edit, Review, or Approve decision content.

18

### 19 **Fire Modeling**

20 Fire modeling has been incorporated into WFDSS, in the form of the Fire  
21 Spread Probability model (FSPro), Basic Fire Behavior (Basic), Short Term Fire  
22 Behavior (STFB) and Near Term Fire Behavior (NTFB). Comparison of  
23 WFDSS Short Term and Basic models to stand alone FlamMap and other fire  
24 behavior information can be found on the WFDSS homepage under the Related  
25 Resources link, fire behavior section. Information for requesting assistance in  
26 running these models for your incident can be found at the WFDSS homepage  
27 through the Wildland Fire Management Research and Development And  
28 Application group, or by visiting  
29 [http://www.wfmrda.nwcg.gov/decision\\_support.php](http://www.wfmrda.nwcg.gov/decision_support.php)

30

### 31 **Relative Risk Assessment (left menu)**

32 The Relative Risk Assessment is required before publishing a Decision for an  
33 incident. Its purpose is to assist in planning for, assessing, and managing the  
34 incident. It provides the Agency Administrator with a quick but comprehensive  
35 assessment of the risk of the fire. An incident Owner or Editor can perform the  
36 assessment.

37

38 This is a qualitative process that can be completed in less time than a  
39 quantitative long-term risk assessment. The Relative Risk Assessment chart  
40 uses three risk components:

- 41 • values
- 42 • hazard
- 43 • probability

44

45 Each of these components is assessed independently. The three outputs are then  
46 evaluated in a final step that provides the Relative Risk rating for the fire. As

1 the graphs are completed, there is a text box to document the thoughts/reasons  
2 for the inputs. The information from the text box automatically populates in the  
3 WFDSS Decision content but the graphs themselves do not. Relative Risk can  
4 be visited pre-season to define some local inputs. From the Relative Risk rating,  
5 guidance is provided within the system to assist the Owner/Author in  
6 determining the level of analysis needed, considerations for the incident and  
7 documentation of the Decision.

8

9 **Organizational Needs Assessment (left menu)**

10 The Organizational Needs Assessment (ONA) guides Agency Administrators in  
11 their management organization selection, both in escalating and moderating  
12 situations (.i.e. this process can be used to expand or contract organizations).  
13 The ONA is based on Relative Risk, implementation difficulty, and decision  
14 concerns. The final part of the ONA combines these variables to determine the  
15 level of incident management needed.

16

17 **\*\*Note:** WFDSS is currently being revised to incorporate the Risk and  
18 Complexity Assessment (RCA).

19

20 **Incident KMZ (left menu)**

21 Incident KMZ files can be downloaded that include all the incident spatial data  
22 and completed analysis from the Published Decision(s). The spatial data is  
23 composed of the incident shapes found under the Incident and Analysis layers  
24 folder on the Situation Tab. If a decision is pending, only spatial information  
25 available to all users will be provided in the KMZ.