Incorporating Risk Assessment Information into WFDSS

Overview

Risk Assessments, typically written by Long Term Fire Analysts (LTANs), are important in developing strategies and contribute to decision documents for fire incidents. WFDSS is the repository for developing strategies and documenting decisions made on fire incidents. This document discusses topics related to incorporating risk assessment information into WFDSS Decisions Documents:

- Collecting Risk Assessment Inputs for a Decision Document
- Adding Risk Assessment Inputs to a Decision Document
    - Accessing the Decision Document
    - Editing a Decision Document using the Default Decision Editor and the Advanced Decision Editor
- Decision Document Examples
- Risk Assessment Analyses and Decision Support

Historically, Long Term Risk Assessments have been developed as stand-alone documents or incorporated into a Wildland Fire Implementation Plan (WFIP), Wildland Fire Situation Analysis (WFSA) or Long-Term Implementation Plan (LTIP). These systems are no longer available and have been replaced by WFDSS and for the sake of this document these types of assessments will be called a Risk Assessment. These Risk Assessments can be completed for any fire situation to support decision making, not just long term incidents. Risk Assessment information is uploaded into a WFDSS Decision Document to support the Incident Objectives, Incident Requirements, and Course of Action.

Generally, Risk Assessments consist of graphics and text that convey to Fire Managers and Line Officers the current fire conditions and what might be expected in terms of fire severity, potential duration, and spatial extent of the fire. There are no set rules; the assessment should aide the decision maker in understanding the fire's potential implications in terms of risks or benefits. For example climatology, long range weather outlooks, fuels assessments, fire behavior assessments and season end assessments might help support the decision maker in understanding the current fire situation as well as effects in the future. Each Incident has its unique concerns so WFDSS can be utilized to adapt to a variety of situations based on the complexity of the incident.

Collecting Risk Assessment Inputs for a Decision Document

Risk Assessment images are captured from fire programs such as Fire Family Plus, the internet, or within WFDSS. This content can then be included in the decision document.

WFDSS Fire Modeling & Situation Map Tools

Fire Behavior Analysis results completed in WFDSS and other types of map images can be added to the decision document using either the Default or the Advanced Decision Editors.

Analysis results can be added to a decision two ways; by selecting auto-generated images of completed runs from dropdown lists in the Default Decision Editor or the corresponding analysis folder in the Advanced Decision Editor, or by capturing analysis output map displays with the Camera ( ) tool and then adding those captured images to

decision content.

The Camera tool can capture map images from other map displays as well, and images can be easily added to decision content using both decision editors. When capturing an image, an image label and description is required. Entering a Report Name is optional, and doing so will auto-generate a landscape-oriented report of the capture that can be printed to PDF and easily shared. Captured images can be added directly to a decision using the Default Decision Editor or added to decision content through the Images folder in the Incident Content in the Advanced Decision Editor. The Capturing Map Images topic in the WFDSS Online Help provides additional information.

Smoke Dispersion Graphs

Smoke Dispersion Graphs and other smoke related intelligence can be added to an assessment either through the WFDSS Air Quality tool link. Images captured via various air quality or smoke applications can be uploaded into WFDSS using the Image Upload feature from the Menu List. Image format must be in a .JPG, .GIF or .PNG file.

Weather Forecasts

Weather forecasts are automatically uploaded into a WFDSS Decision; however, additional forecasts may be needed for various assessments. Weather forecasts from third party sources can be added using the Image Upload feature from the Menu List.

Predictive Services Significant Fire Potential

Predictive Services Significant Fire Potential is automatically created in a WFDSS system. This feature must be selected to be included in a decision. Additional predictive services-related material can be added using the Image Upload feature from the Menu List.
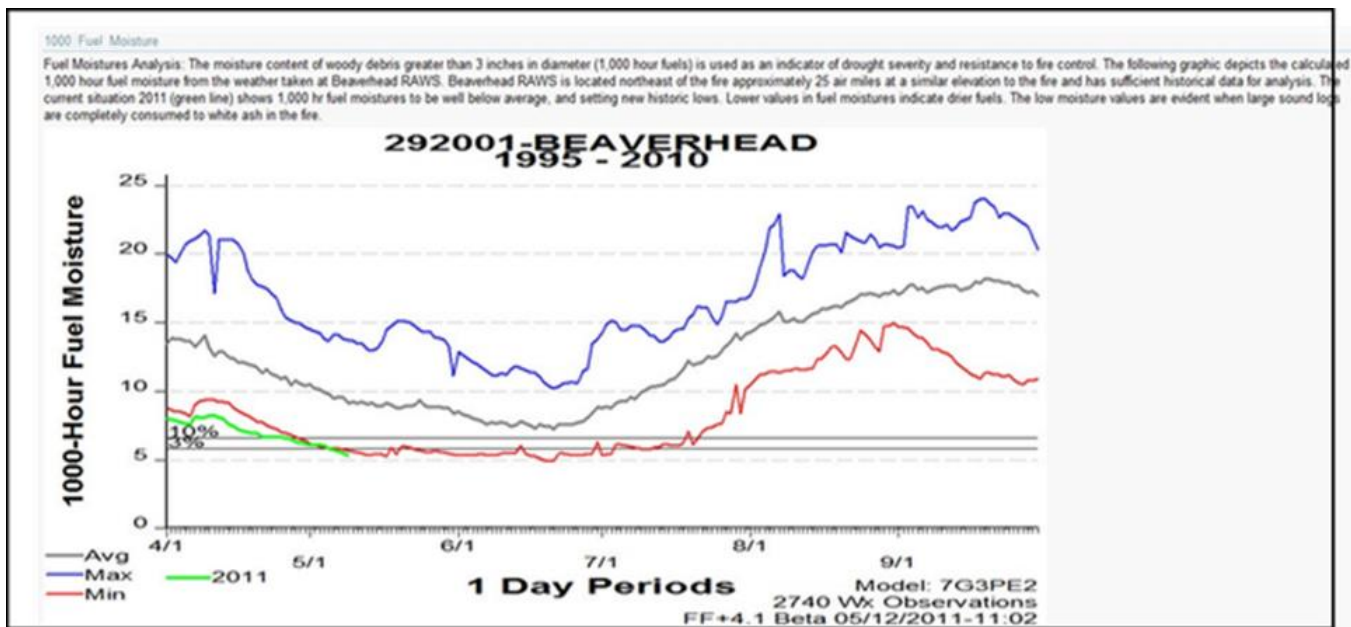
Fire Family Plus

Fire Family Plus can be utilized to save a graph to image file formats in various sizes (.JPG, .GIF or .PNG) the images are then uploaded into WFDSS using the Image Upload feature from the Menu List.

Example of Image Upload

When using the Image Upload feature or Camera button, text can be added as an Image Description as seen in the 1000 Hour Fuel Moisture example below.

- Type text or copy and paste text in the Image Description box that explains what the image means, what its implications are, or how to interpret it.
- The text appears above the image when it is viewed in the WFDSS decision editor as seen below.

1000 Fuel Moisture

Fuel Moistures Analysis: The moisture content of woody debris greater than 3 inches in diameter (1,000 hour fuels) is used as an indicator of drought severity and resistance to fire control. The following graphic depicts the calculated 1,000 hour fuel moisture from the weather taken at Beaverhead RAWS. Beaverhead RAWS is located northeast of the fire approximately 25 air miles at a similar elevation to the fire and has sufficient historical data for analysis. The current situation 2011 (green line) shows 1,000 hr fuel moistures to be well below average, and setting new historic lows. Lower values in fuel moistures indicate drier fuels. The low moisture values are evident when large sound logs are completely consumed to white ash in the fire.

These WFDSS Online Help topics provide further information:

- Adding Text to a Decision Document
- Including Analysis Results in a Decision
- Adding an Image to a Decision Document
- Uploading Images
- Copying/Pasting Text into a Decision Document

Adding Risk Assessment Inputs to a Decision Document

When developing the Risk Assessment the analyst must have access to WFDSS and incident privileges to edit. The analyst can then add the content directly to the decision by editing a "Pending Decision" from the Decision tab.

When an analyst does not have access to a particular incident, the analyst needs to work with the incident owner or editor to insert the necessary information. Typically this requires that the analyst provide a document and separate, individual images, to the owner or editor. The owner or editor can then upload the images and text to WFDSS and insert them into the decision document.

Adding risk assessment text into a WFDSS Decision Document can be completed by:

- Typing directly into the Decision Editor, or
- Copying/Pasting text from another document. If the source is a Word document, it's best to remove formatting first to ensure character limits aren't exceeded. This can be done two ways; by highlighting the text and pressing the Ctrl + Spacebar shortcut or copy/paste the content into Notepad before inserting in the Decision Editor. Additional information about character limitations can be found in the WFDSS help.

Accessing the Decision Document

Access a WFDSS decision document from the Decision Tab. Navigate to the pending decision, mark the radio button next to the pending decision, and click Edit. The images below show the Decision Tab and the "Edit" button to the Default Decision Editor, as well as, "Convert to Advanced" Decision Editor selection. Most editing can be

completed easily using the Default Decision Editor.

Editing a Decision Document using the Default Decision Editor

The Default Decision Editor Quick Overview

1. Select location to insert content via Vertical Tabs (Incident Content);
2. Add text content to Section window; Include a Section Title and check the "Include Title in Decision" box which will make it easier to edit or arrange content;
3. Add saved images;
4. Click SAVE.

The Adding Incident Content to a Decision topic in the WFDSS Online Help provides additional information.

Editing a Decision Document using the Advanced Decision Editor

The Decision Editor Quick Overview

1.   Navigate to section of Decision Content (upper left pane) where you want to insert content;
2.   Select the Incident Content (lower left pane) that you want to insert;
3.   Place cursor in Decision Editor window;
4.   Click Insert WFDSS content icon;
5.   Click SAVE.

The Adding Incident Content to a Decision topic in the WFDSS Online Help provides additional information.

Decision Document Examples

Some examples of incorporating risk assessment into WFDSS decision documents include:

- Gold Pan: Northern Rockies 08/2013 decision
- Scotchman Peak: Northern Rockies 08/2015 decision

- Salt Springs: Eastern Area 03/08/2015 decision

In addition, the [Decision Making for Wildfires GTR](#) can further help draft and support various risk assessments.

Assessment Analyses and Decision Support

The table below lists information that might be used to support a WFDSS Decision but is not all inclusive. Some items may not be relevant while other information not included here may be relevant. Each fire is unique and has its own set of concerns that should be addressed whether it is in the assessment sections (Weather, Modeling, Risk, Benefits) of the decision or Rationale.

Type of Analysis	What might be Included in the Assessment, Validation, or Rationale
Fuels Analysis	Evaluation of fuel types, arrangement, and flammability, 1,000 hour Fuel Moisture, Live Fuel Moisture, Herbaceous Fuel Moisture, Woody Fuel Moisture, National Fuel Moisture Database (NFMD) Graphs, Vegetation Greenness – NDVI Images, (Alaska, Minnesota & northern States) CFFDRS Charts
Drought Analysis	Drought discussion and prognosis, Drought Monitoring Map, Drought Forecast Map
Fire Danger	Narrative of current fire danger, ERC Graphs, Burning Index, Spread Component or others (Alaska, Minnesota & northern States) CFFDRS Charts
Weather Outlooks	Weather Narrative, Long Range - 6-10, 8-14, 30, 90 day Temperature and Precipitation Outlook
Season End Analysis	Term Graph, Other fire slowing or ending analysis
Wind Analysis	Wind Rose, Event Locator Report for winds of concern
Fire Behavior Analysis	Fire Behavior Summary (Current & Expected) Basic Fire Behavior Analysis (BFB), Short Term Fire Behavior Analysis (STFB), Near Term Fire Behavior Analysis (NTFB), Fire Spread Probability - FSPro
Historic Fires	Fire History Review, Historic fire size and intensity
Values	Narrative regarding values and fire behavior Values Inventory & Values at Risk Values at Risk Table
Smoke & Air Quality	Point Forecast, Smoke Trajectories, Wind Pattern Analysis