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**INSTRUCTOR:**

**LESSON:** Wildland Fire Decision Support System

**COURSE:** S-230, 231, 232, 233, 234 – Single Resource Boss

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**Emphasis: introduce concepts of WFDSS decision support.**

**OBJECTIVES:**

Upon completion of this lesson, participants will be able to:

1. Describe the Wildland Fire Decision Support System (WFDSS).
2. Understand circumstances that might warrant a WFDSS decision be published.

**I. INTRODUCTION**

WFDSS is designed to establish a process for documenting strategic decisions, providing decision support, and facilitating of either short or long-term operational management plans. The WFDSS process is linear, scalable, and progressively responsive to changing fire complexity and provide a consistent decision analysis and documentation process for all types of wildland fires. WFDSS provides a platform for risk-informed decision-making.

Documentation and analysis of wildland fire management decisions has been required by federal agency policy for nearly 30 years. The 2009 Policy Implementation Guidance requires-

“Managers will use a decision support process to guide and document wildfire decisions. The process will provide situational assessment, analyze hazards and risk, define implementation actions, and document decisions and rationale for those decisions.”

The Wildland Fire Decision Support System (WFDSS) has been developed to meet this need. The Forest Service (FS), Fish and Wildlife Service (FWS), and Bureau of Indian Affairs (BIA) enter all fires into WFDSS, regardless of size. The National Park Service (NPS) and Bureau of Land Management (BLM) enter fires into WFDSS only when it escapes initial attack. At 98% initial attack success, there may not be a lot of need for analysis to inform decisions. However as incidents escape initial attack or are managed for multiple objectives more analysis is needed to inform the decision.

## II. WHEN A WFDSS DECISION IS NEEDED

It is recommended that a decision be considered if-

- Wildland fires are no longer within the initial action defined by the Fire Management Plan (preplanned response is not effective).
- Fire continues to actively spread beyond one or more burning periods.
- Wildland fires are being managed or considered for multiple objectives.
- Prescribed fires exceed prescriptions and are declared wildfires

Decision-making associated with managing wildland fire can have critical impacts. Publishing a decision provides documentation of the management action taken on the fire and the rationale behind it which will provide support if the fire is litigated in the future.

## III. WHAT IS WFDSS?

WFDSS is designed to be consistent with accepted models of risk-informed decision making. WFDSS is a web based system that allows users to acquire information, analyze that information, apply that information to inform their decision and gain situational awareness, then to archive the decision and the documentation.

- **Risk-informed decision making** - requires two distinct but linked processes:
  1. **Analysis:**
    - Rigorous, replicable methods to provide information about factual questions.
    - Brings new information into the process – **informs deliberation.**
  2. **Deliberation:**
    - Discussion, reflection, and persuasion to communicate, raise, and collectively consider issues, increase understanding, and facilitate substantive decisions.
    - Brings new insights, questions, and problem formulations – **frames analysis.**

Decision making and publishing a WFDSS decision is the responsibility of the appropriate Line Officer or Unit Manager (District Ranger, Forest Supervisor, Regional Forester, Park or Refuge Superintendent, etc.) Fire managers and fire personnel as well as resource managers, provide critical input to the development of the decision.

## IV. YOUR ROLE IN WFDSS

As a Single Resource Boss you may be asked to provide input to a WFDSS decision based on your ground knowledge of the fire. Knowledge and understanding of the risk-informed decision-making process will be important. Continual growth and learning throughout your career to stay abreast of changing tools and how they might interface with WFDSS, and how your input might be incorporated in decision documents will be important.

It is important for a firefighter to understand the objectives and course of action contained in the WFDSS decision; these should be reflected in the incident objectives found in the Incident Action Plan (IAP).

It is also important to note that, in some cases, a WFDSS decision may be ongoing while you are making tactical decisions on a fire. If a WFDSS decision has not yet been published it is important to understand the management strategy (contain, control, monitor, multiple objectives). Once available, the WFDSS decision is the guiding document with which the incident is managed.

## **V. ELEMENTS OF WILDLAND FIRE DECISION SUPPORT (WFDSS)**

WFDSS is designed to include models and tools to analyze and assess the incident. The outputs can then be used to support the decision and assist in driving strategies and future tactics. WFDSS contains the following elements-

### **Information**

**Purpose:** Documents the initial and continuing fire situation, and provides required information to complete administrative fire reporting.

### **Situation**

**Purpose:** Provides situational and risk assessment information to support strategic decisions and development of course of action. Information on fire weather, features, values, fire danger, and more can be accessed. The information obtained here can help assess whether the pre-planned initial response is accurate or if additional planning is needed for the fire.

### **Objectives**

**Purpose:** Defines objectives as stated in Land & Resource, and Fire Management Plans (LRMP and FMPs) and lists specific management and incident requirements that will frame and influence strategic decisions and tactical implementation. This information is loaded prior to the fire season as provided in the LRMP and FMPs. If spatially enabled, this list will be reflective of the fire location and the relevant plan information.

### **Course of Action**

**Purpose:** Defines a specific course of action ranging from a pre-planned initial response to an individualized response for a specific situation. Specificity varies with fire complexity and can include a defined planning area, management actions, resource commitments, and costs for the fire duration.

### **Validation**

**Purpose:** Provides a review of the Situation, Objectives, and Course of Action to ensure that Objectives can be met, and in the event they cannot be met, the Validation guides the development of a new Course of Action.

### **Decision Summary**

**Purpose:** Documents the response decision, the rationale for that decision, and stipulates the timeframe for revisiting and reassessing the decision.

### **Periodic Assessment**

**Purpose:** Provides a process to periodically review the current decision, response, and accomplishments to evaluate effectiveness and confirm accuracy or, if needed, indicate progression to a higher response level and associated planning activities.

## **WFDSS Resources**

Numerous models and tools are available within WFDSS to assist with the above mentioned functional areas.

### **Models in WFDSS**

- Fire Behavior and Fire Spread Models (Basic, Short Term, Near Term, FSPro)
- Stratified Cost Index (SCI)
- Wildland Fire Air Quality Tools and Smoke Models

### **Tools in WFDSS**

- Relative Risk Assessment
- Organizational Needs
- Fire Danger Graphs
- Weather forecasts
- Values Inventory
- KMZ downloads

Training aids are available on the WFDSS site on the Training tab.

[http://wfdss.usgs.gov/wfdss/WFDSS\\_Training.shtml](http://wfdss.usgs.gov/wfdss/WFDSS_Training.shtml) To help users become familiar with navigating in the program WFDSS 101 series is an excellent source for learning how to use WFDSS.

## **VI. SUMMARY**

Management of wildland fire represents one of the most complex and highest risk activities in land management. Decision support and its contributions to decision-making are vital to fire management success. Decision support tools provide information to decision-makers and these tools and processes incorporate science and technology to assist in decision making.

Decision support give managers the ability to reduce the amount of uncertainty surrounding the fire, understand the amount of difficulty that could be encountered during management and possible outcomes, develop management strategies and operational tactics and provide a common understanding and clearer explanation of the situation.

Your input to the decision analysis can be key in the success of managing an incident and providing for firefighter safety.