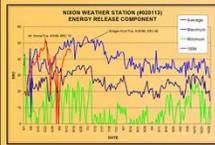




This refresher information is based on the Wildland Fire Decision Support System (WFDSS) lessons taught at various Fire Management Leadership training courses. It is assumed that there is a basic understanding of WFDSS and does not go through the WFDSS tabs and basic processes. It is intended to review the risk processes, the areas in the application where Line Officers should spend time understanding or addressing the information, and how the tools can assist in decision making.



Objectives

- Briefly review the risk management process and WFDSS.
- Discuss the most important aspects for Line Officers to be familiar.
- Discuss the decision support tools and how they can help inform decisions.
- Open forum – question & answer.



Policy Guiding Principles

**Sound risk management is
a foundation for all fire
management activities.**

FS Guidance



Forest
Service

Washington
Office

1400 Independence Avenue, SW
Washington, DC 20250



File Code: 5100

Date: February 6, 2014

Route To:

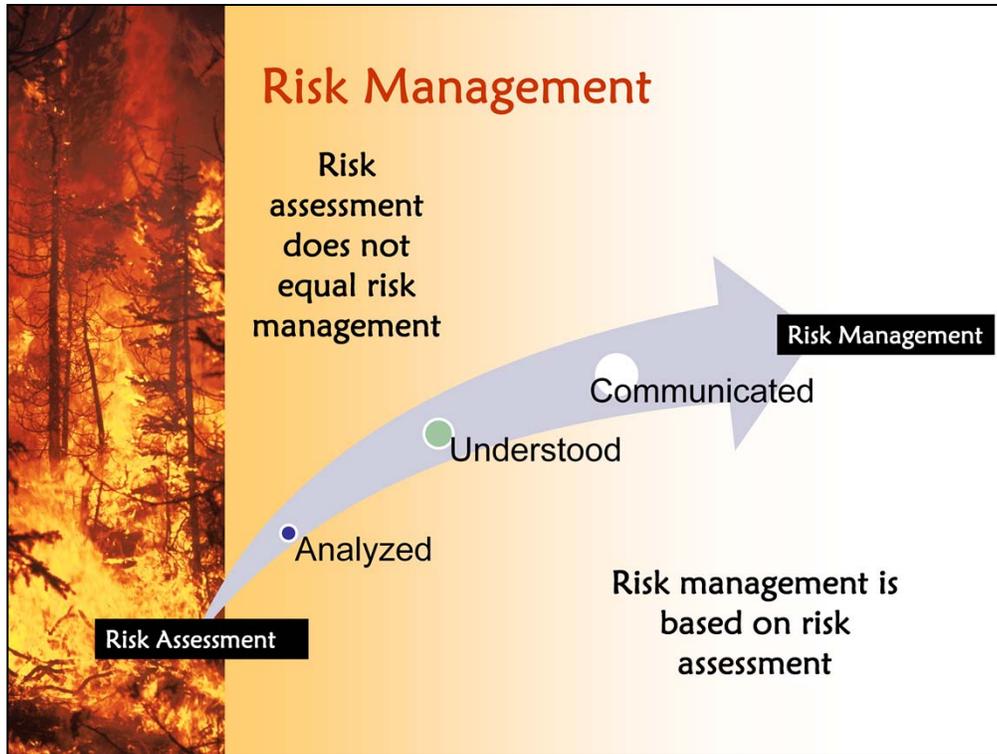
Subject: Chief's Letter of Intent: 2014 Fire Management

To: Regional Foresters, Station Directors, Area Director, IITF Director and Deputy Chiefs

We anticipate 2014 to be another challenging year to manage fire. We will successfully manage fire on the landscape, while considering land management objectives, the Forest Service mission, and the Federal Fire Policy. We fully evaluate risks with a broad perspective for both planned and unplanned ignitions while considering the people we serve and landscapes we protect. In accordance with the goals of the Cohesive Strategy, we seek to create resilient landscapes, fire-adapted communities, and provide safe, efficient wildfire response. This dovetails with our five broad focus areas of Safety, Inclusiveness, Ecological Restoration, Fire, and Communities.

Success continues to be defined as safely achieving reasonable objectives with the least firefighter exposure necessary, while enhancing stakeholder support for our management efforts.

The Forest Service has emphasized risk management for planned and unplanned ignitions with the Chief's Letter of Intent for 2014. The Interior Bureaus have similar direction that aligns with our guiding principles and is emphasized.

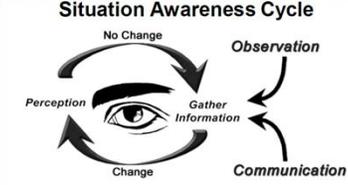


Risk assessment does not equal risk management. One must assess the values, hazards and probabilities to determine the risks of the fire affecting the values. From this analysis and understanding the risks can be mitigated or managed.



Risk Management

Situation Awareness Cycle



Risk Management Process

Step 1 Situation Awareness

Gather Information

- Objective(s) Previous Fire Behavior
- Communication Weather Forecast
- Who's in Charge Local Factors

Scout the Fire

Step 2 Hazard Assessment

Estimate Potential Fire Behavior Hazards

- Look Up/Down/Around Indicators

Identify Tactical Hazards

- Watch Outs

What other safety hazards exist?
Consider severity vs. probability?

Step 3 Hazard Control

Firefighting Orders → LCES Checklist - MANDATORY

- Anchor Point
- Downhill Checklist (if applicable)

What other controls are necessary?

Step 4 Decision Point

Are controls in place for identified hazards?
NO - Reassess situation YES - Next question

Are selected tactics based on expected fire behavior?
NO - Reassess situation YES - Next question

Have instructions been given and understood?
NO - Reassess situation YES - Initiate action

Step 5 Evaluate

Personnel: Low experience level with local factors?
Distracted from primary tasks?
Fatigue or stress reaction?
Hazardous attitude?

The Situation: What is changing?
Are strategy and tactics working?

Risk management is occurring continually at all levels. Field personnel maintain situation awareness that provides input to their risk management process. Just as it is not a one time process for fire personnel, it is not a one time process for managing fires or at the strategic level.

Decision Making Models:



Risk Management Cycle



Wildland Fire Decision Support System

There are three different decision making models shown - the Basic Structured Decision Model, the Risk Management Cycle, or the Wildland Fire Decision Support System. They are all using very similar processes, just utilizing different steps in evaluating and managing the risks and benefits. Essentially in all of them you identify a problem, analyze and assess that problem, develop mitigations or identify benefits, make a decision and document that decision. Then continually re-evaluate that decision and adjust utilizing the feedback. This again, is similar to the processes used by firefighters in their risk management process.

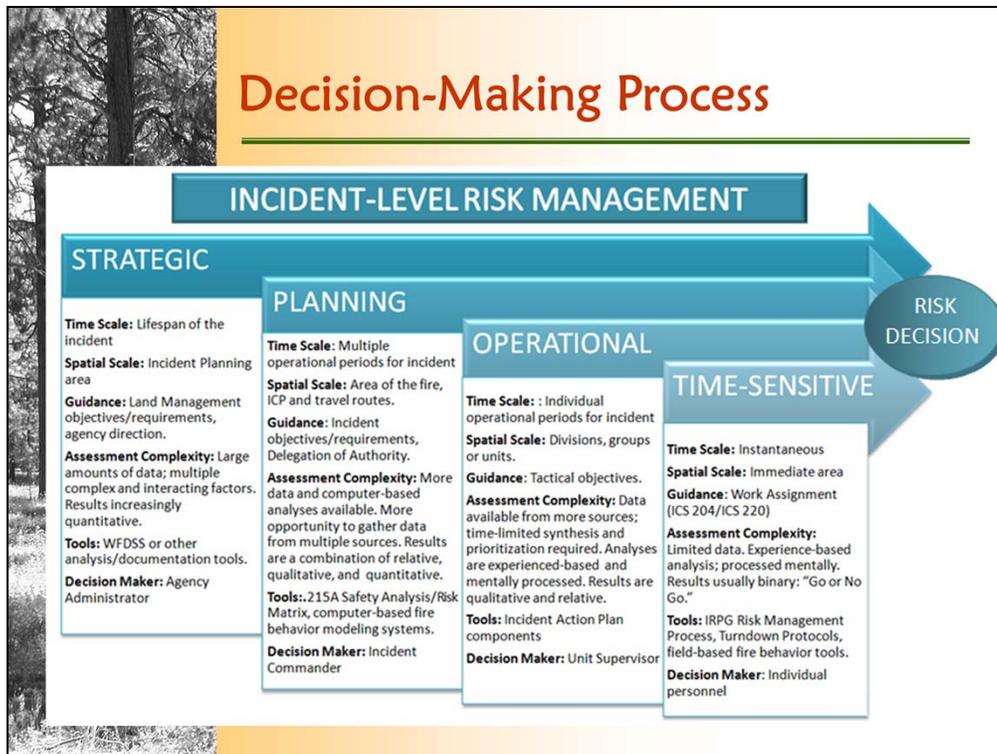
The Structured Decision Model is a basic model for decision making. Although similar to the other two models shown here this defines the process very simply with only four steps. Typically in wildland fire management we see the steps broken out further such as with the Risk Management Process firefighters use or the Risk Management Cycle and WFDSS.

This risk management cycle is defined in the *Decision Making for Wildfire: A Guide for Applying a Risk Management Process at the Incident Level (RMRS-GTR-298)*. It defines a circular process - identify the incident or issue (situation awareness), assessing that hazard or risk by determining the values, the potential hazard/risks threatening those values, and the probability of the values being affected. Identify the benefits of the fire. (Assessment). Determining the risk management needed to

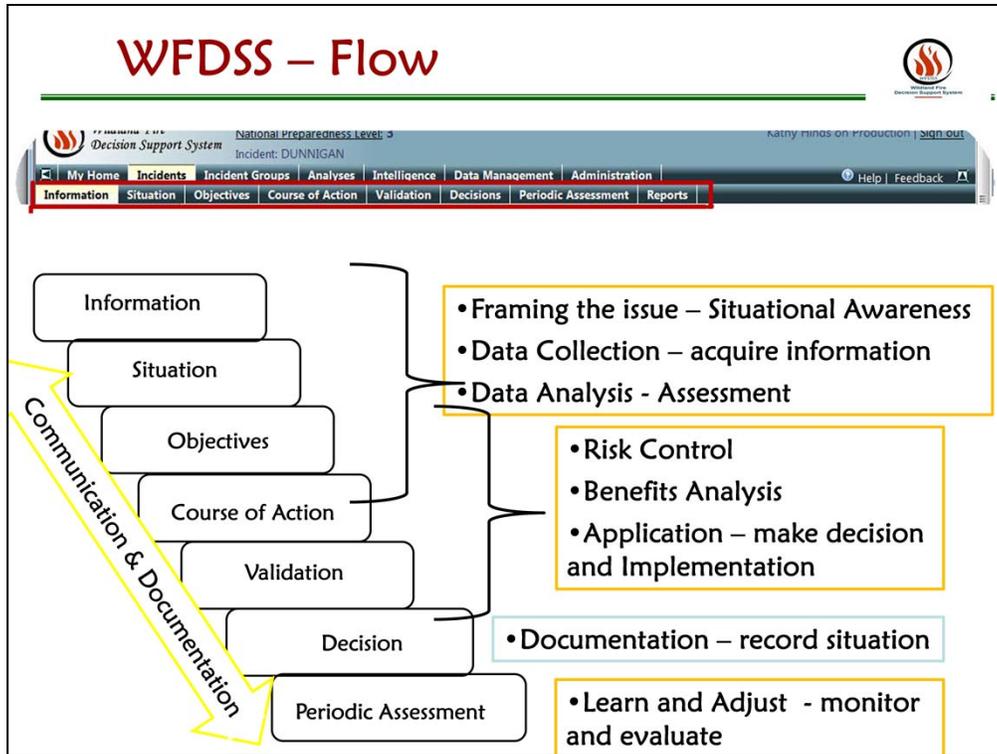
mitigate and control the risks (risk control). Make a decision and implement (Decision & Implementation). Then evaluate if that decision is working or not (Evaluation). Although this process is defined circularly, many of these steps are occurring concurrently and continually.

The Wildland Fire Decision Support System is utilizing a similar process as defined in the Risk Management Cycle but described them linearly across the tabs. You identify the incident (Information), assess the situation, gain situation awareness, and assess the risks and benefits (Situation / Objectives / Course of Action). Formulate a decision (Objectives, Course of Action, Validation, Decision). And evaluate your decision (Periodic Assessment). Similar to the Risk Management Cycle, many of these steps are occurring concurrently.

Decision-Making Process



This slide depicts the processes being completed at all levels of the organization. It is important to realize the connectedness of these processes and that one influences the next. In other words, a decision made at the strategic level in WFDSS should feed incident objectives, incident requirements, and course of action down to the planning and operational levels which in turn will be evaluated at a time sensitive level in the field.

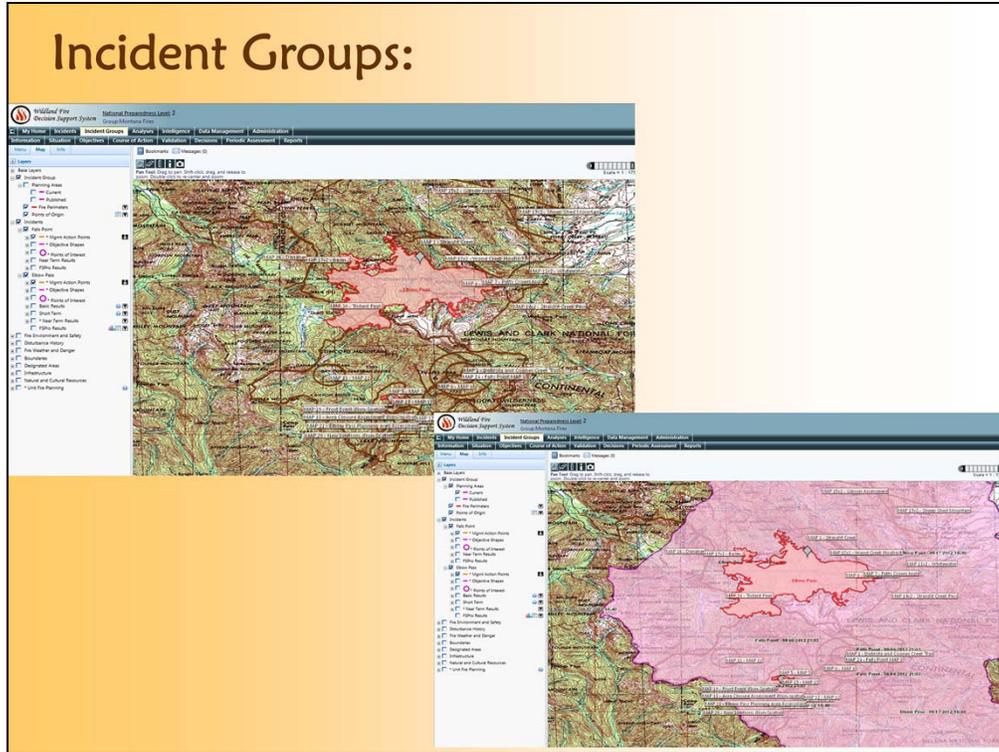


WFDSS has 7 sub tabs to develop and document a **risk-informed decision** through analysis and deliberation. The brackets on the right show a closer tie to the risk processes described above.

The screenshot shows the 'Willand Fire Decision Support System' interface. At the top, it displays 'National Preparedness Level: 3' and 'Incident: FINCH'. The user is identified as 'Kathy Hinds on Production'. The main navigation bar includes 'My Home', 'Incidents', 'Incident Groups', 'Analyses', 'Intelligence', 'Administration', 'Help', and 'Feedback'. Below this is a secondary navigation bar with tabs for 'Information', 'Situation', 'Objectives', 'Course of Action', 'Validation', 'Decisions', 'Periodic Assessment', and 'Reports'. The 'Incident Information' form is the central focus, containing fields for 'Incident Name' (FINCH), 'FireCode' (H87K), 'Relative Risk', 'Org Assessment', 'FMU/SO List', 'Mgmt Action Points', 'Shape Upload', 'Image Upload', 'Pt of Origin Inventory', 'Incident KMZ', 'Download Perimeters', and 'Contact Information'. Three callout boxes are overlaid on the interface: one at the top right pointing to the 'Decisions' tab and 'Periodic Assessment' tab with the text 'Gathering information about the fire.'; one in the middle right pointing to the 'Decisions' and 'Periodic Assessment' tabs with the text 'Where to find decision information and document reassessment.'; and one in the middle left pointing to the 'Relative Risk' and 'Org Assessment' fields with the text 'Supporting information important for Line Officers.'

These call out boxes show where a Line Officer should be focusing their energy in evaluating the incident, formulating their decision and then articulating their decision and leader’s intent. The following slides will spend a bit more time in these areas.

Incident Groups:



The Incident Groups tab – located at the top – is available for users to look at more than one fire in their area. Often units are dealing with multiple fires and had to previously view or approve one at a time. This feature allows users to view not only fires on their unit but adjacent units. This example shows several fires in the Northern Rockies burning on two different forests. In the upper left image several management action points (MAPs) for each fire are being planned and cross each other while the lower left image shows both planning areas intersecting. As a Line Officer on either unit it would be valuable to know about each incident, what is being planned, and determine how one fire might influence the other.

Incident Groups:

Wildland Fire Decision Support System National Preparedness Level: 2
Group: Montana Fires

My Home Incidents **Incident Groups** Analyses Intelligence Data Management Administration

Incident Groups List Filter
 Group Name: Montana Forests Group Owner: Elenz, Lisa State: MT Group Type: Public Private
 Find Groups Clear

Incident Groups List
 View Incidents View Group Map View Decisions View Analyses Create Group... Delete Group...

Incident Group Name	Owner Name	Created	# Incidents	Public
Montana Fires	Elenz, Lisa	07/02/2014	2	no
2013 SW OR Fires	Stratton, Rick	06/19/2014	4	yes
Mustang Complex Area	Burgard, Mitch	05/16/2014	20	yes
SWGALG Fire 2014	Riggs, Harold	05/14/2014	5	yes
WA-COF	Heckly, Reed	03/27/2014	0	yes
Great Bear Wilderness	Miller, Shari	09/03/2013	3	yes
APW	Miller, Shari	09/02/2013	2	yes
Miner Paradise Complex	Amato, Sam	09/01/2013	4	yes

Page 1 of 1 Rows per Page: 20

View Incidents View Group Map View Decisions View Analyses

Wildland Fire Decision Support System National Preparedness Level: 2
Group: Montana Fires

My Home Incidents Incident Groups **Analyses** Intelligence Data Management

View Decisions For Group 'Montana Fires'

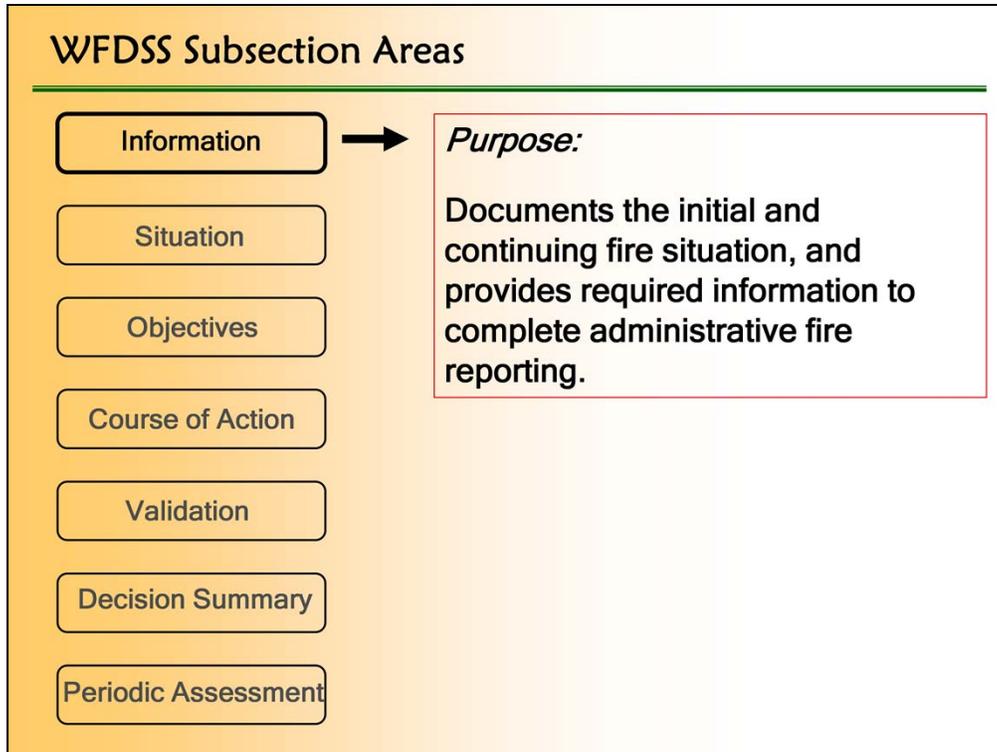
Decisions

Incident Name	Decision Status	Decision Created (CDT)	Periodic Assess Status	Role
Falls Point	Published	08/01/2012 12:29	Overdue	
Falls Point	Published	07/31/2012 15:06		
Elbow Pass	Published	09/21/2012 09:52	Overdue	
Elbow Pass	Published	08/09/2012 09:55		
Elbow Pass	Published	08/04/2012 16:11		
Elbow Pass	Published	07/29/2012 17:58		
Elbow Pass	Published	07/24/2012 06:12		
Elbow Pass	Published	07/13/2012 17:02		

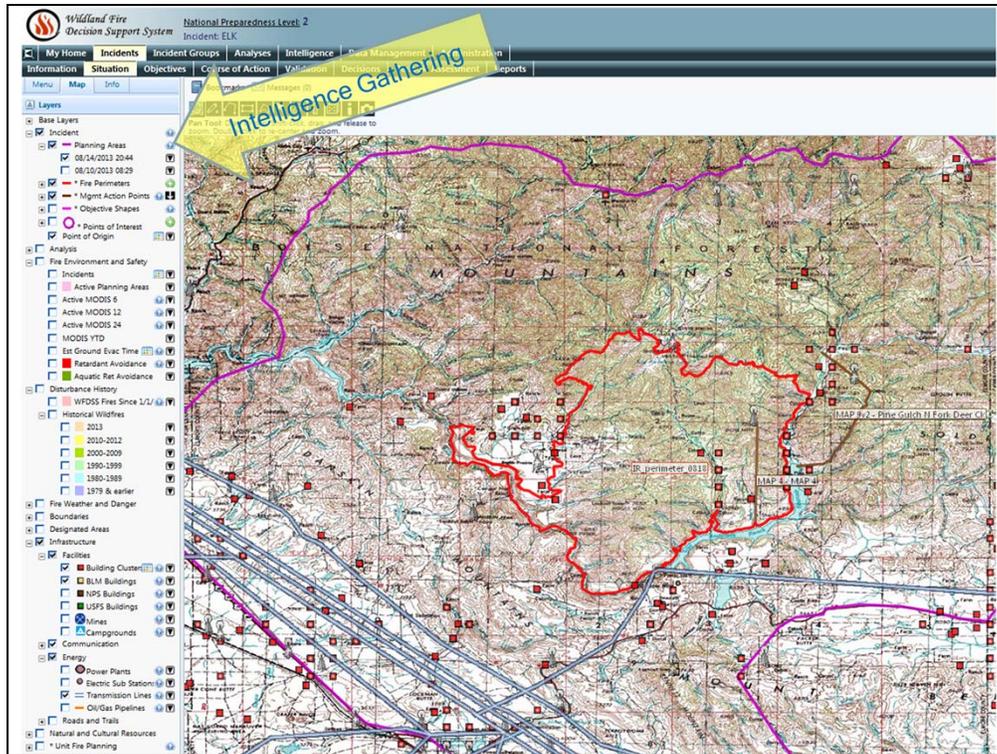
Page 1 of 1 Rows per Page: 20

Return to Group List

Additionally, after a group is established, it is easier to view the decision information.

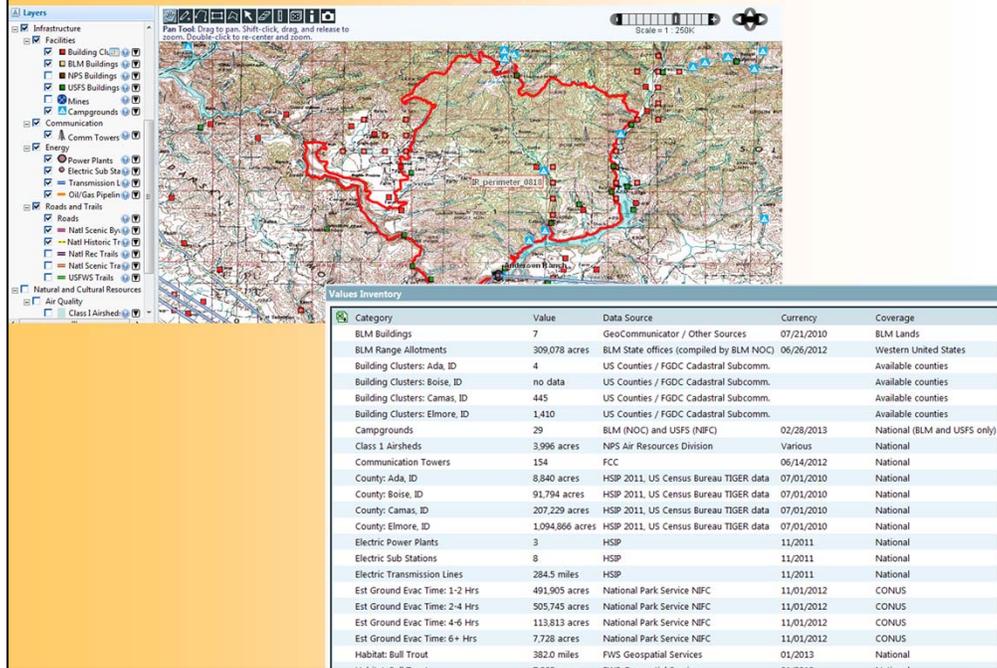


Basic fire information can be found on the information tab. This second tier of tabs are all incident specific information.



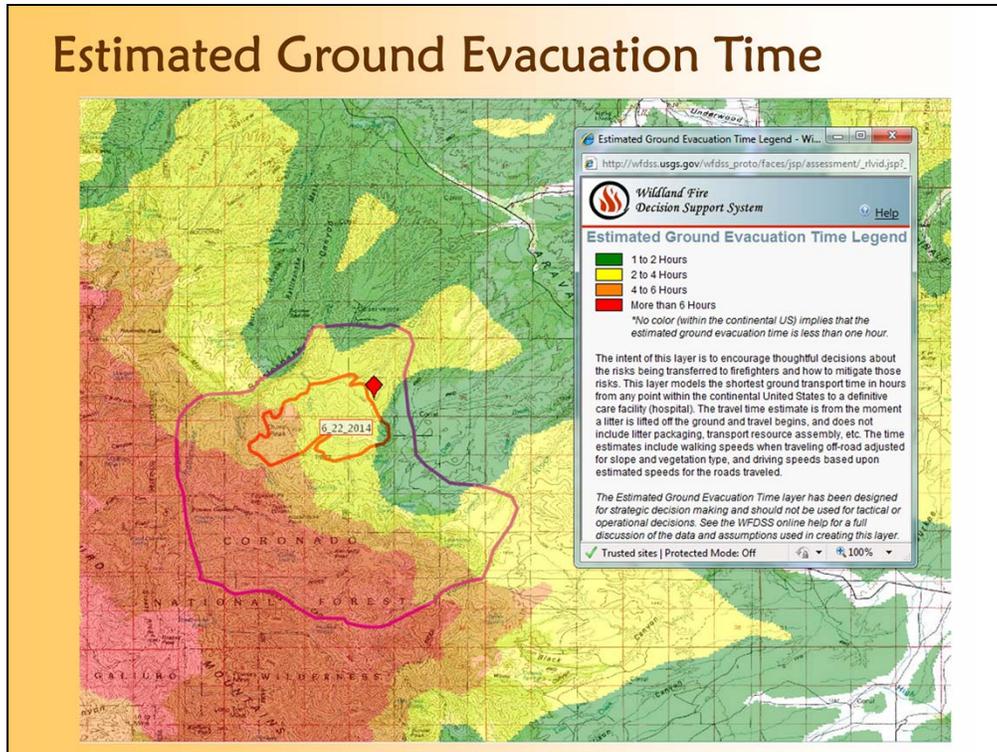
The situation tab has a wealth of information that can be viewed spatially. Taking time to view the various layers is important to gather intelligence about the fire, evaluate the risks and benefits, and make an informed decision. There are several layers that have been recently been added to assist managers in making decisions about their incident.

Values in the Planning Area:



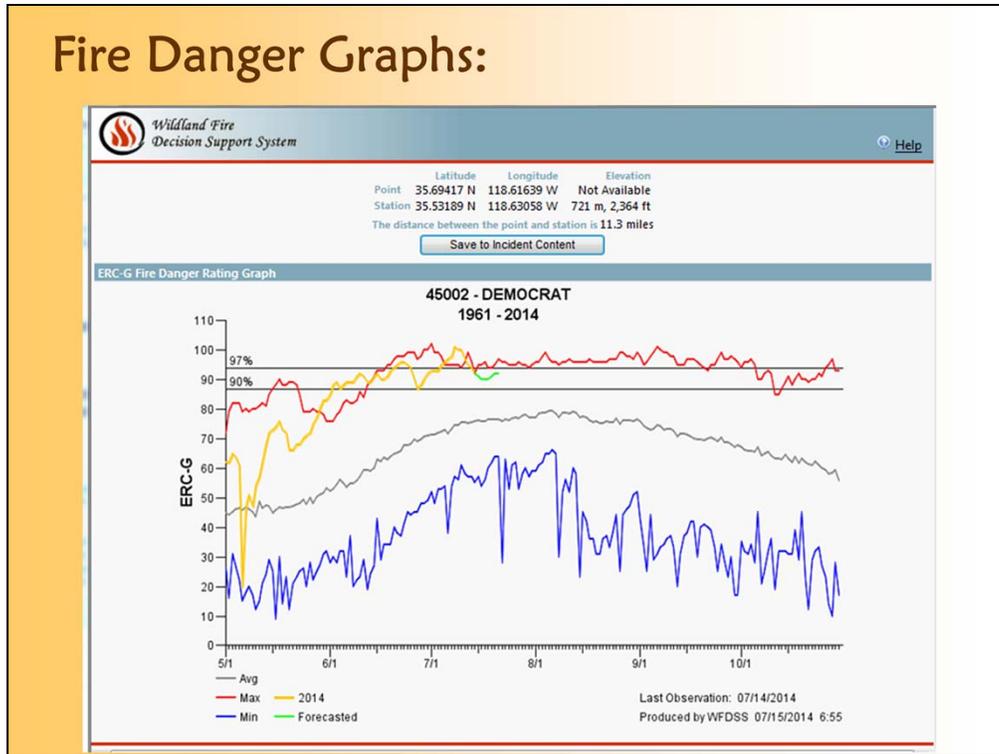
Values information can be obtained for your fire based on the planning area drawn. This information is obtained from the layers shown in the previous slide.

Estimated Ground Evacuation Time



The Estimated Ground Evacuation Time layer was added last season as another tool to assist managers in considering actions to take on the fire versus exposure to firefighters. It provides perspective on how difficult it will be to evacuate a firefighter if injured which can help decision makers evaluate if the firefighting effort to limit fire spread is worth the exposure to the firefighter.

Fire Danger Graphs:



Fire danger indices can be reviewed easily on the Situation tab. This information assists managers in determining the severity of their fire season compared to historic information.

Relative Risk & Organizational Needs



National Preparedness Level: 3

Incident: FINCH

Kathy Hinds on Production | [Sign out](#)

My Home
Incidents
Incident Groups
Analyses
Intelligence
Data Management
Administration

[Help](#) | [Feedback](#)

Information

Situation

Objectives

Course of Action

Validation

Decisions

Periodic Assessment

Reports

Incident List

Fire Behavior Request

Stratified Cost Index

Relative Risk

Org Assessment

FMU/SO List

Mgmt Action Points

Shape Upload

Image Upload

Pt of Origin Inventory

Incident KMZ

Download Perimeters

Contact Information

Incident Information

*Incident Name

FINCH

*Point of Origin Latitude D

47.86167 or 47 51 42.0

Example: 39.527

*Unique Fire Identifier

2014 - WASPA - 000045

Calendar Year Unit ID Local Number

*Incident Size (acres) Latest Perimeter Size (acres)

0.1 none

Incident Type

Wildfire Prescribed Other

FireCode P-Code

H87K

*Point of Origin Longitude Deg Min Sec

117.88806 or 117 53 17.0

Example: 105.3108

Incident Cause

Undetermined Natural Human

Responsible Unit Name

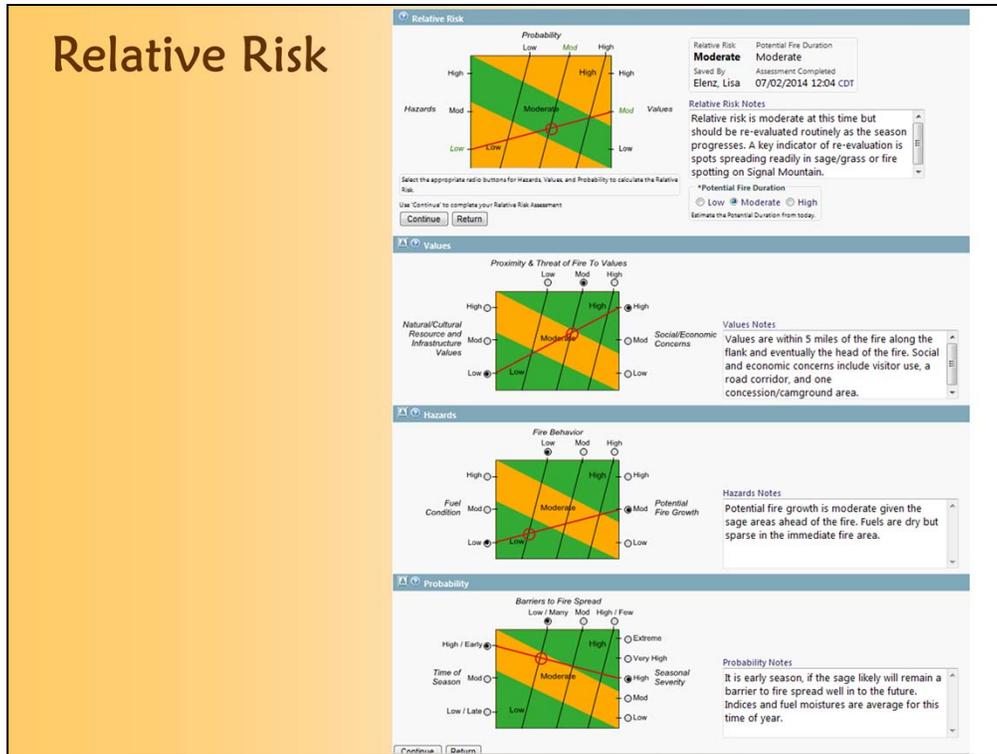
Spokane Agency

Geographic Area

Northwest

After completing the situation assessment, managers should evaluate the relative risk and organizational needs based on their findings.

Relative Risk



The relative risk assessment is a decision support tool that can be used to produce a chart, with notations, that provides a level of qualitative risk (low, moderate, or high) for the incident and characterizes the general magnitude of risks associated with the fire itself at a specific point in time and in comparison to local historic conditions and fires. It assesses the three core elements of risk—values, hazards, and probabilities—to determine the relative risk for the incident.

The purpose of an Relative Risk is to provide the Line Officer and other decision makers with a level of risk for an incident at a specific point in time and is a quick assessment of the relative risk of the wildfire in comparison to past fires in the local area. It is primarily a communication, planning, and assessment tool to inform decision makers about the relative risk associated with the incident and provides a baseline for understanding the core elements (values, hazards, and probabilities) of risk and how those elements change over time.

Initially, the best available information for a qualitative assessment is based on the decision makers' and local specialists' professional judgment and experience combined with any preexisting planning information applicable to the situation. Information from the WFDSS Situation tab for the incident (Zone Weather Forecast, Fire Danger Rating graph, Designated Areas, Infrastructure, etc.) can be useful here.

A critical component is the documentation of the methods and considerations that led to each of the ratings. Annotations should be added to capture the logic and basis for choosing each qualitative rating. For example; if you looked at the Fire Danger Rating graph and used it as the basis for your rating of “Extreme” for the “Seasonal Severity” element, document that in the “Notes” section for the “Probability” chart. Later in this presentation fire behavior models, that could be utilized to support the risk assessment, will be reviewed.

This risk assessment is the same information that the field is utilizing to complete the Risk and Complexity Analysis and can be input directly from their assessment.

Organizational Needs Assessment

The Relative Risk and Organization Assessment have been completed.

Organization Assessment

Org Assessment Chart Unit Recommended Org
Type 3 **Type 4**
 Saved By Assessment Completed
 Elenz, Lisa 07/02/2014 15:31 CDT

Organization Assessment Notes
 The Park will continue to manage it with a Type 4 organization given the ready access to the fire. If any of the MAPs are met this organization will be reevaluated.

Select the appropriate radio buttons for Implementation Difficulty and Socio/Political Concerns to calculate the Organization Assessment.

Relative Risk

Assess Relative Risk

Relative Risk Notes
 Relative risk is moderate at this time but should be re-evaluated routinely as the season progresses. A key indicator of re-evaluation is spots spreading readily in sagegrass or fire spotting on Signal Mountain.

Implementation Difficulty

Difficulty Notes

No concerns at this time as local resources are available to monitor the fire daily.

Socio/Political Concerns

Socio/Political Concerns Notes

The fire is only burning on park lands but there are concerns with visitor use and the impacts the concession.

The Organization Assessment is completed utilizing the relative risk as well as considering the Implementation Difficulty and the Social/Political Concerns. Although there are some N/A selections while evaluating the needs for an incident, it is understood that if firefighters are being utilized or air resources are committed, there is a strategy/course of action being implored or objectives being implemented. This option is there for non-complex fires or where minimal staffing is required.

Wildland Fire Decision Support System – Organizational Needs

Organization Assessment Results

Description	N/A	Low	Mod	High
Relative Risk			M	
Potential Fire Duration			M	
Incident Strategies (CoA)		L		
Functional Concerns		L		
Objective Concerns		L		
External Influences			M	
Ownership Concerns			M	
Totals	3	4		

Organization Assessment: **Type 3**

Unit Recommended Organization

Organization	Description
<input type="radio"/> Type 5	Majority of items rated as "N/A"; a few items may be rated in other categories.
<input checked="" type="radio"/> Type 4	Majority of items rated as "Low", with some items rated as "N/A", and a few items rated as "Moderate" or "High".
<input type="radio"/> Type 3	Majority of items rated as "Moderate", with a few items rated in other categories.
<input type="radio"/> Type 2	Majority of items rated as "Moderate", with a few items rated as "High".
<input type="radio"/> Type 1	Majority of items rated as "High"; a few items may be rated in other categories.

Use this section to document the incident management organization for the fire. If the incident management organization is different than the Organization Assessment recommends, document why an alternative organization was selected.

Organization Notes

The Park will continue to manage it with a Type 4 organization given the ready access to the fire. If any of the MAPs are met this organization will be reevaluated.

When the Relative Risk and Organizational Needs are complete, the Line Officer makes the decision for what type of Incident Management Team to utilize. As seen in this example, the unit can choose to select a team other than what is recommended and should document that in the notes section.

Revising Relative Risk & Org Needs

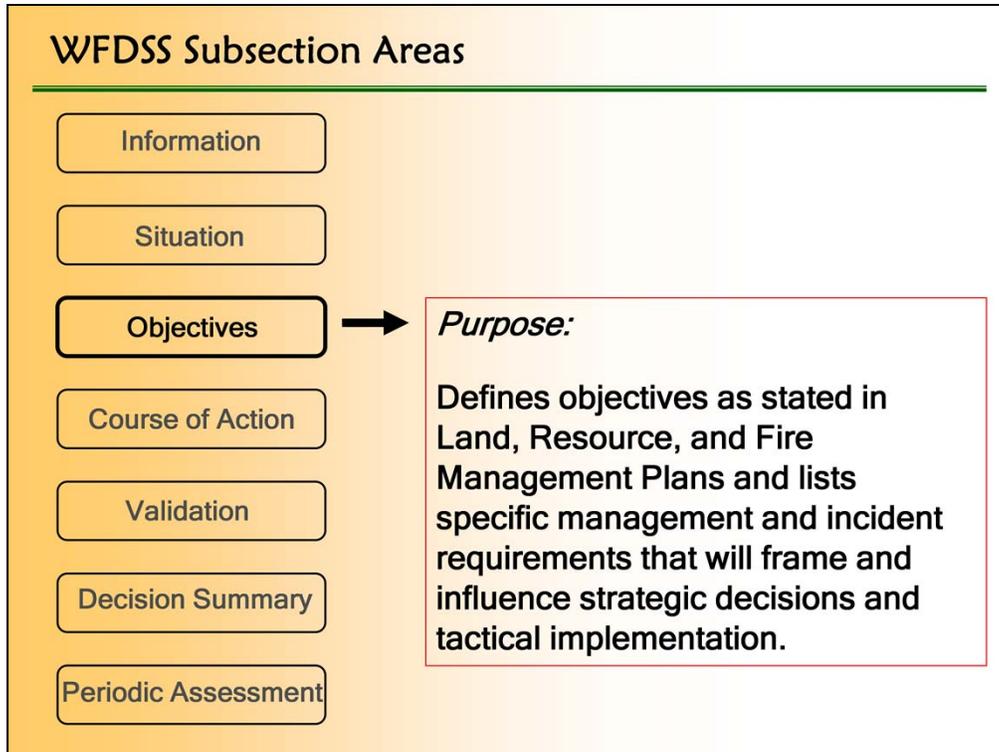
Decision	Section	Status	Editor	Created (CST)	Content Last Saved (CST)	Relative Risk	Org Assessment
08/13/2013 12:24		Published	Mark, Chuck	08/05/2013 14:59		08/03/2013 High	08/03/2013 Long T2
08/03/2013 16:31		Published	Mark, Chuck	08/01/2013 11:25		08/03/2013 High	08/03/2013 Long T2
07/28/2013 17:47		Published	Weaver, Diane	07/26/2013 23:27		07/28/2013 High	07/28/2013 Long T2
07/26/2013 20:33		Published	Weaver, Diane	07/26/2013 17:20		07/23/2013 High	07/23/2013 T1
07/21/2013 18:31		Published	Weaver, Diane	07/21/2013 16:45		07/21/2013 High	

Page 1 of 1 Rows per Page: 20 Edit Check In PDF... HTML... Delete...

Decision	Section	Status	Editor	Created (CST)	Content Last Saved (CST)	Relative Risk	Org Assessment
08/28/2013 22:24		Published	Nourse, Rebecca	08/28/2013 20:10		08/28/2013 Mod	08/28/2013 Long T2
08/28/2013 18:50		Published	Nourse, Rebecca	08/25/2013 17:09		08/22/2013 High	08/22/2013 T1
08/22/2013 19:14		Published	Nourse, Rebecca	08/22/2013 15:04		08/22/2013 High	08/22/2013 T1
08/19/2013 21:39		Published	Nourse, Rebecca	08/19/2013 17:11		08/19/2013 High	08/19/2013 T1
08/18/2013 16:39		Published	Nourse, Rebeca	08/17/2013 16:24		08/18/2013 High	08/18/2013 T1
08/16/2013 22:32		Published	Nourse, Rebecca	08/16/2013 14:36		08/14/2013 High	08/14/2013 T1
08/14/2013 22:54		Published	Nourse, Rebecca	08/13/2013 16:37		08/14/2013 High	08/14/2013 T1
08/11/2013 12:31		Published	Nourse, Rebecca	08/10/2013 17:28		08/10/2013 High	08/10/2013 T1
08/09/2013 12:43		Published	Maclean, Beth	08/08/2013 20:43		08/08/2013 High	08/08/2013 T1

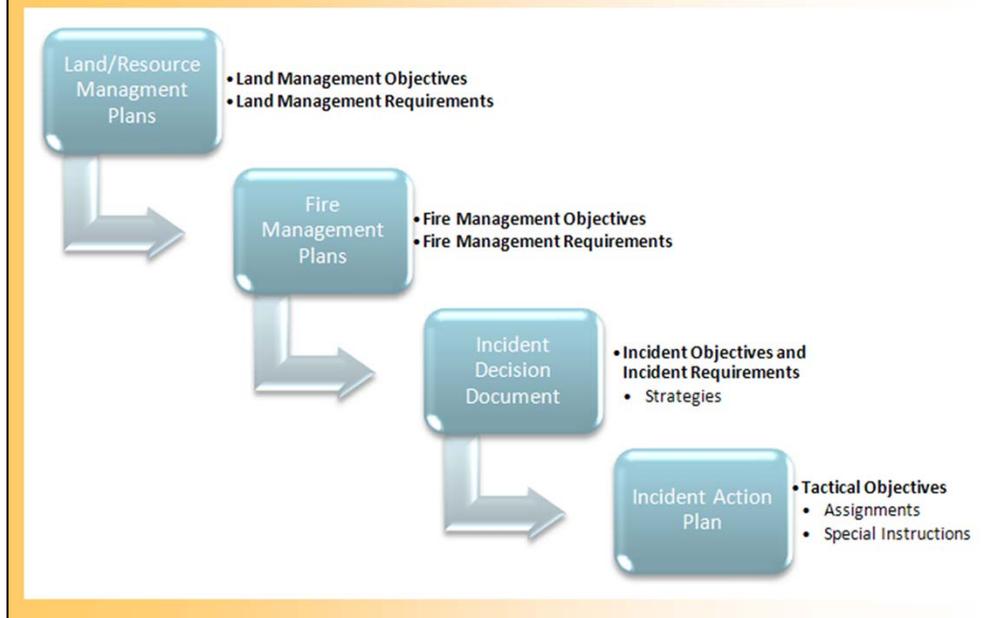
Page 1 of 1 Rows per Page: 20 Edit Check In PDF... HTML... Delete...

As can be seen in this example, the Relative Risk and Organizational Needs can be revised at any time.



The Line Officer defines the objectives and requirements for the fire considering the Land and Resource Management Plan Strategic Objectives and Requirements as well as the assessment completed. These objectives and requirements should define the leader's intent.

Decision Basis:



This depiction shows how the Land and Resource Management Plan Objectives are used in formulating Fire Management Plan Objectives and Requirements both of which are brought in to WFDSS as Strategic Objectives and Management Requirements. These are considered when writing the Incident Objectives and Requirements as well as the Course of Action. These Incident Objectives and Requirements will drive the Delegation of Authority and what is relayed to the team which in turn are what should be in the Incident Action Plan (IAP) as it is developed and relayed to crews on the ground.



Strategic Objectives & Mgmt Req

Type	Activated	Deactivated	Included	Objective/Requirement
Strat Obj	04/30/2014			Effectively manage fire actions commensurate with values at risk and meet incident objectives while employing fiscal responsibility.
Strat Obj	04/30/2014			Improve fire prescriptions for prescribed and wildland fire, through fire effects monitoring and smoke monitoring, that will be safe, capable of restoring and maintaining park ecosystems and meet resource objectives.
Strat Obj	04/30/2014			Ensure that firefighter and public safety is the first priority in every fire management action.
Strat Obj	04/30/2014			Minimize fire costs to the park by using the full range of fire management options to protect, enhance, and restore resources and developments within and adjacent to the park.
Strat Obj	04/30/2014			Maintain a natural mosaic of climax, sub-climax, and seral forest vegetation, thereby reducing the probability of disturbances such as disease and insect epidemics or large, high severity fires that are outside the historic range of variability.
Strat Obj	04/30/2014			Manage fires using the full range of options to protect, restore, or maintain resources and developments within and adjacent to the Park.
Strat Obj	04/30/2014			Manage fire in the recommended and potential wilderness areas to perpetuate wilderness values and character by following the minimum requirement tool concept established in the 1964 Wilderness Act.
Strat Obj	04/30/2014			Ensure socio-political economic impacts, including wildland urban interface, are considered in developing implementation plans.
Strat Obj	04/30/2014			Minimize losses of structures and property during fire events.

Rows per Page:



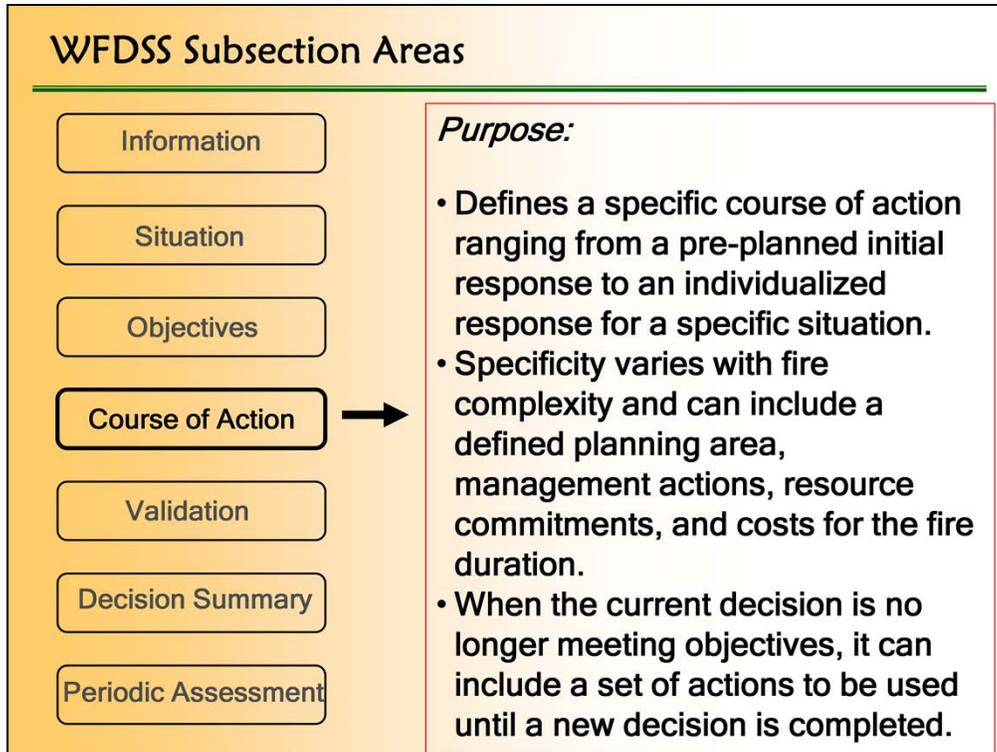
And example of Strategic Objectives and Management Requirements.

Incident Objectives & Requirements

Type	Activated	Deactivated	Included	Objective/Requirement
Inc Obj			Yes	Protect the Signal Mountain Lodge, Colter Bay Campground, and Signal Mountain Repeater site from damage due to exposure to fire.
Inc Obj			Yes	Implement strategies for management of visitor use activities to minimize impacts to visitor experience while providing for public safety.
Inc Obj			Yes	Allow fire to spread unimpeded to the northeast to meet LRMP objectives.
Inc Obj			Yes	Allow fire to burn on Signal Mountain while completing point protection of Signal Mountain repeater site.
Inc Obj			Yes	Minimize fire spread to the west and northwest to protect values and visitor use areas.
Inc Req			Yes	Use minimum impact management techniques when suppressing fires within the park. There will be no use of dozers unless approved prior by the Park Superintendent.
Inc Req			Yes	Foster understanding, appreciation and support among visitors and neighbors for the wildland fire, prescribed fire, fuels, and aviation programs through park interpretation, public information, media, and inviting the media, private landowners, public officials, park visitors, etc. to observe fire management operations.
Inc Req			Yes	<p><u>Noxious weeds and other invasive species</u></p> <ul style="list-style-type: none"> • If weeds are present, implement measures to help avoid spreading and increasing the abundance of the weeds. Measures include: <ul style="list-style-type: none"> ○ Frequent equipment cleaning ○ Minimizing soil disturbance ○ Avoiding equipment use ○ Not transporting slash (for treatment or disposal) to areas that don't have exotics • If helicopter buckets are used, water sources must be considered to ensure that New Zealand mud snail does not spread.
Inc Req			Yes	<p><u>Raptor nesting areas</u></p> <ul style="list-style-type: none"> • Brief pilots to avoid flying in proximity to raptor nests when possible. • Where air operations occur within 0.5 miles of active raptor nests, the use of helicopter water drops would be considered as an alternative to retardant drops or foam to minimize adverse impacts on raptors.
Strat Obj	04/30/2014			Effectively manage fire actions commensurate with values at risk and meet incident objectives while employing fiscal responsibility.
Strat Obj	04/30/2014			Improve fire prescriptions for prescribed and wildland fire, through fire effects monitoring and smoke monitoring, that will be safe, capable of restoring and maintaining park ecosystems and meet resource objectives.
Strat Obj	04/30/2014			Ensure that firefighter and public safety is the first priority in every fire management action.
Strat Obj	04/30/2014			Minimize fire impacts to the park by using the full range of fire management options to protect values and resources.

An example of Incident Objectives and Incident Requirements.

Of note: The Incident Objectives and Requirements are considered of equal value. Often the objectives are derived to show leader's intent while requirements are often law or regulation based.



The Course of Action is the overall plan describing the selected strategies and management action points intended to meet incident objectives and requirements based on current and expected conditions. In incident-level decision making, the course of action is comprised of selected strategies and specific actions to achieve the incident objectives while complying with incident requirements. The purpose of the course of action is to adequately mitigate or control the risk to values to be protected, and identify where fire may contribute to meeting land management objectives in those areas where risk can be mitigated to an acceptable level.

It is important that the course of action does not define tactics but instead further clarifies leader's intent. An example would be if there is a need to keep fire out of an area of bug kill, define what that would look like. In other words if fire does spot in to the bug killed area is there an intent to put it out at all costs and increase fire fighter exposure or should it be defined differently. Keep fire out of the bug killed timber but if fire cannot be contained, allow it to burn until fire spread can be stopped safely.



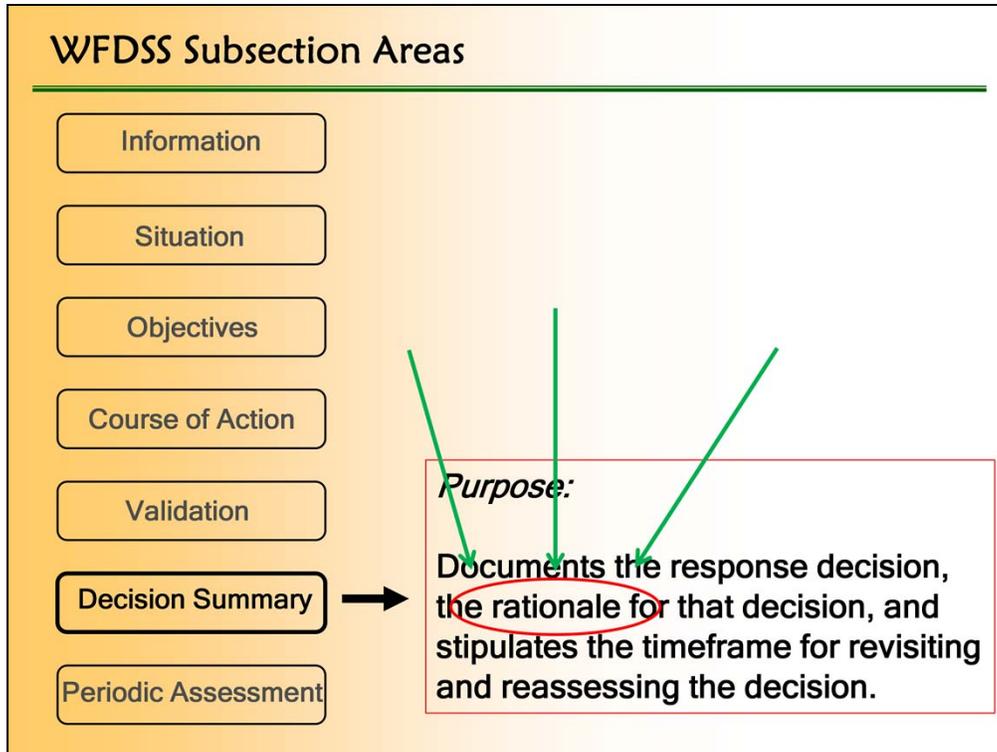
Course of Action

Create Action Item

<u>Activated</u>	<u>Deactivated</u>	<u>Included</u>	Item Description
<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	05/14/2014 Yes Monitor fire activity along the Snake River to assess river closures.
<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	Prepare a fire information update that is sent to all employees, external agencies, cooperating agencies, media, legislative outlets, local communities, adjacent land owners and other interested parties on a regular basis. The update will include the past 24 hour status, anticipated planned actions, and other pertinent information regarding such things as smoke management, structure protection, or closures.
<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	Minimize fire spread in to bug kill areas where feasible. If established in bug kill determine the next possible location for containment to limit firefighter exposure in snag prone areas.
<input type="radio"/>	<input type="radio"/>	<input checked="" type="checkbox"/>	Coordinate road closures with Park law enforcement officials. <ul style="list-style-type: none"> • Ensure appropriate signage is posted. • Utilize pilot cars as needed.

Page 1 of 1 Rows per Page: 20 Edit Include Exclude Delete...

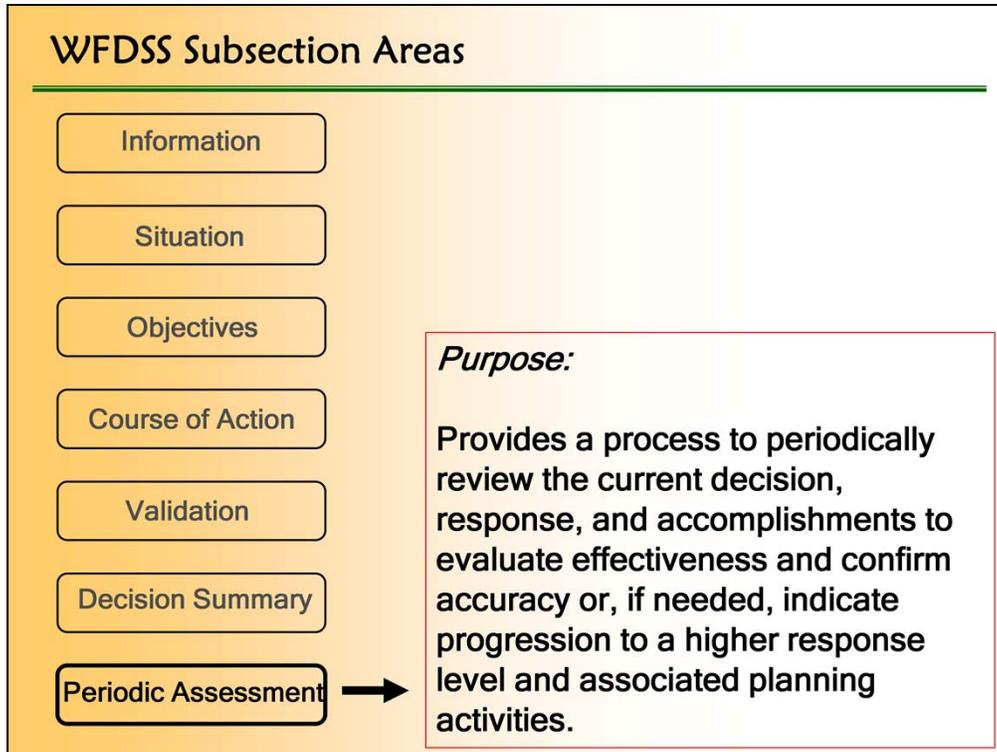




The Decision tab contains all the information that WFDSS populates and the information added by the Line Officer and their team of experts. Much of the information is what you have developed working through the incident tabs (objectives, course of action, relative risk, etc.) but additional assessment information can be added to support and document the decision. What is important for the Line Officer to complete is the Rationale for the incident. It is the Line Officer's responsibility to take time here to "tell the story". It is even worth considering starting the rationale with "My decision is..." . This is your executive summary of what you considered, what your decision is and what might trigger a new decision.

Forest Service employees are asked to utilize the 10 questions from the risk management protocols to frame the rationale. There is a document that shows how that can be completed and where to find the information for those questions in WFDSS on the training site.

USFS Fire Response Protocol's 7 Standards for Managing Incident Risk & WFDSS located at http://wfdss.usgs.gov/wfdss/pdfs/USFS_Protocol_WFDSS.pdf



The Periodic Assessment is completed routinely as an opportunity for the Line Officer to review the current fire situation to evaluate if the effectiveness of the chosen course of action is meeting the incident objectives. The process documents and ensures management accountability throughout the duration of the incident. The number of days between periodic assessments is set according to Line Officer comfort level with the fire and their decision. It is recommended that if it is an active fire that is changing daily that a daily periodic assessment is completed.

Periodic Assessment

Action	Date (CST)	Status	Comment
Decision Still Valid	07/23/2013 08:44	Published	Fire is within planning area and costs have been reviewed by Agency Administrators. Mop up 100 in from fire line continues. Transitioning to a type III organization at 1800 today.
Decision Still Valid	07/22/2013 09:03	Published	Monday July 22nd, all actions are within the DOA, letter of Leader's intent and planning area. The team is working on staffing chart to transition to a type three fire organization on Wednesday. Costs were reviewed by Forest Service Agency Administrator and are within plan costs.
Decision Still Valid	07/21/2013 08:45	Published	Sunday July 21st, all actions are within the DOA, letter of Leader's intent and planning area. Cost were reviewed by Forest Service Agency Administrator and are intin plan costs. Sunday July 21st, all actions are within the DOA, letter of Leader's intent and planning area. Costs were reviewed by Forest Service Agency Administrator and are within plan costs. All divisions plan to mop-up 100 from containment lines. All divisions will begin pulling in hose lay and back hauling operations. Demobilization will begin today for crew, aviation and fire support staff.
Decision Still Valid	07/20/2013 09:35	Published	As of Saturday July 20th AM actions are still within the DOA, Letter and Leader's intent and planning area. Costs were reviewed by both the State of Idaho Agency Administrator and the Forest Service Agency Administrator and are within the planned costs. Focus for Saturday July 20th is the continued burnout operations along Grimes Creek road. Consideration was given to potential spotting across Grimes Creek and debris rolling on to the Grimes Creek road as burnout operations progress. Division Y is

Comment

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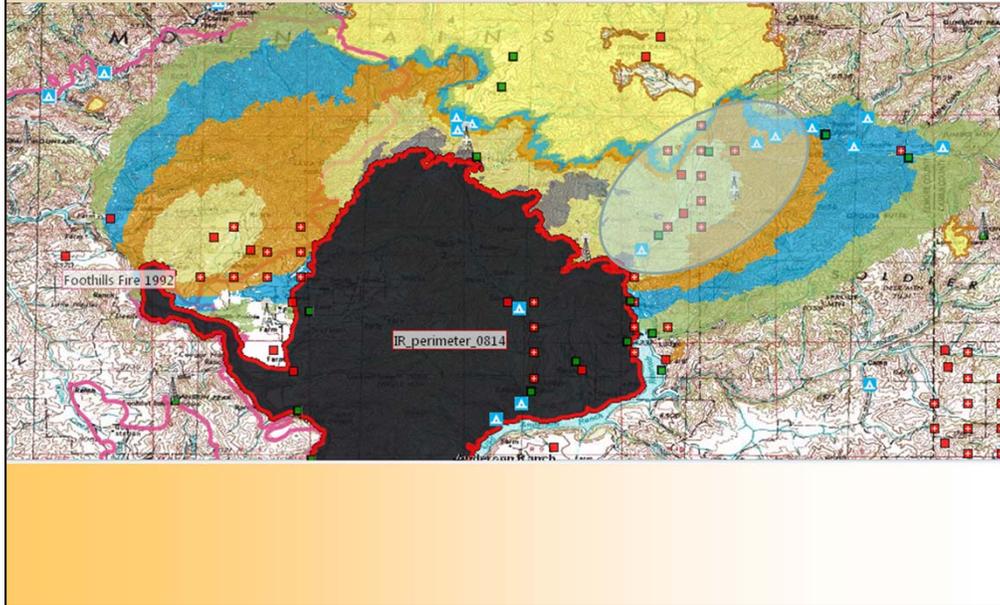
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There is a section for Line Officers to add notes when completing the periodic assessment. The examples above show information documented on fires that are in WFDSS. As you can see, there was time taken to document what was being considered when evaluating the fire, course of action, and objectives.

Near Term Fire Behavior



As discussed earlier, fire behavior modeling can be completed to assist managers in making decisions on fires. These models not only add quantitative information for completing a risk assessment but can also assist Line Officers in evaluating concerns they have.

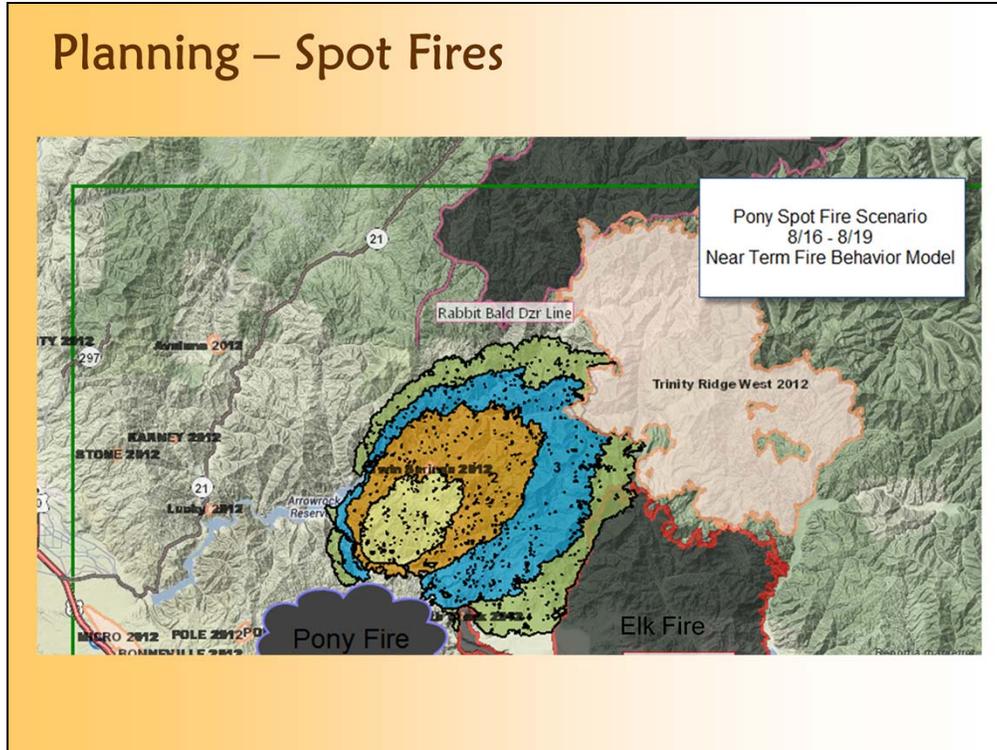
Near Term Fire Behavior (NTFB) models fire growth in the form of a fire progression. Unlike Short-Term Fire Behavior, NTFB models fire behavior using inputs for weather and wind that change over the duration of the simulation. NTFB can model fire growth for up to 7 days, however caution should be used when projecting beyond reliable weather forecast timeframes. Near Term Fire Behavior simulates where and when a fire may grow, and also predicts fire behavior characteristics on the landscape where it does burn. In this example of NTFB output below each color represents a 3-hour interval; the black lines represent daily burn periods.

This model was utilized by the Line officer to discuss evacuations with the land owners ahead of this fire. (identified within the ellipse on the map) She could show that over the next four days, if weather continued as anticipated and suppression actions were unsuccessful, the fire would burn through the area where their homes were. This could also be discussed in the context of whether fire personnel should be dealing with evacuations on a one way in/out road or fighting the fire.

NTFB can be utilized to answer Line Officer concerns such as –

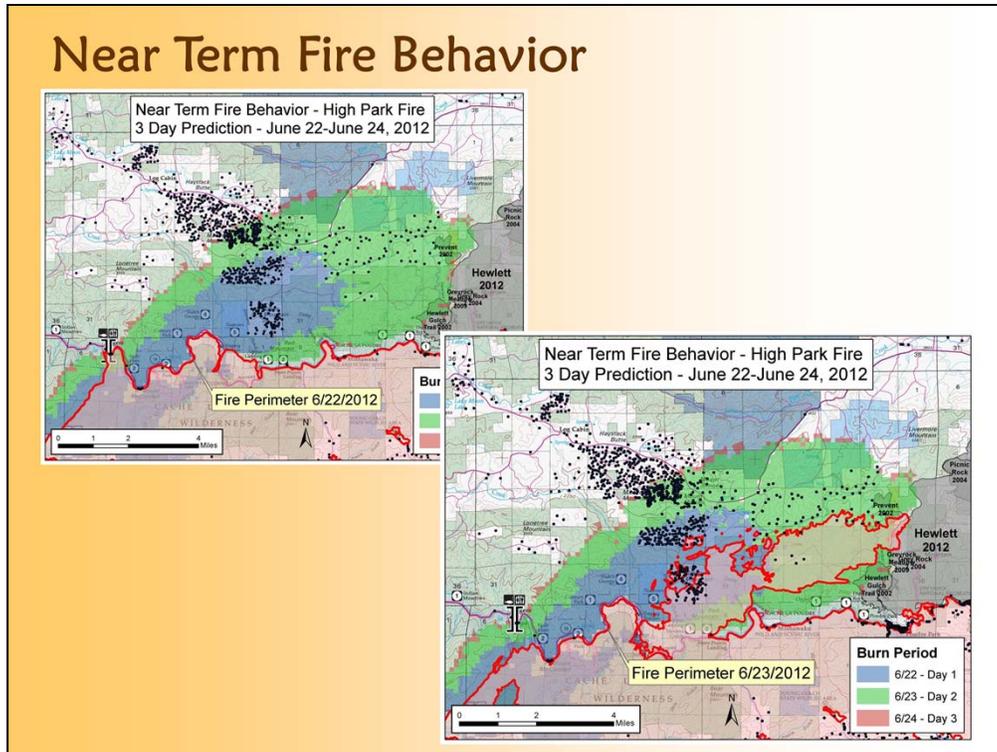
- The district ranger is concerned about a thermal trough pushing the fire; what might that look like?
- Given the changing winds and weather, when do you think the fire will reach the containment line?
- We are doing a large burn-out operation; if we get a spot across the line, what size will the fire be with and without a frontal passage?
- What fire behavior (e.g. flame length, rates of spread, spotting) is expected with known weather and fuel conditions?
- Can you reconstruct the growth of this fire if we provide you an ignition and the final fire perimeter?
- If a fire reaches a point of concern, what fire behavior can I expect at that location?

Planning – Spot Fires



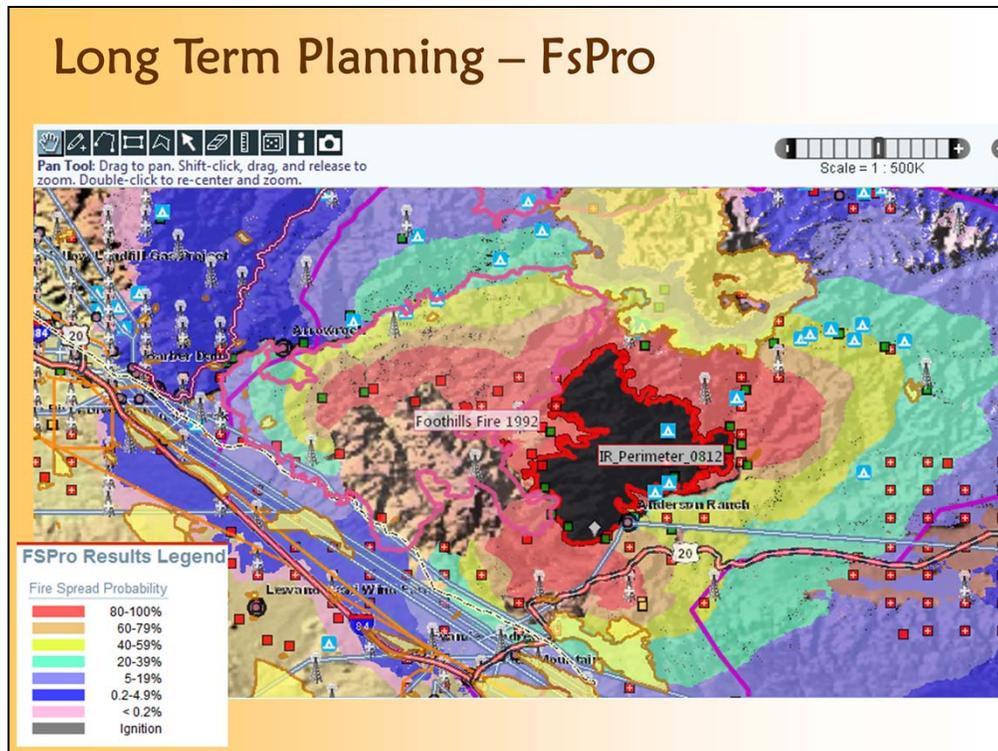
This is another example of how NTFB was utilized on this fire. At the time, the Pony Fire, seen in the lower area of the map was burning readily. The Line Officer was interested in understanding what the consequences might be with the current weather if the Pony Fire spotted across the river toward the Elk fire. At that time personnel were working on the Eastern perimeter of the Elk Fire and there were values in the unburned area. This indicated that under the current weather, it could pose a threat to both the values and the firefighters working to contain the Elk Fire.

Near Term Fire Behavior



On the High Park incident, the fire spotted to the north and were challenging crews to suppress all of them. With a high wind forecast a few days out, the Near Term Fire Behavior model was run to project what the fire might do under these wind conditions. (upper left). Because of this projection the structures (black dots) were evacuated ahead of the wind event. The lower right image shows the actual fire perimeter as compared to the model's projection. Although not perfect, the analysis does show that this was a concern, did help the Line Officer make the decision in advance, and put fewer public and firefighters at risk.

Long Term Planning – FsPro



When determining what potential outcomes there are with a fire burning longer term on the landscape, the Fire Spread Probability (FsPro) model can be used. FsPro is a geospatial probabilistic model that predicts fire growth, and is designed to support long-term decision-making (more than 5 days). FsPro addresses fire growth beyond the timeframes of reliable weather forecasts by using historic climatological data. FsPro calculates and maps the probability that fire will visit each pixel on the landscape of interest during the specified period of time, in the absence of suppression, based on the current fire perimeter or ignition point.

The results do not predict actual fire perimeters, but instead show the probability that each cell will burn. Based on the historical data FsPro produces many weather scenarios for the selected time period. Each weather scenario is used to model an individual fire, (normally 1,000 to 4,000 fires), that are overlaid to produce a map with the probabilities. The FsPro output map produced is often misinterpreted as a perimeter map. The red area represents a 80-100% probability of being burned. The orange are represents 60-79%, the yellow area 40-59%, the green area 20-39%, the light purple 5-19%, the dark purple .2-4.9%, and the pink < .2 % change of burning in the 7 day period under the modeled conditions.

FsPro can be utilized to answer Line Officer Concerns such as –

- What is the probability the fire will reach the Interstate?

- The fire has hung in the higher elevations and the season is coming to a close, what is the likelihood the fire will run again and threaten the communities in the valley?
- There are fires all over the place; what is the chance these fires will merge in the next week or two?

Long Term Planning – Values at Risk

Values at Risk

NAME	VALUE
Incident Name	ELK
Analysis Name	7day_8_12_1000f
Author	Multiple
Analyst	Pence, Dusty
Latitude	43.33444
Longitude	115.49667
Geographical Area	Eastern Great Basin

Values List

Category	80-100%	60-79%	40-59%	20-39%	5-19%	0.2-4.9%	<0.2%	Expected Value
BLM Buildings	3	4	0	0	0	3	6	5.58
BLM Range Allotments	29,041 acres	10,190 acres	17,123 acres	86,499 acres	158,861 acres	335,670 acres	110,242 acres	96,476 acres
Building Clusters: Ada, ID	0	0	0	0	12	1,092	293	30.2
Building Clusters: Blaine, ID	0	0	0	0	0	650	1,384	18.3
Building Clusters: Boise, ID	no data	no data	no data	no data				
Building Clusters: Camas, ID	0	0	0	28	798	431	520	119
Building Clusters: Elmore, ID	349	84	124	25	117	824	51	478
Building Clusters: Gooding, ID	no data	no data	no data	no data				
Building Clusters: Lincoln, ID	no data	no data	no data	no data				
Campgrounds	2	1	9	5	8	15	18	9.91
Class 1 Airsheds	0 acres	16,111 acres	5,034 acres	424 acres				
Communication Towers	70	2	1	28	72	454	226	94.3
County: Ada, ID	0 acres	0 acres	0 acres	0 acres	15,248 acres	85,588 acres	20,763 acres	4,152 acres
County: Blaine, ID	0 acres	194,049 acres	118,094 acres	5,163 acres				

WFDSS Values at Risk (VAR) combines FSPro output with national and preloaded local value data to quantify the specific values within each probability contour (acres, miles, count, etc.). Similar to Values Inventory, VAR provides the values information in a table, and a map of the inventory area is available from the Situation map. The map capture feature can be used to add an image to the incident and decision content. Like Values Inventory, VAR is also intended as a strategic planning tool and provides a quick method to quantify values within an FSPro projection area.



Line Officer's Role

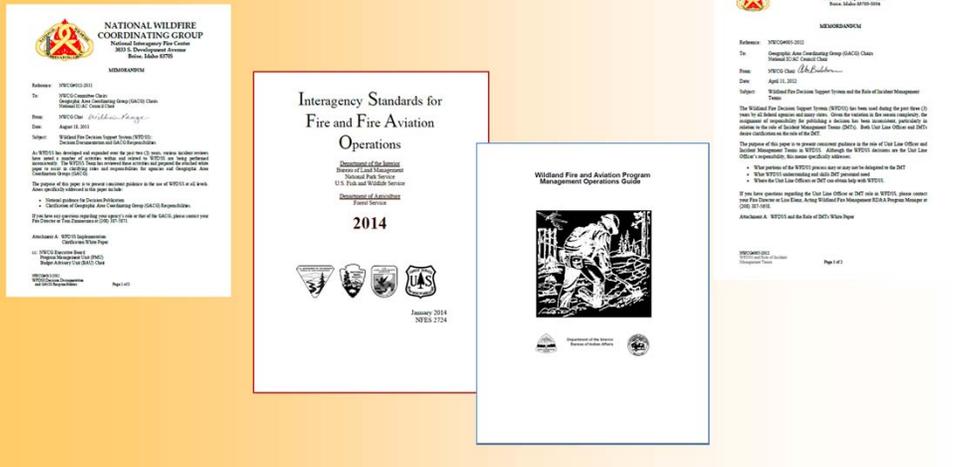
- The Decision-Maker
- Assembles the WFDSS team.
- Approves the incident objectives.
- Documents rationale.
- Responsible for Delegation of Authority.
- Assigns AREP and READ and SOPL as needed.
- Completes Periodic assessment as needed.

A review of the Line Officer's Role in WFDSS

References:

WFDSS Decision
Documentation &
GACG Responsibilities
- NWCG #012-2011

WFDSS and the Role
of the Incident
Management Teams -
NWCG #005-2012



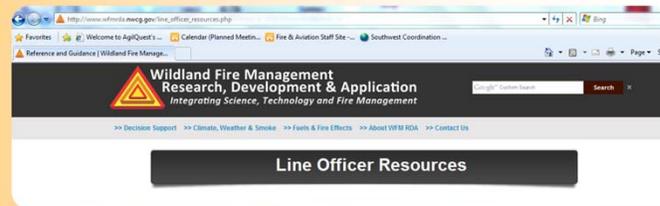
There are several references that can be utilized to determine when a decision should be made in WFDSS and who is responsible for the decision. NWCG #012-2011 discusses the timing of a decision and supporting information as well as the role of the Geographic Area Editor. The information about timing of decision making can also be found in the Interagency Standards for Fire and Fire Aviation Operations (Red Book) and the Wildland Fire and Aviation Program Management Operations Guide (blue book). NWCG #005-2012 discusses the Agency Administrator role in decision making versus what an IMT is expected to do. Historically the team helped the local unit with their Wildland Fire Situation Analysis and often completed it. It is the expectation that the home unit owns the decision and WFDSS documentation although many teams will assist as needed. Often the local unit can bring in an agency representative or strategic operational planner to assist with the WFDSS decision documentation if local staff are not available.

References:

Decision Making for Wildfire Incidents: A Reference Guide for Applying the Risk Management Process at the Incident Level
RMRS-GTR-298

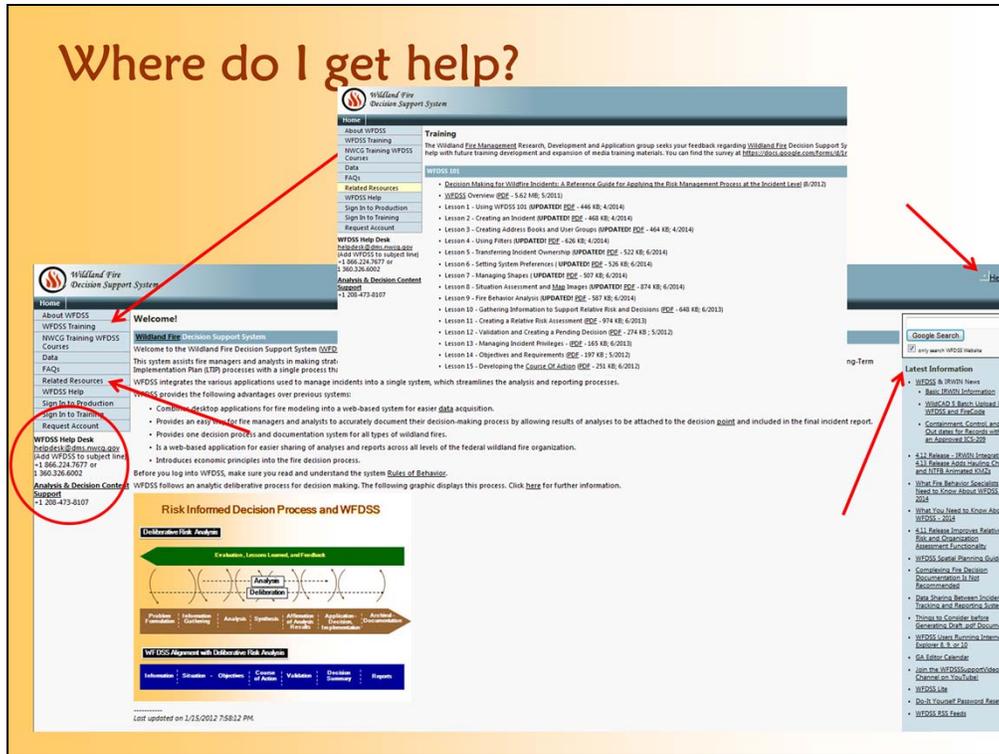


Line Officer's Desk Reference For Fire Management Program



There are many great references to help people understand both the decision making process and WFDSS. The Decision Making GTR was referenced earlier and was written to help people understand the decision making process, rather than the WFDSS process. The Line Officer's Desk Reference has been developed for Forest Service Line officers to provide them with one place to find fire related information.

The Wildland Fire Management RD&A is setting up a location on their website, working with the FS National Line Officer's Team, to host information in one place for Line Officers. Although the FS Line Officer's Desk Reference is hosted here, there are many other documents of interest to interagency Line Officers available here too.



This is a screen capture of the WFDSS Home Page.

On the left menu you will find training material and related resources. This screen shot shows the training menu expanded listing some of the WFDSS 101 lessons. These lessons have been broken down in to smaller units for people to better find the specific training they are looking for. Documents added to the training tab are dated so you know if you have the latest version.

Obtaining help with WFDSS is also found in the left menu of the home page. The top number is utilized for generic help such as resetting passwords or basic assistance. If more complex assistance is needed with the decision process, finding key information or analysis utilize the Analysis and Decision Support number 208-473-8107.

On the left side of the home page you will find the help icon and google search features. Or the latest information related to releases and documents. as well as key in to the latest information found on the right. As new releases are posted, this will be a key place to look for information.



Thank you for reviewing this presentation. Please do not hesitate to provide feedback to Lisa Elenz, at 208-397-5658 or lelenz@fs.fed.us