

S-420 Pre-Course Work – Wildland Fire Decision Support System (WFDSS) Incident Objectives

Findings from Reviews of 2014 and 2015 Published Decisions and Recommendations

National Fire Director Tom Harbour and Tim Sexton had a discussion in spring of 2014 about the quality of incident objectives in WFDSS decisions. It was agreed that most decisions reviewed had objectives that did not add much value to an IMT's ability to develop strategies and tactics to achieve the "intent" of the decision. Tim agreed that the Wildland Fire Management Research, Development, and Application program would conduct an in depth survey of WFDSS decision objectives during the 2014 fire season. Work in this area continued in 2015, reviewing decision documents.

Topic for Discussion

- Findings from reviewing Decisions in 2014 and 2015
- Recommendations for improvements
- How IMTs can help

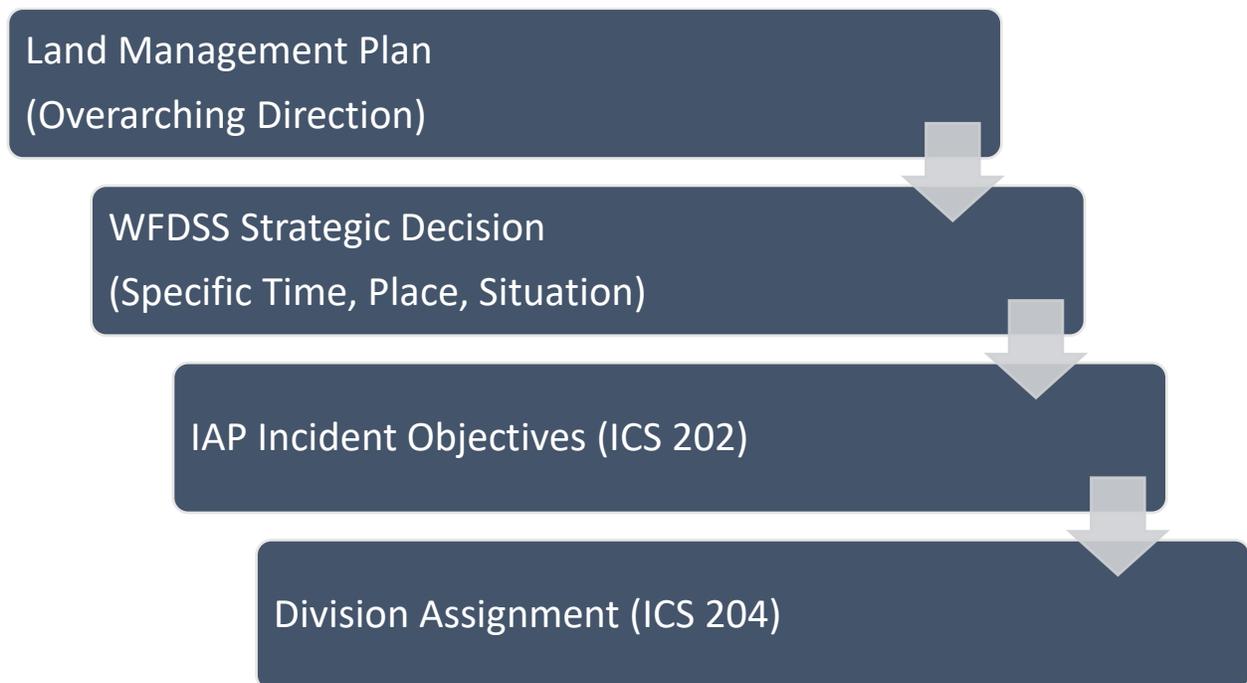
Within this presentation viewers will find information from the 2014 and 2015 reviews.

WFDSS and all of its elements was developed to provide Agency Administrators with all of the available relevant information about an emerging wildfire and analytics to assist the Agency Administrator in making a sound decision on how to strategically respond to the wildfire. Clarity of objectives enables the IMT and firefighters on the ground to devise strategies and tactics that aim to achieve the objectives while limiting exposure of firefighters to hazards.

“We routinely manage landscape-scale, multi-million dollar projects using hundreds to thousands of personnel with vague, boilerplate objectives...we can do better.”

This statement paraphrases the discussion between Tom Harbour and Tim Sexton. It is a collective challenge among IMTs, Agency Administrators and partners....

Direction: from Strategic To Tactical



Clear linkages should be evident from higher level planning documents to long term large-scale strategic decisions to short term localized tactical assignments. Without this transparency, it is difficult to know if tactical actions are following over-arching strategic direction.

When firefighters understand the **overall strategy** and the **context** of their assignments in achieving that strategy...

they can **adapt** and improvise as conditions change...

to make progress towards achieving the overall strategy while **limiting their exposure** to hazards.

Providing context for firefighters on assignment is important because.....

Objectives Project—2014

- 24 Decisions reviewed in 2014 (PSW, PNW, R1)
- All Incident Objectives and Incident Requirements in WFDSS database as of May 2014.
- Site visits and interviews during incident management.

In 2014 a systematic evaluation of 23 wildfire Incident Decisions was undertaken to better understand Incident Objectives and Incident Requirements and recommend solutions. The review also included interviews of Agency Administrators, incident commanders and WFDSS Authors. An analysis of all Incident Objectives in the WFDSS database as of May 2014 was also conducted.

Findings are that Agency Administrator direction often differed and sometimes conflicted between WFDSS, the Delegation of Authority, Leader's Intent letters, and Incident Action Plan (IAP) Objectives.

Early Findings

More than 90 percent of incident objectives are generic, referring to...

- Policy – “full suppression”
- Doctrinal – “keep costs commensurate with values at risk” “adhere to LCES”
- Core Values – “firefighter safety is the number 1 priority”
- Vague Terms – “keep the fire small”

Generic information in the Incident Objectives does not provide leader’s intent for the IMT or define clear understanding of the priorities. If information specific to the unit’s direction is provided, it should be in the leader’s intent document attached to the Delegation of Authority. Information in the WFDSS decision should be pertinent to managing the wildfire versus generic or unit specific information.

Lack of specificity leads to potential mismanagement of resources based on unclear priorities, jeopardizing a sound risk management process that may expose firefighters to hazards needlessly.

A project is being undertaken to revise and update the Delegation of Authority, Leader’s Intent, and Inbriefing package to ensure continuity among these and the WFDSS Decision Document. It is hoped that this information will be available for testing in 2016.

2014 Conclusion

The lack of specificity in WFDSS Incident Objectives makes it challenging to understand the relative importance of one objective to another and how to be fully successful in achieving the objectives.

This leads to potential mismanagement of resources based on unclear priorities, jeopardizing a sound risk management process that may expose firefighters to hazards needlessly.

Recommendation

- Improve specificity of Incident Objectives and Incident Requirements –
 - **why,**
 - **what,**
 - **where,**
 - **when**

If the *who*, *what*, *when*, *where*, and *why* is answered the Incident Objectives and Incident Requirements will be much closer to a S.M.A.R.T. objective which we know is challenging when defining strategic leader’s intent. Although is likely the most critical element to address, the *who* may not always be defined as that will be determined through the Organizational Needs Assessment. The *how* will then be negotiated with the IMT or personnel managing the fire to ensure the AA is comfortable with the risks being incurred versus the priorities set.

Examples

- Keep the fire south of Wolf Ridge
 - Underlying objective: *protect pine plantations north of the Wolf Ridge*

- Keep the fire east of Clearwater Reservoir
 - Underlying objective: *protect the Ft Collins municipal watershed*

These are two examples from WFDSS Decisions. The italic information shows what the actual intent was for the objective with a recommended improvement. In each case, the ‘why’ is clarified so the IMT or field personnel can adjust their actions based on what the leader’s intent it.

Findings

- When wildfire response assets are limited, AAs and IMTs must choose which objectives they have capacity to achieve.

Beyond protecting life (civilian and FF) everything else is second priority and by virtue of all those "second priorities" being such, they sometimes get lumped into an incoherent mass therefore making it challenging to determine which objective is more important.

(Keeping the fire out of the Ft Collins municipal watershed likely is more important than protecting a pine plantation on the Arapaho-Roosevelt NF, yet they may be listed as though they have equal importance.)

- When wildfire resources are not limited, IMTs may expose firefighters to hazards unnecessarily when objectives and their relative importance are not clearly defined and understood.
- When wildfire response assets are not limited, IMTs may expose firefighters to hazards unnecessarily when objectives and their relative importance are not clearly defined and understood.
- In some cases IMTs are not even reading the WFDSS decision.
- It is important that the IMTs understand what is in the WFDSS Decision so their actions align with the AA’s priorities and intent.
- Incident Objectives and Incident Requirements and other agency administrator direction often differ and sometimes conflict between the WFDSS Decision, Delegation of Authority, the Briefing Package, other documents and ad hoc discussions.

Incident Objectives and Incident Requirements from WFDSS are not being relayed consistently. This inconsistency and misalignments sometimes results in unnecessary firefighter exposure when an IMT takes on tasks which are not in alignment with true leader’s intent. On one complex of fires in 2014 an IMT had more than 30 personnel assigned to perimeter control of a fire for several days that the Forest Supervisor had indicated in the WFDSS decision could be monitored.

There is a need to streamline team transition documents to ensure Incident Objectives and Incident Requirements are delivered in a consistent manner.

- The tie from Land and Resource Management Plan (LRMP) Strategic Objectives and Management Requirements to Incident Objectives, Incident Requirements, and the Course of Action was often unclear and inconsistent.
- Often the Rationale did not provide an overview of this information or why the decision is made.

These inconsistencies lead to Delegations of Authority and Briefing Packages that are inconsistent or do not provide adequate Agency Administrator intent.

- In most cases there were not clear linkages from the WFDSS decision to the objectives in the IAP and the tasks identified in the 204s
- When these linkages are not present firefighters have an incomplete understanding of the context of their assignments and how to be effective in improvising when the initial daily plan needs revision. Is it more important to try to “stop the fire south of Wolf Ridge, or fall back and implement point protection on the electronic site north of Wolf Ridge”

Recommendation

- Improve specificity of objectives and requirements – what, when, where, why

If the *who, what, when, where, and why* is answered the Incident Objectives and Incident Requirements will be much closer to a S.M.A.R.T. objective which we know is challenging when defining strategic leader’s intent. The *who* may not always be defined as that will be determined through the Organizational Needs Assessment. The *how* will then be negotiated with the IMT or personnel managing the fire to ensure the AA is comfortable with the risks being incurred versus the priorities set.

Examples

- Minimize economic impacts to communities.

Insofar as safely possible, keep FS Road 4422 open to the public for access to Hiawatha Lake and the recreation-based businesses there through Labor Day weekend.

The bullet is an objective from a past WFDSS decision.

The italicized objective below it is a recommended improvement which addresses why, where, when question.

Vague Objective

- Minimize the size of the fire.

Keep the fire from entering the Rough River drainage to avoid long duration, costly, and hazardous fire operations.

The bullet is an objective from a past WFDSS decision.

The italicized objective below it is a recommended improvement which addresses why and where.

Improved Objectives

- Keep fire south of Bear Ridge.

Protect high value pine plantations north of Bear Ridge from moderate to high severity fire.

- Keep fire east of Red River.

Protect the high wattage power transmission line that lies on the west side of Red River until arrangements can be made to de-energize the line.

- Keep fire north of Blue Lake.

Protect marten habitat south of Blue Lake from moderate to high severity fire.

The bullet is an objective from a past WFDSS decision.

The italicized objective below it is a recommended improvement which addresses what, why and where.

- Keep fire west of Highway 37.
- Protect residences and infrastructure along and to the east of Highway 37.

The bullet is an objective from a past WFDSS decision.

The italicized objective below it is a recommended improvement which addresses what, why and where.

Recommendation

IMTs need to engage Agency Administrators in a dialog about the objectives and ensure they are sufficiently specific, realistic and aligned with other direction.

Again, they should address “*what where and why*”.

Oftentimes IMTs have capacity to assist Agency Administrators in crafting good objectives that tier to the LRMP strategic objectives and clearly convey leader’s intent.

Strategic Objectives and Management Requirements not applicable to fire incidents should be recognized and not utilized in the incident Decision. There are places within the system to document when there is irrelevant information to the decision. The result will be better risk management.

Agency Administrators, Incident Commanders, and fire personnel should be aligned in their understanding of priorities for the incident. A sense of priorities for objectives should be conveyed in the course of action and should also be described in the rationale.

Strategic direction in LMPs and WFDSS decisions should not be overly specific...there should be room for the firefighter on the ground to improvise and find the safest means for achieving the strategic objective. IMTs should also be wary of being overly constraining in 204 assignments. Provide sufficient room to maneuver in dynamic situations. Provide the “what” and “why” and allow the firefighter on the ground do devise the “how”.

Some IMTs need to be more diligent in developing ICS 202 objectives that are tiered to the WFDSS incident objectives and then develop ICS 204 assignments that are clearly linked to the higher level objectives

During the 2014 review, WFM RD&A staff were told by one Planning Section Chief that their team uses the same objectives for all of their fires.

Engaging in this effort should improve overall understanding of objectives, constraints and opportunities for all parties involved in the management of a fire – from IC down to the pulaski swingers. The hope is that this will lead to reducing unnecessary firefighter exposure to hazards and enhanced ability to improvise effectively in achieving objectives.

Objectives Project—2015

- Additional 32 Decisions reviewed in 2015.
 - Fires greater than 100 acres with published decisions

- Great Basin, Northern Rockies, Southern California, Northern California, Pacific Northwest Regions

In 2015 incident Decisions were reviewed to evaluate if improvements have been made in writing Incident Objectives and Incident Requirements for wildfires.

2015 Findings

- Incident objectives had improved from the 2014 review.
- Typically improvements from first to last decision.
- Generally clearer than previous years.
- Key information found through out document.
- Interagency fires reflected information for all parties involved.

About 11% of the WFDSS decisions reviewed contained objectives which conflicted with each other.

When more than one decision was reviewed for the same incident, improvement usually occurred with each successive decision.

In most cases values to be protected were given equal consideration regardless of land ownership or agency jurisdiction.

Incident Objectives and Incident Requirements were found to be clearer than previous reviews although there is still room for improvement.

- Typically the entire decision had to be read to obtain a clear understanding of the values, leader's intent, and priorities because information was inconsistently located throughout the decision. Without reading the Incident Objectives, Incident Requirements, Course of Action, Relative Risk Assessment, and Rationale, it was difficult to piece together the intent. More clearly written Incident Objectives and Incident Requirements would clarify intent, improve flow through the decision, and lead to better understanding.
- If the entire document was read, it was apparent that risks were being considered although information could be clearer and better organized to ensure leader's intent and concerns were articulated.
- Having important information inconsistently located throughout the Decision hinders full understanding because many readers (including IMTs) often do not read the entire decision. Although the document builds on the Incident Objectives and Incident Requirements, it is important to ensure key information is relayed within them.
- Establishing priorities in the Incident Objectives and Incident Requirements, should be improved upon to ensure IMT understanding of relative importance.
- Average 4 days to publish the first decision. (1 day shortest, 12 days longest)
- Given above timing – unclear what was used for IMT briefings.

The average time to publish an initial decision was 4 days with 12 being the longest and 1 being the shortest. National direction indicates a decision should be published within 24 hours after a determination is made that it is needed or within 24 hours of requesting an IMT. Given the timing of many WFDSS Published Decisions it is unclear what decision information and leader's intent was utilized to brief the incoming IMT.

Conflicts within the decision....

- Incident Objectives conflicted with:
 - Themselves 11%
 - Incident Requirements 9%
 - Course of Action 9%
 - Rationale 15%
- Often difficult to evaluate as these sections had no information.
- Rationale often contained the most information.

Evaluation of whether the Incident Objectives conflicted with themselves or with other sections of the decision document found the following results.

Incident Objectives conflicted with themselves 11% and Incident Requirements 9% of the time. This is a concern because these should be clear and indicate LRMP direction and leader's intent.

Incident Objectives conflicted with Course of Action 9% of the time and Rationale 15%. Conflicts occurred when information was not organized well or was inconsistently addressed in multiple sections of the document (differing priorities or actions on the fire). Rationale often summarized the information well, but leader's intent should be clearly stated in Incident Objectives and Incident Requirements and built upon throughout the document.

Reflection of the LRMP Values...

- Addressed generally or better at a rate of 48% of the time.
- These values often were addressed throughout the document and weren't reflected clearly in the Incident Objective or Incident Requirements.

LRMP Values – Values identified in LRMP Strategic Objectives and Management Requirements were reviewed to determine if they were addressed in the Incident Objectives and Incident Requirements since they should be tiered from overarching LRMP guidance. These values were addressed at a rate of 48% to varying degrees, clarity, and location within the Decision. Often these values had to be found by combing through the document rather than being addressed clearly as Incident Requirements or Incident Objectives. Values included plant or animal habitat, T&E species, weeds/pathogens, watersheds, cultural resources, timber sales, recreation, wilderness, inventoried roadless, mining claims, use of fire to achieve benefits, fire effects, pipelines, and air.

Finding Clarity in Objectives...

- “**What**” – 37% indicated the primary response to the fire while 63% were neutral or did not indicate this to any great degree.
- “**Where**” – 51% indicated the location while 49% were neutral or did not.
- “**Why**” – 31% indicated a sense of priority and why while 69% were neutral or did not.
- “**When**” – 3% indicated when actions were to be prioritized over other actions, such as during a holiday.

Evaluation of whether Incident Objectives addressed what, where, why, and when was utilized because writing SMART objectives can be challenging on wildfires, especially fires of the scale and magnitude seen in 2015.

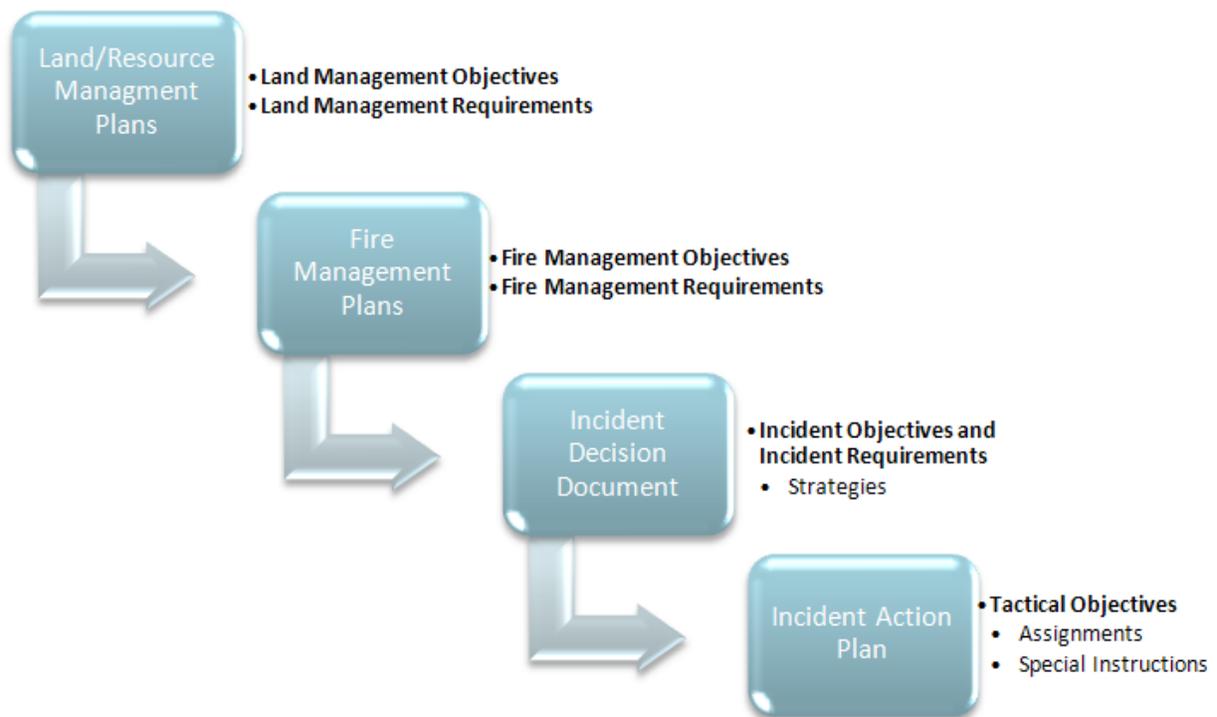
Continue work improving specificity of WFDSS Incident Objectives and Incident

Requirements, leading to a more deliberate Course of Action and Rationale. This will clarify intent and improve flow through the decision and support risk based fire management, ensuring intent is understood and addressed.

Improve linkages between WFDSS Incident Objectives, Incident Requirements, Course of Action and Rationale. Incident Objectives and Incident Requirements must be tiered to LRMPs. The Course of Action must be developed to meet the Incident Objectives. The Rationale must provide a clear explanation of how elements of the decision link together, and why the specific Course of Action provides the best means of achieving the Incident Objectives and Incident Requirements.

Recommendations

- Improve linkages between incident objectives, incident requirements, course of action and rationale.

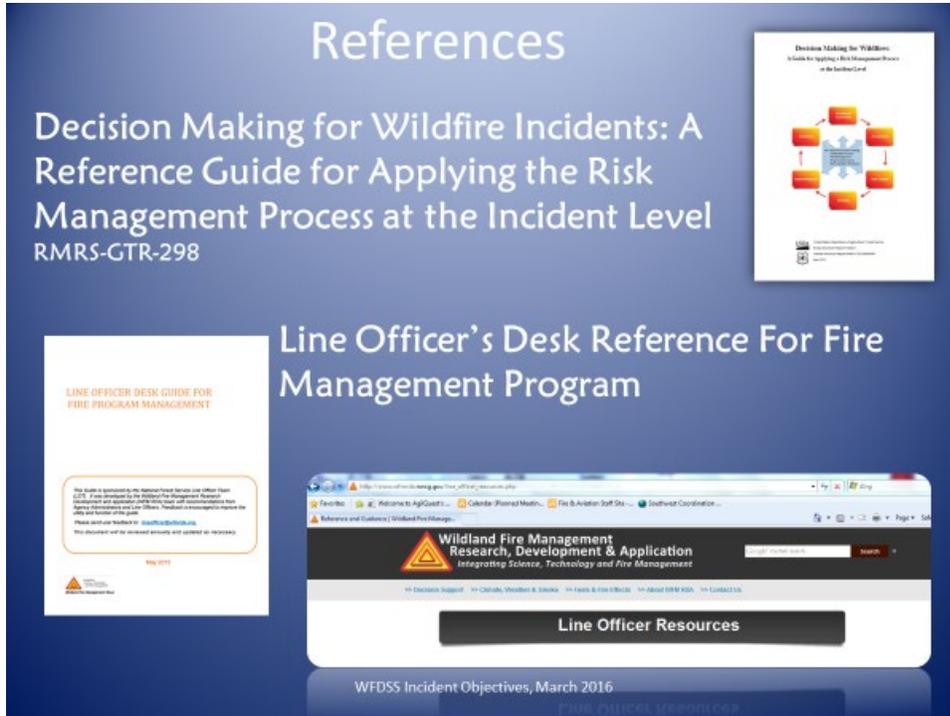


There is a need to improve the linkages between incident objectives, incident requirements, course of action and rationale. Incident objectives and incident requirements must be tiered to LRMPs. The Course of Action must be devised to meet the incident objectives and the Rationale must provide a clear explanation of how these elements of the decision link together and why the specific course of action provides the best means of achieving the objectives.

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.

White papers and examples of good decisions with good incident objectives are also located at the WFMRD&A website.

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.



Reference & Guidance

Introduction

This page includes a short list of documents, references, and guidance pertaining to wildfire decision support. The list is meant to be dynamic in nature and we will be making efforts to continually update the content on the page. If you have useful documents and/or links that you would like to share with the wildland fire community please [contact us](#) and we will work to add things.

Incident Objectives Project

Examination of wildland fire incident decisions revealed that most incident objectives are written general enough that they could apply to any fire in the country. This makes them of little use to incident management teams in developing strategies and tactics to achieve an agency administrator's intent for managing a specific fire and for agency administrators seeking to clarify the objectives they want accomplished.

A systematic evaluation of wildfire incident decisions was undertaken during the 2014 fire season, to better understand the situation and recommend solutions. Findings from this work are summarized in the following briefing paper.

[USDA FS Briefing Paper](#) - Wildland Fire Decision Making Incident Objectives & Incident Requirements (Updated May 27, 2015)

[White Paper](#) - Improving WFDSS Incident Objectives & Incident Requirements and Relaying Leader's Intent (Updated May 27, 2015)

[Risk, WFDSS, & Objectives Presentation](#), Pacific Southwest Region Fire Leadership Meeting, Sacramento CA, April 3, 2015

[Risk, WFDSS, & Objectives Presentation WITH NOTES](#)

[Creating Incident Specific Objectives in WFDSS](#) - This document outlines some best practices for creating incident specific objectives (October 2015)

[Fire Example](#) - This is a fire example that demonstrates how Incident Objectives, Incident Requirements, and Course of Action can be consolidated and written to provide clear leader's intent within a decision.

Many documents have been written specifically about writing Incident Objectives and Incident Requirements and are hosted on the WFM RD&A website.