

A Call to Action
Learning from Risk Management Assistance Teams
2017

Our wildland fire system has served us well, but environmental and social conditions have changed and we must respond.

Our agency is shifting how we engage and manage wildland fire. We manage landscapes that evolved with fire. Fires are more complex, fire seasons are growing longer and the wildland urban interface is growing. Therefore, we need skills in the application of risk management principles to improve our response to wildland fire, sustain and maintain resilient landscapes and support fire adapted communities.

The Forest Service developed risk management assistance teams (RMAT) as a pilot in 2017 with the intent to expand learning and increase decision quality through direct involvement with line officers, fire management professionals and analysts during incident response.

The following is a summary of what we learned, the gaps we identified and recommendations for actions with the highest potential to drive positive change.

1. Operationalize and institutionalize risk management training and experience for agency administrators and fire managers including enhanced application of analytical tools to support decision making and incident management.

Currently, fire management personnel have a rigorous, required training, qualification and certification system. The system of training for agency administrators (AA) is not fully standardized or integrated with fire management. Enhanced AA training and measurable expectations for AA engagement in fire programs and fire response is necessary to improve the decision quality, more fully understand the risk based trade-offs between response strategies and communicate our intent more effectively.

There is a shortage of AAs with this skill set at the present time. A system of utilizing these highly skilled AAs across the system is also needed in the short term until more AAs are trained and gain experience.

2. Evaluate the effectiveness/efficiency/utilization of both ground and aerial resources in real time and make information available to AAs and fire operations.

Currently, there is no objective way to evaluate unnecessary exposure or efficiency of resource use in any kind of systematic manner because we have no data on firefighting resource assignments, objectives, benefits of assignment, effectiveness of assignment (were objectives met?), and exposure associated with assignment (quality/quantity). We need to develop systems for collecting data on assignments, numbers and types of resources assigned, objectives of assignments (values to be protected), effectiveness of assignments, and other data associated with exposure versus benefits of resource assignments to wildfires.

Outfitting GPS transponders on all of our resources would enable tracking of locations of assignments and enable an estimate of the quality of exposure of those assignments. A collateral benefit would be the ability to track on-the-ground resource locations versus active fire front which would enable better ability for IMTs and AAs to monitor real-time exposure of resources to fire and other threats to their safety.

Developing a web-based IAP with ability to collect ICS 202 and ICS 204 information for ascertaining specific wildfire objectives and assignments of firefighting resources. This information would enable a review of objectives to determine alignment with strategic (LMP) and AA direction for the fire as well as evaluating whether the assignments on the 204s are closely linked to achieving strategic, AA and IAP objectives. An additional feature of the system would be to enable Operations personnel (OSC, DIVS, STL, TFL, Crew Bosses, etc.) to add comments to 204s after their operational period so that actual tasks are documented (there are almost always additional or different tasks accomplished during the operational period which are currently undocumented).

3. Increase capacity of fire analysis quality and quantity (SOPL/LTAN)

SOPLs and LTANs continue to be in short supply even during low activity periods. Each Region should determine current and expected needs and make plans for developing sufficient personnel in LTAN and SOPL skill positions to meet the identified needs. Regionally-sponsored LTAN/Analyst/SOPL positions with career ladder opportunities should be considered. These positions are needed to serve as Fuel and Fire Planners when not engaged in wildfire management.

Each FS Region could have a regional fire analyst. A regional planner or budget analyst along with a fire analyst would allow regions to provide more support to long-duration fires, WFDSS decisions, spatial fire planning, risk assessments, FDOP's, etc.

Evaluate SOPL training to determine if changes are needed (currently, TOA is not included).

4. Expand decision support products for Incident Management responsive to AA/Fire operations needs.

RMAT found understanding, explaining and teaching about existing products was an important service to offer to AAs, with the intent of expanding the decision space they have to work with. Also, several products were developed as RMAT's work progressed. They were developed and tested by RMAT analysts.

Some of these include: the timeline graph (**TG**), management direction alignment table (**MDAT**), exceedance probability curves (**EPC**), aviation use summary report (**AUSR**), suppression difficulty index (**SDI**), potential control locations (**PCL**), and the use of conditional net value change (**cNVC**) products from regional or forest quantitative wildfire risk assessments.

Continued product development and refinement is needed as well as interpretation and outreach. Some of these analytics (e.g., timeline graph) are candidates for broader consumption via operationalizing in existing systems (e.g., WFDSS). These products can help inform decisions and answer common questions that line officers and teams pose when managing large fires. Learning modules for each tool with explanations of the tool and examples of how it is used will be needed. Post explanatory information about new (and old) analytics could be hosted on the RD&A website ("Line Officer Tools" page).