



Tribal Consultation regarding Risk Based Wildland Fire Management

Summary

Throughout the original Tribal consultation period, from October 2014 to January 2015, the Office of Wildland Fire (OWF) received valuable input from tribes to understand key issues of interest and used that input to better inform the Risk Based Wildland Fire Management (RBWFM) analysis. The Department of the Interior (DOI) revised the RBWFM methodology based on tribal comments. The DOI, OWF is reopening tribal consultation to seek input on the continued development of RBWFM.

Background

The OWF has the responsibility to allocate the Wildland Fire Management (WFM) funding to the DOI's bureaus (Bureau of Land Management, Bureau of Indian Affairs, National Park Service, and Fish and Wildlife Service). The bureaus, in turn, are responsible for implementing and executing the programs in collaboration with other Federal, tribal, state, and local partners to support the three goals of the National Cohesive Wildland Fire Management Strategy (Cohesive Strategy). Current allocations for preparedness among the bureaus generally rely on distribution formulas developed in the 1990's and updated during the funding increases under the National Fire Plan in the early 2000's. Originally, the Fire Planning Analysis (FPA) tool was designed and developed to provide science-based tools and capabilities for determining how to allocate funds to provide the most effective, efficient preparedness program across the DOI and U.S. Forest Service (Forest Service). During the same period, the Hazardous Fuels Prioritization and Allocation System (HFPAS) was developed in an effort to provide a common tool for ranking fuels projects and making allocations to bureaus. Neither of these modeling efforts provided results that supported national allocations with risk-based assessments of priorities. This paper explains the development of a risk based approach to wildland fire program management.

I. Strategic Questions for Wildland Fire Program Management

Several questions were posed in the development of the model including three strategic questions:

- What is the scope of the problem?
- How will we set priorities to strategically address the problem?
- How will we monitor program accomplishment and effectiveness?

The Cohesive Strategy defines the problem and guides our future program. The RBWFM approach provides an opportunity to set DOI WFM priorities and reduce the risk of wildland fire to meet program goals.

II. Risk Based Wildland Fire Management Guiding Principles

The following principles are foundational to the DOI WFM program:

1. Improve the ability to respond safely to wildland fire.
2. Pre-position appropriate resources to respond safely to a fire expected to damage or destroy life, property, and resource values.
3. Manage fuels to reduce spread and intensity of wildfire in order to protect life, property, and resource values.
4. Support community efforts to adapt to potential wildfire impacts.
5. Increase the likelihood that the net ecological and social impacts associated with wildland fire are positive or neutral.
6. Formulate, justify, and allocate budgets requests with the goal of maximizing the return on investment.

7. Measurably reduce wildfire risk to DOI values over time.

The guiding principles above are paraphrased from proposed guiding principles in [Departmental Manual > Series: 34-PUBLIC LANDS \(Parts 600-620\) > Part 620: WILDLAND FIRE MANAGEMENT](#).

Current Status

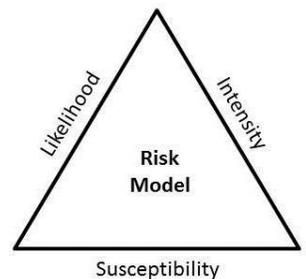
The OWF consulted with Tribes and solicited input from stakeholders and Department wildland fire bureaus to develop a Department-wide risk based planning framework. This Departmental approach uses a three-principle concept:

- A common DOI methodology for analyzing risk;
- Strategic Fire Management Business Plans defining implementation and execution;
- Evaluation using fire program performance and effectiveness monitoring.

Risk Based Wildland Fire Management Model

This model evaluates three variables: wildfire likelihood, intensity, and susceptibility with an output of Expected Value Acres Burned (annually).

- Wildfire Likelihood is based on burn probability using results from the US Forest Service's Large Fire Simulator (FSim).
- Wildfire Intensity is the measure of fire's rate of spread, fuel consumption, and heat yield at a given point on a fire's perimeter, as derived from FSim. Note: The DOI national-scale model used all six wildfire intensity levels.
- Value Susceptibility is how a value responds to wildfire in terms of the degree of affect (negative, neutral, or positive). Note: The DOI national-scale model does not analyze the susceptibility of a value (negative, neutral, or positive). Value susceptibility will be addressed in the strategic business plan using strategies to manage wildfire effects on each value (negative, neutral, or positive).
- Expected Value Acres Burned is the area containing a priority value that is likely to burn in a given year from fires that originate on Tribal trust or DOI administered lands.



References:

- The Need for a Consistent Wildfire Risk Terminology* (Bachmann, Allgöwer - 2000)
- Wildfire Risk and Hazard: Procedures for the First Approximation* (RMRS-GTR-235 - 2010)
- A Wildfire Risk Assessment Framework for Land and Resource Management* (RMRS-GTR-315 - 2013)

Key Points

National Life, Property, and Resource Values (NLPR)

Values considered in RBWFM fall into two categories: (1) Life and Property and (2) Resources.

Life, Property and Resource Values	Elements Represented
Developed Areas - National ¹	<ul style="list-style-type: none"> ➤ LandScan Day and Night* ➤ Communities at Risk** ➤ National Park Service Facilities ➤ Alaska Known Developed sites <p>*LandScan is a high resolution global population data set – Oakridge National Laboratory</p> <p>** National Association of State Foresters - Communities considered "At Risk" from wildland fire</p>
Infrastructure - National	<ul style="list-style-type: none"> ➤ Communications sites* ➤ Energy corridors* ➤ Air Transportation sites* ➤ Alaska Known Infrastructure sites <p>*HSIP Gold 2013 is a unified homeland infrastructure geospatial data inventory for common use by the Federal Homeland Security and Homeland Defense Community (HSIP Gold 2013)</p>
Recreation Sites - National	<ul style="list-style-type: none"> ➤ Ski areas* ➤ Campgrounds* <p>*(HSIP Gold 2013)</p>
Riparian – Continental, HI, PR	<ul style="list-style-type: none"> ➤ National Hydrography Dataset flowline - Perennial Streams & rivers* <p>*(HSIP Gold 2013)</p>
Native Corporation Lands - Alaska	<ul style="list-style-type: none"> ➤ ANCSA Allotments and Corporation Lands
Forest Areas - Continental, HI, PR	<ul style="list-style-type: none"> ➤ Forested layer with a canopy cover threshold >10 % Forest layer define in LANDFIRE* <p>*Landscape Fire and Resource Management Planning Tools is a shared program between the wildland fire management programs of the U.S. Department of Agriculture Forest Service and U.S. Department of the Interior, providing landscape scale geo-spatial products to support cross-boundary planning, management, and operations</p>
Herding Areas - Alaska	<ul style="list-style-type: none"> ➤ Bering Land Bridge National Preserve (NPS) / Anchorage Field Office & Central Yukon Field Office (BLM)
Threatened and Endangered - National	<ul style="list-style-type: none"> ➤ Critical Habitat for Threatened & Endangered Species* <p>*USFWS Environmental Conservation Online System</p>

¹ Two separate RBWFM model analyses will be used, i.e., one analysis for Continental, Hawaii and Puerto Rico and one analysis for Alaska. Life, property and resource values varied for each analysis. The National, Continental, HI, PR and Alaska descriptors above refer to which analysis the life, property and resource value was used: "National" - the value was used in both analyses; "Continental, HI, PR" - the value was used only in the Continental US, HI and PR analysis; "Alaska" - the value was used only in the Alaska analysis.

Life, Property and Resource Values	Elements Represented
Surface Drinking Water - National	<ul style="list-style-type: none"> ➤ Land areas most important to surface drinking water* <p>*The USDA Forest Service Forests to Faucets project uses GIS to model and map the continental United States land areas most important to surface drinking water</p>
Sagebrush-Steppe - Continental	<ul style="list-style-type: none"> ➤ Sagebrush-Steppe Ecosystem critical habitat* <p>*Bureau of Land Management National Dataset – sage grouse preliminary priority habitat</p>

Note: In Alaska, all Developed Areas, Infrastructure, Native Allotments & Corporation Lands and Reindeer Herding Areas are only within Alaska Fire Management Options designated as “Critical,” “Full,” or “Modified” suppression areas (Attachment 2).

Strategic Business Plans

Each bureau will develop a Strategic Business Plans (SBP), integrated across the Department of Interior. Scoping meetings with the bureaus will be conducted to review the purpose and content and to review the draft format and approach for the SBPs. Similarly, OWF is seeking Tribal input through Tribal Consultation.

Strategic Business Plans will:

- Support the guiding principles (section III above) and the three Cohesive Strategy goals.
- Allow each bureau to choose implementation approaches that are appropriate for their risk profiles, landscape ecology, and other circumstances specific to the bureau. They will meet minimum standards, which ensure safety, interoperability; and outline efforts to achieve cost effective and efficient programs.
- Have a 5-year life cycle and will be based on results of the RBWFM model output.
- Integrate activities across all Wildland Fire Management programs.

Strategic Business Plans will address the following themes:

- What does success look like over time
 - Should characterize change to a risk profile,
 - Should reflect return on investment;
- Rationale for prioritization;
- Managing fire for multiple objectives;
- Workforce succession planning;
- Risk based allocation of resources;
- Wildland fire management innovations;
- Partnership outreach;
- Effectiveness monitoring

The Strategic Business Plans should:

- Be sufficiently comprehensive and standardized to understand.
- Describe DOI’s national wildland fire risk management scope and strategy.
- Aid OWF in communicating the scope, status, and progress of DOI RBWFM to DOI leadership, Office of Management and Budget (OMB), and Congress.
- Support allocation, formulation, and program performance measurement processes.
- Identify how bureau funding and effort can be expected to mitigate risk overall (i.e., how planned and actual risk mitigation and maintenance activities are evaluated).

- Reflect generalized but measurable geographic differences in type, relative magnitude, concentration, extent and seasonality of risks (This statement represents a long-term goal).
- Include strategies to maintain risk levels where the wildfire risks have been mitigated.
- Describe how proposed strategies consider and reflect feasibility, sustainability, effectiveness, and efficiency.
- Include strategies to address excess or insufficient workforce capacity in ways that improve budget execution.

Performance and Effectiveness Monitoring

Performance & Monitoring - The details for monitoring and evaluation are still in development. OWF staff is reviewing existing performance metrics, recent scientific literature on the subject and gaining input from bureau staff. OWF is seeking Tribal input through Tribal Consultation.

Several areas will be addressed:

- The OWF will ensure consistency and compliance with policy and approved SBPs.
- Bureaus will be responsible for monitoring, reporting, and oversight based on common standards and methodologies.
- Monitoring results will be used to evaluate bureaus' implementation of SBPs.
- Performance and effectiveness monitoring and reporting tools and capabilities will be reviewed for sufficiency and revised where needed (e.g., National Fire Plan Operations and Reporting System—NFPORS, Budget Reports, etc.).

Allocation of Wildland Fire Preparedness and Fuels Funding

The allocation of budgetary resources for WFM fuels and preparedness funds will continue using a two-level approach:

National Program Projects and Activities – Allocation of funding for Department-wide program, activities, and investments in both preparedness and fuels will be determined through discussions with the bureaus, the OWF, and the Forest Service (for joint projects and activities).

Operational Program - Allocation of funding for operational aspects of the fuels management and preparedness are focused primarily on field implementation (e.g., fuels treatment, assets and staff for initial attack, and organizational framework to support field implementation) and will be based on the risk profiles by bureau.

RBWFM Allocation and Formulation - The analysis results from RBWFM will be used to inform the operational component of the Fuels and Preparedness programs.

Options for consideration:

1. Use 'National' Risk Profile percent for bureau preparedness and fuels funding basis
 - a. Bureaus would allocate funding for Alaska & Continental¹
2. Use one methodology for Fuels basis and a different one for Preparedness basis:
 - a. Risk Profile Percent for Preparedness basis:
 - Expected Value Acres Burned (acres) for Continental and Alaska will be used to calculate percent of each for funding distribution.
 - For example, if total acres for Continental & Alaska are 1 million and Alaska represents 5 percent of those acres; then, 5 percent of the available Preparedness funds are allocated for Alaska Fire.
 - The other 95 percent of the funding is available for distribution of Preparedness funding to each bureau based on their bureau risk profile percent.
 - b. Risk Profile Percent for Fuels basis:
 - Percent by bureau on the National results risk profile would be the Fuels basis:
 - For example, if total acres for Continental & Alaska are 1 million. Each bureau has their share of total risk acres resulting in a percent to use in allocation to each bureau.

The Preparedness and Fuels 'basis' will create an unadjusted budget allocation. Adjustments will be required to realistically implement the potential changes in allocations. Implementation options for consideration include:

1. Continue to use current allocations and use only "new funding" to begin allocation adjustments, moving toward the unadjusted budget allocation results.
2. Develop a multi-year implementation plan to adjust allocations between bureaus to the percentages represented in unadjusted budget allocation results.

The bureau SBP 5-year plans may be used to adjust allocations based on the bureaus ability to implement changes to mitigate the Risk Profile. For example, increases in staffing and corresponding equipment levels may require a build-up period greater than one fiscal year. Similarly, a movement of staffing from one location to another could take several years to implement.

The DOI and Bureaus have committed to using the RBWFM in development of out-year budgets requests.

Budget Formulation Options:

- Use the difference between risk profile distribution of funding (future allocation) and current funding to identify a funding delta. The amount identified is used to develop a funding proposal in out-year budget requests. In other words, the difference between current funding and requirement to mitigate Risk would be addressed with new funding
- Future Formulation exercises could be influenced by bureau SBP submissions. For example, SBPs may propose to adjust the proportion of funding in Fuels vs. Preparedness programs.

¹ Continental includes Hawaii and Puerto Rico

Next Steps

Tribal Consultation – OWF will maintain an ongoing dialogue with tribes through ITC sponsored calls and meetings, and other consultations and meetings.

Policy Memorandum:

A RBWFM Policy Memorandum is in development to capture the purpose, principles, results, and decisions as guidance for the RBWFM for Preparedness and Fuels programs.

Strategic Business Plans:

- Scoping meetings with bureaus on framework for developing SBPs
- Incorporate Tribal consultation comments
- Finalize SBP purpose & framework for RBWFM Policy Memorandum
- SBP developed by each bureau
- SBPs integrated across the DOI, some items will be at DOI level
- SBPs completed by bureaus & integrated for DOI
- OWF will review the implementation of SBPs

Performance & Monitoring:

- Convene RBWFM advisory group to review performance & effectiveness monitoring
- Incorporate Tribal consultation comments
- Develop recommended risk based performance metrics
- We are required to continue using current DOI Strategic Plan, other key performance measures for annual reporting
- Capitalize on Joint Fire Science Program research
- Effectiveness of fuel treatments
- Effects of wildfires on reducing risk at multi-scales
- Present the performance metrics package to IFEC

Questions to Consider

Questions to consider for the continued development of a Risk Based Wildland Fire Management approach might include:

- Are there built in biases? If so, how can we correct them?
- Have we created “barriers to success”?
- Do the values reasonably represent the mission elements of the Department and its bureaus?
- Is the methodology sound?
- Is the data as good as we can reasonably get?
- What performance metrics should we use?

How-To Comment

- Submit written comments directly via email at consultation_owf@ios.doi.gov, fax at (202)606-3150 or by mail to: DOI Office of Wildland Fire 1849 C Street NW MS-2660, Washington DC 20240. Comments are requested by August 20, 2015.
- Attend a tribal consultation session on July 21, 2015, in Albuquerque, NM, from 9:00 a.m. to 12:00 p.m. (MDT), at the DOI University/National Indian Programs Training Center, located at 1011 Indian School Road NW, Suite 254, Classroom 234, Albuquerque, NM 87104.
- Attend a tribal consultation session on July 23, 2015, in Spokane, WA, from 9:00 a.m. to 12:00 p.m. (PDT), at the Double Tree by Hilton Spokane City Center, located at 322 N Spokane Falls Court, Spokane, WA 99201.
- Attend a web-based consultation from your computer, tablet, or smartphone on August 13, 2015, from 10:00 a.m. to 12:30 p.m. (MDT).
 - Link to the [GoTo Meeting](#) or dial-in using your phone 1(408)650-3131. Access Code: 486-060-965

Reference Material

For a complete history of tribal consultation regarding RBWFM to date, including Dear Tribal Leader Letters, [RBWFM Issue Paper \(October 2014\)](#), [Risk Based Wildland Fire Management National Values Considered](#), and [RBWFM Tribal Comments and OWF Response](#), we recommend visiting the [OWF Tribal Consultation webpage](#).