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For Open Publication

Jan 22, 2021

Department of Defense
OFFICE OF PREPUBLICATION AND SECURITY REVIEW



Department of Defense Legacy Resource Management Program

COOPERATIVE AGREEMENT HQ00341820010

Military Installation Fire Management In-Briefing Development Guidebook

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JULY 2020

Military Installation Fire Management In-Briefing Development Guidebook

Table of Contents

| | |
|---|-----|
| Table of Contents | i |
| Acronyms | iii |
| Executive Summary | v |
| Key Takeaways and Recommendations..... | v |
| Introduction..... | 1 |
| Wildfires: A challenge for military installations..... | 1 |
| Military installations face unique wildfire suppression challenges | 1 |
| National Wildfire Coordinating Group (NWCG) Qualifications..... | 2 |
| High Reliability Organizations..... | 3 |
| Scope..... | 4 |
| Format..... | 4 |
| DoD and Branch-Specific Manuals | 7 |
| Feedback | 7 |
| Acknowledgements..... | 7 |
| Plans..... | 8 |
| I. Inform Installation Leadership (Talk)..... | 8 |
| II. Wildland Fire Management Program/Integrated Wildland Fire Management Plan (Do/Talk)..... | 12 |
| III. Coordinated Suppression Response (Do and/or Talk)..... | 15 |
| IV. Delegation of Authority (Do/Talk) | 18 |
| V. Complexity Analysis (Do) | 20 |
| VI. Natural/Environmental Resources (Do/Talk)..... | 22 |
| VII. Cultural Resources (Do/Talk) | 25 |
| VIII. Organization Chart (Do)..... | 28 |
| Operations..... | 29 |

| | |
|---|-----|
| IX. Resources (Talk) and Minimum Crew Standards (Do)..... | 29 |
| X. Equipment (Talk) | 33 |
| XI. Aviation (Talk)..... | 35 |
| XII. Crew Culture/ Expectations (Do)..... | 39 |
| XIII. Hazards and Mitigations (Talk)..... | 41 |
| XIV. Refusing an Assignment (Do) | 46 |
| XV. Local Conditions (Do)..... | 47 |
| XVI. GIS, Maps, and Area Access (Do/Talk)..... | 50 |
| XVII. WUI (Do/Talk) | 54 |
| Logistics..... | 57 |
| XVIII. Medical Plan (Do/Talk) | 57 |
| XIX. Communications (Do/Talk)..... | 60 |
| XX. Lodging, Food, and Services (Do) | 62 |
| Finance/Administration..... | 63 |
| XXI. Funding and Agreements (Do) | 63 |
| Public Information/Public Affairs..... | 66 |
| XXII. Outreach and Notifications (Do/Talk)..... | 66 |
| Literature Cited | 70 |
| Appendices..... | 76 |
| I. ICS Forms and Descriptions | 76 |
| II. Glossary | 78 |
| III. Resources | 101 |
| IV. Eglin Air Force Base “Watch Out” Situations..... | 106 |
| V. Eglin Air Force Base UXO Risk Management Guide | 107 |

Acronyms

| | | | |
|-------|--|------------|--|
| AAR | After Action Review | IAP | Incident Action Plans |
| ACUB | Army Compatible Use Buffer | IC | Incident Commander |
| ATC | Air Traffic Control | ICP | Incident Command Post |
| ATV | All-Terrain Vehicle | ICS | Incident Command System |
| BI | Burning Index | ICS 202 | Incident Objectives |
| BIA | Bureau of Indian Affairs | ICS 203 | Organization Assignment List |
| BLM | Bureau of Land Management | ICS 204 | Assignment List |
| CAC | Common Access Card | ICS 204 WF | Division/Group Assignment List |
| CRCRP | Conservation Reimbursable and Fee Collection Program | ICS 205 | Communications Plan / Incident Radio Communications Plan |
| CWPP | Community Wildfire Protection Plan | ICS 205A | Communications List |
| DoD | Department of Defense | ICS 206 | Medical Plan |
| EOD | Explosive Ordnance Disposal | ICS 206 WF | Medical Plan |
| ERC | Energy Release Component | ICS 207 | Organizational Chart |
| FAA | Federal Aviation Administration | ICS 208 | Safety Message |
| FES | Fire and Emergency Services | ICS 215A | IAP Safety Analysis |
| FMU | Fire Management Units | ICS 218 | Support Vehicle/Equipment Inventory |
| FPD | Fire Protection District | ICS 220 | Air Operations Summary |
| GACC | Geographic Area Coordination Center | ICS 225 | Performance Evaluations |
| HRO | High Reliability Organizations | IMT | Incident Management Teams |
| | | INRMP | Integrated Natural Resource Management Plans |

| | | | |
|--------|--|--------|--|
| IRPG | Incident Response Pocket Guide | PL | Preparedness Level |
| ITAM | Integrated Training Area Management | PLDO | Plastic Sphere Dispenser Operator |
| IWFMP | Integrated Wildland Fire Management Plan | PPE | Personal Protective Equipment |
| JHA | Job Hazard Analysis | RA | Risk Assessment |
| KBDI | Keetch-Byram Drought Index | RAWS | Remote Automatic Weather Stations |
| LZ | Landing Zone | RT-130 | Wildland Fire Safety Training Annual Refresher |
| MAA | Mutual Aid Agreement | SOG | Standard Operating Guidelines |
| MILPOL | Military Police | SOP | Standard Operating Procedures |
| MIR | Medical Incident Report | SUA | Special Use Airspace |
| MIPR | Military Interdepartmental Purchase Requests | TFR | Temporary Flight Restriction |
| MIST | Minimum Impact Suppression Tactics | UAS | Unmanned Aerial Systems |
| MOU | Memorandum of Understanding | USFS | U.S. Forest Service |
| MTR | Military Training Routes | USFWS | U.S. Fish & Wildlife Service |
| NFES | National Fire Equipment System | UTV | Utility Vehicle |
| NGA | National Geospatial-Intelligence Agency | UXO | Unexploded Ordnance |
| NIFC | National Interagency Fire Center | VHF | Very High Frequency |
| NTV | Non-Tactical Vehicles | WFDSS | Wildland Fire Decision Support System |
| NWCG | National Wildfire Coordinating Group | WFMP | Wildland Fire Management Plan |
| PAO | Public Affairs Officer | WUI | Wildland-urban Interface |
| PIO | Public Information Officer | | |

Executive Summary

The **Military Installation Fire Management In-briefing Development Guidebook** provides support for the *process* of developing in-briefing documents to integrate resources from the broader fire community.

Key Takeaways and Recommendations

- ***Pre-planning*** is critical to ensure fire operations are safe, coordinated, and effective.
- ***Successful fire management programs are adaptive and integrated*** with installation stakeholders, cooperators, and surrounding communities.
- ***Collaboration and consensus are key*** to increasing capacity and managing the inherent complexity of fire.
- ***Principles of high reliability organizations (HROs) provide the foundation for, and drive the process of, producing in-briefings.*** Adopting HRO principles is an important organizational *cultural evolution* that creates capacity to discover and mitigate unexpected events before they escalate.

Introduction

New Mexico State Forester, Laura McCarthy, made a striking remark during the 2019 International Fire Behavior and Fuels Conference. Scientists who informed her decision-making fell into two different categories. One type said, “we’re not going to have any trees in [New Mexico] in 50 years...[while] the hopeful scientists [tell us to] get out there and do something about the fuels...it’s really, really complicated [with] all these steps [and] barriers...this is time for all-hands on deck” (McCarthy, 2019).

Similarly, military installations are complex and laden with obstacles to overcome regarding fire management. Fire managers must simultaneously navigate unique hazards, ongoing military operations, and natural resource objectives when suppressing wildfire or applying prescribed fire. Fire management programs require intensive planning, collaboration, and integration both on-installation and within the greater fire management community to build an adaptive and successful program. Installation fire managers are uniquely situated to get ‘all-hands on deck’.

Wildfires: A challenge for military installations

Military training and testing ignite wildfires on installations. Wildfires can directly reduce the ability to complete missions through destruction of vegetation necessary for training, creation of unsafe conditions, and obscuration of airspace by smoke. Wildfires also pose a threat to vital national security resources (facilities, sensors, communications, etc.). Suppression efforts often require cross-jurisdictional response, can burn off installations, and cause health and safety concerns in surrounding communities. This can increase the conflict between installations and the populations around them.

Military installations face unique wildfire suppression challenges

Wildland fire operations on military lands face unique challenges and complexities, and installations vary in their preparedness for complex or large wildfires. These complexities include, but are not limited to, widespread unexploded ordnance, active training and ‘hot’ range areas, coordinating fire operations with both traditional dispatchers and Range Control, potentially conflicted air space, secure areas, and coordinating response with non-traditional wildfire suppression partners (i.e., enlisted soldiers carrying out ad hoc suppression duties). Military installations experience a disproportionately large number of wildfires relative to their

size, but many wildfires are managed or contained through aggressive initial attack or fuels management. Despite the complexity and high ignition rate, military installations are not always well integrated with their surrounding fire management community, and very few installations (15%) have developed in-briefing documents for these external resources (Forest Stewards Guild, 2020).

When installations experience large or complex wildfires, they often need to bring in outside fire management resources from local units, such as National Forests, National Parks, state agencies, or municipal departments. Many of these resources may be utilized in a prescribed fire setting as well. These firefighters need to be briefed on the challenges and complexity of working in the military wildfire environment. For larger wildfires, incident management teams may need to be briefed at a more strategic level.

National Wildfire Coordinating Group (NWCG) Qualifications

As military installations continue to augment their prescribed fire efforts and increase their suppression capacity, it is inevitable that training needs will increase, and fire managers will seek partnerships to build capacity. [NWCG](#) is the nationally recognized standard for interagency wildland firefighting and prescribed fire operations. Many military installations have begun to adopt or mandate NWCG standards (e.g. [AFMAN 32-7003](#)) to ensure consistent qualification standards and to facilitate coordinating partnerships (in part driven by DODI 6055.6); over 90% of the installation fire managers surveyed have transitioned to NWCG (Forest Stewards Guild, 2020). For example, the Air Force Wildland Fire Branch has committed to train Air Force Personnel to NWCG standards to, “[prevent injury and loss of life and build response capability.](#)”

This document, the Military Installation Fire Management In-briefing Development Guidebook (MIDG), supports this (often difficult) transition to NWCG guidelines by providing commonly used briefing formats. Non-NWCG compliant fire programs may find these formats useful to adopt or augment their existing documentation. Nationally recognized templates such as Incident Action Plans (IAP) or resource guides such as the Incident Response Pocket Guide (IRPG) PMS 461 provide an additional layer of risk management and due diligence.

High Reliability Organizations

Wildland firefighting is heavily informed by the theory and practice of the principles of High Reliability Organization, and we rely heavily on this theory in this document. High Reliability Organizations (HROs) are organizations which operate in highly complex and risky systems where failures can be catastrophic. Examples include aircraft carriers, nuclear power plants, healthcare, air traffic control, and fire management. Weick and Sutcliff, the leading theorists of HROs, explain that “to deal with the unexpected, HROs create a **mindfulness infrastructure**. Mindfulness is a rich awareness and a capacity for action that jointly facilitate the capability to discover and manage unexpected events before they escalate into crises and catastrophes” (Weick and Sutcliffe, 2015). This is an *evolving cultural shift in an organization*. “HROs do not seek to become reliable – they become organizations that are *continuously seeking greater reliability*” (Lowers & Associates, 2017).

Part of this cultural shift is incorporating the HRO principles in the planning process. The five central principles of HROs are:

- *Sensitivity to operations* – heightened situational awareness of operations in real time
- *Reluctance to simplify* – accepting that our work is inherently complex with the potential to fail in novel and unexpected ways; uncovering underlying causes of problems is essential
- *Preoccupation with failure* – small issues or anomalies can be symptomatic of larger problems; viewing near misses as opportunities to improve, rather than proof of success
- *Deference to expertise* – valuing insight from subject matter experts over individuals with greater seniority
- *Practicing resilience* – HROs are not error-free, but errors don’t disable it

The Three Imperatives of HROs are:

- Leadership commitment
- Safety culture
- Robust performance improvement

The MIDG directly supports the principles of ‘reluctance to simplify’ and ‘deference to expertise’, encouraging an in-depth, collaborative planning process with subject matter experts to discuss mitigations and solutions to complexities and hazards. The remaining principles are part of the culture that must be established by leadership during the planning phase (see Three Imperatives). For example, incorporating lessons learned (from near-misses and fatalities in the wildland fire community) into the planning phase reduces the likelihood of future mistakes, as does creating an environment which encourages crew members at all levels to speak up when small issues arise. Remember that this is an evolving process to continually seek improvement.

Scope

The intent of the MIDG is to enable Department of Defense (DoD) installation fire managers to easily develop in-briefing documents for incoming resources who will engage in prescribed fire and fire suppression operations on their installations. For installation fire managers with existing plans, the MIDG can provide a fresh lens and highlight potential areas for expansion and robust performance improvement. For those looking to build in-briefing documents from scratch, the MIDG provides a comprehensive overview. **The MIDG focuses on the *process* to aid installation fire managers in preparing in-briefing products.**

Secondarily, the MIDG serves to support installation fire managers when briefing connected resources so the installation may **integrate with the surrounding fire management community**. This affords the installation valuable resources for planned operations on-installation (e.g. prescribed fire) and helps communities plan for unexpected events which may require coordinating multiple resources (e.g. a suppression fire or other natural disaster). The MIDG will dovetail with established NWCG products such as: required annual refresher (RT-130) video modules, pocket cards (a common practice for field-ready information dissemination), and in-briefing materials/IAPs.

Format

The MIDG is organized by sections found in the Incident Command System (ICS): Planning, Operations, Logistics, Finance/Administration and Public Information. ICS is a proven management system based on best practices and lessons learned; it is the standard for multi-

agency coordination. Gathering information for briefings based on this organizational system will help fire managers prepare verbal and written briefings in a commonly understood format.

Each section is subdivided into Strategic Intent, Tasks, and End State / Tactical Execution.

A. Strategic Intent is outlined to help fire managers understand the importance of each task.

B. Tasks are classified as ‘do’ tasks (actions to take) or ‘talk’ tasks (requiring collaborative communications). ‘Do’ and ‘talk’ tasks follow the checklist framework outlined by Dr. Atul Gawande in *The Checklist Manifesto* (Gawande, 2010). Gawande illuminates the power of checklists for experts in complex situations where the stakes are high, such as HROs. Checklists “supply a set of checks to ensure the [simple] but critical stuff is not overlooked, and they supply another set of checks to ensure people talk and coordinate and accept responsibility while nonetheless being left the power to manage the nuances and unpredictability the best they know how” (Gawande, 2010 pg. 79). We rely on this format for the MIDG and the accompanying MIDG Matrix for fire managers. These will also be supported by forthcoming Interagency DoD Installation Pocket Cards and videos aimed at informing incoming resources.

‘Do’ tasks make sure that planning steps are not missed or skipped. ‘Talk’ tasks empower the subject matter experts to talk as a team to identify and avert serious problems. Talk tasks also disperse the responsibility and push “the power of decision making out to the periphery and away from the center” (Gawande, 2010, pg. 73). Some tasks may require both ‘do’ and ‘talk’ steps.

C. End State/Tactical Execution supports three different types of briefings. The briefings are organized from the strategic level to the tactical level:

1. Field Operations Guide: Divided into two sections, each serving a different purpose:
 - a. Mobilization Guide: A detailed *pre-season* written plan that outlines standard operating procedures and guidelines (SOPs/SOGs) to ensure cooperators and partners understand expectations for activating, assembling, and transporting

resources for incident support—in short, what you expect from your incoming resources. For example, the National Interagency Fire Center’s (NIFC) [National Interagency Mobilization Guide](#) is used by multiple federal agencies to establish a common strategic vision and coordinate suppression response. Resources should receive the Mobilization Guide well in advance of dispatch.

- b. In-Briefing Packet: A detailed written plan that informs resources what they should expect when arriving on installation. Fire managers should rely on domain expertise to produce this packet (e.g. cultural or natural resources, Range Control, facilities management, explosive ordnance disposal, etc.). Resources should receive this either prior to dispatch or on-site.

*Note: consider a smartphone or tablet-friendly format (such as an app) for distributing the Mobilization Guide and/or In-Briefing Packet to make the documents easily accessible in the field.

2. Written Briefing: A written plan used to communicate objectives/strategy as well as tactical information. An Incident Action Plan ([IAP](#)) is the standard for NWCG operations and will provide the basis for the written briefing. IAP form numbers (e.g. ICS 202) will be referenced, as applicable. Frequently, a copy of the written briefing (IAP) will be provided to crew members before the operational period to provide greater detail and reference. The *process* of producing the IAP informs guiding documents (such as a Delegation of Authority or your installation’s Wildland Fire Management Plan or Integrated Wildland Fire Management Plan). These guiding documents are then used by Incident Management Teams (IMTs) to ultimately develop their own IAPs.
3. Verbal Briefing: Items to include in your briefing to crew members before the operational period. This document is designed to augment the briefing checklist in the [IRPG, PMS 461](#) (inside of the back cover).

Finally, the *Appendix* contains reference materials to support the development of the three types of briefings (Field Operations Guide, Written Briefing, and Verbal Briefing):

- Appendix I: ICS forms and descriptions

- Appendix II: Glossary of terms
- Appendix III: Resources for fire managers, including examples of planning documents, operational resources referenced throughout the MIDG, information on HROs and checklists.
- Appendix IV: Example of local “watch out” situations for in-briefings from Eglin Air Force Base.
- Appendix V: Example of UXO risk management guide from Eglin Air Force Base.

DoD and Branch-Specific Manuals

A selection of existing DoD and branch-specific manuals are referenced throughout the MIDG. Templates, example documents, and additional resources from a wide range of fire management programs are also provided. While not a comprehensive list, these tools are valuable resources for fire managers as they prepare in-briefing products during the pre-planning phase. When using these resources, **be sure to sure apply your service-branch specific regulations.**

The accompanying MIDG Matrix serves as a cross-reference of these guidance documents, includes additional branch-specific regulations, and provides a reference summary of key points for preparing in-briefing materials.

Feedback

As this document progressed, we interviewed a variety of cooperators and resources who may receive one or more of the briefings outlined in the MIDG, as well as subject matter experts who may contribute content to the briefing. Recognizing that we were not able to reach out to all players involved in such a wide-ranging project, we welcome suggestions and comments.

Your voice is important to the evolution of this document. Please send your feedback to Jennifer Mueller at jennifer@forestguild.org.

Acknowledgements

A special thank you to the diverse set of voices who contributed insight and years of expertise and experience. Without your knowledge, this project would not have been possible.

Plans

In ICS, the Planning Section gathers and disseminates information and intelligence based on the current and forecasted situation and prepares incident documents. The Plans section of the MIDG helps installation fire managers prepare for prescribed fires and complex or large wildfires by working with cooperators and key stakeholders to increase integration with the surrounding fire management community.

I. Inform Installation Leadership (Talk)

A. Strategic Intent

Communications with installation leadership, both on-site and off-site, is essential to getting support for the fire management program. By explaining the strategic importance of your fire management program, you will gain trust of overhead leadership and more effectively leverage support long-term. Similarly, asking for concerns of installation leadership will help to identify areas which may have been overlooked or could be improved upon and to view management objectives with a broader lens.

When asked to describe the most under-discussed challenges in military wildland fire operations, one installation fire manager described difficulty getting buy-in for prescribed fire activities, and highlighted the importance of gaining trust and support from installation leadership, range users, and natural resources staff.

When asked about garnering support for fire management programs from installation leadership, Michele Richards, the Wildland Fire Manager for the Michigan Army National Guard, noted that, “if it doesn’t come from on-high it can be difficult to get leadership to listen if they aren’t already willingly engaged in understanding fire programs. There has to be an authority above that authority that says ‘you need to know about this [fire program] and I need you to understand the local needs’ ...If DoD said to Facilities Management Officers, ‘these are the possible structures of fire programs, support your people in implementing them’, that would be priceless” (M. Richards, personal communication, June 5, 2020).

However, building a positive relationship with installation leadership can prove difficult due to frequent moves, turnover, and changes of station. As Richards emphasized, “leadership matters and it changes.”

To build these important relationships, consider strategies beyond the traditional scope of PowerPoint and one-pagers. **Storytelling is an important and often overlooked tool in our communications toolbox.** Jessica Tower, president of Tower & Company and expert in organizational psychology, explains, “one of the things that storytelling does well is getting people on the same page. Crafting and sharing a coherent narrative with your team is one way to get alignment quickly and get everybody working in the same direction” (personal communication, June 26, 2020)). Tower offers the following suggestions to produce a powerful story:

- Use a protagonist (main character) that is relatable to the audience
- Make sure the narrative reflects the core values of your mission
- Clearly define the end state for the audience
- Embrace vulnerability (for example, share hurdles you have encountered while developing your fire management program)

For an example, reference the *Introduction* of the MIDG.

B. Task

New installation fire managers should develop and maintain positive communications with installation leadership. Through chain of command, identify and schedule a meeting with installation commanders and other relevant leadership positions. Keep in mind, command time is a precious commodity, so it is critical to prepare a short PowerPoint/presentation, a one-page briefing, and discussion questions and/or requests (if appropriate). Generally, installation leadership is interested in high-level strategy and quantifiable results. Thus, consider including information such as: how fire supports the installation’s mission, operational risk management, landscape-level metrics (e.g. average cost/acre), ecological benefits, NWCG compliance/HRO principles to safely execute the mission, etc. If there are documentation or administrative needs

to support your program, such as for a Delegation of Authority, prepare and prioritize a list of asks as part of your one-page briefing.

Installation leadership roles (or their equivalent) which may be beneficial to include in a high-level meeting could include:

- Installation Commander
- Department of Public Works/Grounds Maintenance
- Facilities Management
- Integrated Training Area Management
- Construction Facility Management Officers
- Corps of Engineers
- Environmental Division/Program Managers
- Natural/Cultural Resources
- Fire and Emergency Services
- Airspace Managers
- Mission/Range Schedulers

Additional options to interface with high-level leadership could include annual events such as the [Sustaining Military Readiness Conference](#), or trainings such as the Guard's Construction Facility Management Officer University.

C. End State/Tactical Execution

1. Field Operations Guide: N/A
2. Written Briefing: Include installation leadership's objectives in Incident Objectives (ICS 202) and list them as agency representatives when appropriate in the Organization Assignment List (ICS 203). Additional safety concerns can be incorporated into the Safety Message (ICS 208) or the IAP Safety Analysis (ICS 215A). Make note of any

notifications that need to be made to installation leadership in the event of a wildfire event.

3. Verbal Briefing: Include leader's intent two levels above, meaning your incoming resources should understand your intent as well as the intent of installation leadership.

II. Wildland Fire Management Program/Integrated Wildland Fire Management Plan (Do/Talk)

A. Strategic Intent

Since 1960, the Sikes Act has mandated Integrated Natural Resource Management Plans (INRMPs) at almost 380 military installations to protect and enhance ecologically important habitat on the approximately 11 million acres of DoD-owned land in the United States. INRMPs combined with the installation's mission, input from resource advisors, and adherence to relevant policy, laws and regulations, meld with the Fire management program to inform an installation's Wildland Fire Management Program (WFMP) or Integrated Wildland Fire Management Plan (IWFMPs) if one is required. For example, the Army's criteria for WFMP/IWFMP requirement is based on wildfire potential, prescribe fire use, and land use agreements. The Air Force utilizes similar criteria but breaks installations into "tiers" based on wildfire risk and prescribed fire use. The tiers are then used to determine whether a WFMP/IWFMP is required.

B. Task

Proactively collaborate with fire management stakeholders and resource advisors to write a WFMP/IWFMP, depending on service Branch. The WFMP/IWFMP serves to coordinate wildland fire response among organizations and facilitates the use of prescribed fire. For complex and large-scale wildfires, the WFMP/IWFMP, in combination with in-briefing documents, will inform the strategy of incoming IMT for suppression activities.

Currently, there is not a comprehensive guidance document for WFMP/IWFMPs; the forthcoming Army Installation Wildland Fire Program Implementation Guidance is in draft form as of July 2020 (U.S. Department of Defense, 2020). Official Air Force guidance can be found in [AFMAN 32-7003, Section 3P](#). The NWCG [Interagency Prescribed Fire Planning and Implementation Procedures Guide](#) provides guidance for standardized procedures and common terms/definitions to produce and implement single-unit, multiple-unit, and programmatic prescribed fire plans. Examples of WFMPs from different agencies:

- [Arnold Air Force Base WFMP](#)
- [National Park Service Pictured Rocks National Lakeshore WFMP](#)

While guidance for writing an WFMP/IWFMP falls outside the scope of the MIDG, fire managers interviewed contributed the following top 10 strategic elements to prioritize when developing an WFMP/IWFMP. Note: the elements are categorized by ICS section for additional reference in the MIDG):

Plans

1. Identify cooperators, stakeholders, and advisors. Clarify roles and responsibilities, and consolidate monitoring requirements and reporting metrics in memorandum of understanding (MOU) agreements
2. Review relevant laws, acts, regulations, and policies for guidance and compliance
3. Coordinate pre-fire planning for wildfire response (e.g. pre-attack plan or Community Wildfire Protection Plan [CWPP]) and prescribed fire implementation and prioritization
4. Outline the installation's relationship with fire – historically, as it pertains to the military's mission/operational tempo, cultural and ecological relevance, and climate change considerations
5. Standardize training, fitness, and qualification requirements, and determine record-keeping procedures for all resources

Operations

6. Develop operational guidance for both suppression and prescribed fire

Logistics

7. Outline procedures for purchasing, maintenance and management of equipment and vehicles
8. Develop medical and communications plans

Finance/Administration

9. Determine funding sources, funding approval process, budgetary oversight, and reporting

Public Affairs/Information

10. Address public outreach and notification

C. End State/Tactical Execution

While writing an IWFMP/WFMP is not within the scope of the MIDG, many elements are appropriate to include in the in-briefing materials. Refer to the following relevant sections in the MIDG for specifics:

- ‘Inform Installation Leadership’ in the *Plans* section of the MIDG
- ‘Coordinated Suppression Response’ in the *Plans* section of the MIDG
- ‘Natural/Environmental Resources’ in the *Plans* section of the MIDG
- ‘Cultural Resources’ in the *Plans* section of the MIDG
- ‘Resources and Minimum Crew Standards’ in the *Operations* section of the MIDG
- ‘Medical Plan’ in the *Logistics* section of the MIDG
- ‘Communications’ in the *Logistics* section of the MIDG
- ‘Funding and Agreements’ in the *Finance/Administration* section of the MIDG
- ‘Outreach and Notifications’ in the *Public Information/Affairs* section of the MIDG

III. Coordinated Suppression Response (Do and/or Talk)

A. Strategic Intent

Military installations experience a disproportionately large number of ignitions and are inherently complex. In best-case scenarios, emergency situations such as large or complex wildfires require intensive pre-planning to assess available resources and their respective roles, address constraints, identify shared objectives, and anticipate hurdles to safely engaging. A well planned, coordinated effort is more efficient, can be less costly, and increases safety.

Casting a wide net of both traditional (e.g. federal agencies) and non-traditional suppression resources (e.g. The Nature Conservancy) can prove fruitful, not only for coordinated suppression response, but in developing partnerships to increase capacity for prescribed fire.

Pre-attack plans vary greatly in their depth and scope, from broad categorization of wildland-urban interface (WUI) to detailed structure triage. Any amount of pre-planning will aid in decision-making and determining where to focus resources in the WUI.

B. Task

In the pre-planning phase, coordinate wildfire response with suppression resources on- and off-installation. This includes, but is not limited to: range chiefs/controllers, mission/range schedulers, partners and cooperators, enlisted soldiers doing ad hoc suppression, cultural and natural resources personnel, fire and emergency services (FES), volunteer emergency services, etc. Reach out to potential partners individually to assess interest and level of commitment and follow up with group planning meetings.

The following is a list of topics to consider and/or discuss in the pre-planning phase:

- Capacity assessment
- Conflicting policy
- Response zones and jurisdictional authority
- Responsibilities and roles for each organization
- Priorities and objectives–based on pre-planning of stakeholders

- Constraints
- Assessment of Fire Management Units (FMUs) based on fire risk level, or other method of assessing fire danger
- Preparedness levels
- Tactical considerations and guidelines
- Finance
- Procurement and other logistics
- Hazards
- Safety
- Emergency response
- Evacuation
- Contingency plans
- Transition to extended attack

As part of the coordinated response, a pre-attack plan should be developed in coordination with all agencies and stakeholders potentially involved, both on and off-installation (homeowners and landowners). Craft a pre-attack plan incorporating:

- Constraints (access/egress, fire line construction)
- Hazards and hazard maps
- Hazard mitigation for landowners
- County and private ownership parcel maps
- Satellite imagery or photos of properties/structures
- Surrounding fuels
- Water sources, shelter locations, helispots
- Other tactical considerations

Reference other Tasks in the MIDG for more detailed information on specific topics.

C. End State/Tactical Execution

1. Field Operations Guide: In this instance, it may be more appropriate to distribute the pre-attack plan in its entirety (rather than include SOPs and job aids in the Mobilization Guide). As an example, the City of Bryan's Fire Department [Pre-Attack Plan](#) provides detailed, critical information to assist responders who are not familiar with the local area. One notable aspect of this pre-attack plan is that it can be downloaded as a smartphone app for easy access in the field.
2. Written Briefing: Information gathered to produce the pre-attack plan can later inform the IAP
 - Incident Objectives (ICS 202)
 - Organization Assignment List (ICS 203)
 - Communications Plan (ICS 205) and Communications List (ICS 205A)
 - Medical Plan (ICS 206)
 - Organization Chart (ICS 207)
 - Safety Message (ICS 208)
3. Verbal Briefing: N/A

IV. Delegation of Authority (Do/Talk)

A. Strategic Intent

Rod Collins, an Operations Section Chief on the Great Basin National Type 1 IMT explains the importance of a Delegation of Authority from his perspective, “A Delegation of Authority is a written document used during wildfire suppression activities to transfer authority from the installation’s agency administrator to the Incident Commander (IC) of the IMT. The Delegation of Authority is part of the in-briefing package (combined with planning documents such as WFMP/IWFMP) that the agency administrator provides to the IMT. From the guidance in these documents, the IMT will determine strategic direction for the incident based on objectives and cost constraints and produce an IAP” (personal communication, June 23, 2020).

Fire management program will be set up for success for a smoother transition to an incoming IMT through identification of key players needed to produce a Delegation of Authority prior to a large suppression event. Keep in mind that if the fire crosses ownership boundaries, the agency administrator must consider a unified command structure.

For information on the ‘Integrated Wildland Fire Management Plan’, see Section II under the *Plans* section. For additional plans that may be part of the in-briefing package, see ‘Natural Resources’ and ‘Cultural Resources’ in the *Plans* section.

B. Task

Determine agency administrators, representatives, and advisors (subject matter experts) to produce a Delegation of Authority for a suppression event where an external IMT is required. The contacts should include the individual(s) responsible for the incident budget, objectives, and incident constraints.

C. End State/Tactical Execution

1. Field Operations Guide: N/A
2. Written Briefing: Include appropriate agency administrators and representatives in the Organization Assignment List (ICS 203) and Incident Organization Chart (ICS 207). A sample Delegation template and more detailed information can be found on NIFC’s

website. The Delegation of Authority should be approximately 2 pages and include the following information:

- Incident objectives and priority (which will be agreed upon by the IC and the agency administrator)
- An authorized budget for the incident and trigger points for budget notifications from the IMT
- Tactics or areas that require agency administrator approval (e.g. cultural or natural resource sites, unexploded ordnance [UXO], etc.)
- Responsibility for initial attack and structure protection
- Supply procurement and procedures
- An agency administrator or designee, resource advisor, and budget advisor (if different than the agency administrator or designee)
- Other performance expectations for the IMT

3. Verbal Briefing: N/A

V. Complexity Analysis (Do)

A. Strategic Intent

A complexity analysis determines what resources and qualifications will be needed for the operational period for both suppression (IMT Type) and prescribed fire (Burn Boss Type) events.

For suppression events:

- To determine incident complexity (Types 3-5) for initial and extended attack, pgs. 10-11 in the IRPG (PMS 461) provide:
 - General indicators (values at risk, weather, political sensitivity, jurisdictional boundaries, threat to life, environment, and property) and
 - Span of control indicators (ICS positions filled and organizational complexity)
- The [Wildland Fire Risk and Complexity Assessment](#) can assist in evaluating/mitigating risk and identifying the appropriate level of IMT. It also includes incident complexity indicators for Types 1-5.

For prescribed fire operations:

- Since prescribed fire has a more in-depth planning period, a complexity analysis in this context contains more layers. After identifying values and possible risks to those values, an assessment is made of the technical difficulty (skill level needed) to implement mitigation strategies for those risks. A final complexity determination identifies the minimum required burn boss qualification level. Incorporating local knowledge in this process is crucial.
- The [Prescribed Fire Complexity Rating System Guide](#) can assist with the above process.
- Note: A burn plan may have different complexities depending on whether you are burning on the 'hot' or 'cool' end of the prescription.

B. Task

Prepare a complexity analysis for all planned events (part of pre-planning) and for unplanned events (part of the ongoing incident assessment).

C. End State/Tactical Execution

1. Field Operations Guide
 - a. Mobilization Guide: If initial attack resources are required to do a complexity analysis, provide a template and explain expectations in the operations SOPs.
 - b. In-Briefing Packet: Any 'high risk' hazards identified in the complexity analysis should be included. See 'Hazards and Mitigations' in the *Operations* section of the MIDG.
2. Written Briefing: Items deemed 'high risk' should be included in the Safety Message (ICS 208) and possibly Incident Objectives (ICS 202).
3. Verbal Briefing: Keeping in mind that incident complexity is a moving target, resources should be updated when complexity increases or decreases and provided an explanation, as this informs their situational awareness. Complexity could be altered by a variety of factors, from increased fire behavior, greater threat to values at risk, or social/economic concerns (e.g. smoke tolerance or political pressure).

VI. Natural/Environmental Resources (Do/Talk)

A. Strategic Intent

Environmental/natural resource management and fire management ideally go hand-in-hand. For fire-dependent and fire-adapted ecosystems, prescribed fire can be a landscape-level tool for restoration efforts, increasing biodiversity, reducing hazardous fuels, and protecting watersheds. In other ecosystems, suppression of wildfire may prevent negative impacts to natural resources.

As Geoff Sorrell, Land Steward and Burn Boss for The Nature Conservancy of Alabama explains, “Once human safety and training objectives have been considered, the stewardship needs of natural resources should provide direction for adaptive fire management activities. This information should be available in sufficient detail so [individuals] throughout the organization can make the appropriate decisions at the appropriate time and in the right space” (personal communication, June 26, 2020).

While difficult, prioritizing the application of fire on the landscape can guide decision making. Eglin Air Force Base has found replicable success in a workshop setting where, “managers and biologists identified key conservation criteria and landscape management objectives that drive the application of prescribed fire. . . . [The criteria] were scored according to how they influence the need to burn” (Hiers and others, 2003, pg. 1571). While all fire management objectives are not fully accomplished, Eglin is able to apply fire at the appropriate return interval for highest-priority sites.” (Hiers and others, 2003, pg. 1571).

DoD lands have a rich biological diversity, including many threatened and endangered species (Figure 1). While DoD manages only 3% of federal land, “[DoD] lands contain the most federally listed species of any agency...many military bases turn out to be strategically placed, not just from a military standpoint but also from a biological perspective” (Groves and others, 2000, pgs. 279-280).

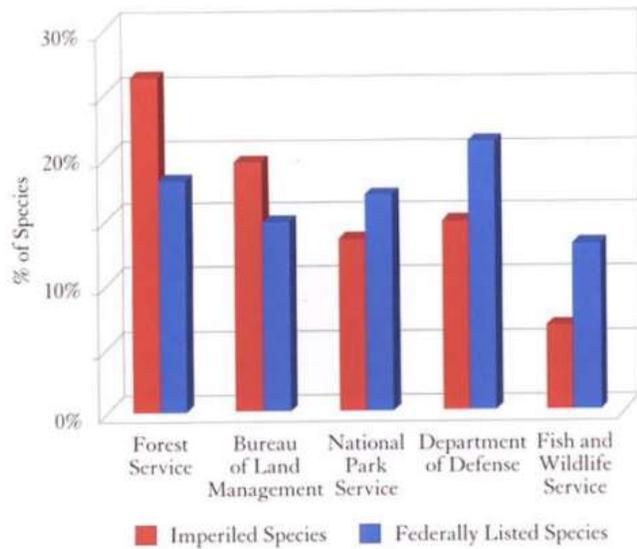


Figure 1. Among the major federal agencies, Department of Defense lands appear to contain the largest number of federally listed species (Groves and others, 2000, pg. 281).

Stewardship topics to discuss and prioritize with environmental/natural resource managers and resource advisors could include:

- Rare/endangered species
- Critical habitat
- Habitat improvement, including fuels management
- Preventing and managing invasive species
- Site-specific as well as landscape-level objectives
- Ecological benefits of prescribed fire
- Ground disturbance and erosion concerns

B. Task

Coordinate with environmental or natural resource advisors to identify and prioritize fire management objectives and strategy.

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: SOPs related to natural resources, such as protocols for invasive species prevention, should be included.
 - b. In-Briefing Packet: Include a section on the ecological benefits of prescribed fire; consider visual aids such as before and after photo plots. An overview and photos of endemic, rare, endangered, and keystone species can provide fire personnel with a richer understanding of the landscape. Informing fire personnel about ecological objectives during prescribed burns can also increase the likelihood that objectives are met. For suppression operations, it is equally important that personnel understand why they may use different tactics to protect ecologically significant areas. As an example, the Eglin Air Force Base developed a useful in-briefing PowerPoint to familiarize incoming resources with these topics.
2. Written Briefing: Incident Objectives (ICS-202) should include protection of threatened and endangered species, critical habitat, and ecological objectives. Maps displaying species and sensitive habitat should be provided in IAPs if possible.
 3. Verbal Briefing: Include a discussion of ecological objectives and the significance of fire on the landscape for the operational period. Highlight any areas with critical habitat and rare or endangered species and how tactics may need to be adjusted to achieve the desired end state (such as firing pattern or point protection).

VII. Cultural Resources (Do/Talk)

A. Strategic Intent

Identifying cultural values at risk and significant areas can inform objectives and decision making in suppression scenarios on installations near Tribal lands. Preplanning resource cooperation, engagement limitations (e.g. minimum impact suppression tactics [MIST]), and resource restrictions (such as use of water sources) ahead of time for suppression on-installation and off-installation is essential. A Tribal representative commented that, “[our] Tribe addressed this with the Forest Service by creating an MOU that engages us in the IMT structure so we have [the] floor during briefing to address this sort of thing in our own words in real time.”

As Rick O’Rourke, Yurok Tribe member and Fire and Fuels Coordinator for the Cultural Fire Management Council states, “when entering into the landscape there are places that have been used in ceremony for thousands of years . . . even if it’s not being used in this space of time . . . these places are like the Vatican to the people [whose] responsibility it is to look after them. It might be a trail, a rock formation, or a place that a certain plant grows” (personal communication, May 26-June 2, 2020). In fire-dependent or fire-adapted ecosystems, prescribed fire may also support food and water security or cultural resources; O’Rourke notes, “the majority of the traditional materials are fire adapted, just like us.”

The only way to know what Tribal leaders want is to talk to Tribal resource advisors *in advance*. Topics to address could include:

- How, if at all, do Tribal resources advisors wish to be included?
- Values at risk
- Areas of religious or cultural significance
- Hunting, fishing, gathering, and grazing rights
- Archaeological sites, historical sites, or landmarks
- Areas of ceremonial significance
- Human remains and funerary objects
- Gender sensitive areas

- Food and water security
- Water rights/permissions
- Traditional burning windows or historical knowledge of fire
- Minimum Impact Suppression Techniques (MIST), see pgs. 97-98 in the IRPG (PMS 461)
- Dozer line placement
- Utilizing native crews in significant areas

Additional literature which may be useful:

- [DoD Consultation with Federally Recognized Tribes](#)
- DoD's [DENIX](#) website provides tools for Tribes, military personnel and stakeholders including consultation resources, training to build effective relationships with Tribes, and laws, orders, policies, and instructions.
- [Native American Sacred Sites and the DoD](#) is an enormous reference for topics such as: sacredness and kinds of sacred sites, sacred sites and military lands/activities, and consultation models, and a case study of exemplary cultural resources program at Fort Hood.

B. Task

Work with cultural resource advisors to inform fire management objectives and strategy. Be sensitive to the fact that there is a complicated history between First Nations and the U.S. Government; not all Tribes may wish to engage, or they may engage in different ways or wish to be involved at different levels. As one Tribal representative noted, “the indigenous perspective needs to come from the people of the specific place.” Some information may be irreplaceable, sensitive, or closely guarded, analogous to a rare plant site protected by environmental resource advisors. **Any communications with Tribes should be coordinated in advance through the installation Cultural Resource Manager and their chain-of-command.**

C. End State/Tactical Execution

1. Field Operations Guide
 - a. Mobilization Guide: N/A
 - b. In-Briefing Packet: Include a discussion of the cultural history of the area, cultural knowledge of burning the landscape, and the significance of fire. For example, “For more than 13,000 years, the Yurok, Karuk, Hupa, Miwok, Chumash and hundreds of other Tribes across California...used small intentional burns to renew local food, medicinal and cultural resources, create habitat for animals, and reduce the risk of larger, more dangerous wild fires” (Cagle, 2019).
2. Written Briefing: Incident Objectives (ICS-202) should include relevant culture objectives.
3. Verbal Briefing: Include cultural objectives and how fire supports these objectives. Highlight any sensitive areas and how tactics may need to be adjusted to achieve the desired end state. [Acknowledging Tribal lands](#) prior to operations can help build relationships, create awareness, and offer recognition and respect.

VIII. Organization Chart (Do)

A. Strategic Intent

Organizational charts provide clear divisions of leadership and roles. Basing your organizational chart on ICS allows for effective and efficient interagency coordination. While standardized, ICS also provides considerable flexibility to shrink or expand based on incident complexity. As part of the pre-planning phase, preparing an org chart offers a visual representation of resources and may help identify any areas which may have been overlooked.

B. Task

Prepare an organizational (org) chart based on the Incident Command System (ICS) prior to each incident.

C. End State/Tactical Execution

1. Field Operations Guide
 - a. Mobilization Guide: N/A
 - b. In-Briefing Packet: Include the org chart in the In-Briefing Packet. If resources will be changing, it may be prudent to only include the positions which will not change and designate the rotational positions as such.
2. Written Briefing: Fill out an org chart for your organization based off the Organization Assignment List (ICS 203) and include in the IAP. The Incident Organization Chart (ICS 207) may serve as a guide, but it is intended to be printed on a plotter for display on a wall. Update the org chart when there are personnel changes.
3. Verbal Briefing: Review the org chart during briefing for assignments. If military personnel will be involved, explain how to appropriately address each rank.

Operations

The ICS Operations Section manages all operational activities at a tactical level. The Operations section of the MIDG supports fire managers in developing operational guidance for both suppression and prescribed fire.

IX. Resources (Talk) and Minimum Crew Standards (Do)

A. Strategic Intent

With many installation fire management programs lacking funding or resources, relying on the fire management community for resources and support can be crucial to meeting objectives and/or expanding a fire program. Making crew standards known ahead of time will ensure resources arrive prepared and allow for any conflicting standards to be addressed (for example following NWCG standards).

B. Task

Make local contacts with fire management resources and possible on-installation resources to develop a robust roster of available resources. Examples of resources could include:

- Volunteers
- Non-profits
- Contractors
- Structure fire departments
- Volunteer fire departments
- Federal fire programs (USFS, BIA, BLM, USFWS, etc.)
- State fire programs (departments of natural resources, forestry commissions, etc.)
- Call-when-needed or administratively determined (AD)
- Soldiers with ad hoc suppression duties

Of the fire managers surveyed, over 90% have transitioned to using NWCG on their installation, but only 70% of civilian cooperators followed NWCG (Forest Stewards Guild, 2020). For this

reason, it is important to determine and communicate expected minimum standards for crews including:

- Qualifications and fitness standards, who will hold the Incident Qualification Card, maintain documentation and record keeping, and provide annual refreshers
- Transportation to, from, and on-site
- Mobilization and demobilization requirements and procedures
- Special requirements to enter the installation
- Equipment that crews will bring with them, such as hand tools, chainsaws, engines, etc. (also see ‘Equipment’ in the *Operations* section of the MIDG)
- Aviation involvement (see ‘Aviation’ in the *Operations* section of the MIDG)
- Communication requirements (see *Logistics* section in MIDG)
- Capabilities (e.g. initial attack)
- Personal gear, personal protective equipment (PPE), and other logistics (e.g. for more than one operational period)
- Training assignment availability and priority, task book expectations, and Performance Evaluations (ICS 225)
- Timesheet reporting, hazard pay, payment, and other financial protocol (see ‘Funding and Agreements’ in the *Finance* section of the MIDG)

Pertinent SOPs and SOGs to reference: The [National Interagency Mobilization Guide](#) outlines the minimum federal standards for a crew to mobilize. The ‘Redbook,’ or [Interagency Standards for Fire and Aviation Operations](#), NFES 2724, covers firefighter training and qualifications in greater detail in [Chapter 13](#).

Monique Hein, an Engineer/Emergency Medical Technician with the Lafayette, CO (Structural) Fire Department notes that, “although [my] department follows NWCG standards for wildland fire, it is important to ask additional questions for crew members whose primary job is not wildland firefighting. Each department is different in size and operations” (personal

communication, June 2, 2020). For example, questions she suggests for an incoming structure fire department could include:

- What are individuals comfortable doing or not doing?
- How will extended attack be addressed (logistics)?
- Are there shift changes where crew members need to be swapped?
- How can we order you as a resource?
- Are there additional communications concerns such as dispatch?
- In addition to the minimum equipment standards, is there additional equipment you could provide?

Create Mutual Aid Agreements (MAA), MOUs, or cooperative agreements – see ‘Coordinated Suppression Response in the *Plans* section in the MIDG. The National Interagency Fire Center’s [Interagency Agreements](#) (NIFC, not dated) have numerous federal examples. [The National Incident Management System Guideline for Mutual Aid](#) (FEMA, 2017) provides guidance on the different types of mutual aid agreements and key elements.

C. End State/Tactical Execution

1. Field Operations Guide

a. Mobilization Guide:

- Include all minimum crew standards – this information is crucial for crews and resources to arrive prepared
- Include cooperators/organizations involved and contact information for resource representatives
- SOPs and SOGs crews will need to follow while on-installation

b. In-Briefing Packet:

- Condensed version of expectations for crew standards while on-site. Crew leaders should provide SOP/SOGs from the Mobilization Guide; highlighting the most important aspects can serve as a reminder for crews. For example, if

crews need to be self-sufficient and on per diem or if they need to return maps during demobilization.

- See ‘Crew Culture/Expectations’ in the *Operations* section of the MIDG.
2. Written Briefing: Use the information from cooperators to fill out your IAP as appropriate, such as Communications (ICS 205 and 205A), Organization Chart (ICS 207), Medical Plan (ICS 206), etc.
 3. Verbal Briefing: N/A

X. Equipment (Talk)

A. Strategic Intent

While many installation fire managers are flush with equipment and resources, others report difficulty securing needed equipment due to funding, limited access to outside partners, and obstacles working with contractors. Even with an abundance of equipment, there are still many preplanning steps to ensure cohesion and safety.

Because of the potential differences in standards between installations and cooperators, equipment should be inventoried, and expectations outlined for both equipment and operators. Some questions to ask cooperators and/or contractors could include:

- What qualifications/experience level do you require of crew members to operate equipment?
- What PPE is required to operate specific equipment?
- Who will be allowed to operate the equipment if crews are blended (e.g. all-terrain vehicle [ATV], utility vehicle [UTV], chainsaw, engine, etc.)?
- Are hose fittings compatible on engines? What appliances and how much hose does each engine carry?
- Are roads and bridges suitable for equipment travel and in/egress?
- Are radios compatible? (see ‘Communications Plan’ in *Logistics* section of the MIDG)

B. Task

Work with cooperators and/or contractors to determine equipment availability and resource ordering.

C. End State/Tactical Execution

1. Field Operations Guide
 - a. Mobilization Guide

- Equipment standards for each type of resource for qualifications/staffing requirements (e.g. engines require three personnel including one Engine Boss), and inventory expectations (how crews should track their equipment).
- Mobilization and demobilization
- Policy for damaged equipment
- Driving to/from the incident and work/rest policies
- Policies for driving on-installation

b. In-Briefing Packet

- Equipment available on-installation
- Requesting additional equipment from the cache on-installation

2. Written Briefing: The Assignment List (ICS 204) can be used to document all equipment, personnel, and contact information. Similarly, a Division/Group Assignment List (ICS 204 WF) may be used; both forms contain similar information. If needed, Support Vehicle/Equipment Inventory (ICS 218) can be used to document transportation and support vehicles and equipment.
3. Verbal Briefing: Include all assigned resources in the main briefing. Break-out sessions can include a more detailed overview of equipment (e.g. special operating procedures, ‘quirks’, etc.). Address any pertinent issues brought up when planning with cooperators (see examples above).

Many firefighters are familiar with working around ‘traditional’ heavy equipment such as skidders, dozers, and tractor plows. If heavy equipment will be utilized, include an overview of safety procedures while working around heavy equipment. An overview of working with heavy equipment can be found on pg. 86 in the IRPG (PMS 461).

For military-specific heavy equipment refer to ‘Hazards and Mitigations’ (*Operations* section of the MIDG), for aviation please see ‘Aviation’ (*Operations* section of the MIDG), and for medical resources reference ‘Medical Plan’ (*Logistics* section of the MIDG).

XI. Aviation (Talk)

A. Strategic Intent

Military installations pose unique challenges when coordinating aviation resources (conflicted/shared airspace, air-to-ground communications, etc.). Most DoD lands are considered restricted air space and do not fall within Federal Aviation Administration (FAA) jurisdiction. Advance coordination with installation airspace managers and mission/range schedulers is necessary for civilian, agency, or contractor aircraft to enter installation airspace. For example, helicopter pilots at Eglin AFB typically use a pre-authorized mission number and frequency to contact air traffic control (ATC) prior to entering installation airspace.

Aviation is an inherently risky activity; between 2007-2016, aviation accidents were the [third major cause](#) of wildland firefighter fatalities. **While aviation may not be a part of your planned fire management program, suppression resources often rely heavily on aviation for indirect attack and scouting. Immediate threats to life or limb may require aviation resources for rapid medivac (which may or may not come from your installation).**

Contract or cooperator aviation resources (non-military) may have different guidelines restricting missions (e.g. low visibility, flying after sunset, etc.), carding standards for pilots and aircraft, flight planning, flight following requirements, or other flight management procedures. Restrictions prohibiting non-military aircraft from landing on military lands (or specific runways) may exist, which can affect re-fueling, helispots and landing zones. Thus, it is prudent to coordinate with aviation resources ahead of time to prepare for planned and emergency situations.

B. Task

Coordinate with aviation resources regarding planned operations and emergency protocol.

C. End State/Tactical Execution

1. Field Operations Guide

a. Mobilization Guide may include:

- Pilot and aircraft requirements (e.g. typing and capabilities)

- Pilot and aircraft carding standards
 - PPE and qualification standards for flight crew
 - Flight following procedures and tracking system requirements
 - Flight plan requirements
 - Aviation communications policies
 - SOPs for aviation mishaps or a downed aircraft
 - Special Use Airspace (SUA) and Military Training Routes (MTR) policies procedures
 - Unmanned aerial systems (UAS) or drone policies and procedures
- b. In-Briefing Packet
- The Air Operations Summary (ICS 220), Communications (ICS 205), and Medical Plan (ICS 206)
 - Relevant portions of the IRPG, PMS 461 (e.g. 12 standard aviation watch-out situations)
 - An orientation guide for the pilot and flight crew
 - Fuel locations and re-fueling plans
 - Dispatch and radio frequencies
 - Mission numbers to contact Air Traffic Control (ATC)
 - Local weather
 - Flight hazards maps
 - Other pertinent hazards, such as duded impact areas
 - Water sources and permissions
 - Retardant avoidance areas
 - Local flying conditions

- To confidentially (and anonymously) report unsafe situations, individuals can contact [SAFECOM](#) (aviation hazard).
2. Written Briefing: Air Operations Summary (ICS 220) is a good starting point for tracking resources and frequencies, but it may not be comprehensive for all operations and/or emergencies. The [Interagency Aviation Mishap Response Guide and Checklist](#) is a good resource to prepare for aviation mishaps. Referencing the IRPG (PMS 461) blue section can help identify additional topics to include in your written briefing. For example:
- Helicopter and fixed wing types and capabilities
 - Latitude/longitude, elevations, and hazards for helispots and landing zones (LZs)
 - Latitude/longitude of dip sites
 - Flight plan/flight following
 - Aerial hazard map
 - PPE requirements for the crew
 - Protocol in the event of a crash (e.g. [Aircraft Accident Checklist Form](#), [Downed Aircraft Procedures](#), etc.)

Radio frequencies for air-to-ground can be included on the Communication Plan (ICS 205) – refer to ‘Communications’ (*Operations* section of the MIDG) for further information.

Medical Plan (ICS 206) - refer to the ‘Medical Plan’ (*Logistics* section of the MIDG) for aviation information relating to medical emergencies.

3. Verbal Briefing: Specific briefings exist for pilots and helicopter passengers, and there are special safety concerns for resources working around retardant delivery and/or bucket drops. The blue pages of the [IRPG](#) (PMS 461) contain a variety of aviation resources including briefing topics.

A general aviation discussion is important for all resources. At minimum, discuss what is planned, general aviation safety, and emergency protocol including:

- General flight path and/or firing plan
- Air-to-ground communications including frequencies and who will be contacting aerial resources
- Safety concerns and hazards when working around aerial resources, including any operation-specific concerns (e.g. retardant safety)
- Location of landing zones (LZs) or helispots
- Location of the crash kit and a reminder to extinguish the person, not the aircraft
- Note each instance/approximate location of visual contact with aerial resources in the event of a crash

Additional breakout briefings are appropriate for helicopter passengers, aerial ignitions resources (e.g. Plastic Sphere Dispenser Operator – PLDO, Firing Boss), the pilot, Helispot Manager, etc. Discuss who will provide the briefing ahead of time and which topics will be included. For example:

- Firing Boss will brief on the overview of the plan/flight path, known hazards, review communications with PLDO, etc.
- Pilot will brief on safety procedures, the helicopter features, ensure appropriate PPE (flight suit, flight helmet, gloves), emergency protocol, internal communications, etc.
- Helispot manager will brief on rules of the helispot, location of the crash kit, etc.

Refer to the ‘Medical Plan’ (*Logistics* section of the MIDG) for aviation information relating to medical emergencies.

XII. Crew Culture/ Expectations (Do)

A. Strategic Intent

Setting clear expectations ahead of time will provide structure and clarity for crews. Promoting a culture of duty, integrity, and respect is core to firefighting values and safety. This can be particularly important on military installations where there may be additional rules or expectations for civilians (e.g., don't walk on the grass, wear a reflective belt during physical training).

B. Task

Outline expectations for crew conduct and culture while on-installation. Some topics to address may include:

- Duty, integrity, and respect (vii-ix in the IRPG, PMS 461)
- Your crew's story/vision/mission
- Harassment policy/reporting procedure
- Attire
- Timekeeping and approval
- Meals/breaks
- Smoking policy
- Restrooms
- Check in/demob procedures
- Evacuation procedures
- Telephone, computer, and internet policy
- Weapons policy (many firefighters carry pocketknives)
- Information security and operational security
- Restrictions on photos and social media
- Turning down an assignment

- Other installation-specific policies or etiquette

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: Include any expectations which may require advanced preparation for crews (such as prohibitions on carrying weapons on-installation, attire, etc.)
- b. In-Briefing Packet: Crew expectations and crew culture should be thoroughly explained. A good example of crew expectations can be found in the Craig Interagency Dispatch Center [Field Operations Guide](#) (pgs. 17-18).

2. Written Briefing: N/A

3. Verbal Briefing: Review expectations during the crew verbal in-briefing and address any questions. Consider making a video, [story map](#), or PowerPoint to cover important topics.

XIII. Hazards and Mitigations (Talk)

A. Strategic Intent

Safety and risk management is the foundation of all fire management operations. Identifying and assessing hazards are the first steps in the risk management process (IRPG, PMS 461, pg. 1). A thoughtful consideration of hazards, mitigating those hazards, and continually re-evaluating aligns with all five of the HRO principles.

It is important to note that **while some of the hazards present on military installations overlap with those found in the wildland firefighting environment, many are unique to the military landscape.** It is important to consider that what may be ‘ops normal’ for your crew members will be a foreign environment for incoming civilian crews. For example, communications with Range Control is standard on military installations but could result in a hazardous situation for an uninformed civilian resource.

B. Task

Identify all foreseeable hazards in the operational environment. If mitigation strategies or controls are in place, make them known.

This task can be best accomplished by deferring to local expertise, learning from the fatalities and near-misses of the fire community, and thoughtful consideration of your local situation. Identifying hazards should be included as a discussion topic during a group meeting with subject matter experts from Explosive Ordnance Disposal (EOD) Units, Range Control, Natural Resources, Aviation Suppression Resources, etc. Group discussion can provide additional insight into ways to mitigate foreseen hazards. Consider using the [Wildland Fire Lessons Learned Center](#) to help identify additional potential hazards and mitigation strategies. The Incident Review Database can be searched by keyword and provides short summaries of lessons learned from fatality and near-miss fires.

Installation fire managers surveyed identified the most important topics for briefing incoming resources (in order of most to least important): UXO, natural resources/endangered species, Range Control communications, active training area access, radio frequencies and protocols,

specific tactics including MIST, values at risk, operating around military equipment, operational tempo, and wildland-urban interface (WUI) (Figure 2; Forest Stewards Guild, 2020).

Of these topics, fire managers surveyed felt that incoming resources are *most* familiar with natural resources/endangered species, radio frequencies and protocols, and tactics/MIST. Topics incoming resources were considered *least* familiar with included UXO, Range Control communications, and active training area access (Forest Stewards Guild, 2020).

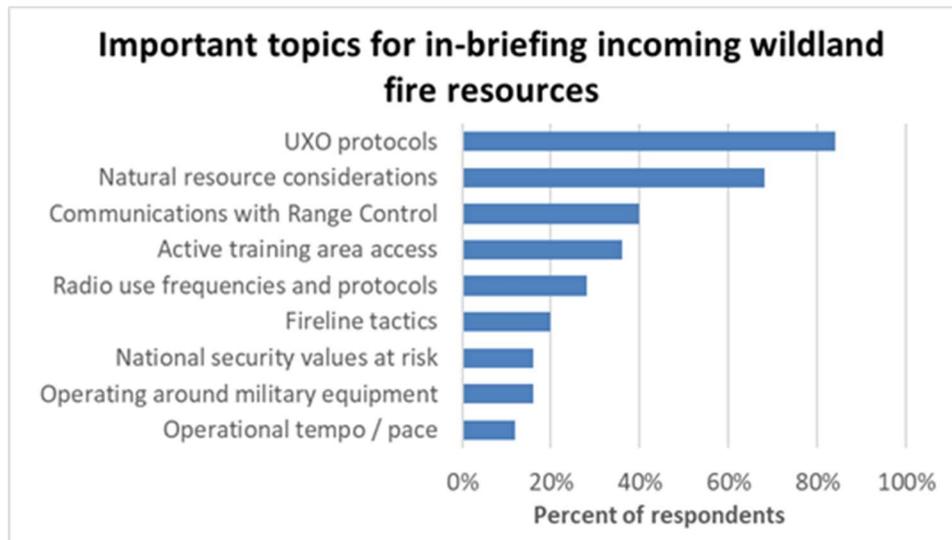


Figure 2. In-briefings for incoming wildland fire resources should cover specific topics unique to operating on military installations (Forest Stewards Guild, 2020).

Other safety concerns could include:

- Local weather patterns (e.g. thunderstorms, sea breezes) and long- and short-term weather trends
- Altered fuel conditions (e.g. herbicide-treated areas, fire, drought or insect-weakened trees), particularly snags
- Mental and physical fatigue, including dehydration and heat illness
- Low visibility and health-related impacts of smoke
- Topography

- Military training equipment, such as concertina wire, foxholes, heavy equipment, hot ranges, incendiary devices, blank/live rounds, white phosphorous, depleted uranium and other radiological hazards, simulators, aviation, etc.
- Concerns working around sensitive areas
- Driving hazards
- In/egress
- Power or gas lines
- Local flora/fauna, including bees and poisonous plants
- Noise from heavy equipment
- Trips/slips/falls

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: While hazards are not always included in a Mobilization Guide, there are significant hazards on military lands which civilian firefighting forces may not normally encounter. Consider including a required review of military-specific hazards with photos and/or a video to prepare crews in advance.
- b. In-Briefing Packet: A generalized job hazard analysis (JHA) or risk assessment (RA) may be appropriate, especially when there are hazards not commonly encountered in the wildland firefighting environment. Include details on local specifics, such as weather patterns, current fuel conditions, a guide to flora/fauna, etc. [Pocket Cards](#) based on geographic area provide a description of seasonal changes in fire danger. For more information, see ‘Local Conditions’ in the *Operations* section of the MIDG.

Consider including a summary of ‘near misses’ your crew has experienced in the past. Forthcoming reporting of lessons learned promotes a culture of safety and helps to ensure similar events are not repeated.

For example, Eglin Air Force Base developed a useful in-briefing PowerPoint, list of “watch out” situations (Appendix IV), and UXO risk management guide (Appendix V) to familiarize incoming resources with these topics.

2. Written Briefing: A safety message can be included in the IAP Safety Message/Plan (ICS 208) and in the ‘General Situational Awareness’ section of the Incident Objectives (ICS 202).

A [job hazard analysis](#) (JHA) or a [risk assessment worksheet](#) (RA) may also be an appropriate way to evaluate and document foreseen hazards. In particular, the RA contains a risk rating system to determine the level of signature authority depending on the level of risk involved. A simplified but similar form to document hazards and mitigations is the IAP Safety Analysis (ICS 215A).

For suppression activities, the [Wildland Fire Risk and Complexity Assessment](#) can assist in evaluating/mitigating risk and identifying the appropriate level of IMT.

3. Verbal Briefing: Consider asking crew members to participate in identifying hazards they anticipate during the operation. Encouraging participation may illuminate something missed during the planning phase, and it helps all resources contribute to safe decision making. Fill in any topics overlooked at the end of the discussion. Identify trigger points for hazards and action steps if those trigger points are reached. Encourage crew members to speak up if they identify additional hazards at any time.

For UXOs, remind resources that:

- UXO can be anywhere (may or may not be visible)
- UXO can be triggered by heat or by disturbing the ground (e.g. digging)
- They should never touch UXO
- They should treat all UXO as dangerous
- If encountered, UXO should be flagged and reported to all resources
- Make additional UXO notifications, such as to Range Control and/or EOD units

- Established resources for the 3 R's (Recognize, Retreat, Report) and additional explosive safety education can be found at: <https://www.denix.osd.mil/uxo/>

Military-specific heavy equipment (e.g. Humvees, armored personnel carriers, large transports, tanks, etc.) may be different than the 'traditional' heavy equipment firefighters are used to encountering. Brief resources that military heavy equipment:

- Are wide, heavy, and fast (and how resources should pass them)
- Can be encountered anywhere, day or night
- Are loud and dusty
- Have low visibility inside and out

For other hazards, please reference the following tasks in the MIDG:

- 'Complexity Analysis' in the *Plans* section
- 'Communications' in the *Logistics* section
- 'Equipment', 'Aviation', 'Local Conditions', 'GIS, Maps, and Access', and 'WUI' in the *Operations* section

XIV. Refusing an Assignment (Do)

A. Strategic Intent

Risk management at its core involves identifying and assessing hazards, mitigating and controlling for those hazards, and continually evaluating the situation. It is the right and duty of all fire personnel to contribute to this process, including ‘turning down’ an assignment in an unsafe situation. Many firefighters, even those with multiple seasons under their belt, are unaware of the proper method for refusing risk; **empowering individuals to appropriately voice safety concerns aligns with HRO principles of ‘sensitivity to operations’ and ‘preoccupation with failure’.**

This is particularly important in the military fire environment as there is potential for individuals to be exposed to unexpected hazards or considerations that falls outside of ‘normal’ firefighter risk (e.g. UXOs).

B. Task

Identify the proper method of refusing risk for all personnel, including flow of information in the chain of command, and what to do if concerns are unresolved.

C. End State/Tactical Execution:

1. Field Operations Guide
 - a. Mobilization Guide: N/A
 - b. In-Briefing Packet: Include the proper method of refusing risk during operations. To confidentially (and anonymously) report unsafe situations, individuals can use [SAFENET](#) (ground hazard) or [SAFECOM](#) (aviation hazard).
2. Written Briefing: Consider augmenting the IAP with a summary of how to properly refuse risk for resources which may not be familiar with NWCG or local protocol.
3. Verbal Briefing: Refer individuals to pgs.19-20 in the [IRPG](#) (PMS 461) ‘How to Properly Refuse Risk’ or other local protocol.

XV. Local Conditions (Do)

A. Strategic Intent

It is essential that incoming resources are aware of local conditions of fuels, weather, and topography that are influencing fire behavior. While many resources may be local, there are often relevant location or site-specific conditions. For resources coming from further away, the briefings should be expanded in content to include regional trends.

B. Task

Outline relevant local conditions that incoming forces may encounter to inform their situational awareness.

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: N/A
- b. In-Briefing Packet: Note which weather indices are commonly used locally, as this may differ by region (e.g. Keetch-Byram drought index [KBDI], energy release component [ERC], burning index [BI], Haines Index) and what is considered ‘average’ and ‘extreme’. [Pocket Cards](#) based on geographic area are a useful tool to describe seasonal changes in fire danger. Consider including links to additional outlook/forecast maps, such as [NIFC Predictive Services](#), which can provide decision support information for incoming crews regarding fire weather, fire danger/fuels, and intelligence/resource status information.

If Fire Management Units (FMUs) are used, it may be useful to arrange the following information according to FMUs.

For example, the Eglin Air Force Base developed a useful in-briefing PowerPoint and list of “watch out” situations (Appendix IV) to familiarize incoming resources with these topics.

Fuels: Include a brief discussion of local fuel types and loading, burn history, fuels treatments, and expected fire behavior. Outline hazards (e.g. jackpots,

logging slash, beetle kill, herbicide treatment, etc.). Include any mission restrictions based on fire danger or [Preparedness Level \(PL\)](#).

Weather: Include seasonal trends, reliability of forecasts, local key thresholds/trigger points, local knowledge/anomalies, location of [Remote Automatic Weather Stations](#) (RAWS), local times/frequencies of fire weather broadcasts, [Fire Weather Zones](#), etc. Contact information for local weather service or local weather-related resources (for example Georgia Forestry Commission's [Fire Weather Page](#)).

Topography: Terrain influences on fire behavior (drainages, ridges, slopes, diurnal winds, etc.) and hazardous terrain (e.g. swiftwater, mine shafts, steep slopes, etc.).

2. Written Briefing: General situation awareness can be documented in Incident Objectives (ICS 202). Highlight local conditions which may have a significant impact on safety (hazards) in the Safety Message/Plan (ICS 208). For additional information on documenting hazards see 'Hazards and Mitigations' in the *Operations* section of the MIDG.

Fuels/Topography: Include a brief discussion of hazardous conditions in the Incident Objectives (ICS 202) and/or Safety Message/Plan (ICS 208).

Weather: A [spot forecast](#) provides detailed site-specific weather predictions and should be included in the IAP. Local Air Force Weather Squadrons may also be a good resource.

3. Verbal Briefing:

Fuels: Include fuel type(s) and fuel loading in and around the unit/perimeter, burn history, relevant fuel treatments, expected fire behavior, and 'normal' and 'extreme' ranges for indicators such as fine dead fuel moisture or probability of ignition. Hand out and explain Pocket Cards, if using.

Additionally, brief on hazardous fuels such as incendiary devices, live/blank rounds, white phosphorous, depleted uranium, simulators, etc.

Weather: Include predicted weather and most recent weather observed on-site, as well as any observed trends. If local conditions are associated with a specific hazard, discuss mitigation strategies. For example, describe a trend of daily thunderstorms with gusty winds and lightning, followed by a discussion about cumulonimbus cloud formation and protocols during a lightning event.

Topography: This is particularly important for resources coming from other geographic areas. For example, a firefighter coming to the Rocky Mountain Geographic Area Coordination Center (GACC) from the Southern Area may need a refresher on fire behavior in mountainous terrain, while a firefighter coming to the Southern Area from the Rocky Mountain region may need a reminder that fire behavior may be extreme despite lack of topography.

XVI. GIS, Maps, and Area Access (Do/Talk)

A. Strategic Intent

Maps provide critical information for safe and effective operations, from identifying water sources to UXO sites. Maps can also provide context for strategy and tactics and help communicate objectives. Mobile apps such as Avenza Maps can be used offline (the [Military Version](#) supports National Geospatial-Intelligence Agency [NGA] maps for Common Access Card [CAC] holders). [Story maps](#) combine text, photos, and videos to communicate in an integrated way (such as the [Story Map for the Southern Blue Ridge TREX](#) or the [Southern Fire Environment Outlook](#)). Data sensitivity may affect the information which can be used; be sure to refer to relevant data policies.

B. Task

Gather information to prepare maps for incoming resources. Contacts which may be able to provide relevant information could include:

- Fire and Emergency Services
- Engineering
- Public Works
- Range Control
- Natural and Cultural Resources
- Explosive Ordnance Disposal

Several maps will be needed at different scales to provide tactical as well as strategic information. Important items to consider including are:

- Topography
- Aerial photographs
- Ecosystem or fuel types
- Significant areas of ecological importance
- Culturally significant areas

- Previous fuels treatments
- Utility infrastructure (power, gas, electrical)
- Structures or other point protection
- Roads and road type/condition (e.g. dirt, passable by ATV only)
- Roads/speed limits
- Gates and bridges
- Firebreaks and their construction/accessibility (handline, dozer, road, etc.)
- Unit boundaries and names
- Contingency firebreaks/roads
- Pre-identified escape routes and safety zones
- Grid coordinate system to help resources identify their location over the radio
- Water sources (allowable and prohibited)
- Staging area
- Helicopter LZs or helispots
- Incident Command Post (ICP)
- Staged medical resources and hospital locations
- Restricted areas or areas with limited access
- UXOs
- Other hazards (open mine shafts, concertina wire, etc.)
- Smoke-sensitive areas
- Jurisdictional boundaries
- Federal/county boundaries
- Land ownership

- QR code linked to Avenza

Useful sources of GIS data important for fire management include:

- [LANDFIRE](#) data of vegetation, fuels, and ecological disturbances (e.g., historic wildfire ignitions and perimeters) across the entire U.S.
- [Homeland Infrastructure Foundation-Level Data \(HIFLD\)](#) of values-at-risk, including energy and communication infrastructure, hospitals, schools, etc.
- [Wildfire Risk to Communities](#) data of wildfire likelihood, risk to homes, and locations of vulnerable populations.
- [U.S. Fish and Wildlife Service data](#) on critical habitat for threatened and endangered species, habitat for migratory birds, and wetland ecosystems.
- State-level Natural Heritage Program data on habitat for rare, threatened, and endangered plant and animal species (for example, [data from the Colorado Natural Heritage Program](#)).
- Notably, map symbology standards defined by the National Wildfire Coordinating Group are different from standards commonly used by DoD, such as those on Military Installation Maps (MIMs). Although MIMs that use MIL-STD-2525 may be useful for incoming resources, to reduce friction, **map standards should follow the NWCG Standards for Geospatial Operations ([PMS 936](#))**.

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: Include maps needed for resources to arrive at the requested site on-installation. If specific technologies such as Avenza will be used on-site, notify crews. Consider including links to additional outlook/forecast maps, such as [NIFC Predictive Services](#), which can provide decision support information for incoming crews.
- b. In-Briefing Packet: Maps for on-installation resources can aid crews with logistics. See ‘Lodging, Food, and Services’ in the *Logistics* section of the MIDG.

2. Written Briefing: Maps relevant to operations should be included in the IAP. Including a QR code for [Avenza Maps](#) is common practice in the wildland fire community, but this should augment rather than replace paper maps.
3. Verbal Briefing: Large maps are often used during verbal briefing. Be sure to ‘walk around’ the map in detail to familiarize resources with the area. Remind resources if maps need to be returned or if there is sensitive information that cannot be shared.

XVII. WUI (Do/Talk)

A. Strategic Intent

Having a collaborative pre-attack plan for unplanned events that includes overviews of hazards, resources, and possible strategy is crucial for a safe and effective response in the wildland urban interface (WUI). In recent decades, the growth of WUI has increased rapidly, both in terms of number of new houses (41% growth from 1990-2010) and land area (33% growth) (Radeloff and others, 2018). Approximately 33% of homes and 1 in 10 hectares are now in the WUI (Radeloff and others, 2018).

Many military installations find themselves in one or several of the following WUI scenarios:

- An off-installation wildfire may threaten values at risk on-installation or military structures which extend beyond the installation's main boundaries (e.g. utilities, railway spur)
- An on-installation wildfire may threaten the local community or values at risk on-installation
- A prescribed fire event on-installation escapes and threatens values at risk on- or off-installation
- Smoke concerns from a fire on- or off-installation may impact the mission and/or have serious consequences for communities and the health of individuals

Dr. Megan Matonis, Intermountain West Region Manager for the Forest Stewards Guild, describes the importance of CWPPs: "Since fire does not stop at jurisdictional boundaries, the preparedness and mitigation actions (or lack thereof) completed by parties on one side of the fence can directly impact the safety and success of their neighbors. Including military installations in collaborative pre-incident planning, such as engagement in a CWPP, is a proactive step to addressing shared risk across the landscape. Although a CWPP is different from an installation's Wildfire Management Plan (WFMP) or Integrated Wildfire Management Plan (IWFMP), involvement in the local CWPP is important if the installation is located within a Fire Protection District (FPD), or is adjacent to a FPD with high fire risk" (personal communication,

June 24, 2020). CWPP engagement can also generate support for your fire management program, provide for public safety, and increase the community's resilience to wildfire.

While the 'worst-case' scenario may not always be foreseeable, formalizing cooperative agreements/MOUs and pre-planning on topics such as resource availability, communications, and strategy can increase safety and minimize the unknown.

B. Task

Identify wildland-urban interface (WUI) situations both on-installation and in the surrounding community. Run through risk analysis for values at risk and pre-plan with cooperators and on-site resources for worst-case scenarios.

Research local pre-incident planning sources which may have names such as a Pre-Attack Plan (see 'Coordinated Suppression Response' in the *Plans* section of the MIDG), Pre-Planned Dispatch, Structure Protection Plan, or National Fire Plan. Determine if there are local [Community Wildfire Protection Plans](#) (CWPP) which proactively and collaboratively prioritize hazard mitigation in the WUI (e.g. fuels treatments or [home hardening](#)) and help prepare communities for wildfire response.

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: N/A
- b. In-Briefing Packet: A pre-attack plan or CWPP is a freestanding document. However, a summary of relevant elements of the CWPP could be included in the In-Briefing Packet and maps, such as:
 - Safety zones, escape routes, and staging areas
 - Access, egress, and limitations (such as bridge limits or road width)
 - Other infrastructure (railways, outbuildings)
 - Fuels, weather, and topography
 - Structure types and density

- Utilities (gas, electrical, water, etc.)
 - Smoke concerns
 - Natural and cultural resources
 - Evacuation routes, refuge areas, and areas to potentially shelter-in-place
 - GIS including ownership or hazard maps
 - Pre-season outreach to nearby landowners
 - PIO (public relations) planning
2. Written Briefing: If relevant, include in Incident Objectives (ICS 202) and the Safety Message/Plan (ICS 208)
 3. Verbal Briefing: Identify values at risk (archaeological, structures, utilities, livestock, etc.) and strategy for triage, prep (suppression), and protection. Discuss access, egress and route limitations, evacuation plan (if applicable), smoke concerns and mitigations, and associated hazards. Refer to Wildland Urban Interface Firefighting on pgs. 12-16 in the IRPG (PMS 461).

Logistics

The Logistics Section of the ICS provides incident support, including supplies, facilities, communications and medical. The MIDG helps installation fire managers in advanced planning to support incoming personnel and resources.

XVIII. Medical Plan (Do/Talk)

A. Strategic Intent

A thorough medical plan, and communication of the medical plan to all operational resources, is an NWCG minimum requirement for operational engagement ([IRPG, PMS 461, pg. 2](#)). Between 2007-2016, heart attacks were the [most common cause](#) of wildland firefighter fatalities; in 2019 [44% of fatalities](#) were medical emergencies. Over the years, many lessons learned from tragedy or near-miss incidents have resulted in the NWCG ICS 206 Medical Plan and ICS 206 WF [Medical Incident Report](#) (MIR) to prepare for the worst.

B. Task

Create a medical plan for an incident within an incident. Contingency plans should be considered in the planning process. It is important to frequently verify the information in the medical plan and to ensure the resources are available as stated. For example, if your medical plan lists an air ambulance as an emergency resource, it is prudent to contact local emergency medical services to ensure you can actually request an air ambulance.

Identify which on-installation resources will be able to provide care, and where and whether off-installation resources may be able to respond faster. If a fire resource works with your local dispatch center, can the dispatch center coordinate with installation medical personnel? Has this been tested?

Consider coordinating a meeting with local EMS services, dispatch, and your on-site medical representative to talk through the medical plan and uncover any errors or areas for improvement. Other contacts to consider include Public Information/Affairs Officer or local law enforcement.

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: Include any standards for medical equipment and medical training required of crew members.
 - b. In-Briefing Packet: Include all details of the medical plan.
2. Written Briefing: ICS 206 and ICS 206 WF (also see [Instructions for Completing an ICS 206 WF](#))

At minimum, the medical plan should include:

- Medical personnel and level of training (pre-identify, if possible)
 - Medical equipment and location
 - Transportation to definitive medical care
 - Personnel to move/carry the victim
 - Ground and Air ambulance (medevac): address, contact number, frequency if available (VHF), level of service (advanced vs. basic life support), aircraft call sign, and type of aircraft (1,2,3, Military)
 - Hospitals: name, address (latitude/longitude in Degrees – Decimal Minutes if there is a helipad), contact number/frequency, travel time via air and ground, and capabilities (Level I-V, trauma center, burn center)
 - Latitude/longitude for landing zones (LZs) on-site
3. Verbal Briefing: Identify personnel, equipment, transport options, and contingency plans. State the direct point of contact in the chain of command (e.g. IC, Burn Boss, Dispatch, etc.) and frequency for an incident within an incident.

Ask resources for any known medical conditions (e.g. anaphylaxis, angina, diabetes) and where their medication is located.

Reference the MIR ICS 206 WF in the IRPG (red section), IAP, or other documentation standards used to collect and convey emergency information. Consider printing out the MIR for individuals who may not have an IRPG (e.g. volunteers or cooperators who do not follow NWCG).

Breakout groups should identify primary and secondary responders and communication responsibilities.

XIX. Communications (Do/Talk)

A. Strategic Intent

Communications is one of the four *minimum* briefing topics for wildland firefighter engagement (LCES: Lookouts, Communications, Escape Routes, Safety Zones, pg. 7 IRGP). Communication has a direct impact on the effectiveness of a team, and poor communications may have potentially serious safety consequences. Communications is often cited as an obstacle or failure point in many After Action Reviews (AARs), '[Lessons Learned](#)' or [SAFENET](#) Reports. A quick search for 'communications' as a 'contributing factor' in SAFENET produced over 56,000 results (June 10, 2020). Military environments have complex communications environments, which only increase in complexity when working with cooperators or contractors. Thoughtful planning and addressing potential communications issues ahead of time is crucial to operations running smoothly and safely.

B. Task

Prepare a communications plan for all resources.

Facilitate a discussion with Range Control, Flight Control, local dispatch (on and off-installation), partners/cooperators, Fire and Emergency Services (FES), Military Police (MILPOL), Security Forces, etc. to exchange contact information, radio frequencies, assess radio compatibility, discuss using common/plain text (versus acronyms or 'codes'), radio etiquette, and a plan to test radio communications ahead of time (if possible).

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: Include ICS 205 and/or ICS 205A and required communications equipment such as radios, cloning cables, etc. Include whether or not equipment may be borrowed from the installation. Be specific with which radio models work/are allowed on-installation, and if any equipment is prohibited (e.g. satellite phone).
- b. In-Briefing Packet: Outline expectations for radio etiquette and language, clarify any local terms that may be heard on the radio (e.g. drip torch mix versus slash

mix, quad versus four-wheeler) and important numbers such as dispatch, FES, Fire Duty Officers (or other on-call staff), etc. Include repeater locations (if used) and any dead spots/areas with known communication issues on the operations map.

2. Written Briefing: The Incident Radio Communications Plan (ICS 205) provides detailed information on all radio frequencies, and the Communications List (ICS 205A) includes contact method(s) for all incident personnel. Contact information and radio frequencies should also be included on the Assignment List (ICS 204 or ICS 204WF)

Contact numbers and frequencies for medical-related emergencies should be included in the Medical Plan (ICS 206) - refer to the 'Medical Plan' (*Logistics* section of the MIDG).

3. Verbal Briefing: All resources should receive a copy of the communications plan or receive all frequencies used during the operation (including contingencies/emergencies) and important contact numbers. Include a briefing on Range Control communications, medical emergency communication, and aviation resources. Identify radio dead spots or areas with known radio communication issues. Radio etiquette and using plain text should be addressed, as well as use of intra-crew channels. Let resources know it is not appropriate to talk about military operations over the radio. Ensure that crew members understand which radios are allowed, and equipment that is prohibited (e.g. satellite phones), and review radio usage (most wildland firefighters use Bendix Kings and may be unfamiliar with Motorola LMRs). Break-out groups should run through a radio check, and positive radio communications for all resources should be established prior to engaging.

XX. Lodging, Food, and Services (Do)

A. Strategic Intent

Rest and proper nutrition are essential to being ‘fire ready.’ Having this information available ahead of time for incoming resources eases their logistical burden, and good food is always a morale booster. Be mindful that organizations operate with different budgets, so providing a range of options will support an inclusive environment.

B. Task

List lodging options on- and off-installation including barracks, hotels, campsites (paid or on public land), etc. Contact local vendors that may be interested in a partnership to provide free or reduced accommodations such as scout camps, group campsites, state recreation areas, etc.

List food options on- and off-installation including grocery stores, restaurants, the mess hall, and options for those with food intolerances/preferences (e.g. gluten free or vegetarian). Additional services (or restriction on use of services) such as laundry, gym access, Morale, Welfare, and Recreation (MWR) Centers, Exchange/Commissary, etc. can logistically help crews staying for extended periods.

C. End State/Tactical Execution

1. Field Operations Guide
 - a. Mobilization Guide: Provide a short (1-2 page) listing of local lodging and food options, including addresses, average cost, and any discounts that may be available for fire personnel. Clarify which services/amenities crews are allowed to use on-installation.
 - b. In-Briefing Packet: Other amenities, such as nearby banks, points of interest, laundry, etc.
2. Written Briefing: Generally, this information is not included in an IAP.
3. Verbal Briefing: This information is unnecessary for a verbal briefing.

Finance/Administration

In ICS, the Finance/Administration Section manages funding coming from multiple sources, and tracks and reports the incident's budget. The Finance/Administration section of the MIDGE assists fire managers in managing funding streams, preparing budgets, and procurement for prescribed fire and wildfire events.

XXI. Funding and Agreements (Do)

A. Strategic Intent

It is critical to secure adequate and consistent funding for fire management programs. **Fire managers must manage funding from multiple sources synergistically to put fire on the ground *and* prepare for large and complex suppression events.** Identifying funding sources and approval processes prior to engaging in MOUs or agreements will prepare fire managers to discuss contract payment with these support services. This trickles down to resources in the form of SOPs to ensure they are compensated appropriately.

B. Task

Determine funding streams for your program and how those funds may be used to incorporate external resources (e.g. contractors) or be augmented by Mutual Aid Agreements, MOUs, or other agreements. Consider creating a funding matrix to align funding sources by activity type or allowable activities to clarify multiple funding streams.

Some examples of funding sources could include:

- Environmental Program
- Municipal Services
- Integrated Training Area Management (ITAM)
- Fire and Emergency Services (FES)
- Conservation Reimbursable and Fee Collection Program (CRCRP)
- Army Compatible Use Buffer (ACUB)
- Army Sustainable Readiness Model

- Non-Tactical Vehicles (NTV) funding
- Unfunded requests
- Funding supporting centrally managed apparatus (e.g., Military Interdepartmental Purchase Requests (MIPRs), Cooperative Agreements, etc.)

Activities allowed under a funding stream could include:

- Planning
- Firebreaks
- Prescribed fire
- Suppression
- Monitoring
- Site recovery and rehabilitation
- Vehicles and equipment

When applying these funding streams to MOUs, state/local agreements, Mutual Aid Agreements, or other interagency agreements, create a companion SOP.

C. End State/Tactical Execution

1. Field Operations Guide

- a. Mobilization Guide: Finance SOPs for incoming resources, if applicable. For example, if contractors or paid civilian resources will be used, include applicable bullet points below. For MOUs or Agreements, this could be a statement to refer to their agency policy.

- Accounting responsibility
- Timesheet reporting and documentation standards, approval process and authority, charge codes/cost centers, etc.
- Tracking personnel and equipment records (example forms: SF 261 Crew Time Reports (CTRs) and/or OF-297 [Emergency Equipment Shift Tickets](#))

- Tracking incident-related costs
- Procurement contract procedure
- Compensation for injury or damage to property

b. In-Briefing Packet: N/A

2. Written Briefing: An approved budget should be part of the Delegation of Authority for incoming IMTs. For larger/complex incidents, Finance is included in the Organization Assignment List (ICS 203) and Organization Chart (ICS 207).
3. Verbal Briefing: N/A

Public Information/Public Affairs

In ICS, a Public Information Officer is responsible for interfacing with the public, media, and other external information requests. The Public Information/Public Affairs section of the MIDG aims to assist fire management programs in decreasing conflict between installations and populations around them through proactive engagement.

XXII. Outreach and Notifications (Do/Talk)

A. Strategic Intent

Outreach and notifications are essential for the longevity and success of any fire management program. Good communication not only provides for the safety and welfare of civilians and military alike, but it encourages effective community partnerships and support for the program. Incoming resources have frequent contact with civilians, serve as the face of an installation's fire management program, and are an important link to the community. Establishing guidelines for media interactions is essential for consistent messaging and respecting sensitive information.

Sarah McCaffrey, research forester with the U.S. Forest Service, and Christine Olsen, research associate at Oregon State University College of Forestry, explored the public's understanding and views of fire and in a pre-fire management setting (e.g. fuels reduction or mitigation). Targeting mainly WUI residents, McCaffrey and Olsen (2012) illustrate some key points applicable to installation fire management (Figure 3):

- “Individuals often have a fairly sophisticated understanding of fire’s ecological role...particularly [in] high fire hazard areas” (pg. 4)
- “Prescribed fire and mechanical thinning are, at some level, acceptable management practices for more than three-quarters for the public...**ecological benefits and level of trust [in leadership]...appear to be the primary variables shaping acceptance**” (pg. 13)
- **Interactive information is important.** “Having government or personal contacts was associated with lower concern about potential prescribed fire issues.” (pgs. 7-8)

- “Research shows a clear public view that responsibility for mitigating fire risk is shared by all landowners...[and] **the government has a responsibility to provide information on mitigating risk on private land**” (pg. 18)

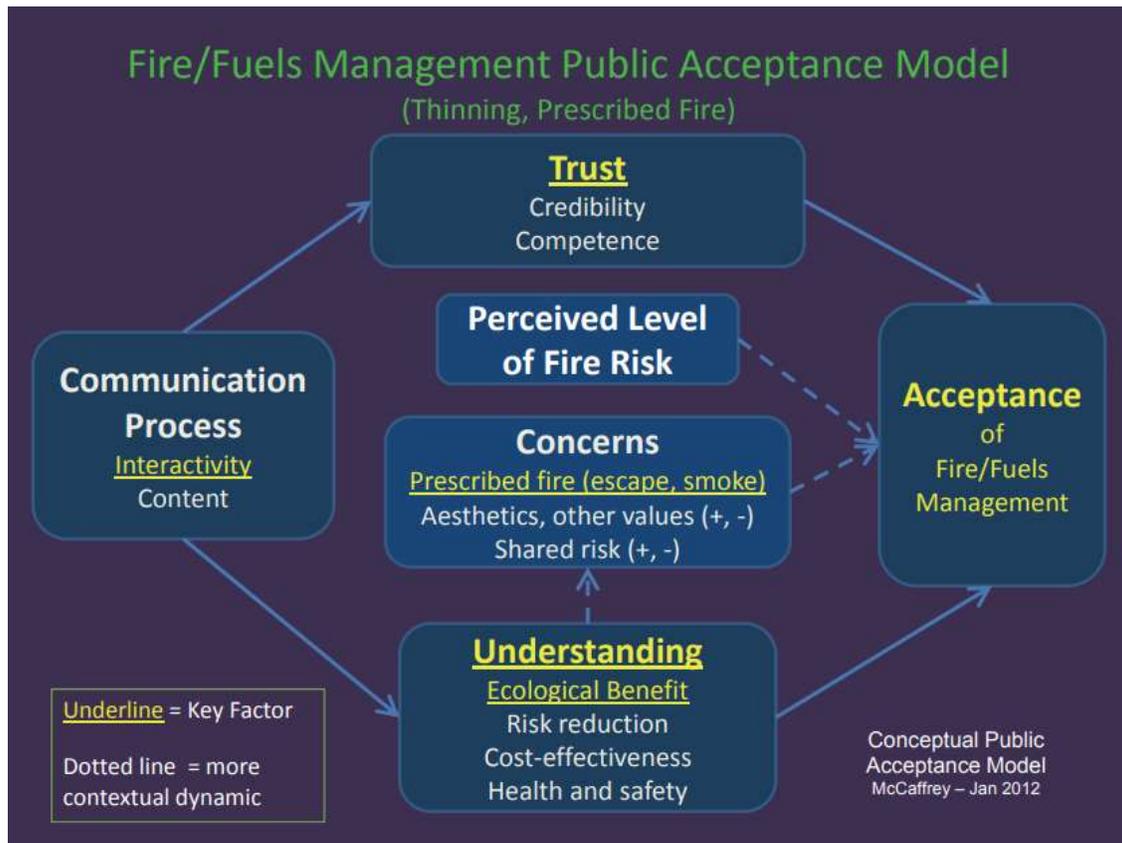


Figure 3. Conceptual model of factors that influence public acceptance of fuels treatments (McCaffrey and Olsen, 2012, pg. 26).

B. Task

Identify a Public Information Officer (PIO) or Public Affairs Officer (PAO) tasked with developing and maintaining positive communications with individuals and groups who may be impacted by fire management operations. These include, but are not limited to:

- Range users (armed forces training operations, research, development, and testing of munitions/weapons systems)
- Law enforcement/MILPOL

- Natural or cultural resource advisors
- Residents on-installation
- Recreationists on-installation (e.g. hunters, hikers)
- Adjoining landowners and communities

Outreach and notification efforts could include:

- A tiered notification system to distribute information (mass email, automated phone call, etc.) for planned and unplanned events. If a PAO/PIO is not available on-installation, work with local/municipal PAOs and/or public alert systems.
- Notifications for installation residents and recreationists regarding restrictions (e.g. campfires)
- Fire prevention awareness initiatives or education programs
- Interpretive centers
- Public outreach meetings with space for public comment/dialogue

The PIO/PAO should also pre-determine guidelines for crew member media interactions.

This could be accomplished with a blanket authorization or given on a case-by-case basis. Based off restrictions, messaging, outreach, and notification efforts, create an SOP/SOG and/or job aid for incoming crews to interact with the public and/or media.

C. End State/Tactical Execution

1. Field Operations Guide:
 - a. Mobilization Guide: Include any SOP/SOGs concerning public information. Consider including the job aid, if appropriate.
 - b. In-Briefing Packet: Include the job aid with the fire management program's story and/or talking points.
2. Written Briefing: Include the PIO/PAO in the Organization Assignment List (ICS 203) and Organization Chart (ICS 207).

Distribute a job aid for media and public interactions which serves as a reference and companion to the verbal briefing. Outline the approval process for crew members to give a statement to the media, identify talking points, and state the social media policy.

3. Verbal Briefing: Incoming resources should be prepared to interact with the public and/or media. There are several important factors to consider:
 - Outline the approval process for crew members to give a statement to the media
 - Crew members should get pre-approval from the PIO/PAO
 - If there is not a dedicated PIO/PAO, instruct crew members to seek permission up the chain of command.
 - Provide a contact for follow-up statements and updates
 - State restrictions on information which can be gathered and/or shared with the public such as:
 - Photos and videos
 - Social media postings and other ways of information sharing
 - Maps containing sensitive information (mission, cultural/natural resources, etc.)
 - When appropriate, support effective and fruitful communications with the public and media
 - As outlined in the graphic above, emphasizing interactivity, building trust, explaining ecological benefits, and addressing concerns all lead to increased acceptance of fire and fuels management.
 - For best practices to craft an effective story, see the paragraph on storytelling under 'Inform Installation Leadership' in the *Plans* section of the MIDG.
 - A guide to media interviews is found on pg. 101 of the IRPG (PMS 461).

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Appendices

I. ICS Forms and Descriptions

Source: Federal Emergency Management Agency, 2018

ICS 202 (Incident Objectives): ICS form that describes the basic incident strategy, incident objectives, command emphasis/priorities, and safety considerations for use during the next operational period.

ICS 203 (Organization Assignment List): ICS form that provides ICS personnel with information on the units that are currently activated and the names of personnel staffing each position/unit. It is used to complete the Incident Organization Chart (ICS 207), which is posted on the Incident Command Post display. The size of the organization is dependent on the magnitude of the incident and can be expanded or contracted as necessary.

ICS 204 (Assignment List): ICS form that informs Division and Group supervisors of incident assignments. Once the Command and General Staffs agree to the assignments, the assignment information is given to the appropriate Divisions and Groups.

ICS 204 WF (Division/Group Assignment List): ICS form that informs Division and Group supervisors of incident assignments. Once the Command and General Staffs agree to the assignments, the assignment information is given to the appropriate Divisions and Groups.

ICS 205 (Communications Plan / Incident Radio Communications Plan): ICS form that provides information on all radio frequency or trunked radio system talkgroup assignments for each operational period. The plan is a summary of information obtained about available radio frequencies or talkgroups and the assignments of those resources by the Communications Unit Leader for use by incident responders.

ICS 205A (Communications List): ICS form that records methods of contact for incident personnel. While the Incident Radio Communications Plan (ICS 205) is used to provide information on all radio frequencies down to the Division/Group level, the ICS Form 205A indicates all methods of contact for personnel assigned to the incident (radio frequencies, phone numbers, pager numbers, etc.), and functions as an incident directory.

ICS 206 (Medical Plan): ICS form that provides information on incident medical aid stations, transportation services, hospitals, and medical emergency procedures.

ICS 207 (Organizational (Org) Chart): ICS form that provides a visual wall chart depicting the ICS organization position assignments for the incident. ICS 207 is used to indicate what ICS organizational elements are currently activated and the names of personnel staffing each element. The size of the organization is dependent on the specifics and magnitude of the incident and is scalable and flexible.

ICS 208 (Safety Message): ICS form that outlines safety messages, priorities, and key command emphasis/decisions/directions, safety hazards, and specific precautions to be observed during this operational period.

ICS 215A (IAP Safety Analysis): ICS form that aids the Safety Officer in completing an operational risk assessment to prioritize hazards, safety, and health issues, and to develop appropriate controls. This worksheet addresses communications challenges between planning and operations and is best utilized in the planning phase and for Operations Section briefings.

ICS 218 (Support Vehicle/Equipment Inventory): ICS form that provides an inventory of all transportation and support vehicles and equipment assigned to the incident. The information is used by the Ground Support Unit to maintain a record of the types and locations of vehicles and equipment on the incident. The Resources Unit uses the information to initiate and maintain status/resource information.

ICS 220 (Air Operations Summary): ICS form that provides the Air Operations Branch with the number, type, location, and specific assignments of helicopters and air resources.

II. Glossary

Ad hoc suppression duties: Firefighting duties that fall outside the primary duties of a soldier. Soldiers are given ad hoc suppression duties on some installations to suppress training-related wildfires (i.e., small arms range fires) or when DoD resources are requested for suppressing wildfires off installation.

Administratively determined (AD): person hired and compensated under the Pay Plan for Emergency Workers (National Wildfire Coordinating Group, 2018b).

Aerial ignition: Ignition of fuels by dropping incendiary devices or materials from aircraft (National Wildfire Coordinating Group, 2018b).

After Action Review (AAR): A structured review or de-brief process of an event, focused on performance standards, that enables participants to discover for themselves what happened, why it happened, and how to sustain strengths and improve on weaknesses. After action reviews, informal or formal, follow the same general format, involve the exchange of ideas and observations, and focus on improving performance. (National Wildfire Coordinating Group, 2018b)

Agency representatives: An individual assigned to an incident from an assisting or cooperating agency who has been delegated full authority to make decisions on all matters affecting the agency's participation at the incident (National Interagency Fire Center, 2006).

Air ambulance (aka, med evac): A rotary wing aircraft configured, staffed, and equipped to respond, care for, and transport a patient(s) and approved/licensed by a state to do so. An air ambulance is sometimes referred to as a medevac (National Wildfire Coordinating Group, 2018b). Air ambulance levels of service are advanced vs. basic life support.

Air Force Weather Wing / Squadron: A unit that collects, analyzes, and generates a comprehensive weather database of forecast, climatological, and space weather products for their associated command (U.S. Department of the Air Force 557th Weather Wing, 2020).

Armored personnel carriers (APC): An armored vehicle that provides protection from small-arms fire and shell fragments and is used to transport Army troops or supplies (U.S. Department of the Army, 1953).

Army Compatible Use Buffer (ACUB): A program authorized under Title 10, Section 2684a of the United States Code that allows Department of Defense installations to work with partners to encumber off-post land to protect habitat and buffer training without acquiring any new land for Army ownership. These partnerships preserve high-value habitat and limit incompatible development in the vicinity of military installations. Establishing buffer areas around Army installations limits the effects of encroachment and maximizes land inside the installation that can be used to support the installation's mission (U.S. Army Environmental Command, 2020a).

Army Sustainable Readiness Model (SRM): A form of risk management the U.S. Army uses to manage and balance mission with resources. It informs high level decision-making on which units must maintain high readiness and which units can maintain a lower level of readiness. It also informs the Army on which units are prepared for war immediately and which require a specified amount of time and resources to become ready (Alder and Barbour, 2016).

Biological diversity (aka, biodiversity): The variety of life and its processes, including the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur (U.S. Fish & Wildlife Service, 2019).

Bucket drop: The dropping of fire retardants or suppressants from specially designed buckets slung below a helicopter (National Wildfire Coordinating Group, 2018b).

Burn Boss (aka, Prescribed Fire Burn Boss, RXB): Ensures that all prescribed fire plan specifications are met before, during, and after a prescribed fire. The Burn Boss is responsible to the Agency Administrator, prescribed fire manager, Fire Management Officer (FMO), or local fire management organization for implementing the prescribed fire plan. Type 1 Burn Bosses can conduct high-complexity burns, Type 2 can conduct moderate-complexity burns, and Type 3 can conduct low-complexity (pile) burns (National Wildfire Coordinating Group, 2020a).

Burn plan: A plan required for each fire application ignited by management. Plans are documents prepared by qualified personnel, approved by the agency administrator, and include

criteria for the conditions under which the fire will be conducted (a prescription). Plan content varies among the agencies (National Wildfire Coordinating Group, 2018b), and they can be written as [single-units, multiple-units, or programmatic plans](#).

Burning index (BI): (1) An estimate of the potential difficulty of fire containment as it relates to the flame length at the head of the fire, or (2) a relative number related to the contribution that fire behavior makes to the amount or effort needed to contain a fire in a specified fuel type. Doubling the burning index indicates that twice the effort will be required to contain a fire in that fuel type as was previously required, providing all other parameters are held constant (National Wildfire Coordinating Group, 2018b).

Cache: A pre-determined complement of tools, equipment and/or supplies stored in a designated location, available for incident use (National Wildfire Coordinating Group, 2018b).

Call-when-needed / on-call: Status of a federal casual or federal regular government employee used for timekeeping purposes. An employee will be considered off duty and time spent in an on-call status shall not be considered hours of work if: 1) the employee is allowed to leave a telephone number or to carry an electronic device for the purpose of being contacted, even though the employee is required to remain within a reasonable call-back radius; or 2) the employee is allowed to make arrangements such that any work which may arise during the on-call period will be performed by another person. Specific state pay guidelines for non-pay status shall apply for state employees (National Wildfire Coordinating Group, 2018b).

Chain of command: A series of management positions in order of authority (National Wildfire Coordinating Group, 2018b)

Common text (aka, clear/plain text): The use of plain English in radio communications transmissions. No Ten Codes or agency specific codes are used when using Clear Text (National Interagency Fire Center, 2006).

Community Wildfire Protection Plans (CWPP): A plan developed in the collaborative framework established by the Wildland Fire Leadership Council and agreed to by state, tribal, and local government, local fire department, other stakeholders and federal land management agencies managing land in the vicinity of the planning area. CWPPs identify and prioritize areas

for hazardous fuel reduction treatments, recommend the types and methods of treatment on Federal and non-Federal land that will protect one or more at-risk communities and essential infrastructure, and recommend measures to reduce structural ignitability throughout the at-risk community. A CWPP may address issues such as wildfire response, hazard mitigation, community preparedness, or structure protection - or all of the above (National Wildfire Coordinating Group, 2018b).

Concertina wire: Coiled, portable barbed wire used as an obstacle or entanglement (U.S. Department of the Army, 1953).

Conservation Reimbursable and Fee Collection Program (CRCRP): A program that provides supplemental non-appropriated natural resource management funding from three revenue producing activities: forest product sales; agriculture and grazing out leases; and hunting, fishing and trapping permit fee sales (U.S. Army Environmental Command, 2020b).

Contingency plans: The portion of a prescribed fire plan, incident action plan, or implementation plan that identifies possible but unlikely events and the contingency resources needed to mitigate those events (National Wildfire Coordinating Group, 2018b).

Contractors: Private sector personnel, vendor or business contracted to provide goods and services to a government agency (National Wildfire Coordinating Group, 2018b).

Cooperators: A federal, Tribal, state, or local agency that participates with another agency(s) in planning and conducting fire or emergency management projects and activities (National Wildfire Coordinating Group, 2018b).

Crew: An organized group of firefighters under the leadership of a crew boss or other designated official (National Wildfire Coordinating Group, 2018b).

Critical habitat: Specific geographic areas, whether occupied by listed species or not, that are determined to be essential for the conservation and management of listed species, and that have been formally described in the Federal Register (U.S. Fish & Wildlife Service, 2019).

Cultural resources: Historic places such as districts, sites, buildings, and structures of significance in history, architecture, engineering, or culture. Cultural resources also encompass

prehistoric features as well as historic landscapes (U.S. Defense Technical Information Center, 2017).

Delegation of Authority: A statement provided to the incident commander by the agency executive delegating authority and assigning responsibility. The delegation of authority can include objectives, priorities, expectations, constraints and other considerations or guidelines as needed. Many agencies require written delegation of authority to be given to incident commanders prior to their assuming command on larger incidents (National Wildfire Coordinating Group, 2018b).

Demobilization (aka, demob): Release of resources from an incident in strict accordance with a detailed plan approved by the incident commander (National Wildfire Coordinating Group, 2018b).

Depleted uranium: A byproduct of the uranium enrichment process whereby highly radioactive types (isotopes) of uranium are removed for use as nuclear fuel or nuclear weapons. Depleted uranium is used in armor-piercing munitions and enhanced armor protection, as well as in civilian industry for radiation shielding and aircraft balance control (U.S. Military Health System, 2020).

Dispatch center: An organization from which resources are ordered, mobilized, or assigned to an incident and/or demobilized. The center may process requests, coordinate response, or track resources and information under the delegation of its benefiting agency(s) (National Wildfire Coordinating Group, 2018b).

Division: The ICS organization level between the branch and the task force/strike team. Divisions are used to divide an incident into geographical areas of operation. Divisions are established when the number of resources exceeds the span-of-control of the operations chief (National Wildfire Coordinating Group, 2018b).

Dozer line (aka, plow line): Fireline constructed by the front blade of a dozer (National Wildfire Coordinating Group, 2018b).

Dozer: Any tracked vehicle with a front mounted blade used for exposing mineral soil (National Wildfire Coordinating Group, 2018b).

Drip torch: Hand-held device for igniting fires by dripping flaming liquid fuel on the materials to be burned; consists of a fuel fount, burner arm, and igniter. Fuel used is generally a mixture of diesel and gasoline (National Wildfire Coordinating Group, 2018b).

Dudded impact area: An impact area with permanently delineated boundaries normally used to contain non-sensitive, high-explosive military munitions (U.S. Department of the Army, 2012).

Endangered species: Any species of animal or plant that is in danger of extinction within the foreseeable future throughout all or a significant portion of its range, as defined in the Endangered Species Act (U.S. Fish & Wildlife Service, 2019).

Endemic species: A species native and confined to a certain region and having a comparatively restricted distribution (U.S. Fish & Wildlife Service, 2019).

Energy release component (ERC): The computed total heat release per unit area (British thermal units per square foot) within the flaming front at the head of a moving fire (National Wildfire Coordinating Group, 2018b).

Engine Boss: Leads a single fire engine and attached personnel and is responsible for their safety on wildland and prescribed fire incidents. The Engine Boss supervises assigned engine and personnel and reports to a Strike Team/Task Force Leader or other assigned supervisor (National Wildfire Coordinating Group, 2020a).

Engine: Any ground vehicle providing specified levels of pumping, water, and hose capacity, but with less than the specified level of personnel (National Wildfire Coordinating Group, 2018b).

Escape routes: A preplanned and understood route firefighters take to move to a safety zone or other low-risk area. When escape routes deviate from a defined physical path, they should be clearly marked (flagged) (National Wildfire Coordinating Group, 2018b).

Explosive Ordnance Disposal (EOD) Units: Personnel with special training and equipment who render explosive ordnance safe, make intelligence reports on such ordnance, and supervise the safe removal thereof (U.S. Defense Technical Information Center, 2017).

Explosive Ordnance Disposal (EOD): (1) The detection, identification, on-site evaluation, rendering safe, recovery, and final disposal of unexploded explosive ordnance, and (2) The organizations engaged in such activities (U.S. Defense Technical Information Center, 2017).

Extended attack: Actions taken on a wildfire that has exceeded the initial response (National Wildfire Coordinating Group, 2018b).

Finance/Administration Section: The ICS section responsible for all administrative and financial considerations on an incident (National Wildfire Coordinating Group, 2018b).

Fire behavior: The manner in which a fire reacts to the influences of fuel, weather, and topography (National Wildfire Coordinating Group, 2018b).

Fire and Emergency Services (FES): Program of the U.S. Department of Defense that participates in structural firefighting, aircraft rescue and firefighting, shipboard firefighting, fire prevention, HAZMAT, technical rescue, emergency medical services, wildland and urban interface emergency response, disaster response, telecommunications, and other unique services based on local mission requirements (U.S. Department of Defense, 2019).

Fire Management Units (FMU): A land area definable by specified management objectives, constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fire regime groups, and other defined elements that set it apart from an adjacent area. The primary purpose of developing Fire Management Units in fire management planning is to assist in organizing information in complex landscapes. A fire management unit may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives (National Wildfire Coordinating Group, 2018b).

Fire Protection District (FPD): A rural or suburban fire organization, usually tax supported, that maintains fire companies and apparatus (National Wildfire Coordinating Group, 2018b).

Fire weather: Weather conditions which influence fire ignition, behavior, and suppression (National Wildfire Coordinating Group, 2018b).

Firebreaks: A natural or constructed barrier used to stop or check fires that may occur, or to provide a control line from which to work (National Wildfire Coordinating Group, 2018b). Firebreaks can be roads, handline, dozer line, etc.

Firing Boss: Leads ground and/or aerial ignition operations and coordinates with holding resources on prescribed fire and wildfire incidents. The Firing Boss supervises assigned firing resources and reports to a Burn Boss, Strike Team/Task Force Leader, or other assigned supervisor (National Wildfire Coordinating Group, 2020a).

Firing pattern (aka, firing technique or ignition pattern): Any method or pattern of igniting a wildland area to consume the fuel in a prescribed pattern. For example, heading or backing fire, spot fire, strip-head fire, and ring fire (National Wildfire Coordinating Group, 2018b).

Flight following: The method and process through which an aircraft is tracked from departure point to destination. Flight following is the knowledge of the aircraft location and condition at regular intervals with a reasonable degree of certainty such that, in the event of mishap, those on board may be rescued (National Wildfire Coordinating Group, 2018b).

Flight path: (1) Track of an aircraft over the earth's surface, or (2) specified information relating to the intended flight of an aircraft that is filed orally or in writing with an air traffic control facility (National Wildfire Coordinating Group, 2018b).

Foxholes: A small pit used for cover from enemy fire, usually for one or two individuals, and so constructed that an occupant can fire effectively from it (U.S. Department of the Army, 1953).

Fuel reduction: Manipulation, including combustion, or removal of fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control (National Wildfire Coordinating Group, 2018b).

Fuels mitigation / management: Act or practice of controlling flammability and reducing resistance to control of wildland fuels through mechanical, chemical, biological, or manual

means, or by fire, in support of land management objectives (National Wildfire Coordinating Group, 2018b).

Fuels: Any combustible material, especially petroleum-based products and wildland fuels (National Wildfire Coordinating Group, 2018b).

Geographic Area Coordination Center (GACC): The physical location of an interagency, regional operation center for the effective coordination, mobilization, and demobilization of emergency management resources. A coordination center serves federal, state, and local wildland fire agencies through logistical coordination of resources throughout the geographic area, and with other geographic areas, as well. Listings of geographic coordination centers and their respective geographic coordinating areas can be found within the National Interagency Mobilization Guide (National Wildfire Coordinating Group, 2018b).

Haines Index: An atmospheric index used to indicate the potential for wildfire growth by measuring the stability and dryness of the air over a fire (National Wildfire Coordinating Group, 2018b).

Handline: Fireline constructed with hand tools (National Wildfire Coordinating Group, 2018b).

Hazards: Any real or potential condition that can cause injury, illness or death of personnel, or damage to, or loss of equipment or property (National Wildfire Coordinating Group, 2018b).

Heavy equipment: Large tracked or untracked mobile equipment, such as a bulldozer, tractor, feller-buncher, and skidgine. Military-specific heavy equipment includes tanks, strykers, and armored bulldozers.

Helibase: The main location within the general incident area for parking, fueling, maintenance, and loading of helicopters. It is usually located at or near the incident base (National Wildfire Coordinating Group, 2018b).

Helispots: A natural or improved takeoff and landing area intended for temporary or occasional helicopter use (National Wildfire Coordinating Group, 2018b).

Helispot / Helibase Manager: A qualified individual managing a designated helispot or helibase. They participate in helibase and helispot site selection, participate in incident or project aviation planning activities, provide for helicopter fueling and maintenance service, manage special operations such as aerial ignition, establish flight following procedures, etc. (National Wildfire Coordinating Group, 2020a).

Hot ranges: A specific location and time on a training range when weapons are authorized to fire according to Range Control.

Incendiary devices: Munitions such as bombs, shells, grenades, and flame throwers that are filled with flammable agents and contain a means of release and/or ignitions (U.S. Department of the Army, 1953).

Incident Action Plans (IAP): Contains objectives reflecting the overall incident strategy and special tactical actions and supporting information for the next operational period. The IAP may be oral or written. When complete, the IAP may have a number of attachments including: incident objectives, organization assignment list, division assignment, incident radio communication plan, medical plan, traffic plan, safety plan, and incident map. Formerly called shift plan (National Wildfire Coordinating Group, 2018b).

Incident Command Post (ICP): Location at which the primary command functions are executed. The ICP may be collocated with the incident base or other incident facilities (National Wildfire Coordinating Group, 2018b).

Incident Command System (ICS): A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries (National Wildfire Coordinating Group, 2018b).

Incident Commander (IC): Individual responsible for all incident activities. Qualification standards, duties, and supervision vary among Incident Commander Types 1, 2, 3, 4, and 5 (National Wildfire Coordinating Group, 2020a).

Incident Management Teams (IMT): The incident commander and appropriate general and command staff personnel assigned to an incident (National Wildfire Coordinating Group, 2018b).

Incident qualifications card (aka, red card): A card issued to persons showing their incident management and trainee qualifications to fill specified fire management positions in an incident management organization (National Wildfire Coordinating Group, 2018b).

Incident Response Pocket Guide (IRPG), PMS 461: Establishes standards for wildland fire incident response. The guide provides critical information on operational engagement, risk management, all hazard response, and aviation management. It provides a collection of best practices that have evolved over time within the wildland fire service (National Wildfire Coordinating Group, 2018a).

Initial attack: An aggressive action to put the fire out by the first resources to arrive, consistent with firefighter and public safety and values to be protected (National Wildfire Coordinating Group, 2018b).

Integrated Natural Resource Management Plans (INRMP): Voluntary, cooperative planning documents between Department of Defense installations, the U.S. Fish & Wildlife Service, and respective state fish and wildlife agencies to implement landscape-level management of natural resources. INRMPs were outlined by a 1997 amendment to the Sikes Act (U.S. Department of Defense and U.S. Fish & Wildlife Service, 2004).

Integrated Training Area Management (ITAM): A core program of the Army's Sustainable Range Program (SRP) that is responsible for maintaining the land to help the Army to meet its training requirements (U.S. Department of the Army, 2018).

Integrated Wildland Fire Management Plan (IWFMPs): The IWFMP is required for any DoD Component that is subject to wildfire hazards and utilizes prescribed fire as a land management tool (DoDM 4715.03). IWFMPs are integrated into INRMPs.

Jackpots: Area where several trees are lodged and/or crisscrossed either due to natural disturbances, such as windthrow, or due to unskilled logging (U.S. Forest Service, 2020).

Job aid: A checklist or other visual aid intended to ensure that specific steps for completing a task or assignment are accomplished (U.S. Defense Technical Information Center, 2017).

Job hazard analysis (JHA): A job hazard analysis identifies hazards associated with work projects and worksites and identifies protective equipment or modified work procedures needed (National Wildfire Coordinating Group, 2018b).

Jurisdictional authority: The governmental entity having overall land and resource management responsibility for a specific geographical area as provided by law (National Wildfire Coordinating Group, 2018b).

Keetch-Byram Drought Index (KBDDI): An estimate (0-800) of the amount of precipitation (in 100ths of inches) needed to bring the top 8 inches of soil back to saturation. A value of 0 is complete saturation of the soil, a value of 800 means 8.00 inches of precipitation would be needed for saturation. In the 1988 version of NFDRS, outputs of KBDDI are used to adjust live and dead fuel loadings (National Wildfire Coordinating Group, 2018b).

Keystone species: A species that through food web or nutrient cycle position has a disproportionate effect on the persistence of other species and determines the composition of a biological community (Eckert and Plumb, 2014).

Landing zones: Any specified zone used for the landing of aircraft (U.S. Defense Technical Information Center, 2017).

Logistics Section: The ICS section responsible for providing facilities, services, and supplies in support of an incident (National Wildfire Coordinating Group, 2018b).

Lookouts, Communications, Escape Routes, Safety Zones, (LCES): Elements of a safety system used by fire fighters to routinely assess their current situation with respect to wildland firefighting hazards (National Wildfire Coordinating Group, 2018b).

Medevac: see air ambulance

Memorandum of Understanding (MOU): A document that describes the general area of understanding between parties, explaining the concepts of mutual understanding, goals and plans shared by the parties (U.S. Defense Technical Information Center, 2017).

Military installations: A base, camp, post, station, yard, center, homeport facility for any ship, or other activity under the jurisdiction of the Secretary of a military department (U.S. Defense Technical Information Center, 2017).

Military Police (MILPOL / MP): Personnel of the Military Police Corps who enforce laws, regulations, and order within the Army (U.S. Department of the Army, 1953).

Military Training Routes (MTR): Aerial corridors jointly managed by the U.S. Department of Defense and Federal Aviation Administration for the purpose of conducting low-altitude, high-speed training in accordance with visual flight rules (VFR) or instrument flight rules (IFR) (U.S. Federal Aviation Administration, 2020).

Mindfulness: A rich awareness and a capacity for action that jointly facilitate the capability to discover and manage unexpected events before they escalate into crises and catastrophes (Weick and Sutcliffe, 2015).

Minimum impact suppression tactics (MIST): The application of strategy and tactics that effectively meet suppression and resource objectives with the least environmental, cultural, and social impacts (National Wildfire Coordinating Group, 2018b).

Mobilization guide: A written description of procedures used by federal, state, and local organizations for activating, assembling, and transporting resources that have been requested to respond to or support an incident (National Wildfire Coordinating Group, 2018b). These pre-season written plan outline standard operating procedures and guidelines to ensure cooperators and partners understand expectations for activating, assembling, and transporting resources for incident support.

Mobilization: The process and procedures used by all organizations, federal, state, and local, for activating, assembling, and transporting all resources that have been requested to respond to or support an incident (National Wildfire Coordinating Group, 2018b).

Mutual Aid Agreements (MAA): Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment. (National Wildfire Coordinating Group, 2018b).

National Fire Plan (NFP): An interagency federal government report and corresponding programs that address severe wildland fires and their impacts on communities and resources, while simultaneously ensuring sufficient firefighting capacity. The National Fire Plan was developed in 2000 and first funded in 2001 (Clark, 2007).

National Interagency Incident Management System (NIIMS): A National Wildfire Coordinating Group (NWCG) program consisting of five major subsystems which collectively provide a total systems approach to all-risk incident management. The subsystems are the incident command system, training, qualifications and certification, supporting technologies, and publications management (National Interagency Fire Center, 2006).

National Wildfire Coordinating Group (NWCG): An operational group established in 1976 through a Memorandum of Understanding between the U.S. Department of Agriculture and Department of the Interior to coordinate programs of the participating agencies so as to avoid wasteful duplication and to provide a means of constructively working together. NWCG provides a formalized system to agree upon standards of training, equipment, aircraft, suppression priorities, and other operational areas (National Wildfire Coordinating Group, 2020b).

Natural resources: Land, fish, wildlife, biota, air, water, ground water, drinking water supplies, and other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the United States (including the resources of the exclusive economic zone), any State or local government or Indian tribe, or any foreign government (U.S. Defense Technical Information Center, 2017).

Non-tactical vehicles (NTV): Any commercial NTV, trailer, material handling or engineering equipment that carries passengers or cargo acquired for administrative, direct mission, or operational support of military functions. All DoD sedans, station wagons, carryalls, vans, and buses are considered “non-tactical” (U.S. Department of Defense, 2015).

NWCG standards: National Wildfire Coordinating Group (NWCG) standards establish common practices and requirements that enable efficient and coordinated national interagency wildland fire operations. These standards may include guidelines, procedures, processes, best practices, specifications, techniques, and methods. NWCG standards are interagency by design; however, the decision to adopt and utilize them is made independently by the individual member agencies and communicated through their respective directives systems (National Wildfire Coordinating Group, 2018b).

Objectives: (1) A description of a desired condition; quantified and measured, and where possible, with established time frames for achievement, or (2) specific, achievable, measurable, time-limited results to be achieved through land management practices, either through a description of a desired condition or the degree of desired change in an attribute (National Wildfire Coordinating Group, 2018b).

Operational period: The period of time scheduled for execution of a given set of tactical actions as specified in the Incident Action Plan. Operational Periods can be of various lengths, although usually not over 24 hours (National Wildfire Coordinating Group, 2018b).

Operational tempo: The speed and intensity of actions relative to the speed and intensity of the unfolding events in the operational environment (National Wildfire Coordinating Group, 2018b).

Operations Section: The ICS section responsible for all tactical operations at the incident. Includes branches, divisions and/or groups, task forces, strike teams, single resources, and staging areas. (National Wildfire Coordinating Group, 2018b)

Personal protective equipment (PPE): That equipment and clothing required to mitigate the risk of injury from or exposure to hazardous conditions encountered during the performance of duty. PPE includes but is not limited to: fire resistant clothing, hard hat, flight helmets, shroud, goggles, gloves, respirators, hearing protection, chainsaw chaps, and shelter (National Wildfire Coordinating Group, 2018b).

Planning Section: The ICS section responsible for the collection, evaluation, and dissemination of tactical information related to the incident, and for the preparation and documentation of incident action plans. The section also maintains information on the current and forecasted

situation, and on the status of resources assigned to the incident. Includes the situation, resource, documentation, and demobilization units, as well as technical specialists (National Wildfire Coordinating Group, 2018b).

Plastic Sphere Dispenser (PLD; aka, delayed aerial ignition device, ping-pong ball system):

Device installed, but jettisonable, in a helicopter, which injects glycol into a plastic sphere containing potassium permanganate, which is then expelled from the machine and aircraft. This produces an exothermic reaction resulting in ignition of fuels on the ground for prescribed or wildland fire applications (National Wildfire Coordinating Group, 2018b).

Point protection: A wildfire response strategy which protects specific assets or highly valued resources from the wildfire without directly halting the continued spread of the wildfire. Points or zones being protected may be communities, individual structures, areas of high resource value, etc. Continued wildfire spread may be desirable in order to achieve management objectives or may be inevitable due to extreme burning conditions, safety concerns, or other limitations (National Wildfire Coordinating Group, 2018b).

Public Affairs Officer (PAO): Officer who serves as the principal communication advisor to the commander on communication strategy, visual information planning, and public affairs requirements. PAOs also conduct public affairs training for commanders and organizations, facilitate media engagements, and play an important role in mitigating misinformation and disinformation (U.S. Department of the Army, 2020).

Pre-attack planning: Within designated blocks of land, planning the locations of firelines, fire camps, water sources, and helispots; planning transportation systems, probable rates of travel, and constraints of travel on various types of attack units; and determining what types of attack units likely would be needed to construct particular firelines, their probable rate of fireline construction, and topographic constraints on fireline construction (National Wildfire Coordinating Group, 2018b). Pre-attack plans vary greatly in their depth and scope, from broad categorization of wildland-urban interface (WUI) to detailed structure triage.

Preparedness Level (PL): Increments of planning and organizational readiness dictated by burning conditions, fire activity, and resource availability. Response and support to non-fire

incidents requiring a significant commitment of resources may also affect Preparedness Levels (National Wildfire Coordinating Group, 2018b).

Prescribed fire (aka, planned operations, prescribed burn): A wildland fire originating from a planned ignition in accordance with applicable laws, policies, and regulations to meet specific objectives (National Wildfire Coordinating Group, 2018b).

Probability of ignition: The chance that a firebrand will cause an ignition when it lands on receptive fuels (National Wildfire Coordinating Group, 2018b).

Public Information Officer (PIO): A member of the Command Staff responsible for interfacing with the public and media and/or with other agencies with incident-related information requirements (U.S. Defense Technical Information Center, 2017).

Qualification standards: This subsystem of the National Interagency Incident Management System (NIIMS) provides recommended qualification and certification for those personnel responding to an incident regionally or nationally, allowing for the development of local minimum standards to meet local needs. Standards typically include training, experience, and physical fitness (National Wildfire Coordinating Group, 2018b).

Range Control (aka, Mission Control): The offices tasks with maintaining, scheduling, and managing safe access to training areas and ranges on military installations.

Remote Automatic Weather Stations (RAWS): A weather station that transmits weather observations via GOES satellite to the Wildland Fire Management Information system (National Wildfire Coordinating Group, 2018b).

Repeater: A radio signal station that automatically relays a radio transmission, sometimes over a different frequency, thereby increasing the range of transmission. Repeaters are often named for the mountaintops or peaks where they are installed (National Wildfire Coordinating Group, 2018b).

Resources (aka, active resources, assigned resources): Personnel, equipment, services and supplies available, or potentially available, for assignment to incidents. Personnel and equipment

are described by kind and type, e.g., ground, water, air, etc., and may be used in tactical, support or overhead capacities at an incident (National Wildfire Coordinating Group, 2018b).

Retardant: A substance or chemical agent which reduces the flammability of combustibles (National Wildfire Coordinating Group, 2018b).

Risk assessment (RA): Qualitative risk assessment is the application of judgment based in knowledge and experience when assessing wildfire risk, the potential for ignitions and recommendations regarding possible ways to mitigate the risk. Quantitative risk assessments provide a method by which we can calculate risk based on measurements or estimates of various risk components such as likelihood of fire occurrence, intensity of fire should it occur, and susceptibility to fire of the various values being evaluated (National Wildfire Coordinating Group, 2018b).

Risk: (1) The chance of fire starting as determined by the presence and activity of causative agents, (2) a chance of suffering harm or loss, or (3) a causative agent (National Wildfire Coordinating Group, 2018b).

Safety zones: An area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuel breaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity (National Wildfire Coordinating Group, 2018b).

Security forces: Portion of a security organization at an installation comprising active duty military, Department of Defense civilian police/guard, or contract guard personnel, or a combination, tasked to provide physical security and/or law enforcement (U.S. Department of the Navy, 2011).

Shelter locations (aka, fire shelter deployment site): Immediate area where a fire shelter has been deployed (National Wildfire Coordinating Group, 2018b).

Sikes Act: An Act to promote effectual planning, development, maintenance, and coordination of wildlife, fish, and game conservation and rehabilitation in military reservations, approved September 15, 1960 (National Military Fish & Wildlife Association, 2004).

Simulators: A training aid that replicates or represents the functions of a weapon, weapon system, or item of equipment generally supporting individual, crew, or crew subset training (Live Training Transformation, 2020).

Site rehabilitation: Efforts undertaken within three years of a wildland fire to repair or improve fire damaged lands unlikely to recover to a management approved conditions or to repair or replace minor facilities damaged by fire (National Wildfire Coordinating Group, 2018b).

Situational awareness: An on-going process of gathering information by observation and by communication with others. This information is integrated to create an individual's perception of a given situation (National Wildfire Coordinating Group, 2018b).

Skidders: Self-propelled machine designed to transport trees or parts of trees by trailing or dragging (U.S. Forest Service, 2020).

Slash: Debris resulting from such natural events as wind, fire, or snow breakage; or such human activities as road construction, logging, pruning, thinning, or brush cutting. It includes logs, chunks, bark, branches, stumps, and broken understory trees or brush (National Wildfire Coordinating Group, 2018b).

Smoke-sensitive areas: Area in which smoke from outside sources is intolerable, for reasons such as heavy population, vulnerable populations (children or elderly), existing air pollution, or intensive recreation or tourist use (National Wildfire Coordinating Group, 2018b).

Snags: A standing dead tree or part of a dead tree from which at least the leaves and smaller branches have fallen. Often known as a stub, if less than 20 feet tall (National Wildfire Coordinating Group, 2018b).

Span of control: The supervisory ratio of from three-to-seven individuals, with five-to-one being established as optimum (National Wildfire Coordinating Group, 2018b).

Special use airspace (SUA): Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities (U.S. Defense Technical Information Center, 2017).

Spot forecast (aka, spot weather forecast); A special forecast issued to fit the time, topography, and weather of a specific incident. These forecasts are issued upon request of the user agency and are more detailed, timely, and specific than zone forecasts. Usually, on-site weather observations or a close, representative observation is required for a forecast to be issued (National Wildfire Coordinating Group, 2018b).

Staging area: Locations set up at an incident where resources can be placed while awaiting a tactical assignment on a three minute available basis. Staging Areas are managed by the Operations Section (National Wildfire Coordinating Group, 2018b).

Standard operating procedures (SOP): Specific instructions clearly spelling out what is expected of an individual every time they perform a given task. A standard operating procedure can be used as a performance standard for tasks that are routinely done in the operational environment (National Wildfire Coordinating Group, 2018b).

Story map: Story maps use geography as a means of organizing and presenting information. They tell the story of a place, event, issue, trend, or pattern in a geographic context. They combine interactive maps with other rich content—text, photos, illustrations, video, and audio—within intuitive user experiences (Carroll, 2018b).

Strategy: The general plan or direction selected to accomplish incident objectives (National Wildfire Coordinating Group, 2018b).

Structure Protection Plan: A plan developed by the Structure Protection Specialist that provides operational guidelines to suppression resources responsible for providing wildland fire structure protection (National Wildfire Coordinating Group, 2018b)

Structure protection: The protection of homes or other structures from wildland fire (National Wildfire Coordinating Group, 2018b).

Suppression: All the work to extinguish or limit wildland fire spread (National Wildfire Coordinating Group, 2018b).

Tactics: Deploying and directing resources on an incident to accomplish the objectives designated by strategy (National Wildfire Coordinating Group, 2018b).

Task: A unit of work activity that is a logical and necessary action in the performance of a behavior; how the behavior is demonstrated or performed in a particular context (National Wildfire Coordinating Group, 2018b). The MIDG differentiates between ‘do’ tasks, which make sure that planning steps are not missed or skipped, and ‘talk’ tasks, which empower the subject matter experts to talk as a team to identify and avert serious problems.

Task book (aka, position task book): A document listing the performance requirements (competencies and behaviors) for a position in a format that allows for the evaluation of individual (trainee) performance to determine if an individual is qualified in the position. Successful performance of PTB tasks, as observed and recorded by a qualified evaluator, will result in a recommendation to the trainee's home unit that the individual be certified in the position (National Wildfire Coordinating Group, 2018b).

Temporary Flight Restriction (TFR): Regulatory action issued by the Federal Aviation Administration within the sovereign airspace of the United States and its territories to restrict certain aircraft from operating within a defined area on a temporary basis to protect persons or property in the air or on the ground (U.S. Defense Technical Information Center, 2017).

Threatened species: Any species of animal or plant that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, as defined in the Endangered Species Act (U.S. Fish & Wildlife Service, 2019).

Tractor plow: Any tractor with a plow for constructing fireline by exposing mineral soil. Also as a resource for typing purposes, a tractor plow includes the transportation and personnel for its operation (National Wildfire Coordinating Group, 2018b).

Trigger points (aka, management action points): Geographic points on the ground or specific points in time where an escalation or alternative of management actions is warranted. These

points are defined and the management actions to be taken are clearly described in an approved Prescribed Fire Plan. Timely implementation of the actions when the fire reaches the action point is generally critical to successful accomplishment of the objectives (National Wildfire Coordinating Group, 2018b).

Ultra high frequency (UHF): Radio frequencies in the range of 300 megahertz to 3 gigahertz and often used by the U.S. military instead of very high frequency (VHF), which are in the range of 30 to 300 megahertz and more often used in wildland firefighting (National Wildfire Coordinating Group, 2018b).

Unexploded ordnance (UXO): military munitions that - (A) have been primed, fused, armed, or otherwise prepared for action; (B) have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installations, personnel, or material; and (C) remain unexploded, whether by malfunction, design, or any other cause (U.S. Defense Technical Information Center, 2017).

Unified command structure: A unified team effort in ICS which allows all agencies with jurisdictional responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating authority, responsibility, or accountability (National Wildfire Coordinating Group, 2018b).

Unmanned Aerial / Aircraft System (UAS; e.g., drone): An aircraft that does not carry a human operator and is capable of flight with or without human remote control, in addition to the system whose components include the necessary equipment, network, and personnel to control an unmanned aircraft (U.S. Department of Defense, 2018).

Values at risk: The elements of a community or natural area considered valuable by an individual or community that could be negatively impacted by a wildfire or wildfire operations. These values can vary by community and can include diverse characteristics such as homes, specific structures, water supply, power grids, natural and cultural resources, community infrastructure, and other economic, environmental, and social values (National Wildfire Coordinating Group, 2018b).

Volunteer fire departments: A fire department of which some or all members are unpaid (National Wildfire Coordinating Group, 2018b).

White phosphorous: A yellow, waxy solid that ignites spontaneously when exposed to air and is used as a filling for various artillery, mortars, or rockets as a smoke-producing and incendiary agent (U.S. Department of the Army, 1953).

Wildland Fire Decision Support System (WFDSS): A data rich, map-centric application that graphically displays information for use by agency administrators, line officers, fire managers, and analysts as they move through the risk informed decision process for wildland fire (National Wildfire Coordinating Group, FAM-IT Portal, 2020).

Wildland-urban interface (WUI): The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetation fuels (National Wildfire Coordinating Group, 2018b).

III. Resources

Terminology

- [NWCG Glossary of Wildland Fire Terminology](#) (PMS 205) – Standardized terms and definitions for wildland fire and incident management.

DoD- and Branch-Specific Policy Guidance

- [10 USC 2465 Prohibition on Contracting Firefighting Services](#)
- [42 USC 1856 Reciprocal Fire Agreements](#)
- [Air Force Manual 32-7003, Environmental Conservation](#)
- [Army Regulation 200-1, Environmental Protection and Enhancement](#)
- [Army Regulation 350-19, The Sustainable Range Program](#)
- [Army Regulation 385-10, The Army Safety Program](#)
- [Army Regulation 420-1, Army Facilities Management](#)
- [Army Regulation 525-27, Army Emergency Management Program](#)
- Army Wildland Fire Policy Guidance, Memorandum dated 4 September 2002. All public access links have failed at time of writing.
- [Department of Army Pamphlet 385-63 / MCO 3570.1C, Range Safety](#)
- [Department of Defense Instruction 4715.03, Natural Resource Conservation Program](#)
- [Department of Defense Instruction 6055.06, DOD Fire and Emergency Services Program](#)
- [Department of Defense Instruction 6055.07, Mishap Notification](#)
- [Department of Defense Instruction 6055.17, Emergency Management Program](#)
- [NIFC Military Use Handbook \(NFES 2175\)](#)

Plans

- General

- [Guidance for Implementation of Federal Wildland Fire Management Policy, Memorandum dated 13 February 2009](#)
- [NFPA 1143, Standard for Wildland Fire Management](#)
- Examples of Wildland Fire Management Plans (WFMP)
 - [Arnold Air Force Base WFMP](#)
 - [Pictured Rocks National Lakeshore WFMP](#)
- Pre-Attack Plan
 - [Bryan Fire Department and Texas A&M Forest Service Pre-Attack Plan](#)
 - [Town of Swan Hills Pre-Attack Plan](#)
- Prescribed Fire Planning Guides
 - [NWCG Interagency Prescribed Fire Planning and Implementation Procedures Guide \(PMS 484\)](#)
- IAP and Briefing Resources
 - Briefing checklist on the back cover of the [IRPG \(PMS 461\)](#)
 - [IAP generator](#) (Google Docs)
 - [NWCG ICS Forms for IAP](#)
 - [Wildland Fire Decision Support System \(WFDSS\)](#) – can be used to conduct an IMT briefing
- Risk Assessments
 - [Bureau of Indian Affairs, Risk Assessment Code Matrix](#)
 - [NWCG Prescribed Fire Complexity Rating System Guide \(PMS 424\)](#)
 - [NWCG Wildland Fire Incident Management Field Guide \(PMS 210\), Wildland Fire Risk and Complexity Assessment, pages 149-152](#)
- Delegation of Authority
 - [NIFC Delegation of Authority example](#)

- Cultural Resources
 - [A Guide and Call to Acknowledging Tribal lands](#)
 - [DoD Consultation with Federally Recognized Tribes](#)
 - [DoD Environment Safety, and Occupational Health Network and Information Exchange \(DENIX\), Native American Affairs](#)
 - [Native American Sacred Sites and the Department of Defense](#)
- High Reliability Organizations
 - [Building A High Reliability Organization: How to Achieve and Sustain Near-Perfect Safety in the Face of High Risk](#)
 - [HRO Principles Reference Sheet](#)
 - [Organizing for Higher Reliability: Lessons Learned From Wildland Firefighters](#)

Operations

- Field Guides
 - [Craig Interagency Dispatch Center Field Operations Guide](#)
 - [National Interagency Mobilization Guide, Crews \(chapter 30\)](#)
 - [Wildland Fire Incident Management Field Guide](#)
- Minimum Crew and Equipment Standards
 - [National Fire Equipment System \(NFES\) 2724, Interagency Standards for Fire and Fire Aviation Operations](#)
 - [National Incident Management System Guideline for Mutual Aid](#)
 - [National Interagency Fire Center's Interagency Agreements](#)
 - [NFPA Standard 190s, Standard for Wildland Fire Apparatus](#)
 - [NFPA Standard 1977, Standard on Protective Clothing and Equipment for Wildland Fire Fighting](#)
 - [NIFC Military Use Handbook \(NFES 2175\), chapters 40 and 70](#)

- [NWCG Standards for Ground Ignition Equipment \(PMS 443\)](#)
- [NWCG Standards for Wildland Fire Position Qualifications \(PMS 310-1\)](#)
- Aviation Safety
 - [Temporary Flight Restriction Numbers \(TFR\)](#)
 - [NWCG Interagency Aviation Mishap Response Guide and Checklist \(PMS 503\)](#)
 - [SAFECOM](#)
 - [Interagency Standards for Fire and Aviation Operations, NFES 2724](#)
- Weather Conditions
 - [Fire Weather Zones](#)
 - [NIFC Predictive Services](#)
 - [NWCG Pocket Cards](#)
 - [Remote Automatic Weather Stations \(RAWS\)](#)
 - [Spot forecasts](#)
 - [Weather Information Management System \(WIMS\)](#)
- Other Safety/Hazards
 - [Job hazard analysis worksheet](#)
 - [SAFENET](#)
 - [SAFENET Reports](#)
 - [Templates for risk assessment worksheets](#)
 - [Wildland Fire Lessons Learned Center](#)
 - [3R's Explosives Safety Education Program](#)
- Mapping Platforms
 - [Avenza Maps](#)
 - [Military Version of Avenza Maps](#)

- GIS Data and Mapping
 - [Homeland Infrastructure Foundation-Level Data \(HIFLD\)](#) of values-at-risk, including energy and communication infrastructure, hospitals, schools, etc.
 - [LANDFIRE](#) data of vegetation, fuels, and ecological disturbances (e.g., historic wildfire ignitions and perimeters) across the entire U.S.
 - [NWCG Standards for Geospatial Operations \(PMS 936\)](#)
 - [U.S. Fish and Wildlife Service data](#) on critical habitat for threatened and endangered species, habitat for migratory birds, and wetland ecosystems
 - [Wildfire Risk to Communities](#) data of wildfire likelihood, risk to homes, and locations of vulnerable populations.
- Community Wildfire Protection Plan Resources
 - [International Association of Fire Chiefs, CWPP Leaders Guide](#)
 - [U.S. Forest Service Best Practices for Creating a Community Wildfire Protection Plan](#)

Logistics

- [Instructions for Completing an ICS 206 WF](#)

Finance/Administration

- [Examples of SF 261 Crew Time Reports and OF-297 Emergency Equipment Shift Tickets](#)

IV. Eglin Air Force Base “Watch Out” Situations

Note: These are intended to expand upon the original Watch Out Situations, including more information that is specific to wildland fire operations on Eglin AFB.

1. Sea Breeze expected to shift winds on your fire, but you don't know exactly when
2. Slash/Dead down woody materials are heavy and present in fire area due to logging or storms
3. Any fire operations during lightning/thunderstorm season (due to threat of lightning as well as strong erratic winds)
4. Working in area where Army Rangers do training (concertina wire, fox holes, blank ammo, etc.)
5. Active military mission nearby
6. Nighttime operations, especially when working with ATVs and/or heavy equipment in the woods
7. Fire burning in UXO area
8. Trip hazard from greenbrier (*Smilax* spp.) and other vines
9. Communications difficult due to “dead zone” with lack of coverage
10. Using ATVs for prescribed burning, especially if Eglin ATV Risk Matrix has identified one or more hazards that require mitigation
11. Not having engine partner in sight, especially during “pump and roll” ops
12. New/inexperienced personnel on fire
13. Individual(s) unfamiliar with layout of burn unit boundaries and roads
14. Unimproved roads; sand beds, potholes, mud holes, impassable bridges
15. Large number of snags along roadsides
16. Tight timeline for fire operations due to military mission activity
17. Dispatch is not staffed and nobody is providing weather updates
18. You come to a closed gate enroute to the fire and aren't sure that you've got a “Z Number” for access
19. Potential for civilians to be within “Fire Area” during hunting season and along urban-interface boundary
20. Potential for crews to be fatigued from other assigned field work
21. No spotter when backing vehicle
22. Multiple hot missions scheduled in conjunction with limited resources and/or dry weather
23. Burning near major highways or urban area
24. Three burns planned for one day
25. Working with two PFTC crews simultaneously
26. Resources “stretched thin” on prescribed burns
27. Detailers or outside interagency resources unfamiliar with Eglin equipment and Eglin-specific SOPs

V. Eglin Air Force Base UXO Risk Management Guide

X _____

Date _____

Eglin Module Lead

Eglin Wildland Support Module UXO Risk Management Guide

Eglin AFB experiences a high number of wildland fires every year. Due to the nature of the military missions on Eglin AFB, many of these fires are in areas that are contaminated with Unexploded Ordinance (UXO). These areas are identified as *Restricted Suppression* and *No Suppression* areas.

When responding to wildfires, the Incident Commander will contact the Range Chief and/or EOD (when they are available) to obtain a briefing to gather situational awareness. In the event neither is available the Incident Commander will contact JTTOCC for any information concerning the incident and update Eglin WSM Dispatch (Jackson Guard).

New ranges that do not appear on the Suppression and Sensitives Map will be treated as *Restricted Suppression* if used for small arms only.

Contact JTTOCC before going through any closed range gate.

Personnel are prohibited from entering those areas marked ***DO NOT ENTER*** on the map.

Use the following as guidance for any prep work or suppression tactics.

Restricted Suppression Areas

- Scouting a fire is permitted for size up. Interior ignition may be conducted; minimize exposure to prolonged heat during fire activities to protect personnel and equipment. Mop-up standards are based on the best judgment of the IC or Burn Boss using the risk management process.
- Water and/or foam is preferred for suppression and mop-up.
- Plowing or blading in a Restricted Suppression area is allowed with the approval of the Eglin WSM Lead or Officer in Charge (OIC).
 - When road prep is authorized scout for UXO before and after road improvements that are interior of the Restricted polygon; Scouting is not mandatory on boundary roads. The scout is recommended to keep a distance of 500 feet or greater from the equipment to allow time for the flagging of items of concern and communicating updates to the operator. Any widening of a road must be approved by the Eglin WSM Lead.

PREP

- In the absence of fire in a Restricted Suppression Area, prep work including snags, poles or valuable assets can include mowing machinery and hand tools; avoid digging and grubbing unnecessarily.
- Prep work while fire is in a Restricted Suppression Area will be determined by the IC or Burn Boss using the risk management process and consulting with the OIC.

No Suppression Areas

*Personnel are prohibited from entering those areas marked **DO NOT ENTER** on the Suppression and Sensitives Map.*

- Scouting on established roads for size-up is authorized. Minimize exposure to head fire interior of No Suppression polygons during fire containment activities to protect personnel and equipment.
- Firing using ATVs or Drip Torches may be used on roads highlighted on the Suppression and Sensitives Map.
- Prep work and mop-up standards will be determined by the Incident Commander or Burn Boss and the Eglin WSM Lead.
- Plowing is prohibited anywhere within the No Suppression Area.
- Consult the Suppression and Sensitives Map for roads approved for blade work.
 - When road prep is authorized scout for UXO before and after road improvements that are interior of the No Suppression polygon; Scouting is not mandatory on boundary roads. The scout is recommended to keep a distance of 500 feet or greater from the equipment to allow time for the flagging of items of concern and communicating updates to the operator. Any widening of a road must be approved by the Eglin WSM Lead.

PREP

- In the absence of fire in a No Suppression Area prep work including snags, poles or valuable assets will be limited to hand tools only; avoid digging and grubbing unnecessarily.
- No prep work interior including snags, poles or valuable assets will be conducted when fire is in the same No Suppression Area. Consult the Suppression and Sensitives Map for No Suppression boundaries.