

Development And Implementation Of Targeted Training Resources For Wildland Fire Operations On Military Lands



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Forest Stewards Guild
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THE FOREST STEWARDS GUILD

- 25-year-old nationwide nonprofit
- Fire Management team with decades of diverse experience
- Suppression (wildfire) and prescribed fire (controlled burn) expertise
- Air Force Wildland Fire Branch (AFWFB) Support Modules and DoD fire experience
- Extensive collaboration
- Community fire planning
- Training
- Unique perspective



OUR TEAM

Principle Investigator - Daniel Godwin, PhD

Project Manager - Jennifer Mueller

Team Members –David Godwin, PhD; Meg S. Matonis, PhD

Subject Matter Experts

National Guard – Michelle Richards

Army – Anne Jewell

Air Force – Brett Williams

National Incident Management Team - Rod Collins





FIRE
MANAGEMENT
ON MILITARY
LANDS



Mission-relevant



Wildfires and Prescribed Fire



Complex and challenging

WILDFIRE IMPACTS INSTALLATIONS AND ADJACENT LANDS



- Mission interruption
- Vegetation destruction
- Threats to cultural resources
- Smoke obscuration
- Threats to national security resources
- Cross-jurisdictional response
- Health/safety of surrounding community



WILDFIRES POSE UNIQUE CHALLENGES TO INSTALLATIONS

- Unique hazards
- Active training/ 'hot' ranges
- Potentially conflicted air space
- Secure areas
- Information security
- Unexploded ordnance (UXO)
- Crewmember training
- Cross-jurisdictional response
- Integrating outside resources
- Conflict with surrounding communities
- Complex communications

PRESCRIBED FIRE CAN HAVE POSITIVE OUTCOMES FOR INSTALLATIONS

- Mission interruption minimized
- Ecosystem benefits
- Protects resources
- Strengthen partnerships
- Minimizes impact to surrounding community





PRESCRIBED FIRE POSES SIMILAR CHALLENGES AS WILDFIRES

- Unique hazards
- Mission/training coordination
- Smoke impacts
- Limited resources
- Integrating outside resources
- Access to fire training
- Funding
- Conflict with surrounding communities
- Complex communications

SUMMARY: INSTALLATION FIRE MANAGERS FACE COMMON CHALLENGES

Planning

- Branch-specific regulations/guidance
- Installation leadership
- Management objectives

Standards

- Training/Certification (NWCG)
- Equipment
- Non-standard radio communication

Response

- Minimizing mission/resource impact
- Large-scale unplanned events (wildfire)
- Unique hazards

Integration

- Resources on-installation
- Incoming civilian personnel and equipment
- Within greater fire management community
- Surrounding landowners

SHARED SOLUTIONS TO COMMON CHALLENGES



Tools for addressing planning complexity

- Support fire managers in planning process
- Reference existing documents
- Prepare for unplanned events



Targeted training materials

- Target complexities on-installation
- Prepare in-briefing materials for incoming resources
- Provide example documents
- Dovetail on existing standardized trainings



Improved communications/integration

- Identify key players
- Resources on-installation
- Cooperators off-installation
- Community members

STRATEGIC APPROACH

Survey current Fire Managers

Refine material to include in deliverables
Uncovered training needs/challenges

Military Installation Fire
Management In-briefing
Development Guidebook (MIDG)

Enables strategic integrations with surrounding resources and communities
Supports the *process* of preparing in-briefing products

Wildland Fire Operations on
Military Lands Refresher Videos and
In-briefing Pocket Cards

Informs cooperators about challenges/concerns on-installation
Supports verbal briefings for fire managers and incoming resources



Audience

- Fire program managers, line officers, and wildland fire training officials
- Army, Air Force, and National Guard

Purpose

- Assess fire program workforce composition
- Determine key topics for in-briefings
- Identify training needs
- Assess annual refresher materials

Outcomes

- Further define challenges
- Find potential solutions/recommendations
- Highlight existing strengths

SURVEY FINDINGS

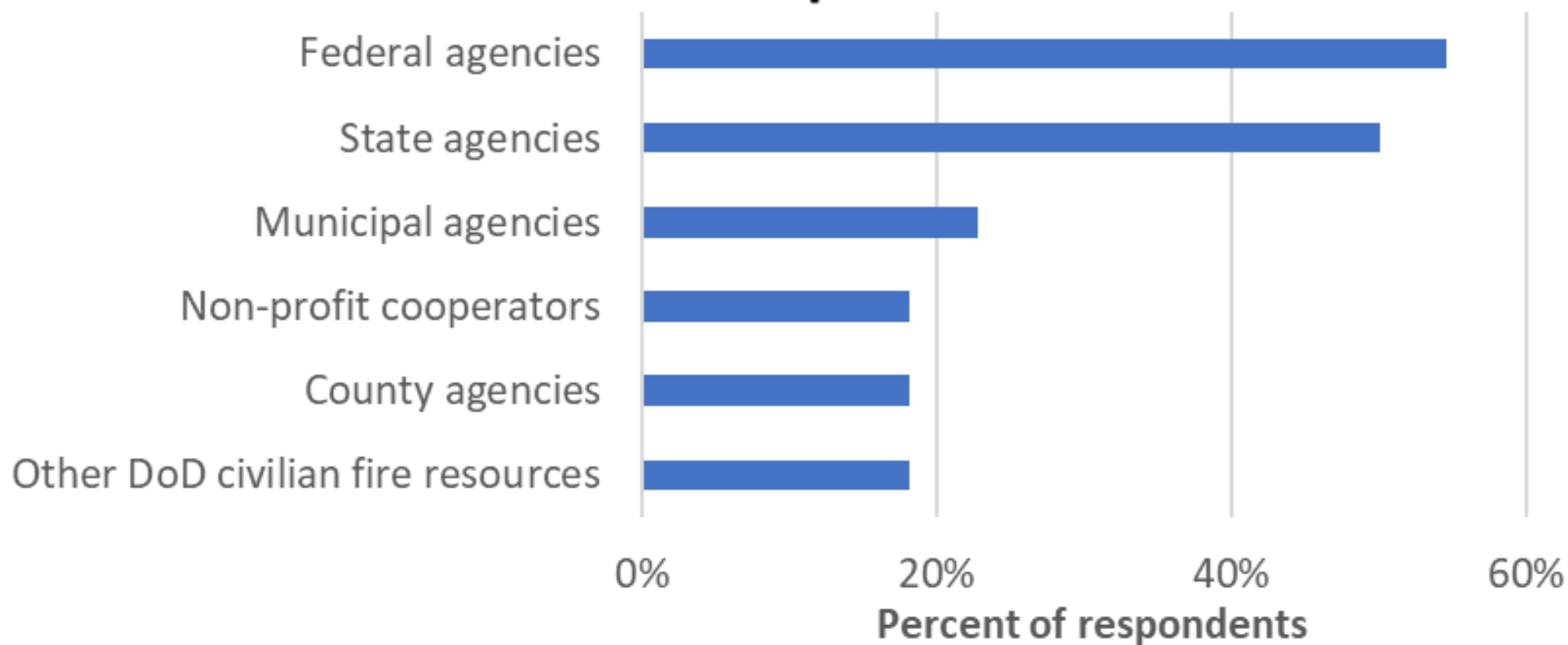
WORKFORCE COMPOSITION

30% use seasonal employees, most do not return

80% involve external agencies

85% focus on both prescribed fire and wildfire suppression

Agency / cooperators involved in on-installation wildfire operations



SURVEY FINDINGS

BRIEFINGS

15% developed in-briefing documents for external resources

Verbal in-briefings average less than 30 mins

Key in-briefing topics:

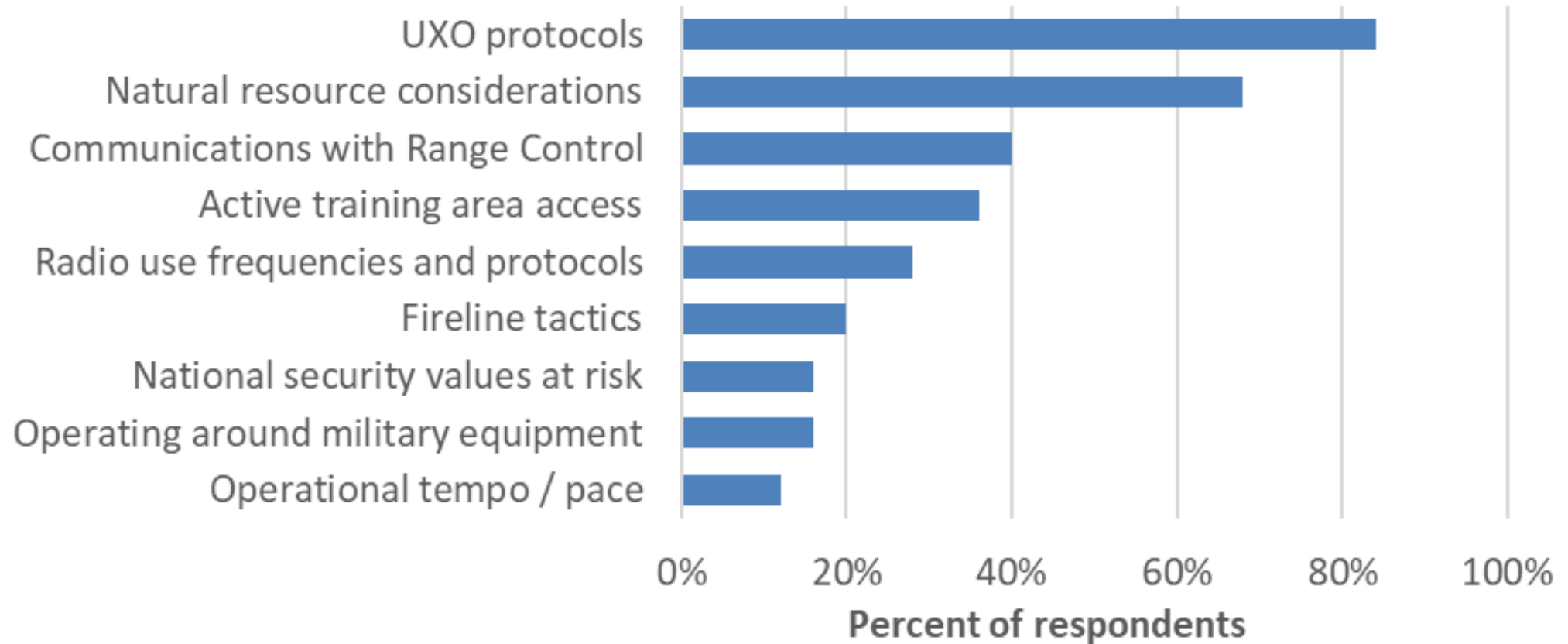
UXOs

Natural resources

Communications

Access

Important topics for in-briefing incoming wildland fire resources



SURVEY FINDINGS

TRAINING REQUIREMENTS

70% require NWCG quals
for civilian employees

90% use NWCG training
materials

75% use NWCG annual
refresher materials

SURVEY FINDINGS

TRAINING

Challenges:

Meeting training requirements

Receiving assignments

Accessing qualified trainers

Strengths:

Knowledgeable, experienced cadre

Hands-on training

Suggested Improvements:

Region-specific curriculum

Medical training

Modified training requirements/ assignments

Challenges to attain NWCG training standards



Military Installation Fire Management In-briefing Development Guidebook (MIDG)



Audience

- Fire program managers

Purpose

- Support safety, efficiency and effectiveness
- Address shared obstacles/variability
- Reference existing guidance and regulations

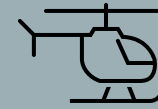
Outcomes

- Three types of in-briefing products
- Adaptive and proactive fire management program
- Integration with resources and community

MIDG GUIDING PRINCIPLES



Checklists



High Reliability Organizations
(HROs)



Lessons Learned



Existing military/ wildland fire
guidance

MIDG LAYOUT

Strategic to Tactical

- A. Strategic Intent
- B. Tasks
- C. End State/Tactical Execution
 - 1. Field Operations Guide
 - a. Mobilization Guide
 - b. In-Briefing Packet
 - 2. Written Briefing
 - 3. Verbal Briefing



Department of Defense Legacy Resource Management Program

COOPERATIVE AGREEMENT HQ00341820010

Military Installation Fire Management In-Briefing Development Guidebook

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MIDG – PRACTICAL APPLICATION

- Navigate to section
- Cross-referenced
- Augment existing program or develop new program
- Gives structure to planning complexity, is proactive and unifying

PRACTICAL APPLICATION

EXAMPLE 1: BLM ENGINE



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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)

PRACTICAL APPLICATION

EXAMPLE 2: COMMUNITY OUTREACH

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



Photo credit: <https://www.flickr.com/photos/nifc/>

Section in MIDG: Plans				
Tasks	Pre-Planning	Conducting Planned Events	Expanding Suppression Incidents	Transitioning Incident to IMT
I. Inform Installation Leadership	<ul style="list-style-type: none"> <input type="checkbox"/> Communicate with installation leaders <input type="checkbox"/> Prepare communication tools <input type="checkbox"/> Incorporate installation objectives into IAP and other written briefings 	<ul style="list-style-type: none"> <input type="checkbox"/> Incorporate installation objectives in IAP <input type="checkbox"/> Include objectives in verbal briefings 	<ul style="list-style-type: none"> <input type="checkbox"/> Incorporate installation objectives in IAP <input type="checkbox"/> Include objectives in verbal briefings <input type="checkbox"/> Notify agency representatives 	<ul style="list-style-type: none"> <input type="checkbox"/> Share IAP and Delegation of Authority with IMT <input type="checkbox"/> Update agency representatives
II. Wildland Fire Management Plan / Integrated Wildland Fire Management Plan (WFMP / IWFMP)	<ul style="list-style-type: none"> <input type="checkbox"/> Identify key partners, prepare agreements <input type="checkbox"/> Prepare / update WFMP/IWFMP <input type="checkbox"/> Use WFMP/IWFMP to inform IAP and operational guidance in written briefings 	<ul style="list-style-type: none"> <input type="checkbox"/> Use plan to determine objectives and burn priorities 	<ul style="list-style-type: none"> <input type="checkbox"/> Share pre-attack plan 	<ul style="list-style-type: none"> <input type="checkbox"/> Share with IMT
III. Coordinated Suppression Response	<ul style="list-style-type: none"> <input type="checkbox"/> Identify potential suppression resources on and off-installation <input type="checkbox"/> Prepare / update pre-attack plans <input type="checkbox"/> Develop Mutual Aid Agreements (MAA) 	<ul style="list-style-type: none"> <input type="checkbox"/> Use plan to inform IAP <input type="checkbox"/> Share pre-attack plans with incoming resources as needed 	<ul style="list-style-type: none"> <input type="checkbox"/> Use plan to inform IAP <input type="checkbox"/> Use to determine jurisdictional authority and objectives <input type="checkbox"/> Share pre-attack plans 	<ul style="list-style-type: none"> <input type="checkbox"/> Share pre-attack plans with IMT <input type="checkbox"/> Share MAAs with IMT
IV. Delegation of Authority	<ul style="list-style-type: none"> <input type="checkbox"/> Identify key players for a suppression event <input type="checkbox"/> Discuss and create a Draft Delegation of Authority Include agency administrators in the IAP 	<ul style="list-style-type: none"> <input type="checkbox"/> Finalize with incoming burn boss or IC and sign Delegation of Authority 	<ul style="list-style-type: none"> <input type="checkbox"/> Update IAP 	<ul style="list-style-type: none"> <input type="checkbox"/> Finalize with IMT and sign Delegation of Authority

MIDG MATRIX - PART 1

SUMMARY OF KEY POINTS FOR PREPARING IN-BRIEFINGS

Section in MIDG: Plans			
Tasks	Relevant ICS Forms	DoD and Branch-specific Manuals and Guidance	Examples, Templates, and Additional Resources
I. Inform Installation Leadership	202, 203, 208, 215A		
II. Wildland Fire Management Plan / Integrated Wildland Fire Management Plan (WFMP / IWFMP)	202, 203, 205, 205A, 206, 207, 208	<p>Army Installation Wildland Fire Program Implementation Guidance (forthcoming)</p> <p>Installation (Integrated) Wildland Fire Management Plans</p> <p>Air Force Manual 32-7003, Environmental Conservation, chapter 3.80</p> <p>Army Wildland Fire Policy Guidance, Memorandum dated 4 September 2002 (or latest)</p>	<p>Arnold Air Force Base WFMP</p> <p>National Park Service Pictured Rocks National Lakeshore WFMP</p> <p>NFPA 1143, Standard for Wildland Fire Management</p> <p>NWCG Interagency Prescribed Fire Planning and Implementation Procedures Guide (PMS 484)</p>
III. Coordinated Suppression Response	202, 203, 205, 205A, 206, 207, 208	<p>10 USC 2465 Prohibition on Contracting Firefighting Services</p> <p>42 USC 1856 Reciprocal Fire Agreements</p> <p>Air Force Manual 32-7003, Environmental Conservation, chapter 3.81</p> <p>Army Regulation 420-1, Army Facilities Management</p> <p>Army Regulation 525-27, Army Emergency Management Program</p>	<p>City of Bryan's Fire Department Pre-Attack Plan</p> <p>Guidance for Implementation of Federal Wildland Fire Management Policy, Memorandum dated 13 February 2009</p> <p>NIFC Military Use Handbook, NFES 2175, chapter 20</p> <p>Town of Swan Hills Pre-Attack Plan</p>

MIDG MATRIX - PART 2
CROSS REFERENCE OF EXISTING GUIDANCE

MIDG – KEY TAKEAWAYS AND RECOMMENDATIONS



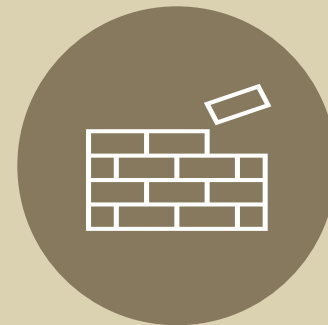
Pre-planning is critical



Successful fire management programs are adaptive and integrated



Collaboration and consensus are key



Principles of high reliability organizations (HROs) provide the foundation for, and drive the process of, producing in-briefings.

Wildland Fire Operations on Military Lands Refresher Videos and In-briefing Pocket Cards



Audience

- Incoming civilian resources
- Fire program managers

Purpose

- Increase safety, integrate resources
- Inform and remind of unique hazards
- Daily operations and annual refreshers

Outcomes

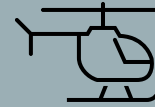
- Three videos
- Two in-briefing pocket cards



VIDEO/POCKET CARD
GUIDING PRINCIPLES



Checklists



High Reliability Organizations
(HROs)



Accessible



Enhances existing materials



WILDLAND FIRE OPERATIONS ON MILITARY LANDS REFRESHER VIDEOS

1. DoD Watch Out Situations
2. Wildland Fire on U.S. Air Force Installations
3. Wildland Fire on U.S. Army Installations
4. DoD Wildland Fire Operations: Six Steps for Safety

- Incoming Briefings
- Hazards
- Unexploded Ordnance
- Military Vehicles
- Area Access
- Communication Differences
- Information Security



<https://www.youtube.com/watch?v=kLXWERnYLMY>

BRIEFING CHECKLIST

Situation

- Fire name, location, map orientation, other incidents in area
- Terrain influences
- Fuel type and conditions
- Fire weather (previous, current, and expected)
- Winds, RH, temperature, etc.
- Fire behavior (previous, current, and expected)
Time of day, alignment of slope and wind, etc.

Mission/Execution

- Command
Incident Commander/immediate supervisor
- Leader's intent
Overall objectives/strategy
- Specific tactical assignments
- Contingency plans
- Medevac plan: Personnel, equipment, transport options, contingency plans

Communications

- Communication plan
Tactical, command, air-to-ground frequencies
Cell phone numbers

Service/Support

- Other resources
Working adjacent and those available to order
Aviation operations
- Logistics
Transportation
Supplies and equipment

Risk Management

- Identify known hazards and risks
- Identify control measures to mitigate hazards/reduce risk
 - o Include LCES
- Identify trigger points for reevaluating operations

Questions or Concerns?



IN-BRIEFING POCKET CARDS

MILITARY INSTALLATION IN-BRIEFING POCKET CARD

supplements IRPG briefing checklist

Situation

- Know names and roles of all personnel (org chart)
- Understand travel expectations to/from site
- Be aware of military missions in area
- Ask for maps with restricted areas, travel routes, surface danger zones, UXO, etc.

Mission/Execution

- Know whether MIST is required (e.g., backburns off roads/trails, use water before handline, think/look before digging)
- Be aware of and respect natural/cultural resource objectives

Comms

- Understand restrictions and use (e.g., only assigned channels and radios, no 'squirrel' or crew frequencies)
- Do not talk about military ops over radios
- Know protocol for Range Control, Fire Department and Security Forces
- Comply with policies around photos/social media

Service/Support

- Fire and Emergency Services (FES)

Risk Management

- Be aware of military training equipment (concertina wire, structures, foxholes, targets)
- Be familiar with types of UXO – see pg. 27 IRPG (e.g. munitions, white phosphorous, depleted uranium)
- Lookout for UXOs (3R's, anywhere, never touch, beware ground disturbance, triggered by heat)
- Be aware of military vehicles (wide, heavy, fast, anywhere day/night, loud/dusty, low visibility, HAZMAT)

Ask questions if you are unsure

MILITARY INSTALLATION FIRE MANAGER BRIEFING

POCKET CARD

supplements IRPG Briefing Checklist

Prior to briefing: *Self-Introductions*

Situation

- Important terminology
- Active test/training area access
- Travel expectations to/from site
- Military missions in area
- Military chain of command

Mission/Execution

- Special tactics/MIST
- Natural/cultural resources

Comms

- Radio restrictions and protocol
- Do not talk about military ops on radio
- Range Control/Fire Department/Security Forces
- Photos/social media policy

Service/Support

- Fire and Emergency Services (FES)

Risk Management

- UXO (ref. Pg. 27 IRPG)
- Restricted or sensitive areas
- Military vehicles and training equipment
- Driving hazards
- Tell me additional hazards you might encounter.***

Questions or clarifications?

What did we overlook?

Risk Refusal Procedure Review



BRIEFING CHECKLIST

Situation

- Fire name, location, map orientation, other incidents in area
- Terrain influences
- Fuel type and conditions
- Fire weather (previous, current, and expected)
- Winds, RH, temperature, etc.
- Fire behavior (previous, current, and expected)
- Time of day, alignment of slope and wind, etc.

Mission/Execution

- Command
 - Incident Commander/immediate supervisor
- Leader's intent
 - Overall objectives/strategy
- Specific tactical assignments
- Contingency plans
- Movevac plan: Personnel, equipment, transport options, contingency plans

Communications

- Communication plan
 - Tactical, command, air-to-ground frequencies
 - Cell phone numbers

Service/Support

- Other resources
 - Working adjacent and those available to order
 - Aviation operations
- Logistics
 - Transportation
 - Supplies and equipment

Risk Management

- Identify known hazards and risks
- Identify control measures to mitigate hazards/reduce risk
 - o Include LCES
- Identify trigger points for reevaluating operations

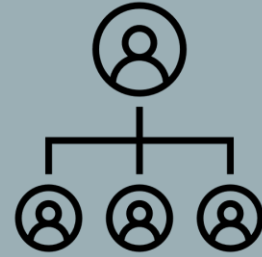
Questions or Concerns?

MIDG, MIDG MATRIX, VIDEOS, AND POCKET CARDS
ARE SOLUTIONS TO COMMON CHALLENGES

Targeted training
materials



Improved communications/
integration



Tools for addressing
planning complexity





We sincerely appreciate your time.
Questions?