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Workshop on International Wildfire Risk Reduction

FINAL PROCEEDINGS BY:

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Quincy, MA

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Boston, Massachusetts

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Executive Summary

On Tuesday June 6, 2017 the NFPA Wildfire Division and the Fire Protection Research Foundation hosted a workshop on International Wildfire Risk Reduction immediately following the 2017 NFPA Conference & Expo in Boston, Massachusetts.

Wildfire is one of many hazards faced by communities around the world. The concept of Community Risk Reduction (CRR) is the basis for many safety and loss reduction efforts from numerous hazards. The hazards posed wildfires are significant and the frequency of disaster occurrence is increasing. These challenges are unique in some regions of the world but across the globe there is a common desire to reduce the risk of wildfires on communities.

This workshop brought together stakeholders from around the world to collaboratively address wildfire risk reduction based on their local experiences and successes. The participants shared their personal success stories on engaging with communities and addressing wildfire risk as well as the challenges they face given their local safety infrastructure.

Throughout the discussion the group identified six key items that that make wildfire risk reduction important. The group discussed factors that affect communicating wildfire risk reduction including defining the audience, messaging strategies, and content. Finally, the group identified perceived challenges in establishing and implementing community wildfire risk reduction practices around the world.

Based on discussion at the workshop and information received in the development of these proceedings the summary observations were generated and grouped in four main categories: Current State; Success; Needs; and Next Steps. The knowledge exchange that was a keystone to this event has continued beyond the workshop and has expanded beyond the original group on NFPA's Xchange platform.

Acknowledgements

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About the Fire Protection Research Foundation

The [Fire Protection Research Foundation](#) plans, manages, and communicates research on a broad range of fire safety issues in collaboration with scientists and laboratories around the world. The Foundation is an affiliate of NFPA.



About the National Fire Protection Association (NFPA)

Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission. [All NFPA codes and standards can be viewed online for free.](#) NFPA's [membership](#) totals more than 65,000 individuals around the world.



Keywords: wildland fire, wildfire, wildland-urban interface, WUI, risk reduction, community risk reduction, wildfire risk reduction, community based fire management, integrated fire management, community engagement

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1) Background and Overview

The risk posed by wildfire is a concern internationally, and there are both similarities and differences with how the safety infrastructure in a particular region addresses those risks. Across the globe, safety professionals face challenges including connecting with residents and homeowners at a local level about wildfire risk reduction. Advocates and wildfire safety stakeholders face challenges in improving program connections with local officials/decision makers and the sustainability of messaging to address the risk of damaging wildfires around the world.

The goal of this workshop was to promote effective international wildfire risk reduction, based upon current successes and clarifying future needs. Participants coming from a range of geographical and societal backgrounds worked collaboratively to address three objectives:

- 1) Define the current state of wildfire risk reduction around the world (e.g. practices, policy, research, etc.);
- 2) Clarify the needs of advocates and stakeholders while addressing gaps and preserving successes; and
- 3) Identify target goals (i.e., where we want to go with actionable next steps).

1200 - 1330	Working Lunch	
1200 – 1230	Welcome and Introductions	All
1230 – 1245	Remarks on Integrated Fire Management Tool Kit	Val Charlton
1245 – 1300	Remarks on Lebanon Reforestation Initiative	Joseph Bechara
1300 – 1315	Workshop overview and baseline information	Dan Gorham & Casey Grant
1315 – 1330	Break	
1330 – 1600	Facilitated discussion addressing workshop objectives	All
1600 – 1615	Wrap-up and Summary Observations	Dan Gorham & Casey Grant

Figure 1. Workshop format and agenda.

This workshop was facilitated by the Fire Protection Research Foundation in support of the NFPA Wildfire Division. It was a unique gathering of workshop participants to engage in a facilitated discussion. The workshop format and agenda is illustrated in Figure 1.

There are several groups around the world working to address the problem of wildfire risk to communities and an effort was made to include representatives from the numerous different regions in this workshop. Partners from Canada, Chile, The United Kingdom, Spain, Lebanon, South Africa, and Australia brought their perspectives and experiences to the discussion. A full list of workshop participants is included in Annex A. Figure 2 provides a picture of the start of the workshop with a welcome from NFPA president and CEO Jim Pauley.

The different perspectives from around the world on wildfire risk reduction were exemplified considering programs in North America and the Middle East. Canada and U.S. representatives spoke about Firewise and FireSmart initiatives to empower homeowners and local residents to

take ownership of their wildfire risk reduction through concepts like defensible space in the home ignition zone to protect themselves from wildfires causing damage to homes. Lebanon in contrast is working to educate local residents about the importance of protecting reforested lands from fires that start around homes that may spread and cause significant losses and damage to the natural resources.

Wildfire risk reduction is a sub-area of bigger community risk reduction approaches. Community Risk Reduction (CRR) is an important activity receiving broad focus as reflected by the new NFPA standards project NFPA 1300, *Standard on Community Risk Assessment and Community Risk Reduction Plan Development*. This standard covers the process of conducting a community risk assessment and the development, implementation, and evaluation of a community risk reduction plan.



Figure 2: Jim Pauley, NFPA President & CEO, welcoming the workshop participants.

2) Discussion

A significant portion of the workshop was spent in facilitated discussion amongst the international participants aimed at address the three workshop objectives. The group initially shared their individual experiences addressing wildfire risk reduction in their local regions. With a range of experiences and desired outcomes across the world the first question posed by the facilitators was aimed at defining the need: *Why is community wildfire risk reduction important?* This was a diverse conversation but eventually focused on three core areas.

2.1) Fundamental Issues

What followed was over an hour of discussion on specific reasons why wildfire risk reduction is an important problem to be addressed by all stakeholders including policy makers, responders, and homeowners. As part of this discussion the attendees shared some of their methods for addressing the questions which resulted in a significant knowledge exchange for addressing problems that are consistent across the world. The group generated over 30 unique items in response to the posed question and began to distil the list into clear items that guide community engagement focus:

- The current negative impacts (cost of response and recovery) of wildfire are unacceptable and unsustainable;
- Adverse contributing and impacting factors are trending up, (e.g. climate change and urban sprawl);
- “Unprecedented events” in severity are the new normal and occur regularly
- Fire is necessary for some ecosystem and can be used strategically (prescribed fire) as a tool for risk reduction. Fire is inevitable, but disaster is not;
- Wildfire risk mitigation is a collective responsibility; and
- Wildfire is uniquely an evolving and growing (fuel) hazard requiring active management;



Figure 3: The group discusses key issues related to community wildfire risk reduction.

2.2) Communication & Packaging

The next topic of discussion for the group was packaging and communicating the message of wildfire risk reduction within communities around the world.

The audiences that have the most impact on long-term sustainable community risk reduction are local officials, residents, and fire fighters. Local officials can have large impact and say in their communities and are a driving force in implementation and budgeting. Residents are crucial, because they are needed for mitigation programs and the constituents of elected officials. Officials and fire fighters do not have the resources to take on the task by themselves, and need community involvement in mitigation. Fire fighters play a plan influential role in community outreach. Although they are often reluctant, members of the community are generally more willing to make change when the fire fighters address the hazards and recommend or implement proper mitigation techniques. Additionally many fire fighters are volunteer, and members of the community as well, advancing the initial buy-in.

What is being communicated needs to be clear and concise. There exists a body of messages that discuss mitigation from wildfire risk but based on the previous discussion prevention needs as much, if not more, focus particularly for key audiences like elected official and residents.

The content that is communicated should be relatable for the audience. Climate change is one of these major areas that need to be communicated, because it is significantly contributing to an increase in severe wildfire conditions. If climate change can be curbed, then the devastating impacts can be reduced. Long-term sustainability is another important area to discuss. It is possible to upkeep mitigation strategies, but it requires significant community involvement and a sense of local ownership of the solution. Similarly when dealing with local officials, the content needs to focus on prevention compared to recovery. During this discussion someone offered an example of a clear and simple message for local officials when discussing prevention and recovering from wildland fire incidents: "Recovery costs come out of no one's budget, but preparation needs to come out of someone's."

Messaging strategies vary across different regions of the world based on the audience and content. One universal consideration for communication related to community wildfire risk reduction is clearly indicating the cost and benefit of actions as well as in-action.

2.3) Challenges

Throughout the discussion perceived challenges were identified. These were both general in implementing wildfire risk reduction and unique challenges specific to a region or country. Some of these were addressed in the fundamental issues and the six items identified that are critically important to guide and support risk reduction efforts. Wildfire risk reduction is a complex and enduring challenge that requires community engagement to sustain.

3) Summary Observations

NFPA's Wildfire Division hosted and the Fire Protection Research Foundation facilitated an International Wildfire Risk Reduction workshop on June 6th and at the Boston Convention Center. The purpose of this workshop was to bring together community wildfire risk reduction partners from around the world together to discuss the current state in their regions, clarify the needs of advocates and stakeholders and identify target goals for improving wildfire risk reduction around the world.

Based on discussion at the workshop and information received in the development of these proceedings the summary observations are group according to four primary categories: Current State; Success; Needs; and Next Steps.

3.1) Current State

- Consistent Common Elements. There are several core facts about wildfire risks that hold true across regional and country borders. The 6 core items identified during this workshop are:
 - The current negative impacts (cost of response and recovery) of wildfire are unacceptable and unsustainable;
 - Adverse contributing and impacting factors are trending up, (e.g. climate change and urban sprawl);
 - “Unprecedented events” in severity are the new normal and occur regularly
 - Fire is necessary for some ecosystem and can be used strategically (prescribed fire) as a tool for risk reduction. Fire is inevitable, but disaster is not;
 - Wildfire risk mitigation is a collective responsibility; and
 - Wildfire is uniquely an evolving and growing (fuel) hazard requiring active management;
- Certain Influencing Factors. There are certain local factors such as culture and politics that influence wildfire risk reduction efforts. For example, in Lebanon the government forestry department is involved with efforts to educate locals about preventing fires on their homeland from spreading into the forest.
- Competition for Resources. Wildfire risk reduction is one piece of the overall community risk reduction system. There are many other hazards that require resources for reducing the overall risk to a community.
- Strong Potential for Collaboration. Given the common goal of community risk reduction there is an opportunity for the wildfire risk reduction advocates to collaborate with their partners and colleagues addressing other hazards and threats to communities.
- Reluctance for Regulation Oversight. In some instances residents and community members are resistant to government oversight and application of requirements and regulations. Land use policy in the wildland urban interface can be counterintuitive for residence in those areas who may resist regulatory oversight.

- Unique Fire Protection Characteristics. Wildfire risk has unique characteristics compared to other hazards and threats to communities.

3.2) Successes

- Best Practices. Participants sharing personal experiences from their local efforts and engaged in discussion helped to identify and clarify their successes. These individual successes contribute to overall best practices.
- Adaptability of Approaches. The best practices for given region or country may not be directly applicable for another, but often the keys to success can be adapted for local needs.
- Incident Management Practices. Wildland and urban fire incidents can be hectic and hard to manage. During and post incident management systems (e.g. National Incident Management System NIMS) provide a framework to address wildfire risks.

3.3) Needs

- Common Terminology. For communication in knowledge exchange between advocates and to stakeholders around the world there is a need for universal understanding of key concepts and terminology (e.g. risk reduction and local officials).
- Policy Change Case Studies. Documenting the successes and failures of policy change and sharing these amongst the advocate community would help future communities learn from those previous efforts.
- Lessons Learned. Wildfire continues to pose a risk for communities and every year there are most instances of loss from these hazards. The year 2017 has been particularly impactful around the world with disastrous fire around the world from the Mediterranean region of Europe to recent fires in Northern and Southern California (USA). It will be important for future efforts in reducing wildfire risk to learn from these incidents.

3.4) Next Steps

- Promote future similar meetings and dialog. At the conclusion of this workshop many participants noted the value of bringing a diverse international group of wildfire risk reduction advocates together. The group was interested in continuing the knowledge exchange and has since maintained communication.
- Risk reduction approaches. Summarize and prioritize relevant and impactful risk reduction approaches (e.g. tools) for enforcers, policy-makers, constituents and others to mitigate wildfire risk. Generate comprehensive profile by region addressing: (a) success; (b) pain points, and (c) unique characteristics with an overall summary of commonalities, needs, and target goals. See Figure 4, a proposed approaching to address international wildfire risk reduction.
- Net consequence of wildfire. Understand the net consequences and economic impact of wildfire including suppression costs, resident impacts, and business loss. This information is critical for justifying to local officials that doing prevention costs less than just dealing with the consequences.

- Implement identified research. Where there are gaps in the information there is the potential for research efforts to fill these and address the needs. Over the course of the workshop and in the development of these proceedings several potential research efforts were identified:
 - Modeling best practices of International fire weather indexes and their trends – U.S., Canada, and Australia have these – for further adoption and use in local conditions
 - Understanding the incentives and disincentives for communities/regions in implementing wildfire risk reduction practices.

Review of International Wildfire Risk Reduction Efforts

	County/Region	Success	Pain Points	Unique Characteristics
Current State of wildfire risk reduction				
Commonalities				
Needs (addressing gaps and preserving successes)				

Figure 4: Proposed approach to address international wildfire risk reduction.

Annex A: Workshop Participants and Attendees

The following were the full list of workshop attendees on “*International Workshop of Wildfire Risk Reduction*”, held at the Boston Convention and Exhibition Center on Tuesday June 6, 2017.

Alan Westhaver, ForestWise Environmental Consulting (Canada)
Andy Elliot, Dorset County Council (UK)
Casey Grant, Fire Protection Research Foundation (USA)
Chris Wyborn, Fire Protection Association Australia (Australia)
Daniel Gorham, Fire Protection Research Foundation (USA)
David Caballero, Forest Fire Department, MeteoGRID (Spain)
Fritz Lubbe, Working on Fire (Chile)
Griffin Shira, Fire Protection Research Foundation (USA)
Guy Deacon, LANDWORKS (South Africa)
Joseph Bechara, Lebanon Reforestation Initiative (Lebanon)
Laura Stewart, FireSmart Canada (Canada)
Lucian Deaton, NFPA (USA)
Maria Snow, NFPA (USA)
Michele Steinberg, NFPA (USA)
Oriol Caellas, Pau Costa Foundation (Spain)
Richard Thornton, Bushfire and Natural Hazards CRC (Australia)
Shane Mintz, NFPA (Canada)
Shaun Walton, National Fire Chiefs Council of the UK – Wildfire Group (UK)
Tom Welle, NFPA (USA)
Val Charlton, LANDWORKS (South Africa)