



# Reducing Risk from Wildfire

An introduction to NFPA's Wildfire Division and Firewise USA® program

October 23, 2018 | Megan Fitzgerald-McGowan | Program Coordinator



## Who am I?

- Former WA DNR firefighter
- Advocate for collaborative approaches



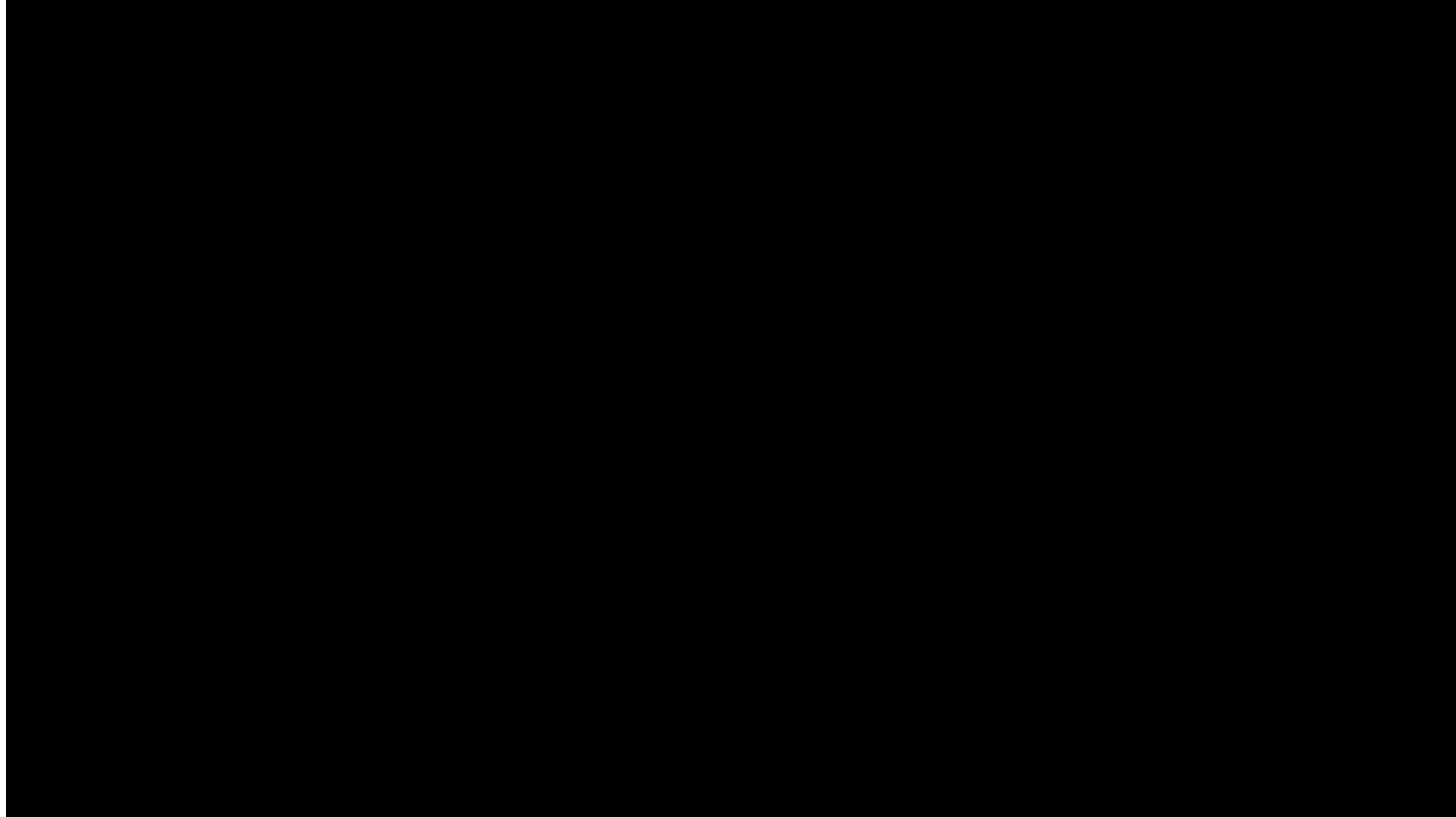
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# About NFPA's Wildfire Division



We provide resources to residents and key influencers to help ensure that everyone living at a risk from wildfire has the information, knowledge, and tools to reduce their risk.



# Agenda

1. Community Engagement Programs
2. Training and Certification
3. Resources and Tools



**WILDFIRE RESEARCH FACT SHEET**

## Fire Spread on Ember-Ignited Decks

Recent wildfire incidents generated during wildfire are the single largest hazard wildfire poses for homes, and homeowners should never overlook the potential risk that an attached deck can create. Structural loading by the increased loads for Embers & Home Safety (EHS) offers important findings that can help minimize risk. Some wood decks include the risks:

**Noting that even ignites should be placed under decks.** This is not an along with construction of refuges and such should occur throughout decks. In fact, will increase the volume of fuel as structural members exposed to fire, decks, the greatest decks can result for maximum in the ignition of combustible siding, or glass fenestration in a building's deck.

**ABOUT THE RESEARCH TESTS**  
EHS's field-controlled test of ember-ignited fire on an attached deck was repeated 21 times, each condition repeated again to increase the volume of the material in the house. Tests showed that the tests are fully and of Figure 11, showed some deck construction and findings. It showed clearly that some tests are those for local fire (in the deck) from the ignition point to the house. Materials from EHS showed an ember ignited deck fire occurred as the gaps between deck boards immediately after the initial ignition fire that transferred to a living fire. Although there were small gaps, self-ignition during EHS tests that did not include any structural members around, always further structural damage. During the tests, many small wood species of 12 high, resulted from the spread. Under certain conditions, the small fire did grow always in the ember-ignited area (see Figure 11). The results demonstrated that the greatest amount in the ember-ignited area, ember-ignited spreading was 3' to 22' into the deck beyond it.

Structuring against a building has additional considerations. All of the tests take to take to the house & could take to travel from one building fire or ignited fire into the house or house the "fuel" can be for close together for

regardless of the deck board's condition (solid or perforated). When deck boards were perpendicular to the building, the fire would spread on the gap between boards. The 1/2" gap between deck boards was narrow enough for the fire to continue burning into the adjacent wood (the fuel) in both directions from the ignition point. The fire spread pattern was more complicated when deck boards were parallel to the test building. It can cause fire could spread outside to the test building, or directly to it. Fire spread directly to the building included an ember-ignited material occurred in the gaps between the fire and the building of the deck boards. Flaming construction occurred when ember-ignited gaps between deck boards. Later all three spread can result in the ignition of pad members, resulting in the tests.

**IMPORTANCE OF THE HOME INSPECTION ZONES**  
To minimize the possibility of deck ignition, reduce fuels in the house ignition zones by carefully removing and positioning vegetation and implementing regular maintenance. Pay particular attention to the area under the eaves of the deck, where the gaps of combustible materials should be avoided.

**CONSTRUCTION RECOMMENDATIONS**  
Deck materials should not be removed directly adjacent during construction and should be replaced with a material that is resistant to spread on the deck can be minimized by the following:

1. Increase the gap between deck boards from 1/8 inch to 1/4 inch.  
Fire spread in the gaps between deck boards. Make the small flame flame at the way to the test building.
2. Increase joint spacing from 1/8 inch to 3/8 inch.  
Narrow joint spacing increases the risk that could result in the ignition of the deck area.
3. Apply a foil-faced self-adhering membrane flashing strip that faces



# COMMUNITY ENGAGEMENT PROGRAMS



# **FIREWISE USA<sup>®</sup>**

**RESIDENTS REDUCING WILDFIRE RISKS**

- Individual responsibility
- Encourages neighbors to work together
- Voluntary participation
- A means to decrease risk for residents and first responders





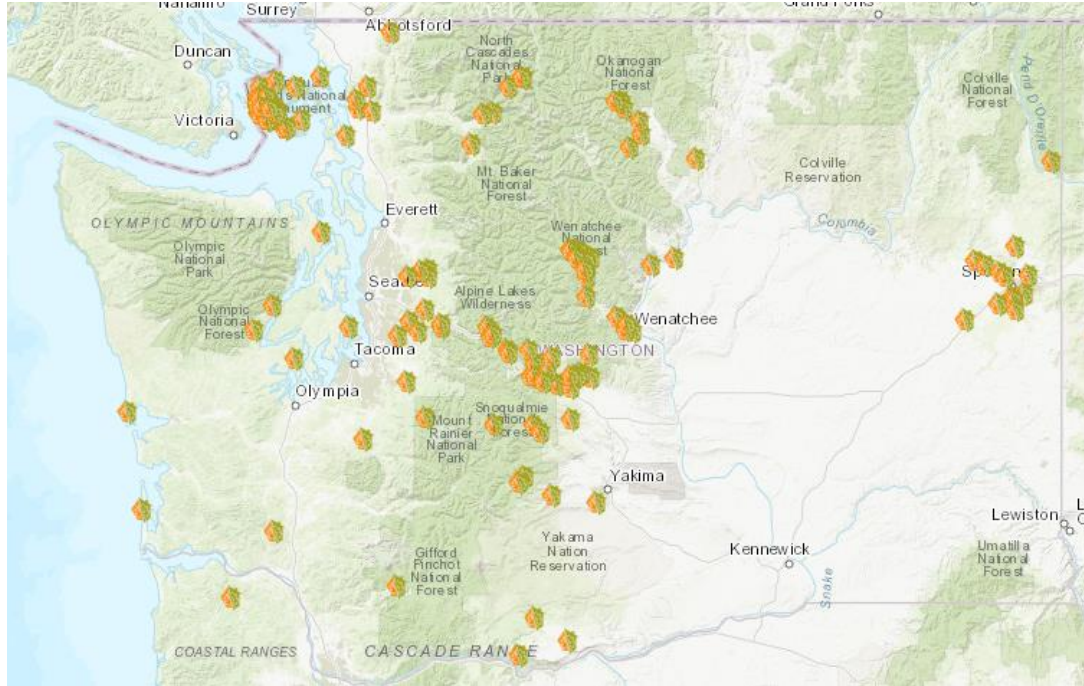
# Participation

- Active in 42 states
- Over 1500 participating sites
- Increased growth in areas recently affected by wildfire





# Washington State Participation



- 153 sites
- One of the original 12 pilot sites – River Bluff Ranch

# Benefits – Why Participate?

Framework for action

Learn about wildfire

Get peace of mind

Community-building

Build citizen pride

Access to funding and assistance

USAA discounts in certain states



*Members of Cascadel Woods Fire Brigade at April 15 work day - Carol Eggink*

# Steps to Achieving National Recognition

- Obtain a wildfire risk assessment
- Form a board/committee comprised of residents and other wildfire stakeholders
- Develop a multi-year action plan based on the site's risk reduction priorities
- Host a minimum of one wildfire risk reduction educational outreach event, or related activity
- Meet the minimum wildfire risk reduction investment
- Create a Firewise USA® Portal account and submit an application to your state Firewise USA liaison

# Firewise USA® Website

- Steps and resources to assist new and returning sites
- Access Firewise USA® program management portal

The screenshot displays the Firewise USA website interface for a community named Woodsville. At the top, there is a navigation bar with the NFPA logo, the Firewise USA logo, and links for 'Back to My Profile' and 'Edit Community Details'. The main header area features a background image of autumn foliage and displays the community name 'Woodsville', the status '2018 - Archived', and location information 'Providence, RI - Providence County'. Below this, weather conditions for January 25, 2018, are shown as 'Clear' with a temperature of 30.2°F. A navigation menu includes 'Details', 'Applications', 'Contacts', 'Notes', and 'Members'. The main content area is divided into two sections: '2017 Application' and 'Total Investment for 2018'. The '2017 Application' section indicates the application is 'Expired' with a last update of 01/08/2018 and provides buttons for 'EDIT COMMUNITY' and 'CREATE BACK-DATED APPLICATION'. The 'Total Investment for 2018' section shows a total investment of \$0, which is less than the required amount of \$0, and a per dwelling unit investment of \$0, also less than the required amount of \$0.

2017 Application	
Expired	Last update: 01/08/2018
<a href="#">EDIT COMMUNITY</a>	
<a href="#">CREATE BACK-DATED APPLICATION</a>	

Total Investment for 2018	
Total: \$0	Required: \$0
of \$0	
Per Dwelling Unit: \$0	Required: \$0
of \$0	

# Framework for Washington

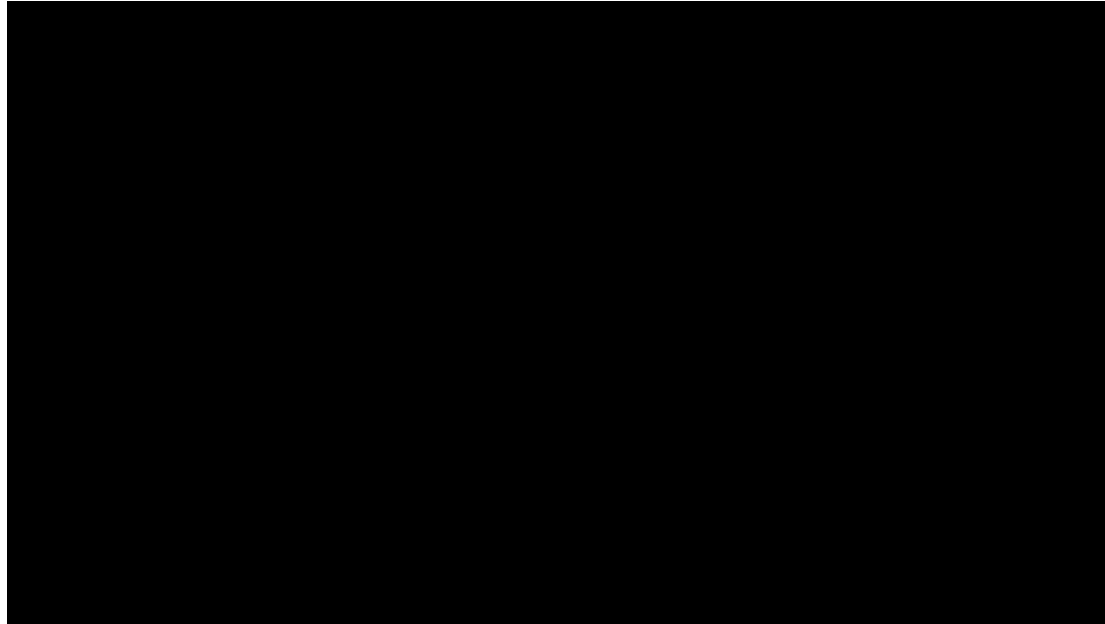
## Washington State Department of Natural Resources

- **Western Washington**

Andy Tate, Firewise Coordinator, 360-902-1300.

- **Northeast Region** (*Okanogan, Ferry, Stevens, Pend Oreille, Spokane counties, and the north portion of Lincoln County*) Myron Boles, Program Manager, 509-685-2716, [Myron.boles@dnr.wa.gov](mailto:Myron.boles@dnr.wa.gov)
- **Southeast Region** (*Chelan, Douglas, Kittitas, Grant, Lincoln, Adams, Whitman, Yakima, Klickitat, eastern portion of Skamania, Benton, Franklin, Walla Walla, Columbia, Garfield, and Asotin counties*) Scott Chambers, Program Manager, 509-925-0929, [scott.chambers@dnr.wa.gov](mailto:scott.chambers@dnr.wa.gov)

# Wildfire Community Preparedness Day



[www.wildfireprepd.org](http://www.wildfireprepd.org)

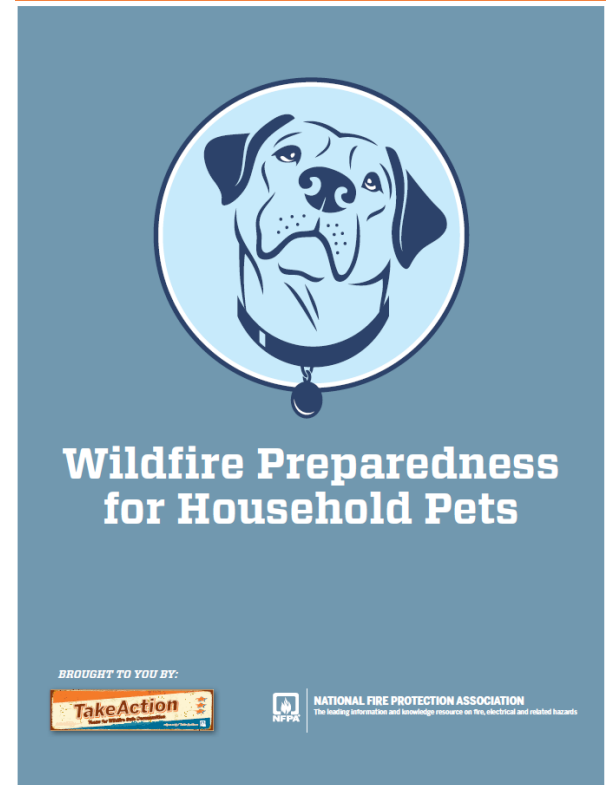








- Lesson plans and tips for teaching youth about wildfire
- Tips for evacuating household pets and horses
- Wildfire virtual fieldtrips
- Wildfire risk reduction community service projects



# TRAINING AND CERTIFICATION

# Assessing Structure Ignition Potential from Wildfire



Pat Durland instructing at a course in Bangor, ME

- Two-day classroom training
- Focus on fire science, communicating risk to residents
- Based on research from USDA Forest Service, IBHS, NIST



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[Learn More](#)



WE ALL PLAY A PART IN  
PROTECTING AGAINST WILDFIRES.  
YOUR KNOWLEDGE AND SKILLS  
CAN LEAD THE FIGHT.

### Introducing the new NFPA® Wildfire Mitigation Specialist Certification.

Large-scale wildfires are becoming more and more common, and we must all work together to mitigate the risk and damage from them. It's imperative that we have an authoritative body of wildfire mitigation specialists armed with the latest knowledge in risk reduction and structure assessment to help keep wildfires from destroying homes, businesses, and communities.

# Certified Wildfire Mitigation Specialist

- Based on NFPA 1051
- Developed with advisory group
- Involves exam and practicum
- Aimed at fire service, forestry agencies, insurance professionals, others



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# TOOLS AND RESOURCES



# Preparing Homes for Wildfire

- The primary threats to home from a wildfire
- What is the home ignition zone?
- Steps to take to reduce ignition potential

Access to English and Spanish materials



## VEGETATION MANAGEMENT

### 1. HOME IGNITION ZONES

Limiting the amount of flammable vegetation, choosing fire-resistant building materials and construction techniques, along with periodic exterior maintenance in the three home ignition zones - increases the chances your home will survive a wildfire when exposed to embers and/or a surface fire. The zones include the **Immediate Zone**: 0 to 5 feet around the house; **Intermediate Zone**: 5 to 30 feet; and the **Extended Zone**: 30 to 100 feet.

### 2. LANDSCAPING AND MAINTENANCE

To reduce ember ignitions and fire spread, trim branches that overhang the home, porch and deck and prune branches of large trees up to (depending on their height) 6 to 10 feet from the ground. Remove plants containing resins, oils and waxes and ensure mulches in the **Immediate Zone** (0 to 5 feet around the house) are non-combustible options like crushed stone and gravel. Maintain vegetation annually.

## FIRE RESISTIVE CONSTRUCTION

### 3. ROOFING AND VENTS

Class A fire-rated roofing products offer the best protection. Examples include: Composite shingles, metal, concrete and clay tiles. Inspect shingles or roof tiles and replace or repair those that are loose or missing to prevent ember penetration. Box-in eaves, but provide ventilation to prevent condensation and mildew. Roof and attic vents should be screened to prevent ember entry.

## BE PREPARED

Develop, discuss and practice an emergency action plan with everyone in your home. Include details for pets, large animals and livestock. Know two ways out of your neighborhood and have a pre-designated meeting place. Always evacuate if you feel it's unsafe to stay - don't wait to receive an emergency notification if you feel threatened from the fire.

Conduct an annual insurance policy check-up to adjust for local building costs, codes and new renovations. Create/update a home inventory to help settle claims faster.



# Wildfire Research Fact Sheets

Collaborative effort with the Insurance Institute for Business & Home Safety (IBHS)

## Topics:

- Attics and crawl space vents
- Coatings
- Decks
- Exterior sprinkler systems
- Fencing
- Fire spread on ember ignited decks
- Roofing materials
- Skylight
- Under-eave construction

## SKYLIGHTS

WILDFIRE RESEARCH FACT SHEET

Skylights can compromise a home's ability to survive a wildfire when precautions are not implemented to prevent them from being an entry point for embers and/or flames.

### Construction Materials/Placement

During a wildfire, a skylight can be vulnerable if subjected to an extended radiant heat exposure, or to flames when embers have ignited vegetative debris on top of the skylight. Most guidance recommends using a flat glass skylight rather than a plastic dome style because the plastic is combustible. However, there are situations, based on the slope of the roof, where a flat glass could be more vulnerable.

Vegetative debris can more easily land and stay on a low-slope roof, leading to increased risks. As seen in **Photos 1 and 2** of a low-slope roof, debris is more likely to accumulate on top of a flat glass skylight, and less likely to accumulate on a plastic dome skylight. Typical flame temperatures resulting from a wind-blown ember ignition of the debris could be high enough to break even tempered glass, the type of glass commonly used as the outer pane in a flat glass skylight.

### Steep-Slope Roofs

Flat skylights are less vulnerable on a steep-slope roof because vegetative debris is less likely to accumulate. A steep-slope roof will act more like an exterior wall in terms of its response to a radiant heat exposure. Because of this increased resistance of glass over

plastic to a radiant heat exposure, a glass skylight is a better choice on steep-slope roofs. The vulnerability of a domed skylight will depend on the potential for an extended radiant heat exposure, which in turn depends on the amount of vegetation and other combustibles near it (**Photo 3**).

### Dual-Pane Glass Benefits

Newer skylights feature dual-pane systems, like multi-pane windows in an exterior wall. The outer pane uses tempered glass and the inner pane uses laminated safety glass. This type of skylight is less likely to fail.

### Maintenance

Both domed and flat skylights have similar framing systems (bases). Each uses a metal flashing to protect the wood framing members from both moisture- and ember-related damage (**Photo 4**). This flashing helps the skylight survive when threatened, but should be maintained to avoid risks.

### Prior to an Evacuation

Similar to windows, skylights that can open should be closed when a wildfire threatens. They also should incorporate a screen to resist the intrusion of embers in case the skylight happens to be left open (**Photo 5**).



**Photo 1.** Accumulation of vegetative debris on top of a glass-type skylight on a low-slope roof.



**Photo 2.** Minimal accumulation of vegetative debris accumulated on these dome-type skylights on this low-slope roof.



**Photo 3.** The vulnerability of skylights on a steep-slope roof can depend on the potential for an extended radiant heat exposure to the roof and skylight unit.



**Photo 4.** Metal flashing protects the framing members of a skylight from moisture, a direct ember ignition, or flames from ember-ignited vegetation debris.



**Photo 5.** Operable skylights should be closed when a wildfire threatens. Similar to windows, they should incorporate a screen to resist the intrusion of embers (also good for insects).



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# eLearning

Understanding the  
**Wildfire Threat to**

An overview of fire history, fire basics, and how homes burn.

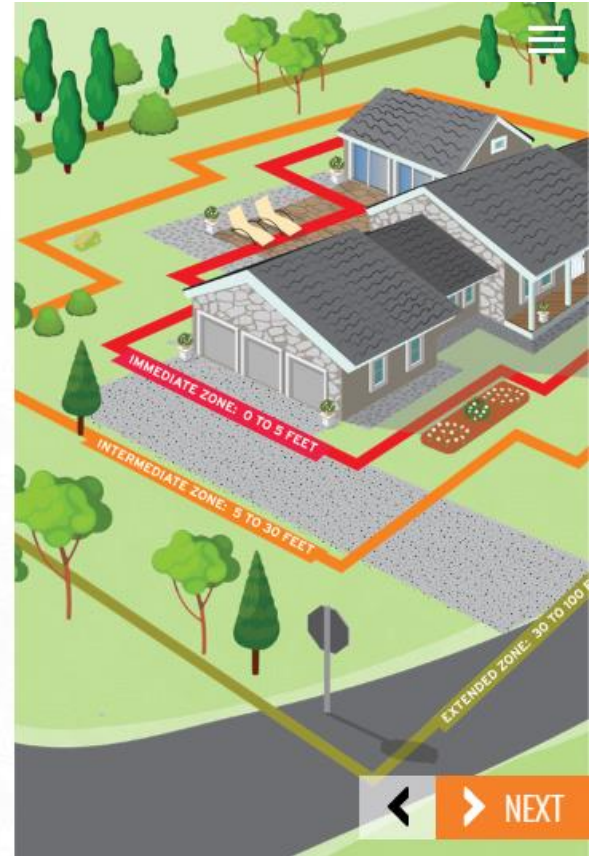
**BEGIN**

This is a vertical eLearning card with a dark, textured background. It features a checkmark icon in a circle next to a 'BEGIN' button. The text is white and orange.

## WHAT'S NEXT?

### HOME IGNITION ZONE

- > Limiting the amount of flammable vegetation.
- > Choosing fire-resistant building materials and construction techniques.
- > Periodic exterior maintenance.



# Research You Can Use

- Wildland-Urban Interface reports
- Review of regulatory and planning tools
- Firefighter fatality reports

**Fourth Needs Assessment of the U.S. Fire Service Conducted in 2015 and Including Comparisons to the 2001, 2005, and 2010 Needs Assessment Surveys**

November 2016



# Social Media




NFPA Firewise USA®  
@Firewise

Following

Active wildfires throughout the nation are a reminder for residents to reduce their wildfire risk, long before fires start. Learn how you can get started at [ow.ly/n45E30kl2oY](http://ow.ly/n45E30kl2oY)

**Protect from Embers**

Clear needles, leaves and other debris from roofs, gutters, porches and decks.



**NATIONAL FIRE PROTECTION ASSOCIATION**  
The leading information and knowledge resource on fire, electrical and related hazards.

© NFPA 2017

8:46 AM - 28 Jun 2018

22 Retweets 34 Likes



🗨️ 22 🍷 34 📧



NFPA's Wildfire and Firewise USA Programs

July 12 at 8:41 AM · 🌐

Preparing for wildfires includes adequate tree spacing and annual pruning within the Home Ignition Zones. Learn more: <http://ow.ly/NsDi30kVclu>



👍 37

8 Comments 133 Shares

👍 Like

💬 Comment

➦ Share





# Virtual workshop series

- Free hour-long presentations
- Connect with leading researchers and practitioners
- Topics: Insurance, risk reduction tips, success stories, “urban legends”.



<https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA/Online-learning-opportunities/Virtual-Workshop-Series>




# Wildfire Preparedness tips



- Additional resources and tip sheets
- Steps to take *before, during, and after* a wildfire

<https://www.nfpa.org/Public-Education/By-topic/Wildfire/Wildfire-safety-tips>

# YouTube channel




▶ PLAY ALL

## Wildfire Safety Videos

13 videos • 5,497 views • Last updated on Mar 27, 2018


☰ ✕





**National Fire Protection Association**


**SUBSCRIBE 15K**


Brush, grass or forest fires don't have to be disasters. The National Fire Protection Association's (NFPA) Firewise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from wildfire risks. Learn more at <http://www.firewise.org>


- 


**Structure Protection Strategies in the Wildland/Urban Interface**  
National Fire Protection Association
- 

**Understanding Fire Behavior in the Wildland/Urban Interface**  
National Fire Protection Association
- 

**Firefighter Safety in the Wildland/Urban Interface**  
National Fire Protection Association
- 

**Wildfire: Prevent Home Ignition P.1**  
National Fire Protection Association
- 

**Wildfire: Prevent Home Ignition P.2**  
National Fire Protection Association
- 

**Safer From the Start: Developing a Firewise Community**  
National Fire Protection Association
- 

**Firewise Virtual Workshop: Get Prepared, Stay Alive, Rebuild Your Life**  
National Fire Protection Association

# International Outreach and Partnerships

- Connecting with organizations and agencies around the world
- Exchange of resources and data



**RESEARCH FOUNDATION**  
RESEARCH FOR THE NFPA MISSION

## Workshop on International Wildfire Risk Reduction

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FINAL PROCEEDINGS BY:

**Daniel Gorham**  
Fire Protection Research Foundation  
Quincy, MA

Held: Tuesday June 6<sup>th</sup> 2017 at the Boston Convention Center in  
Boston, Massachusetts

December 2017

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# Firebreak E-Newsletter

[www.nfpa.org/firebreaksubscribe](http://www.nfpa.org/firebreaksubscribe)

- The latest research and reports
- New educational resources
- International news and partners

The screenshot shows the Firebreak E-Newsletter website. At the top, there is a header with the NFPA logo and the text "FIRE BREAK Saving lives and property from wildfire". Below the header is a navigation bar with links for "TakeAction", "Firewise USA™", "Courses & Training", and "Catalog". The main content area is dated "June 2018" and features three articles. The first article is titled "Eaves and embers - get tips to stay safe" and includes a photo of a house with flames and a "Read More" button. The second article is titled "Webinar: Advances in Wildland Fire Shelter Development and Training" and includes a photo of a firefighter and a "Read More" button. The third article is titled "Lessons from a tragic loss" and includes a photo of firefighters and a "Read More" button. On the right side of the newsletter, there are two vertical promotional banners. The top one is titled "Understanding insurance in the WILDLAND URBAN INTERFACE" and features a house icon. The bottom one is titled "Get the story on WILDFIRE" and features the NFPA logo.

# Questions???

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IT'S A BIG WORLD.  
LET'S PROTECT IT TOGETHER.®

# THANK YOU



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