The Escalating Costs of Wildfires

Presented by: Mark Goeller, Oklahoma Forestry Services
State Forester/Director of Forestry

Introduction
The costs of suppressing wildfires across the United States continues to climb each year. In 2017 the Federal Government spent over 2.9 billion dollars were spent fighting wildfires. State Forestry Agencies spent nearly the same amount as the Federal Government. Data will likely show that 2018 has eclipsed that amount.

What are the causal factors for the increasing costs?
How can we reduce costs in the future?

The Numbers
Wildfires in the United States

Fires by Year

Acres Burned by Year

Fire Suppression Costs

Annual time between first and last large-fire discovery and last large-fire control
The Numbers
Wildfires in the United States

Data source: Case for Change: A path forward to modernizing our ground firefighting resources, Shawna LeGarza (USFS)

Wildfire Risk in the 10 Most Wildfire-Prone States

1. California 2,048,800
2. Texas 715,300
3. Colorado 366,200
4. Arizona 234,600
5. Idaho 171,200
6. Washington 154,900
7. Oklahoma 152,900
8. Oregon 148,800
9. Utah 133,100
10. Montana 133,000

Number of Households* at High or Extreme Risk from Wildfire** due to three impact factors: fuel, slope, risk

*Based on data from the 2010 U.S. Census
**Rounded to the nearest 100

Wildland-Urban Interface (WUI)

The area where houses and wildland vegetation meet or intermingle

Wildland-Urban Interface (WUI) Statistics

Changes in the WUI from 1990 to 2010:

- New homes increased from 30.8 million to 43.4 million (41% growth)
- Land area classified as WUI increased from approximately 143.5 million acres to approximately 190.2 million acres
- Fastest growing land-use type in the conterminous United States
- Within the perimeter of wildfires from 1990-2015, WUI homes in 1990 numbered approximately 177,000 compared to 286,000 in 2010

Forest Service Resources

<table>
<thead>
<tr>
<th>Resource</th>
<th>FY 1999</th>
<th>FY 2001</th>
<th>FY 2002-12</th>
<th>FY 2013-18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engines</td>
<td>584</td>
<td>1,137</td>
<td>265</td>
<td>300</td>
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<tr>
<td>Type I Interagency Helitack Crews</td>
<td>7,551</td>
<td>10,750</td>
<td>10,480</td>
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<tr>
<td>Type II Interagency Helitack Crews</td>
<td>53 crews</td>
<td>55 crews</td>
<td>65 crews</td>
<td>67 crews</td>
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<tr>
<td>NPF Type 1</td>
<td>17 Teams</td>
<td>16 Teams</td>
<td>15 Teams</td>
<td>16 Teams</td>
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<tr>
<td>NPF Type 2</td>
<td>27 Assignments</td>
<td>26 Assignments</td>
<td>22 Assignments</td>
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National Contracted Resources & Support

<table>
<thead>
<tr>
<th>Contract Resource</th>
<th>FY2015</th>
<th>FY2016</th>
<th>FY2017</th>
<th>FY2018</th>
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</thead>
<tbody>
<tr>
<td>National Mobile Food</td>
<td>$44.3M</td>
<td>$54.4M</td>
<td>$65.9M</td>
<td>$89.3M</td>
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<tr>
<td>National Mobile Shower</td>
<td>$3.1M</td>
<td>$5.3M</td>
<td>$7.3M</td>
<td>$10.8M</td>
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<tr>
<td>National Contract Crews</td>
<td>$21.5M</td>
<td>$25.8M</td>
<td>$28.8M</td>
<td>$33.1M</td>
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<tr>
<td>VIPR Buses</td>
<td>$0.9M</td>
<td>$1.8M</td>
<td>$1.8M</td>
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<tr>
<td>VIPR Support Trailers &amp; Laundry Units</td>
<td>$1.9M</td>
<td>$5.9M</td>
<td>$4.6M</td>
<td>$11.0M</td>
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<tr>
<td>Retardant</td>
<td>$32.1M</td>
<td>$66.7M</td>
<td>$71.8M</td>
<td>$71.1M</td>
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<tr>
<td>Total</td>
<td>$104.2M</td>
<td>$160.9M</td>
<td>$187.5M</td>
<td>$227.4M</td>
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Contract Resource FY2015 FY2016 FY2017 FY2018
National Mobile Food $44.3M $54.4M $65.9M $89.3M
National Mobile Shower $3.1M $5.3M $7.3M $10.8M
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Total $104.2M $160.9M $187.5M $227.4M

The Numbers
Wildfires in the United States

Number of Personnel Committed Nationally

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Number of Crews Committed Nationally

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Succession - A series of dynamic changes by which plants succeed one another through a series of plant community (seral) stages leading to potential natural community or climax.

Simply put - Any given site will go from stand-replacing disturbance to a state where it is occupied by the species of grass/shrub/tree that can reproduce and grow under the shade of other species.

Wildfires tend to burn in the same locations in the US, with a varying return interval at each site.

Without proper management practices or disturbance on a given site, wildland fuel will continue to accumulate.

We can’t change slope, but we can educate those that choose to live there about the inherent wildfire risks.

Wildland-Urban Interface Implications
- Increased human-caused ignitions
- Increased suppression complexity
- Increased suppression resource needs
- Increased threat to firefighter and public safety
- Increased cost
Wildfire Risk Assessment Portals

- Southern Wildfire Risk Assessment (https://www.southernwildfirerisk.com)
- California Fire and Risk Assessment Program (http://frap.fire.ca.gov/)
- Arizona Wildfire Risk Assessment
- Colorado Wildfire Risk Assessment
- Hawaii Wildfire Risk Assessment
- Montana Wildfire Risk Assessment
- Nevada Wildfire Risk Assessment
- New Mexico Wildfire Risk Assessment
- Oregon Wildfire Risk Assessment
- Utah Wildfire Risk Assessment
- Wyoming Wildfire Risk Assessment

Cost Impact Factor: Risk

Cost Impact Factor: Risk

Community & Personal Actions to Reduce Wildfire Costs

- National Cohesive Wildland Fire Management Strategy
- Community Wildfire Protection Plans
- FireWise Communities
- Ready-Set-Go!

National Cohesive Wildland Fire Management Strategy

In a nutshell, the four-pronged approach:
- Resilient Landscapes
- Reducing Human-caused Ignitions
- Safe & Effective Wildfire Response
- Fire Adapted Communities

Community Wildfire Protection Plan

- Community Wildfire Protection Plans effectively address local forest and range conditions, values-at-risk, and priorities for action.
- Generally developed by local government with assistance from state and federal agencies and other interested partners.
- May be as simple or complex as necessary, based on the specific needs and desires of the local community or county.

Community Wildfire Protection Plan

The minimum requirements for a CWPP are:
- Collaboration: A CWPP must be collaboratively developed. Local and state officials must meaningfully involve land managers in the vicinity of the community and other interested parties, particularly non-governmental stakeholders.
- Prioritized Fuel Reduction: A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that, if completed, would reduce the risk to the community.
- Treatment of Structural Ignitability: A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

FireWise Communities

FireWise Communities

- https://www.nfpa.org/Public-Education/By-topic/Wildfire/Firewise-USA
Ready, Set, Go!

http://www.wildlandfirersg.org/

Summary

• Increased active management and risk reduction will have a positive effect on wildfire suppression costs
• Take advantage of available Wildfire Risk Assessment Tools
• Develop broad partnerships for success
• Develop CWPPs for the greatest areas of risk
• Adopt Firewise and become a Firewise Community
• Promote Ready, Set, Go!

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