What the Future Holds

Helge Eng
Deputy Director, Resource Management
CAL FIRE

February 23, 2019

California SAF Winter Meeting
Folsom, CA
Lassen-Modoc Unit

Thinned Stand
<table>
<thead>
<tr>
<th>Year</th>
<th>Total hurricanes</th>
<th>Made landfall as hurricane in the U.S.</th>
<th>Deaths</th>
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<tbody>
<tr>
<td>1998</td>
<td>10</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>1999</td>
<td>8</td>
<td>2</td>
<td>60</td>
</tr>
<tr>
<td>2000</td>
<td>8</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>2001</td>
<td>9</td>
<td>0</td>
<td>42</td>
</tr>
<tr>
<td>2002</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2003</td>
<td>7</td>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>2004</td>
<td>9</td>
<td>6</td>
<td>59</td>
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<tr>
<td>2005</td>
<td>15</td>
<td>7</td>
<td>1,518</td>
</tr>
<tr>
<td>2006</td>
<td>5</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2007</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2008</td>
<td>8</td>
<td>4</td>
<td>41</td>
</tr>
<tr>
<td>2009</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2010</td>
<td>12</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
<td>1</td>
<td>44</td>
</tr>
<tr>
<td>2012</td>
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<td>0</td>
<td>3</td>
</tr>
<tr>
<td>2016</td>
<td>7</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td>2017</td>
<td>10</td>
<td>4</td>
<td>147</td>
</tr>
</tbody>
</table>

Camp Fire, 2018:

85 fatalities

18,804 homes destroyed

Source: Insurance Information Institute from data supplied by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Hurricane Center.
Wildfire Activity: Area Burned 1960-2017

- Increase in annual area burned in both conifer and shrub over the last two decades
- 2000-2009, more shrub. 2010-2017, more forest.
Landscape Condition: FRID 2016

- Forests (hardwood, conifer, mixed) burning less frequently
- Shrub-dominated areas in South Coast burning more frequently
Executive Order B-52-18

May 10, 2018

Double the total statewide rate of forest treatments within 5 years to at least 500,000 acres per year.

Increase new landowner agreements and memoranda of understanding, such as Good Neighbor Authority agreements, to accelerate forest restoration thinning and prescribed fire projects across jurisdictions.
Executive Order
N-05-19
January 8, 2019

Actions to reduce the impact of deadly wildfires this year:

- How to quickly deploy personnel and resources for fuels management
- Policy changes to allow more rapid and effective fuels management
- Methods to identify highest risk communities
California Climate Investments

- $165 million for Forest Health, Forest Legacy, and Fire Prevention grants
- $35 million for fuels reduction crews
- National Guard, 5 crews
California Climate Investments

- Total $200 million in FY 18-19 budget from GGRF
  - $35 million for 6 prescribed fire crews – start up costs included
  - $165 million for Forest Health and Fire Prevention
    - $5 million to Urban and Community Forestry
    - $5 million to California Conservation Corps
    - Up to $155 million for Forest Health and Fire Prevention projects including grants

- 5 years “continued” funding in SB901 - Wildfires
  - $1 billion to be allocated between FY 19-20 and 23-24 (5 years)
  - Prescribed fire crews will expand to 10
CCI Grants Awarded

- FY 17-18: $91.5 million awarded
- FY 16-17: $16 million awarded
- 27 total projects; 240,000 acres

<table>
<thead>
<tr>
<th>Treatment Activity</th>
<th>Acres</th>
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</thead>
<tbody>
<tr>
<td>Fuels Reduction</td>
<td>91,987</td>
</tr>
<tr>
<td>Prescribed Fire</td>
<td>27,883</td>
</tr>
<tr>
<td>Pest Management</td>
<td>24,076</td>
</tr>
<tr>
<td>Biomass Utilization</td>
<td>65,784</td>
</tr>
<tr>
<td>Reforestation</td>
<td>17,739</td>
</tr>
<tr>
<td>Conservation Easement</td>
<td>19,315</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>246,784</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Other data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research (# of projects)</td>
</tr>
<tr>
<td>Biomass Utilization (tons)</td>
</tr>
<tr>
<td>Reforestation (trees)</td>
</tr>
</tbody>
</table>
CAL FIRE Prescribed Fire Crews

3 Crews in Southern Region, 3 in the Northern Region

- 1 Fire Captain
- 1 Fire Apparatus Engineer
- 1 Forestry Assistant II
- 1 Equipment Operator
- 9 Forestry Technicians

CAL FIRE Vegetation Management Program projects

Cooperative Projects
- Department of Parks and Recreation
- The Nature Conservancy (TREX)
- Watershed Learning center
- USDA Forest Service
- Other
Prescribed Fire

Protect life and property or landscape level forest health?
Disadvantaged & Low-income Communities Investments

https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/communityinvestments.htm
Mechanical Fuels Reduction
Prescribed Fire
Reforestation
Thinning
Area under a THP that was declared substantially damaged timberlands from bark beetle epidemic

Tuolumne County
Elliot Ranch Thinning Study
Levels of Growing Stock (LOGS)

Number of Trees per Acre

Trees per Acre

Age

20 T 25 25 T 30 30 T 40 40 T 45 50 55 60

A (open) B C (moderate) D E (dense) SPI (Gspace)
Elliot Ranch Thinning Study
Levels of Growing Stock (LOGS)
Mortality (Number of trees/acre that died in the period)
Fuels reduction and thinning efforts to reduce wildfire risk due to drought, overstocking, tree mortality. Large amount of woody material produced. New innovative wood products. Bioenergy.

Thank you!

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