IMAGES OF FIRE IN PACIFIC NORTHWEST FORESTS

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2012
INTRODUCTION

• This PowerPoint Presentation contains images pertaining to the topic of fire in Pacific Northwest forests—both wildfire and prescribed fire. It includes images of:

  ➢ Predisposing factors
  ➢ Causes of ignition
  ➢ Wildfire
  ➢ Natural adaptations to fire
  ➢ Prescribed fire
  ➢ Fire management
  ➢ Wildfire history
  ➢ Additional sources of information
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  • College of Forestry
  • Oregon State University
  • Corvallis, OR
PREDISPOSING FACTORS

• Principal predisposing factors for fire include:

  ➢ Drought & Climate Change
  ➢ Storm Damage—lightning & windthrow
  ➢ Insect Attack & Disease
  ➢ Fire Exclusion Effects—species & structural changes, ladder fuels
  ➢ Logging Slash & Thinning Debris
  ➢ Snags
PREDISPOSING FACTORS:

- DROUGHT & CLIMATE CHANGE
PREDISPOSING FACTORS:

➢ STORM DAMAGE—LIGHTNING & WINDTHROW
PREDISPOSING FACTORS:

- INSECT ATTACK & DISEASE
PREDISPOSING FACTORS:

➢ FIRE EXCLUSION EFFECTS
PREDISPOSING FACTORS:

- LOGGING SLASH & THINNING DEBRIS
PREDISPOSING FACTORS:

➢ AGE & SENESCENCE
PREDISPOSING FACTORS:

➢ SNAGS
CAUSES OF IGNITION

• Principal causes of ignition of wildfires are:
  - Lightning
  - Accidental
  - Intentional
  - Arson
  - Prescribed fire escapes
CAUSES OF IGNITION:

➤ LIGHTNING
CAUSES OF IGNITION:

- ACCIDENTAL
CAUSES OF IGNITION:

➢ INTENTIONAL
INTENTIONAL CAUSES OF IGNITION:
CAUSES OF IGNITION:

- PRESCRIBED FIRE ESCAPES
CAUSES OF IGNITION:

- ARSON
WILDFIRE

• Wildfires can be classified into the following broad categories:

  - High Severity Fires (stand-replacing)
  - Low Severity Fires (underburns)
  - Mixed Severity Fires (variable mosaics)
  - Wildland-Urban Interface Fire (WUI fires)
WILDFIRE:

- HIGH SEVERITY
WILDFIRE:

- LOW SEVERITY
WILDFIRE:

➤ MIXED SEVERITY
WILDFIRE:

- WILDLAND-URBAN INTERFACE FIRES
NATURAL ADAPTATIONS TO FIRE

- Thick bark
- Healing of scar tissue
- Prolific seeding
- Rapid growth
- Protected buds
- Self-pruning
NATURAL ADAPTATIONS TO FIRE:

➢ Thick bark
NATURAL ADAPTATIONS TO FIRE:

- Healing of scar tissue
NATURAL ADAPTATIONS TO FIRE:

➢ Natural seeding
NATURAL ADAPTATIONS TO FIRE:

- Rapid growth
NATURAL ADAPTATIONS TO FIRE:

- Protected buds
NATURAL ADAPTATIONS TO FIRE:

➢ Self-pruning
PREScribed FIRE

• The use of fire for prescribed purposes includes the following applications:

  ➢ Slash disposal & site preparation
  ➢ Broadcast burns
  ➢ Burning of piles & windrows
  ➢ Underburns beneath the forest canopy
  ➢ Prescribed natural fire (i.e., wildfires allowed to burn under prescribed conditions)
PREScribed FIRE:

➤ SLASH DISPOSAL & SITE PREP:

BROADCAST BURNS
PREScribed FIRE:

➤ SLASH DISPOSAL & SITE PREP:

BURNING OF PILES & WINDROWS
PREScribed FIRE:

➢ UNDERBURNS BENEATH THE FOREST CANOPY
PRESCRIBED FIRE:

- SMOKE MANAGEMENT
PREScribed FIRE:

➤ PREScribed NATURAL FIRE
FIRE MANAGEMENT

• Aspects of fire management include the following:
  ➢ Organization & Communication
  ➢ Fire Prevention
    ➢ Education & Publicity
    ➢ Fuel Reduction Programs
  ➢ Fire Detection
  ➢ Fire Suppression
  ➢ Fire Safety
FIRE MANAGEMENT:

- ORGANIZATION & COMMUNICATION
FIRE MANAGEMENT:

➢ FIRE PREVENTION:

EDUCATION & PUBLICITY
Communication Strategies for Fire Management
Creating Effective Citizen-Agency Partnerships

Dr. Bruce Shindler
Ryan Gordon
Department of Forest Resources
Oregon State University
FIRE MANAGEMENT:

➢ FIRE PREVENTION:

FUEL REDUCTION PROGRAMS
FIRE MANAGEMENT:

★ FIRE DETECTION:

FIRE TOWERS & LOOKOUTS
"Forest Fire Lookout"
SISTERS, OREGON
FIRE MANAGEMENT:

➢ FIRE SUPPRESSION:

AERIAL: HELICOPTERS & TANKERS
FIRE MANAGEMENT:

➢ FIRE SUPPRESSION:

GROUND: FUELBREAKS, FIRELINES, & BACKBURNING
FIRE MANAGEMENT:

➢ FIRE SAFETY & TRAINING
WILDFIRE HISTORY:

- HISTORICALLY SIGNIFICANT WILDFIRES IN OREGON
Oregon has endured many significant wildfires over the past 150 years or so. Several of the more notable historical fires are listed below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Location</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1848</td>
<td>Nestucca Fire</td>
<td>North-central coast of Oregon</td>
<td>295,000</td>
</tr>
<tr>
<td>1849</td>
<td>Siletz Fire</td>
<td>Central coast of Oregon</td>
<td>800,000</td>
</tr>
<tr>
<td>1853</td>
<td>Yaquina Fire</td>
<td>Central coast of Oregon</td>
<td>480,000</td>
</tr>
<tr>
<td>1865</td>
<td>Silverton Fire</td>
<td>Cascade foothills east of Salem, OR</td>
<td>990,000</td>
</tr>
<tr>
<td>1868</td>
<td>Coos Bay Fire</td>
<td>South-central coast of Oregon</td>
<td>295,000</td>
</tr>
<tr>
<td>1902</td>
<td>Columbia Fire et al.</td>
<td>Mt. Hood area of Oregon et al.</td>
<td>170,000+</td>
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<tr>
<td>1918</td>
<td>Several</td>
<td>Various</td>
<td>Unspecified</td>
</tr>
<tr>
<td>1933</td>
<td>Tillamook Burn</td>
<td>Northwest Oregon</td>
<td>240,000</td>
</tr>
<tr>
<td>1936</td>
<td>Bandon Fire</td>
<td>Southwestern coast of Oregon</td>
<td>145,000</td>
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</table>
## WILDFIRE HISTORY IN OREGON (Continued)

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Location</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1939</td>
<td>2(^{nd}) Tillamook Burn</td>
<td>Northwest Oregon</td>
<td>190,000</td>
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<tr>
<td>1945</td>
<td>3(^{rd}) Tillamook Burn</td>
<td>Northwest Oregon</td>
<td>180,000</td>
</tr>
<tr>
<td>1951</td>
<td>Sardine Creek Fire</td>
<td>Cascade foothills east of Albany, OR</td>
<td>21,400</td>
</tr>
<tr>
<td>1951</td>
<td>4(^{th}) Tillamook Burn</td>
<td>Northwest Oregon</td>
<td>33,000</td>
</tr>
<tr>
<td>1951</td>
<td>Vincent Creek Fire</td>
<td>Lane County, OR</td>
<td>30,000</td>
</tr>
<tr>
<td>1961</td>
<td>Cayuse Fire</td>
<td>Umatilla County, OR</td>
<td>25,000+</td>
</tr>
<tr>
<td>1961</td>
<td>Ditch Creek Fire</td>
<td>Grant County, OR</td>
<td>25,000+</td>
</tr>
<tr>
<td>1966</td>
<td>Oxbow Burn</td>
<td>Lane County, OR</td>
<td>43,000</td>
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<tr>
<td>1986</td>
<td>Several</td>
<td>Eastern Oregon</td>
<td>85,000</td>
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<tr>
<td>1987</td>
<td>Silver Fire et al.</td>
<td>Southwest Oregon</td>
<td>200,000</td>
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<tr>
<td>2002</td>
<td>Biscuit Fire</td>
<td>Southwest Oregon</td>
<td>500,000</td>
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<td>2003</td>
<td>B&amp;B Fire</td>
<td>Cascade Mountains of Central Oregon</td>
<td>95,000</td>
</tr>
</tbody>
</table>
ADDITIONAL SOURCES OF INFORMATION