High Severity Fire Events in the West

Anthony S. Davis, Interim Dean

John Bailey, Professor of Silviculture and Fire Management

College of Forestry

Oregon State University

Three Thoughts for Today

The role of fire in shaping our western landscapes is often overlooked

Present conditions drive fire severity in Oregon

There is no short-term fix, but steps can be taken to strategically address the impact of wildfires

Fire History in the Western USA

Locally:

fires continually thinned forest patches, reducing density and fuel loads

Regionally:

fires created variable patchworks of grass, shrub, early-, mid-, and late-seral conditions. These patterns spatially controlled future fire size & severity

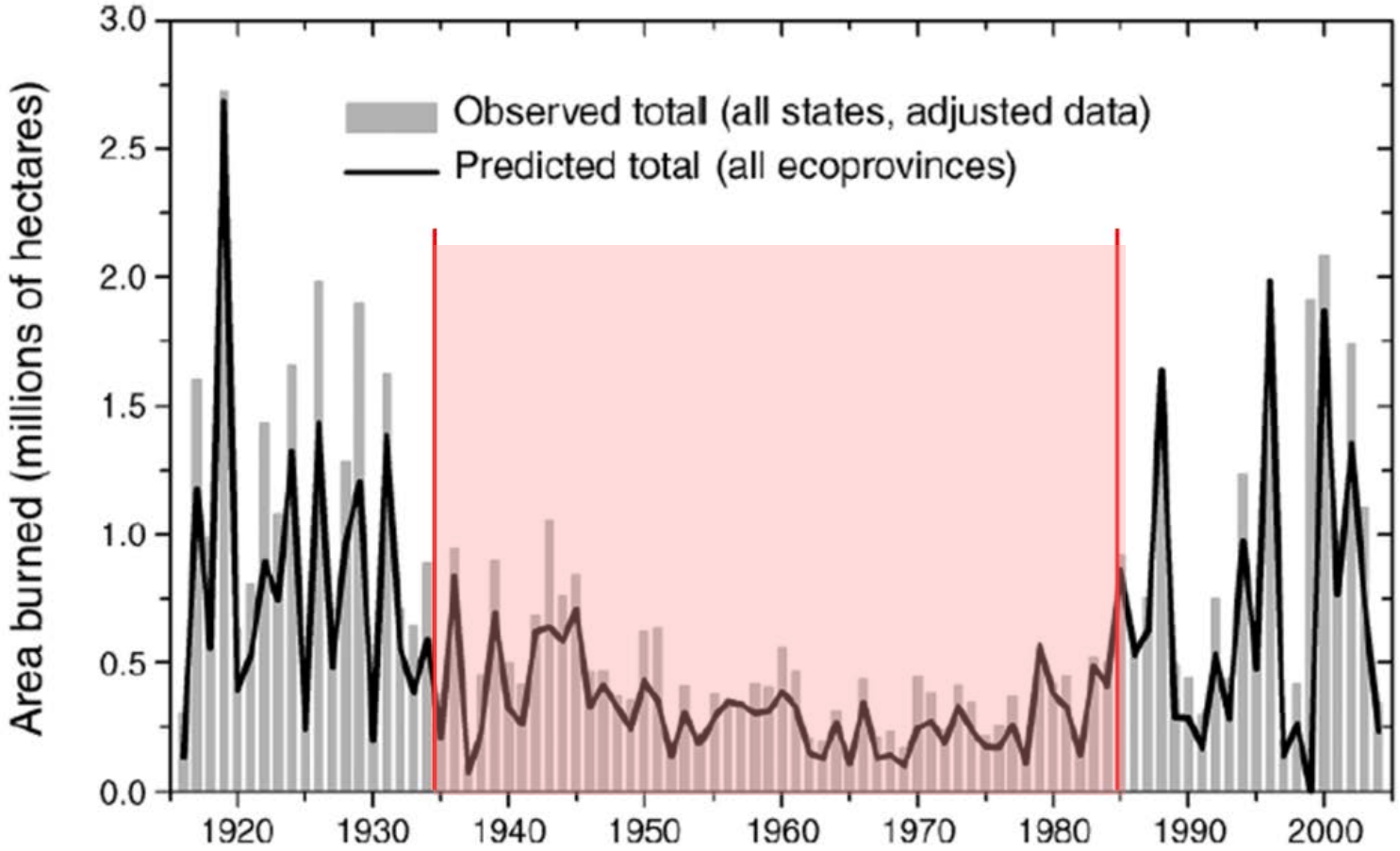
Change Agents:

- Roads and railroads
- Subdividing by ownership
- Timber harvest
- Livestock grazing
- Fire prevention and suppression
- Urban/rural development
- Increased agriculture use
- Climate change

Key Changes:

- Created a vast fuel-break network over 64,000 mi OR/WA
- Fragmented forests with varied management plans
- Fire suppression & exclusion
- Pest epidemics
- Increased development + agriculture = reduced grass & shrublands and further excluded fires
- Climate change=larger & more severe fires

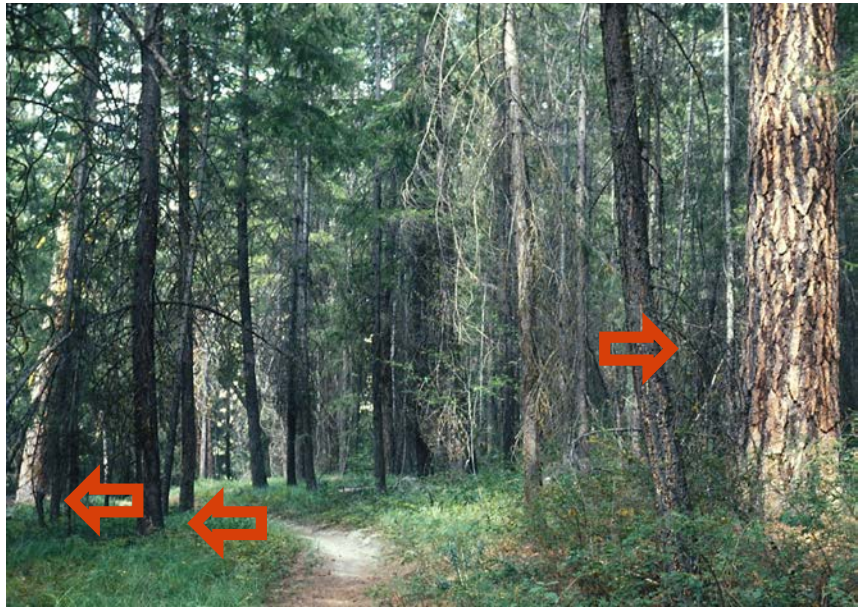
- **1934-35: fire suppression began its period of high efficiency**
- **Suppression works well for about 50 years**
- **After ~1985, suppression steadily fails to reduce acres burned**



Tom Dick Mtn looking W to Mt Hood

Comparison of forest on south side of Mt. Hood, using 1933 USFS image by J.D. Rittenhouse and Reino R. Sarlin from National Archives and Records Administration with 2015 panorama by John F Marshall. View is from Tom Dick Mountain, west of present day Ski Bowl. Government Camp is at lower right.

Present Conditions



Connected forests

- Vertically, through trees that do not get thinned by less intensive fires or other thinning practices
- Horizontally, through suppression on patches and the narrower age classes that exist across the state now

More wood to burn

- At every level, those fires have more fuel to consume, making the fires harder to put out

Restrictions on management tools

- We have decoupled forest management from fire management
- Prescribed burning and thinning are underused tools

What can we do about it?

- **We: Nationally**
  - Address significant management challenges on federal lands
- **We: Oregon**
  - Support active and strategic fuel reduction
  - Implement cross-boundary collaborations to reduce fuel loading and emphasize pre-fire planning
  - Increase efforts to reduce home ignition in wildlife/urban Interface (WUI) areas
- **We: OSU College of Forestry**
  - Credible Science – Addressing key issues
  - Timely and Relevant Information – Supporting public and private land mangers
  - Convener – Bring together scientists, land managers, and policy leaders

March 2018 Fire Summit

Goal: Identify viable forest management practices that could help mitigate the risks and impacts of high-severity fire events in the West

Recommendations from Summit Panels

1. Expand Strategic Use of Commercial Thinning, Prescribed Fires, and Managed Wildfire as Forest Management Tools
   - Smoke emission regulations to support prescribed burning in spring and fall
   - Develop “fire-shed” plans that map where to strategically implement fuel treatments
2. Improve Coordination Across Jurisdictions and Ownership Boundaries
   - Enhanced coordination of private land owners and public land managers to accelerate strategic pre-fire planning (including fuel treatments)
3. Develop and Implement Cross-Boundary “Pre-Fire Response” Plans
   - To reduce future severity, fire suppression must be strategic and designed to support sustainable conditions into the future. This requires local response plans that coordinate and align suppression strategy beyond traditional preparedness planning.
4. Address Inequities Associated with Liability for Cross-Boundary Fires
   - Current framework for imposing financial liability for fires that cross boundaries is a flash point that impedes progress in discussions regarding fire prevention and suppression efforts.
5. Invest in Data Mapping and Risk Assessment to Support Cross-Boundary Management and Suppression
   - A variety of information and mapping tools are available to facilitate mores strategic pre-fire response planning that is tailored to address local conditions and land management needs.

College of Forestry

Oregon State University