



Two-legged fire histories: Where tree-rings & Indigenous knowledge meet

Lori Daniels, Greg Greene, Wes Brookes, Alex Pogue
Tree-Ring Lab at UBC, Faculty of Forestry

Fire Regimes: Fuel x Weather x Topography

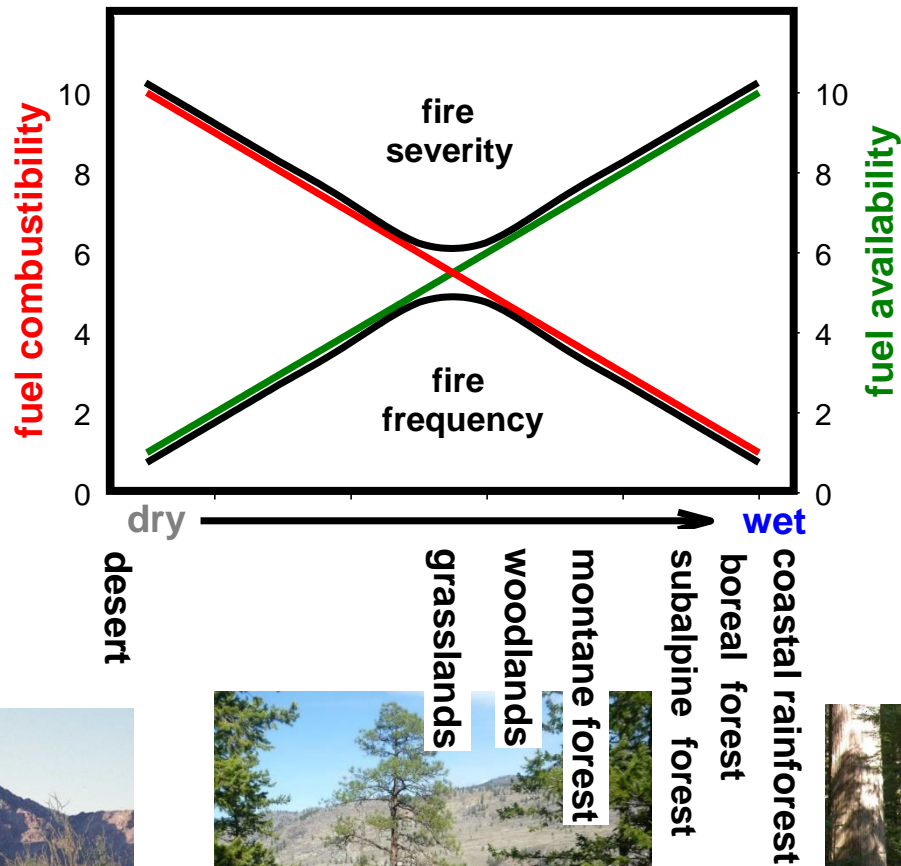


Photo: A. Stan

Tree Adaptations to Surface Fire



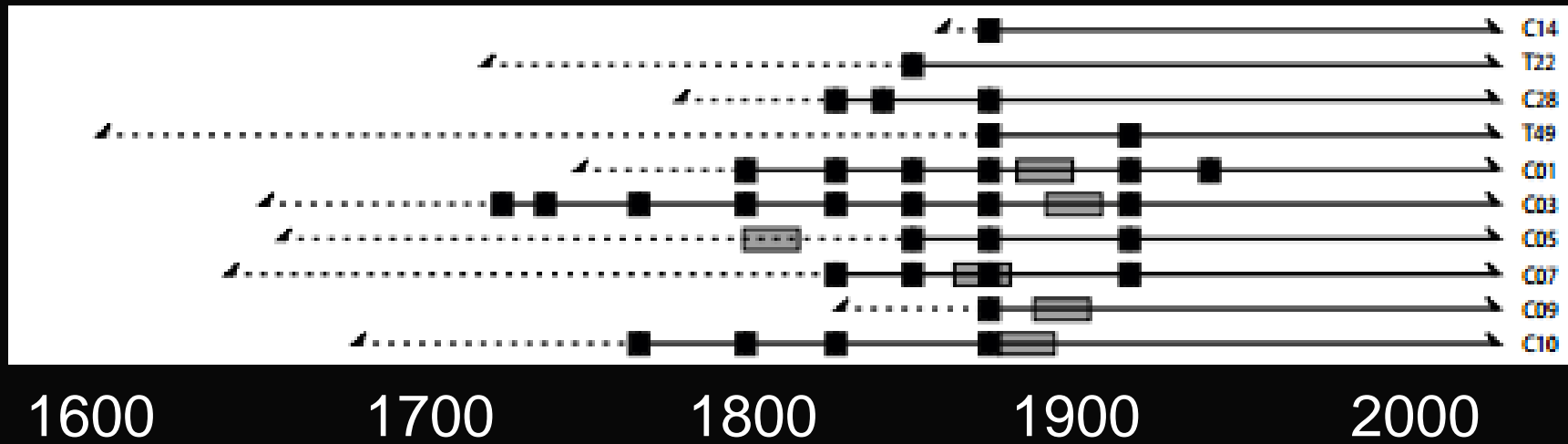
Photo: L. Daniels



L. Daniels

Fire History at Knife Creek

Wesley Brookes, MSc Student

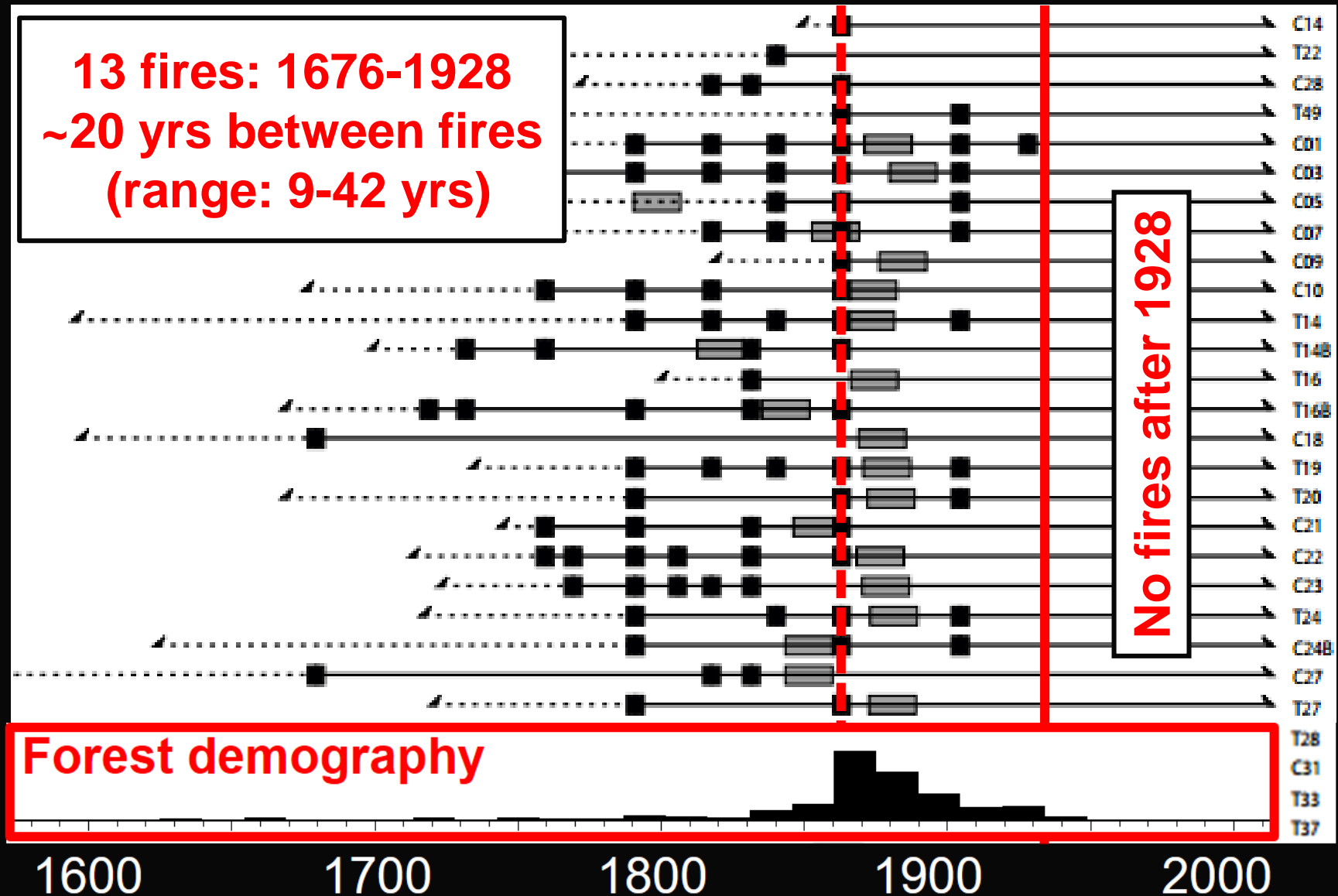


Legend:

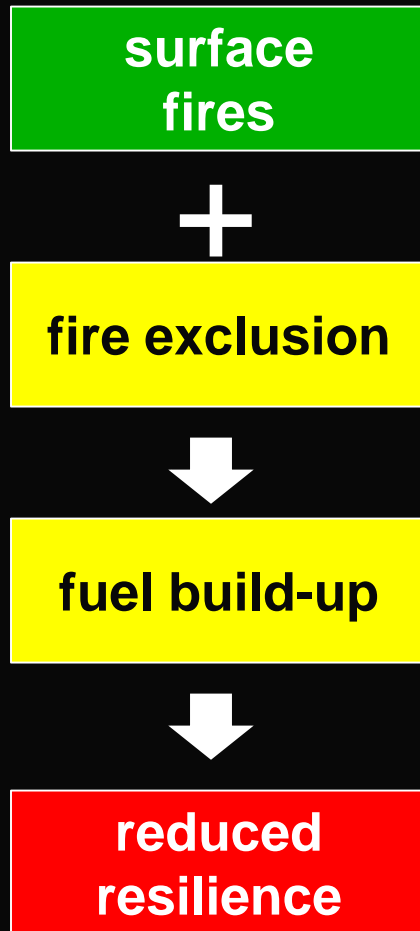
- Lines = study plots and tree ages
- Black square = fire scar
- Grey rectangle = cohort of trees

Altered Fire Regime: Cariboo

Wesley Brookes, MSc Student

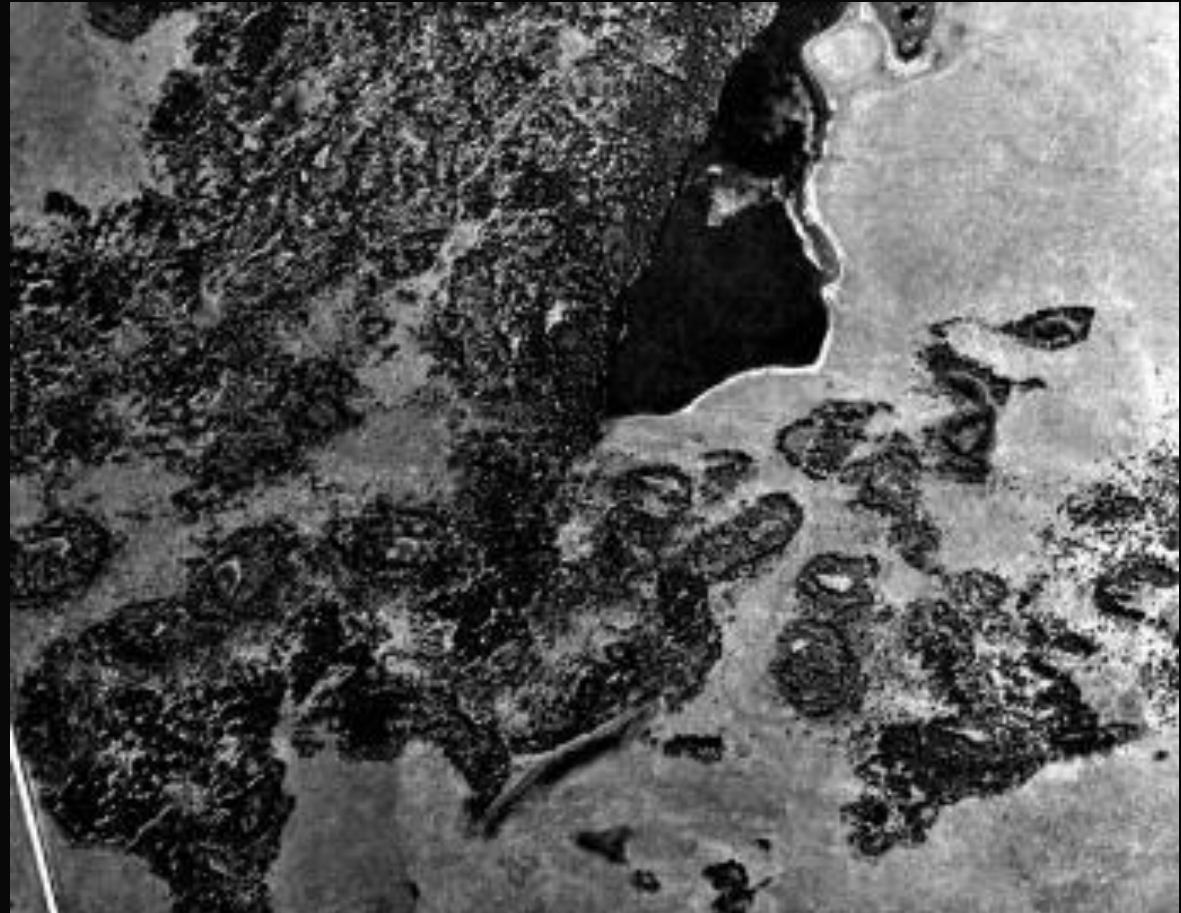
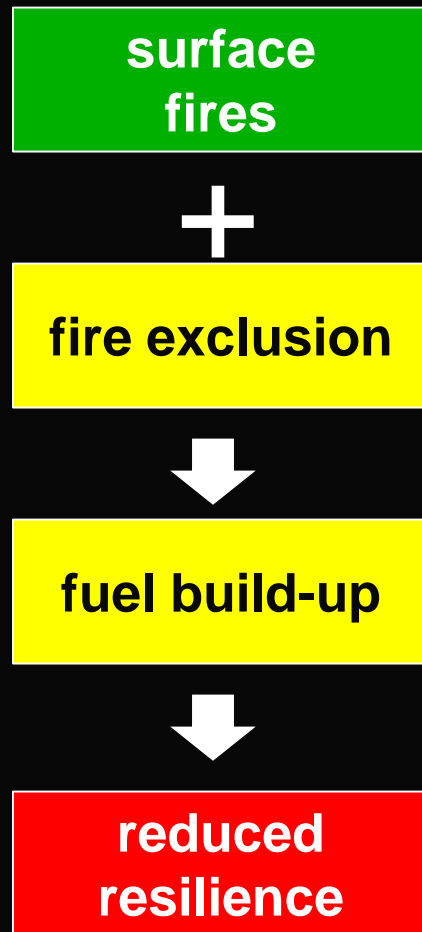


Altered fire regimes and ecosystems



1950 Becher Prairie + Rock Lake

Altered fire regimes and ecosystems



1995 Becher Prairie + Rock Lake

Fire History at West Vaseux

Alexandra Pogue, MSc

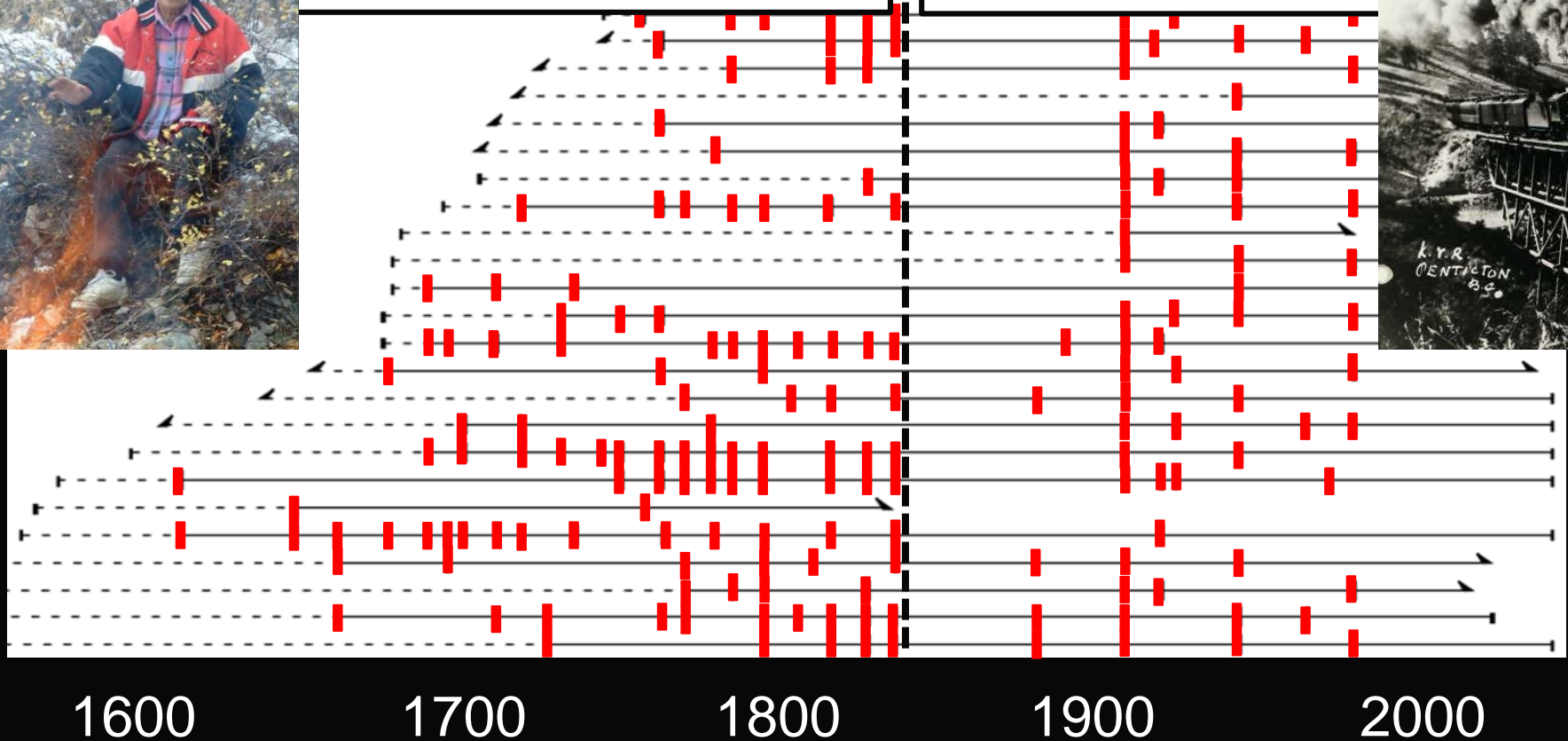


Changes to the Fire Regime

Alexandra Pogue, MSc

Pre-1865: 27 fires
Intervals ~7 yrs (3-25)
17% early season

Post-1865: 10 fires
Intervals ~14yrs (3-43)
4% early season



Changes to the Forest

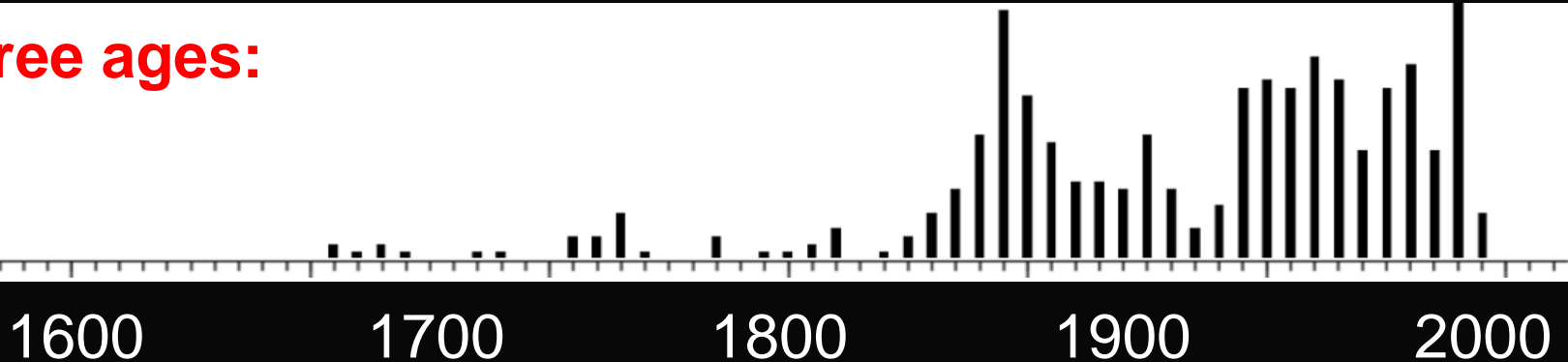
Alexandra Pogue, MSc

**Frequent, low impact,
patchy fires
+ scattered trees**

**Infrequent but
widespread fires
+ denser forests**



Tree ages:



Restoration of Forest Resilience: Frequency, Timing, Severity, Size



Future: Transformative Change

Lessons from the past can guide the future

Disturbance mismatches: frequency, size, magnitude
across landscapes, stands and individual trees





Questions?
lori.daniels@ubc.ca