





J. Garsson





*What is now is not how it was*



**Fire Suppression**

What about in  
the past?

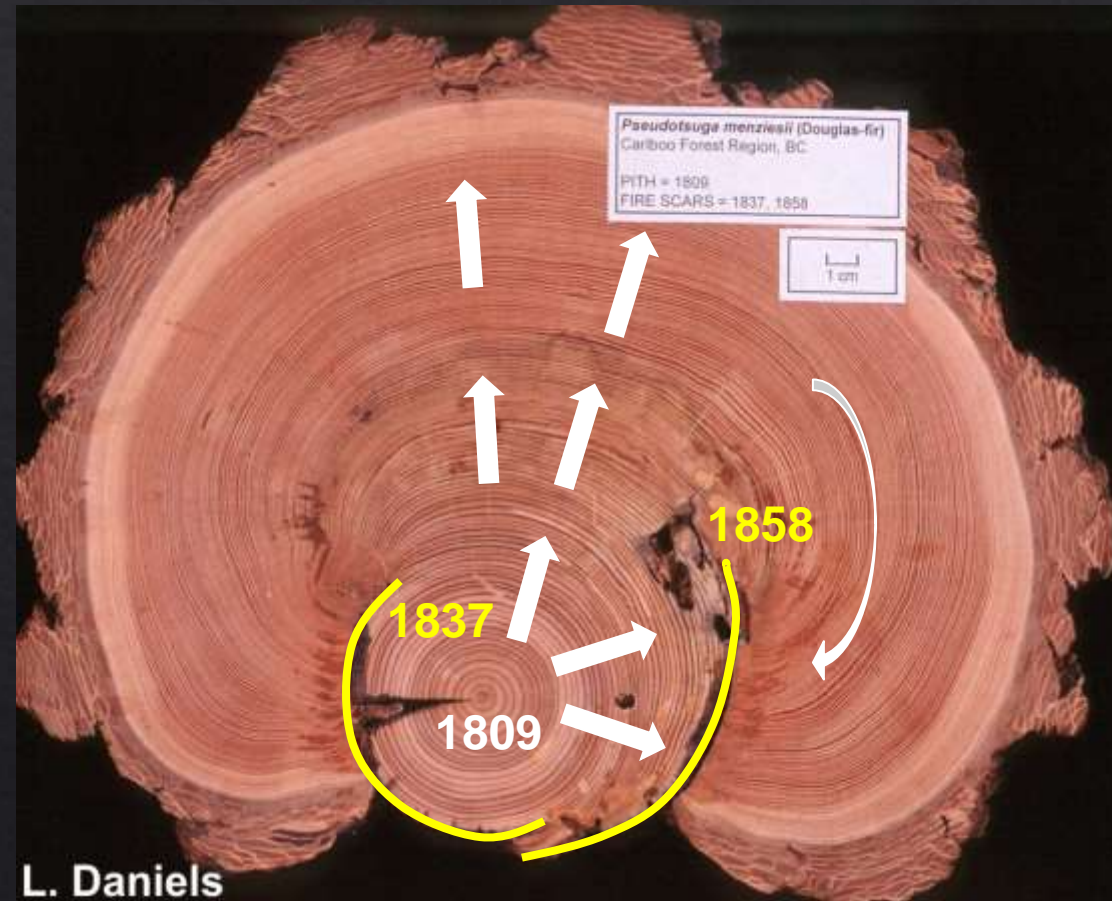
**Climate Change**



# How do trees record fire?



# Reading fire scars



# Fire severity and fire scars





# How do trees record fire?



# Impacts on living trees



# Impacts on living trees

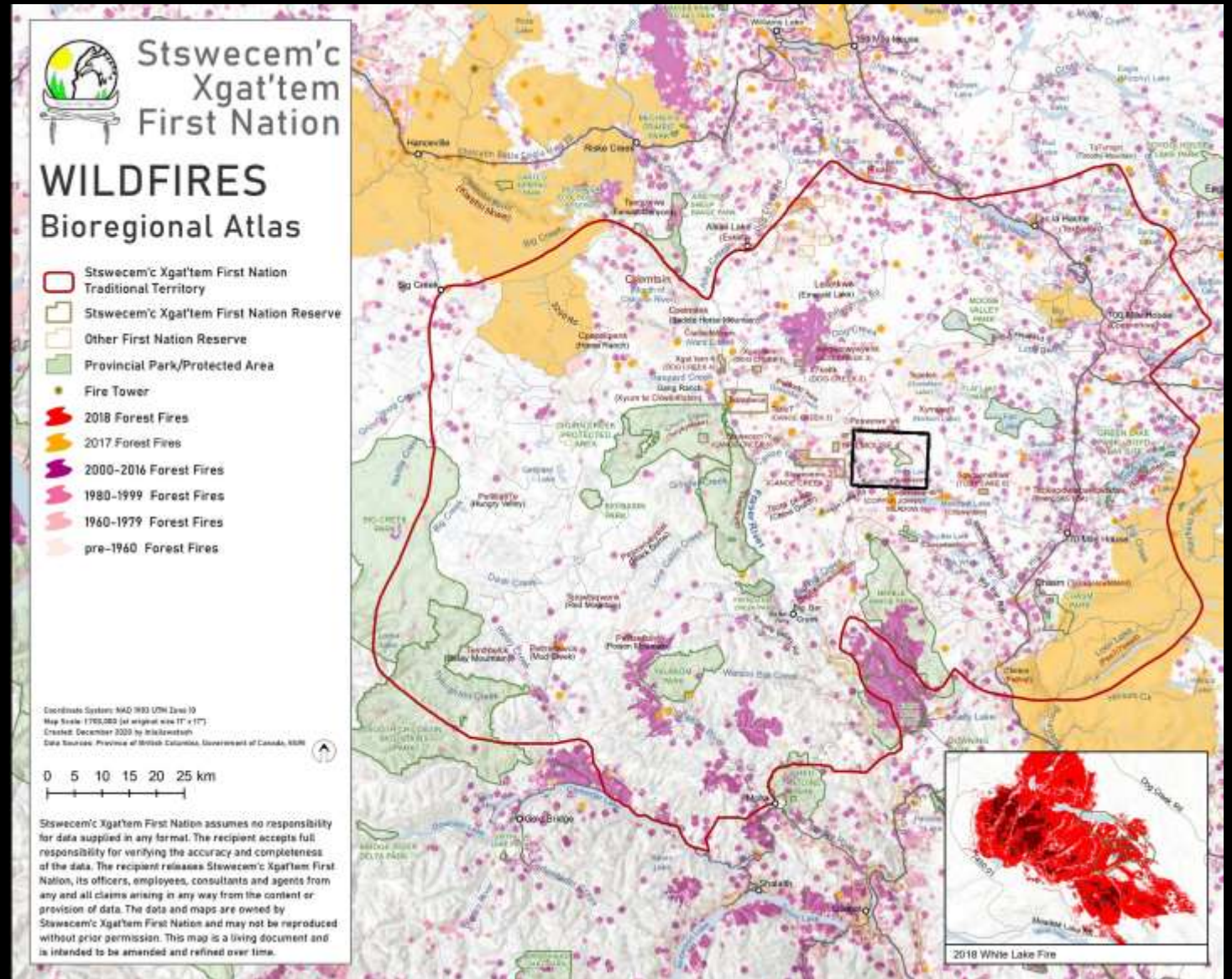


# Impacts on living trees



# Research Question

When did past fires burn, and how severe were they?



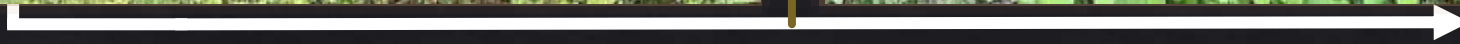
# Fire Suppression



Distant Past



Recent Past



-122°51'29"

-122°13'51"

-121°36'15"

51°17'29"

50°51'6"

50°24'42"

-122°51'29"

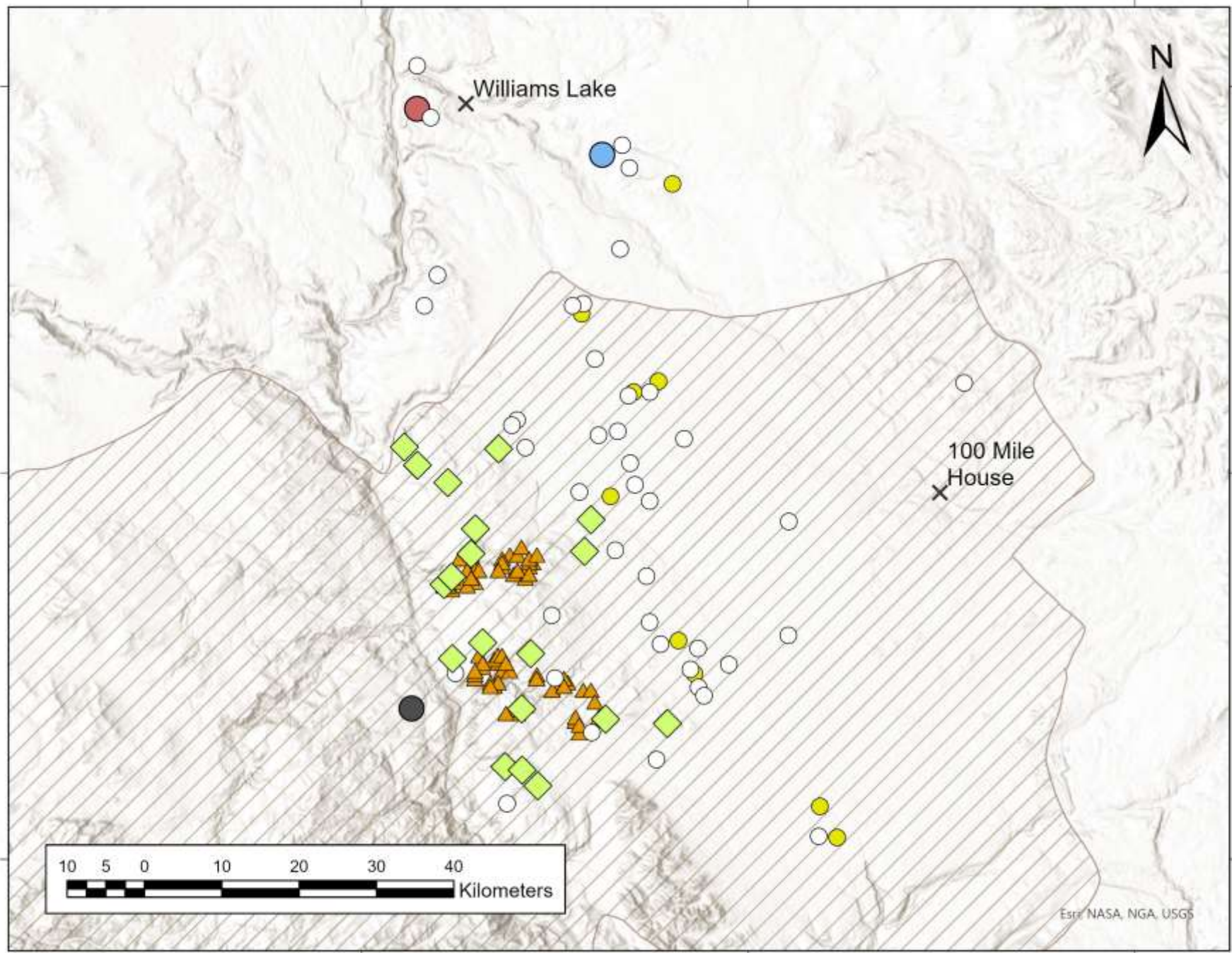
-122°13'51"

-121°36'15"

51°17'29"

50°51'6"

50°24'42"



### Legend

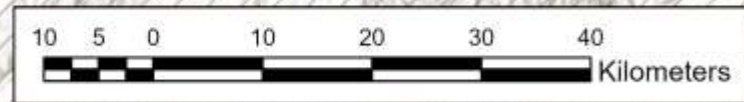
#### Historical Fire Regime

- ◆ Stefanuk 2022
- Iverson 2002
- Daniels 1994
- Brookes 2019
- Harvey 2017
- Copes-Gerbitz 2022

#### Wildfire Fuels

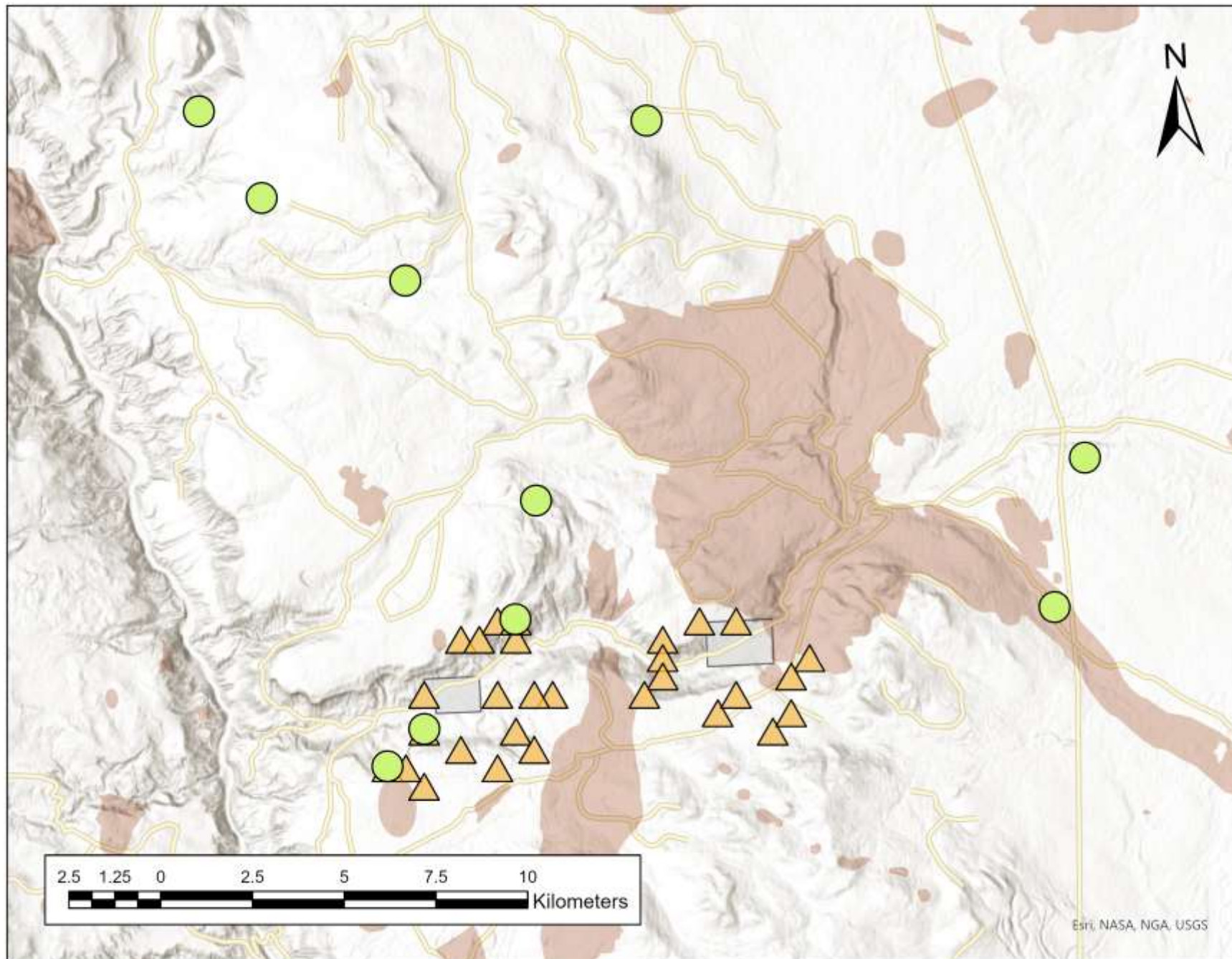
- ◆ Stefanuk 2022
- Brookes 2019
- Copes-Gerbitz 2022
- ▲ Preston 2022

- Stswecem'c Xget'tem
- × City



Esri, NASA, NGA, USGS

# Research Plots: Xget'tem



## Historical Fire Regime

● Stefanuk 2021

## Wildfire Fuels

● Stefanuk 2021

▲ Preston 2021

## Wildfire Perimeters

■ 2021

■ pre 2021

— Road

■ Reserve

Last Updated: March 6, 2022

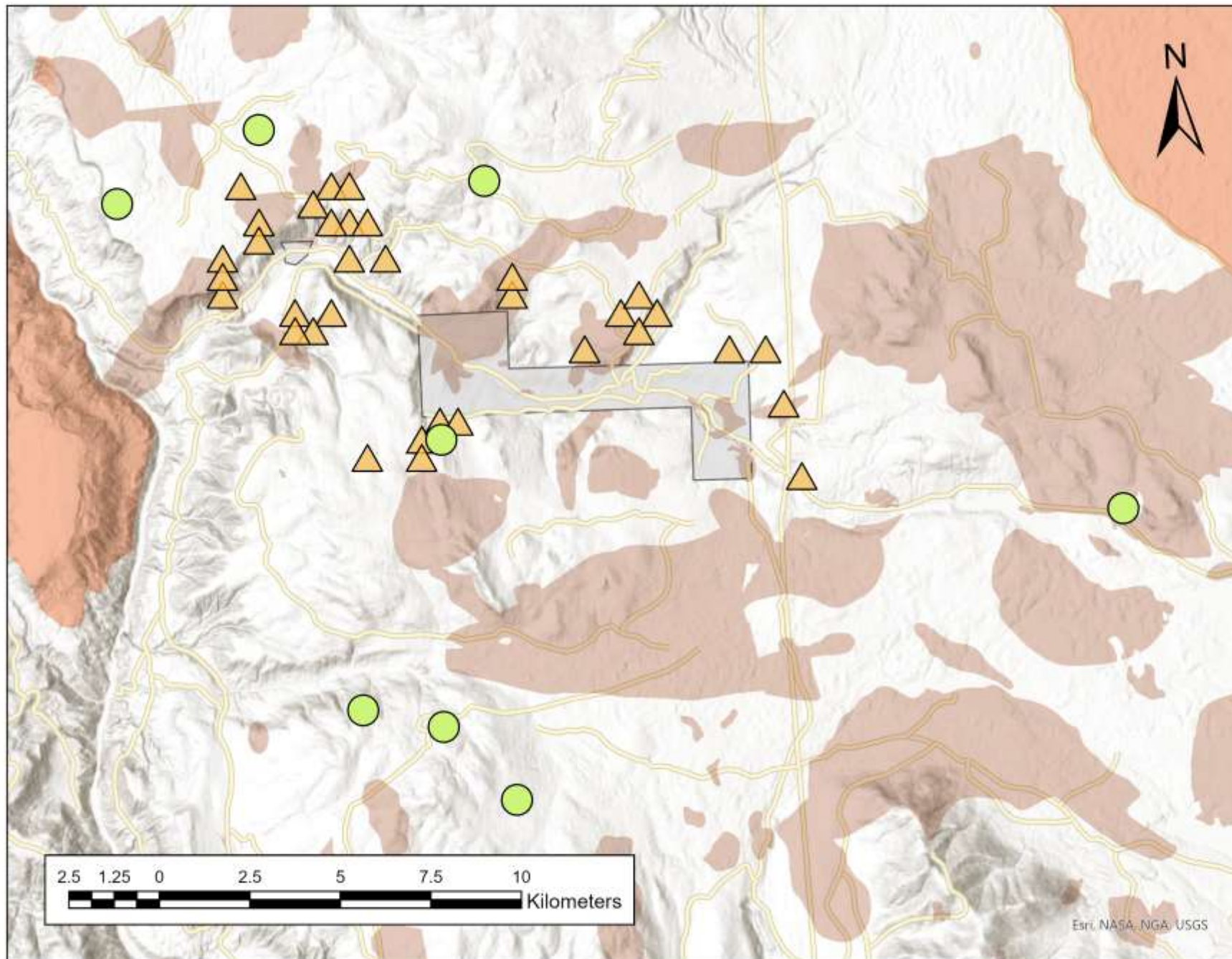
Spatial Reference:

NAD 1983 BC Environment Albers

Esri, NASA, NGA, USGS



# Research Plots: Stswecem'c



## Historical Fire Regime

● Stefanuk 2021

## Wildfire Fuels

● Stefanuk 2021

▲ Preston 2021

## Wildfire Perimeters

■ 2021

■ pre 2021

— Road

□ Reserve

Last Updated: March 6, 2022

Spatial Reference:

NAD 1983 BC Environment Albers

Esri, NASA, NGA, USGS

# S52 Fire Scars

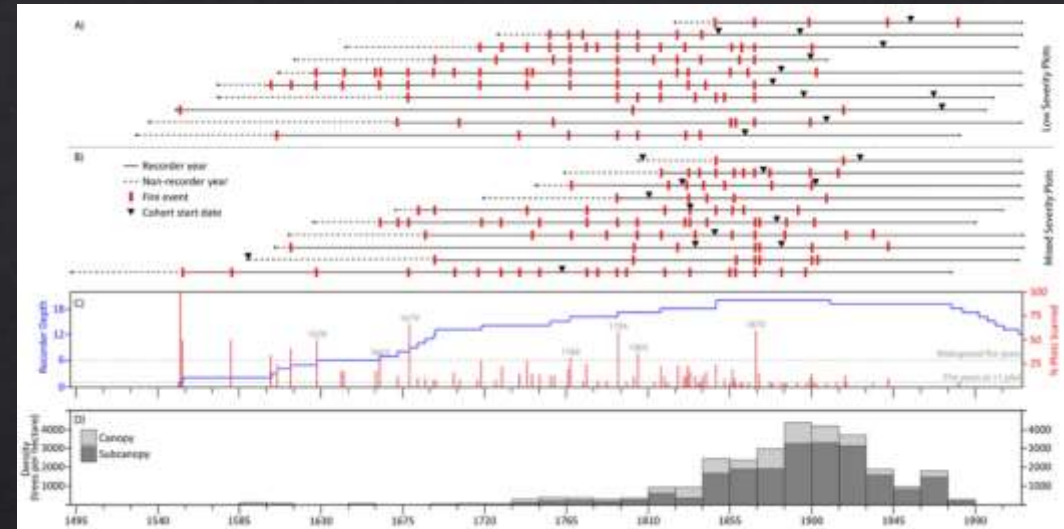
Observed and sampled fire scar evidence

**Legend**

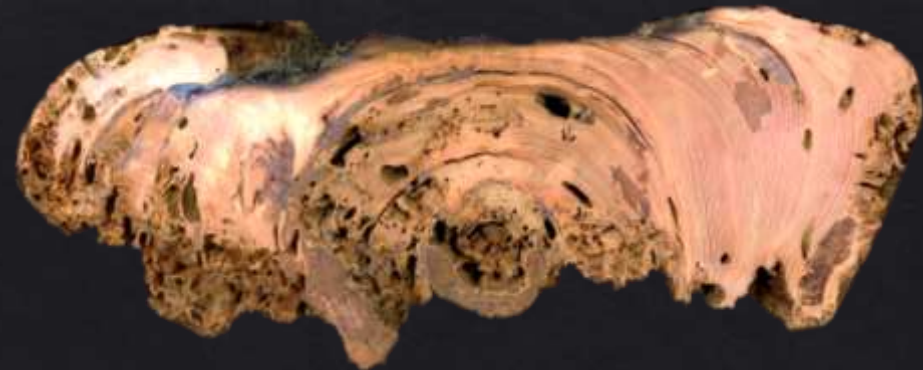
- Fire Scar Sample
- Observed Fire Scar
- Plot Center
- Scar Plot
- Scar Survey



# Progress & Remaining Work



(Copes-Gerbitz *et al.*, 2022)



# Some Problems With The Past





# Indigenous Knowledge and Science

Hoffman *et al* 2021 Facets

SXFN  
Knowledge



Western  
Science

Walking on Two Legs



Thank you - Kukstemc