

Garry Oak Ecosystem Restoration in Washington: A San Juan Island Case Study

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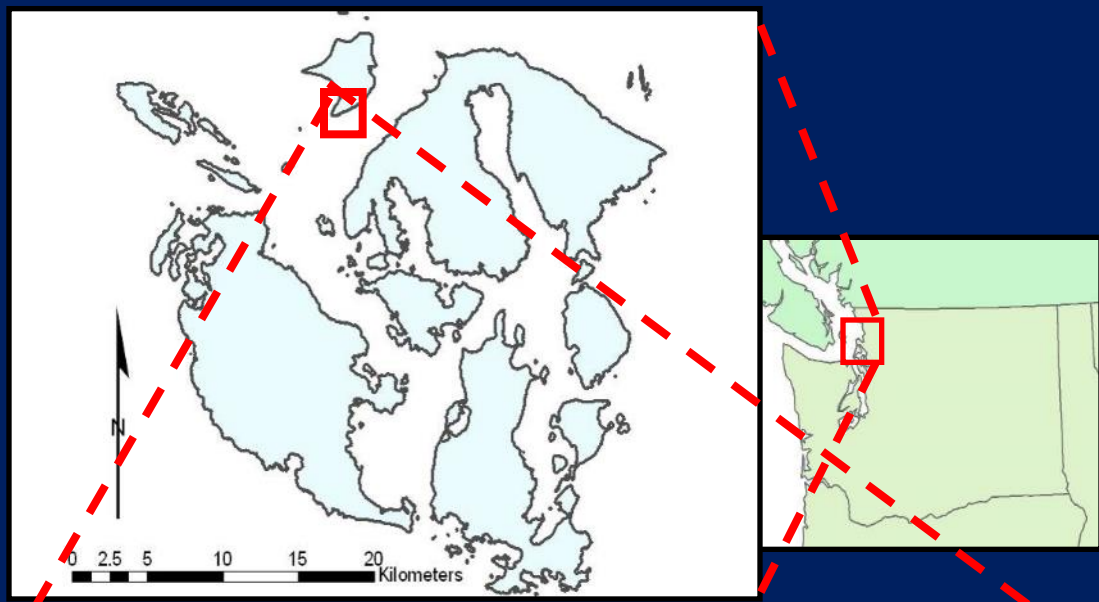
Carson B. Sprenger

Rain Shadow Consulting, LLC



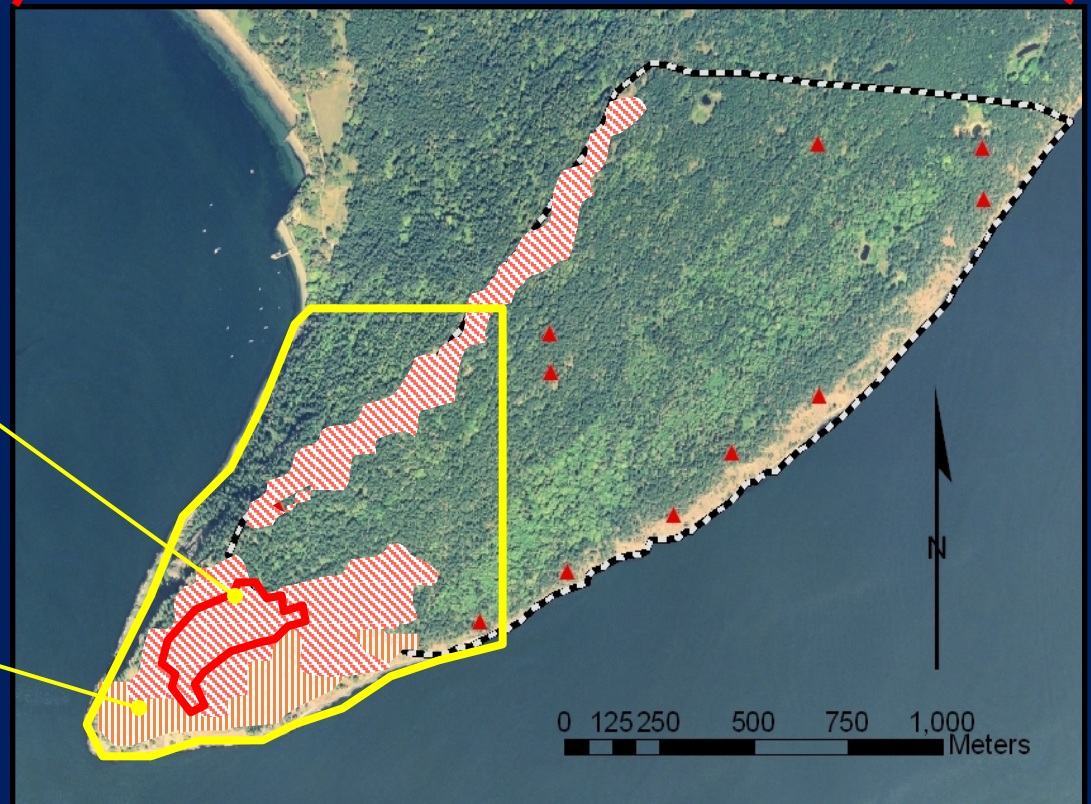
Bitte Baer Preserve, Waldron Island

- 84 ha
- Purchased in 1992



Garry oak/Douglas-fir
woodland

Garry oak savanna
and grasslands



Outline

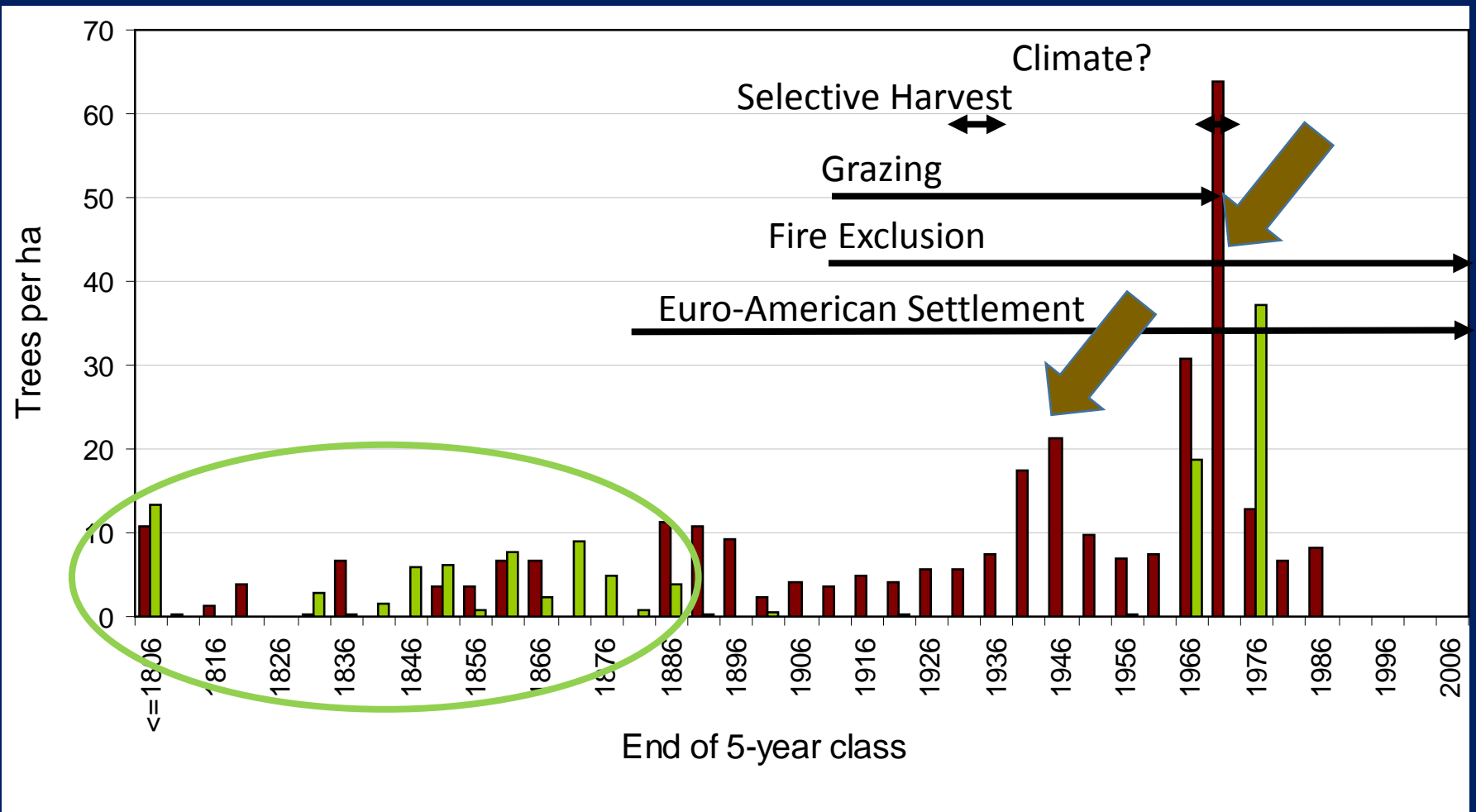
1. Site Conservation Plan
2. Project Plan
3. Project Implementation

Conservation Plan

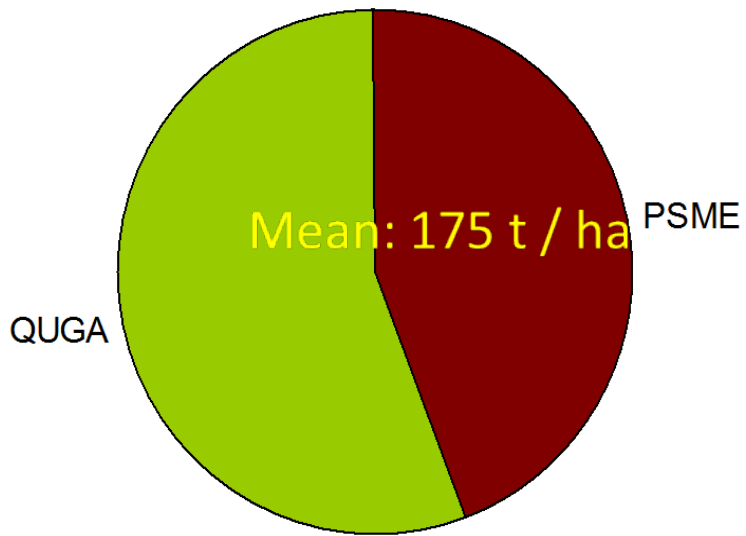
- Why conserve the site?
- Goals and objectives
- Site inventory
- Research



Stand age and composition

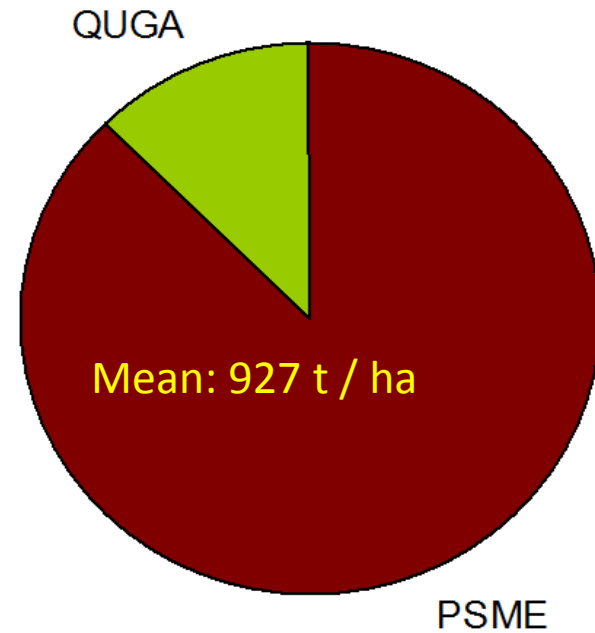


Stand Density



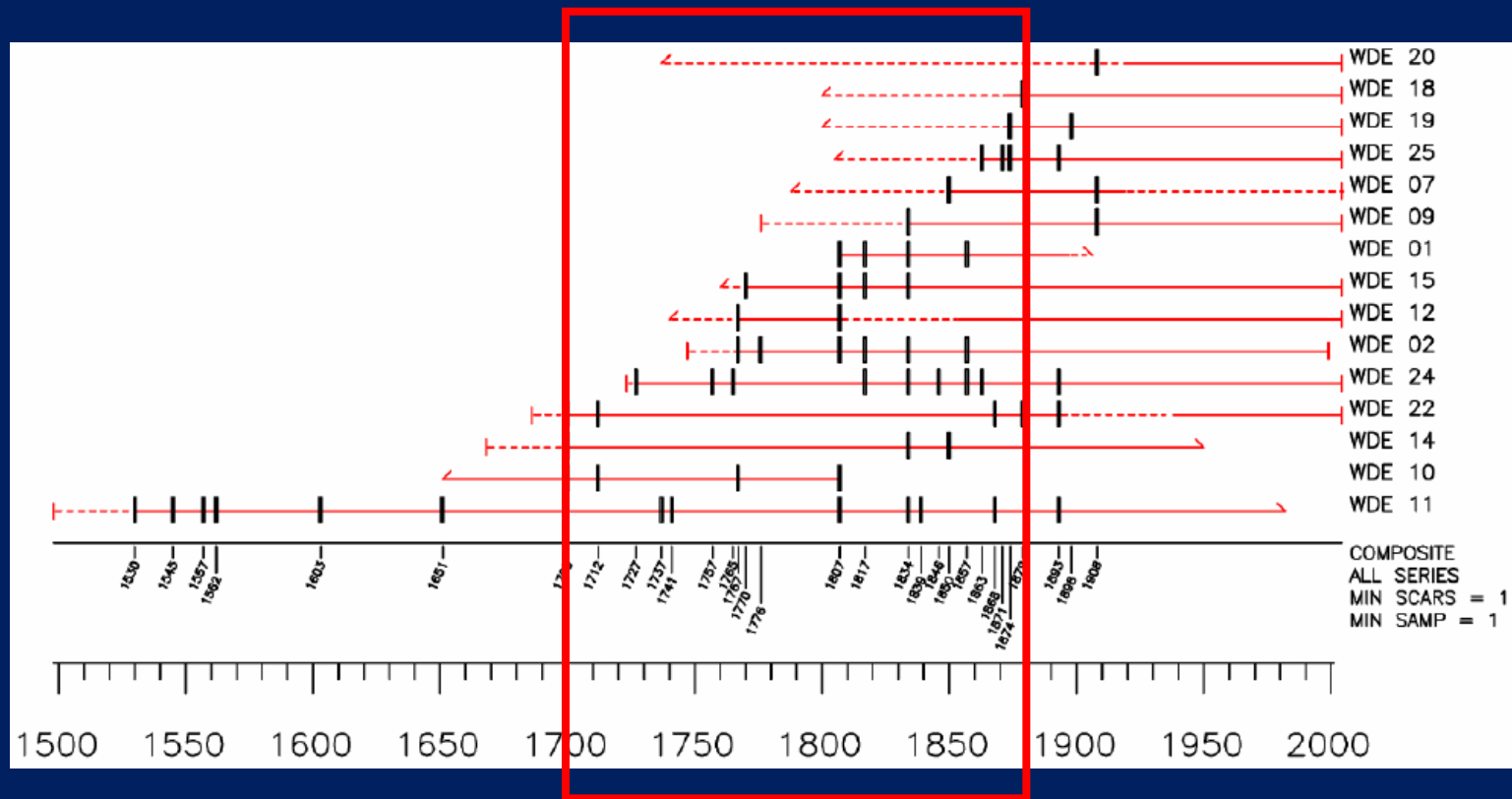
Historical

Current (Pre-treatment)



Fire History

Historic period (1700-1879): 7.4 year fire return interval



Conservation Plan

- Why conserve the site?
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Context & Constraints

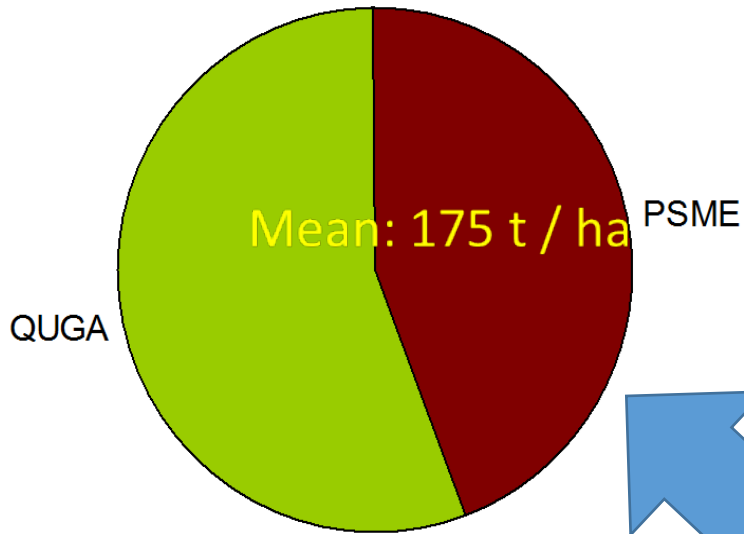
- Budget
- Site
- History
- Future
- Cultural setting

Project Plan

- Set & prioritize restoration goals
- Project design & sequence
- Monitoring
- Weed management



Stand Density



Current (Pre-treatment)



Historical

Save oak canopy, restore composition and structure by reducing density of Douglas-fir

Pre-treatment conditions



Photo Credit: M. Almaguer-Bay

Pre-treatment conditions



Photo Credit: M. Almaguer-Bay

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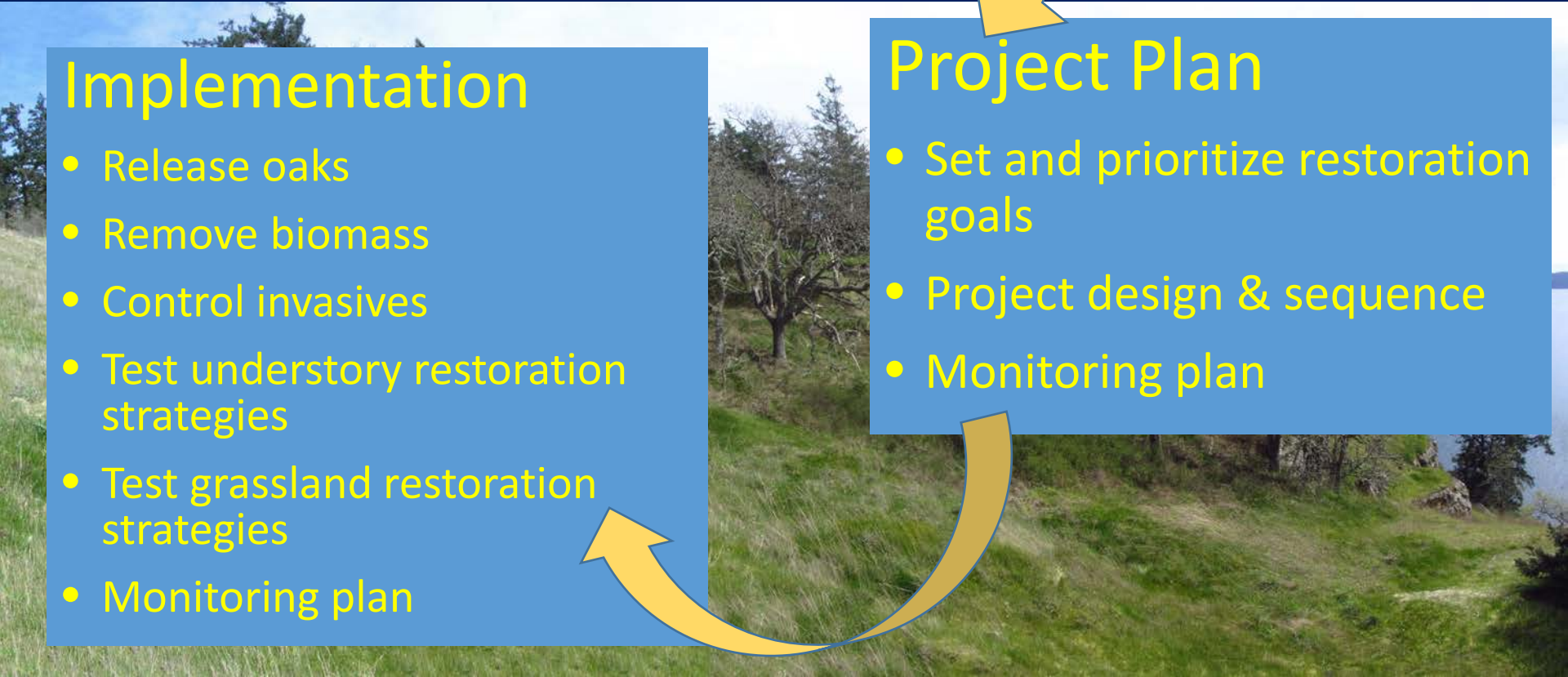
- Budget
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Implementation

- Release oaks
- Remove biomass
- Control invasives
- Test understory restoration strategies
- Test grassland restoration strategies
- Monitoring plan

Project Plan

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- Project design & sequence
- Monitoring plan



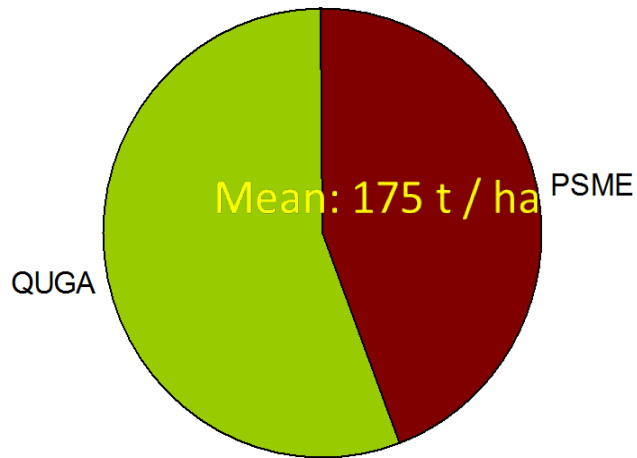


Douglas-fir thinning



Stand Density

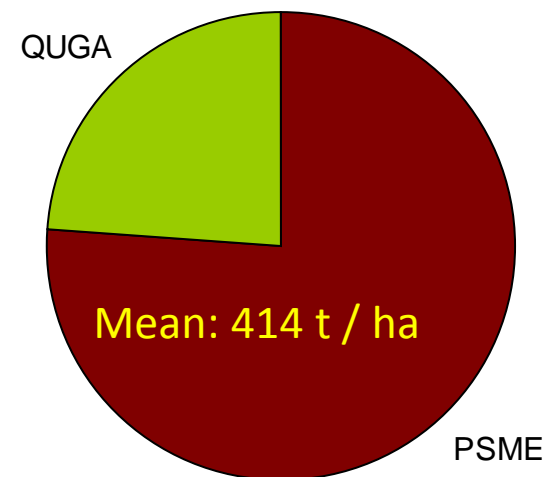
Pre-treatment



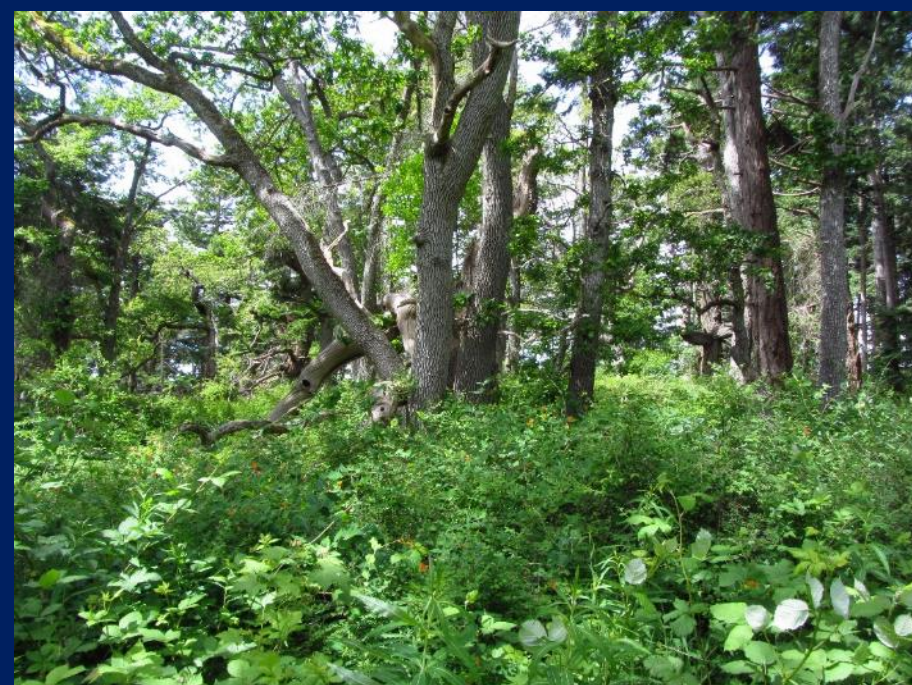
Historical



Post-treatment



- 55% reduction in tree density
- 10% reduction in basal area









Future Directions

- Additional Douglas-fir removal
- Management of understory vegetation
 - Reducing shrubs, increasing herbaceous species
 - Reintroduce fire?
 - New pulse of Douglas-fir establishment?
- Continue invasive species control
- Expand savanna restoration



Special thanks to:

San Juan Preservation Trust

U.S. Fish and Wildlife Service

Rain Shadow Consulting, LLC

Tony Scruton, Nick Hill, Phil Green

Residents of Waldron Island



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Questions?