



Western Washington University
Western CEDAR

Salish Sea Ecosystem Conference

2014 Salish Sea Ecosystem Conference
(Seattle, Wash.)

May 2nd, 10:30 AM - 12:00 PM

The Relationship of Oak Gall Size to Lichen Proximity on *Quercus garryana*

Garrett Noyd
Student Of Seattle Academy, garrettnoyd@gmail.com

Alex Nelson
Student of Seattle Academy

Follow this and additional works at: <https://cedar.wwu.edu/ssec>



Part of the [Terrestrial and Aquatic Ecology Commons](#)

Noyd, Garrett and Nelson, Alex, "The Relationship of Oak Gall Size to Lichen Proximity on *Quercus garryana*" (2014). *Salish Sea Ecosystem Conference*. 73.
<https://cedar.wwu.edu/ssec/2014ssec/Day3/73>

This Event is brought to you for free and open access by the Conferences and Events at Western CEDAR. It has been accepted for inclusion in Salish Sea Ecosystem Conference by an authorized administrator of Western CEDAR. For more information, please contact westerncedar@wwu.edu.

The Relationship of Oak Gall Size to Lichen Proximity on *Quercus garryana* Twigs

By Garrett Noyd

Background



Study Site: Glacial Heritage Preserve

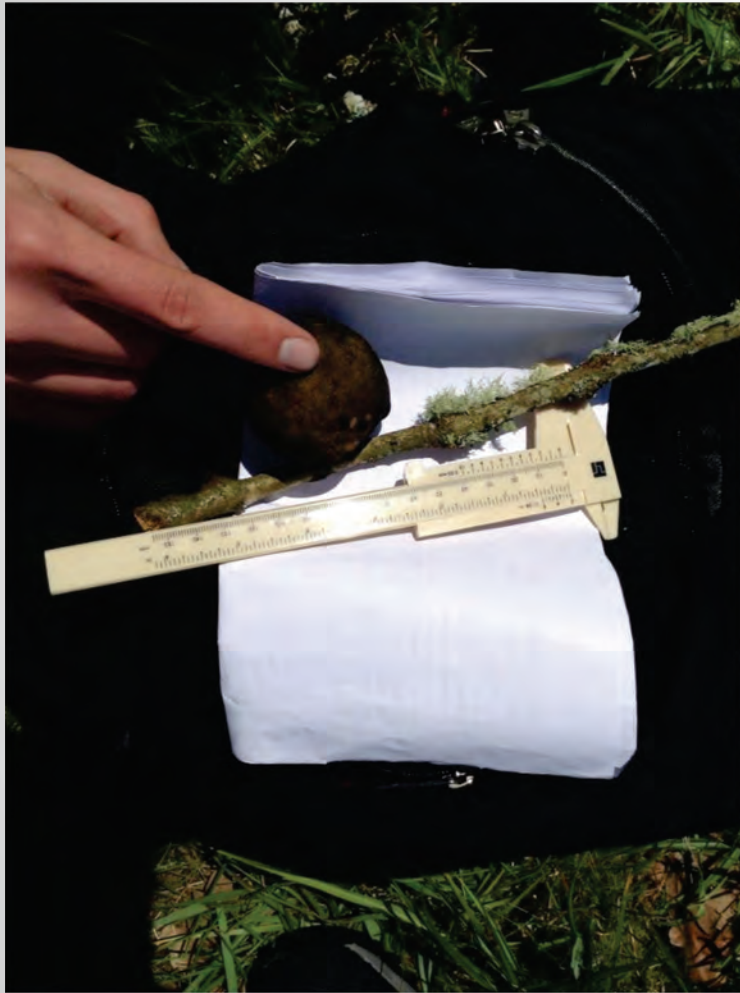
- Formed Roughly 14,000 Years Ago By Glaciers
- Less than 3% of the original Puget Prairie remains
- Has very unique features.

What is a Oak Gall?

- An Oak Gall is a small growth on the branches and twigs of trees that are formed by Gall Wasps

How Are They Formed?

- Oak galls are formed when a female gall wasp lays her eggs on the host plant. She then injects the host plant with a toxin that makes the plant form a tumor around her eggs, protecting them.



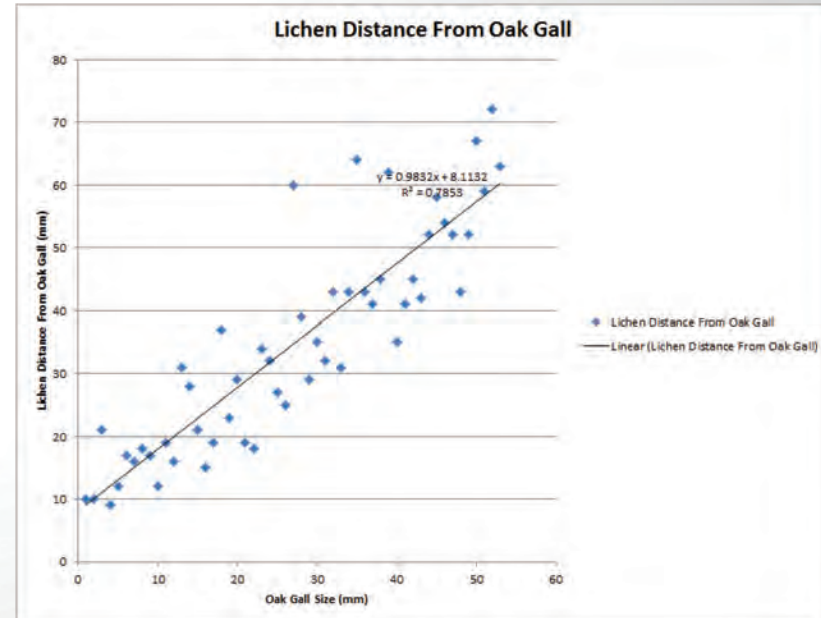
- After the gall falls off the tree from wind/decay, other animals such as birds, and other small animals eat the gall for nutrients

Purpose

- The purpose of this study was to investigate the relationship between oak gall placement and the presence of lichen on twigs.
 - Found there is also a relationship between the age of the twig and the placement of the gall on it.

Our Findings

- There is a strong positive correlation between oak gall size and distance from lichen growth on *Qerucus garryana*.
- Found in the field a strong a correlation between the size of the region that an oak gall occupies and the presence of lichen.



Why Is This Important

- The relationship was hardly, if at all, researched as of last year
- Provides correlations between two different types of living things
- If it is found that there is a decrease in lichen, it could be hypothesized that there is an interference in the lichen/Oak Gall relationship

Huge Thank You To

Alex Nelson

Melinda Mueller

Peter Clark

Seattle Academy of Arts and Sciences

Questions?