

# **Friends of Seward Park, CHOOSE 180, University of Washington 2022 Douglas-Fir Mortality Project**

**Paul Shannon    November 14th 2022**

# Introduction

Following up on our 2021 work on Western Hemlock mortality in Seward Park's Old-Growth forest, and with renewed support from CHOOSE 180 and the intern program at UW's College of the Environment and Biology Department, and with the oversight and guidance from UW's Dr. Tim Billo, we tested out the hypothesis that though hemlocks and red cedar are in precipitous decline, the magnificent old Douglas-Firs are in good health.

Our methods were simple. We developed a simple mathematical model to predicts the number of years a fallen doug fir has been on the ground. We cobmined multiple measures of decay and an estimate of epiphyte coverage (the number of nursling plants growing on the log). Citizen naturalists - neighbors who visit and meticulously observe Seward's forest, often daily - gave us fall dates on a dozen trees that fell in the last 30 years. Historical data added more detail. The model is impressionistic, but plausible. And to our delight, we found that firs mortality rate has held steady over the last sixty years - that these beautiful trees are robust against the increased drought, storms and heat of the last 20-30 years.

Though we are pessimistic about the survival of this rare remnant old-growth forest in its historical form, we are hopeful that the majestic old firs - mother trees all - will survive, flourish, and be the foundation of the next forest - whatever that turns out to be - now taking shape at Seward Park

CHOOSE 180 interns, UW students, and UW's Tim Billo have been indispensable in developing this understanding of Seward Park's Magnificent Forest.



# The Interns



- Leilah Johnson Whitesides (CHOOSE 180)
- Lora Keyte (UW Biology)
- Ryland Schaul (UW College of the Environment)





**Scientific Advisor Dr. Timothy Billo**  
**UW College of the Environment**



**A map of the surveyed Doug Fir logs**



**Legend**

- Orange circles:** trees with known fall dates
- Blue circles:** trees with estimated fall dates
- Circle size:** estimated years since fall



## Our Preliminary Analysis

