

Sword Fern Research Project

Progress Report

June 15, 2020



Haven

Ecology & Research

Accomplishments

Project Management

After following-up with Lisa Ciecko and Nelson Salisbury, eventually I received the GIS information for the monitoring plots in Seward Park and the Forest Monitoring Team plots city-wide.

Research

Last month, I coordinated with Ylva Lekberg in selecting possible oomycete primers. We settled on testing the following barcode regions and primer pairs:

- ITS1: ITS1oo / ITS7-ae
- ITS1: oom18s / ITS7-ae
- ITS1: 18Ph2f / 5.8S1R
- RAS-Ypt: Yph1F / Yph2R
- Cox: Cox2-F / Cox2-R

I believe that oom18s / ITS7-ae is the most promising option. However, this combination uses primers optimized for oomycetes in two separate studies. They have yet to be validated together. Ylva later suggested using a set of primers from a recently published study in the journal *Science*. I determined that these were the universal Earth Microbiome Project 18S primers for eukaryotes (1391f/EukBr). We agreed that these primers would be inappropriate for the sword fern study because they would readily amplify the host DNA of sword ferns, potentially interfering with our ability to detect oomycetes.

Consultation

I reviewed pertinent literature and consulted with Friends of Seward Park on their response to Seattle Parks' proposal to cut down healthy mature trees in Seward Park.

Next Steps

I am currently waiting to receive follow-up information and protocols from Kim Frappier for sampling on Mercer Island. I am also waiting to receive clarification and guidance from Washington State and King County on which business activities are allowed under the modified phase-1 status of King County.

Field work is also contingent on laboratory access and I have yet to receive a response from Sound Bio on their re-opening plan. I intend on following up with them again soon.