Proposal Outline (draft 1)

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# Introduction:

(notes): what is the real contribution. Open with the question we are asking.

* More “modern” approach” : start with research gap, what’s the hole and why does it matter/why do we need to know it.
  + What is wrong and why do we care about it
  + Based on the “story” we want to tell

What do we know about soil fungal communities over time?

* Summarize what we know and ***highlighting*** what we do not know.

BIGGEST THING IS TO TELL AN INTERESTING STORY WHITHOUGHT BLABBERING:

* Where is the thread…. (Tanjiro ~ find the thread)
* Not a single word or syllable that is not needed.
* Parsimonious with language\*\*\* this leads to power
  + Cell, Nature, Science are so well written because EVERYTHING that is not needed is taken out.

**Intro to Old Growth Forests:**

* Significance of OGF (general and in Canada)
* % of forest lost
* OGF Ecosystem services
* Other impacts/qualities of OGF… end with something saying how the most abundant microbes in OGF are fungi, leads into…

**Introduction to Fungi** *(in OGF)* :

* Fungal soil contribution/function

**Introduction to Carbon** *(in OGF)*:

* See what I can find about carbon in OGF, if anything I can discuss the contrast in the literature

# Successional Fungal Community Structure: (soil and fungi?)

* General understanding of fungal community structure as forest age increases
* Longitudinal variation (Kristen mentioned someone…)
* Elevation variation
* Soil characteristic
* Environmental conditional changes:
  + Warming
  + Changes in CO2
  + Soil moisture
  + Tillage/physical disturbance
  + Other chemical disturbance

# 

# Fungal Communities and Carbon Dynamics: (tied into above) :

* Fungal Carbon Functionality
* Carbon sequestration
* Carbon cycling
* Carbon degradation
* Carbon …

# Research Hypothesis:

# Materials and Methods (experimental design):

# Project Timeline:

# Literature Cited:

*End with the gap I am aiming to fill?* : *ex:* : An over arching issue when we consider analyzing these systems is the lack of clarity in the literature. From simple old growth forest definitions to understanding the below ground activities, is is apparent that there is much to learn about these systems. It is our aim to provide a new look at observing old growth forests by analyzing the soil fungal communities.

Note that the echo = FALSE parameter was added to the code chunk to prevent printing of the R code that generated the plot.