Planning the LTER New Site Network

(or what we did on our summer vacation)



Proposed Study Design

Ecoregion	Area (km²)	Permafrost thickness	Permafrost stability	Parent material (bedrock)	Fire regime	Dominant vegetation
The Ray Mtns	51,243	Thin to moderate across most of the region	Generally stable	Metaphorphic Ruby terrane	Occasional	Black spruce woodlands
Yukon-Tanana Uplands	102,496	Thin to moderate, depending on topography	Thin, ice-rich, and warm in valley bottoms and toeslopes.	Metasedimenta ry Yukon- Tanana terrane	Very frequent	Black spruce forests, black spruce woodlands, and black spruce bogs
Tanana- Kuskokwim Lowlands	51,730	Thin	Temperatures are near melting point	Alluvial, Fluvial, and glaciofluvial	Ocassional, depending on site moisture	Boreal black spruce forests, black spruce bogs

We proposed:

- 1) Selecting 4 age classes within each ecoregion
- n = 3 sites / age class to cover a gradient of site drainage (to account for permafrost, soil texture, and permafrost)

Modifications and issues after 2011

- Four age classes means four different and unique fires within each ecoregion and only THREE sites per fire- the variability within a fire scar is likely to not be captured with only three sites. As a group we came to the conclusion to visit the landscape, set up extensive sites, and decide *post hoc* which sites would become intensively monitored.
- Our age classes (0-10), (10-40), (40-100), (>100) may not be the best way to look across the landscape. As a group we came to the conclusion to create THREE age classes (young, middle-aged, and old).
- Based on the work of Alexander, Mack *et al.* and our overall lack of understanding about intermediate-aged stands. As a group we decided to begin our focus on fire scars visited by H. Alexander.

Objectives

- Select sites that can be monitored long-term (taking into account land ownership, accessibility, previous studies done, etc. etc)
- Understand how representative each of our sites is within:
 - The fire scar
 - The ecoregion
 - The landscape of interior Alaska





Legend



Legend



Summer 2011

Mean Age when burned



Variation in canopy cover across sites





Herbivory relationships



Herbivory relationships



Preparation for summer 2012

- Taylor Hwy intermediate aged stands
- How to pick intensive versus extensive
- Variation in community composition
- Soil profiles and samples analyzed
- How to pick unburned and recently burned stands that are potentially headed to and from these stands
- Past = Present = Future?
- What other key shifts (besides conifer vs. decid) should we be aware of?