**An examination of fire and avian community assembly processes.**

M. G and CJL

**Background**

Fire can be a powerful agent of change ecologically. Fire is a form of disturbance with direct and indirect effects.. etc.. then explain each - removes veg, can be a form of restoration etc.. indirect - displaces animals, changes habitat structure etc… then mention that now an important form of human disturbance and anthropogenic pressure bc of increased frequency, duration, and scale…

Avian communities are an excellent indicator of recovery after fire because…. Then explain what an avian community is - mobile, diverse etc..

Then introduce habitat complexity and heterogeneity and explain with citations…

So three big paragraphs for background

**Focus**

Para 4 include in the background / intro above or put as separate section here..

The purpose of thesis research is to…. Examine the capacity for avian communities to function as a response measure to recovery following fire?

Or do you want to flip - ie to measure the effect of fire on avian communities..

Chapter 1. NEED good titles for each chapter - super important.

Put your field one here… from the google document you shared

**A survey of avian community distribution and diversity in burnt versus unburnt desert sites.**

Hypothesis

Fire has indirect effects on avian community assembly though changes in habitat structure and heterogeneity.

Predictions

1. Fire reduces habitat complexity.
2. There will be more birds and higher diversity of species at control sites.
3. Within burnt and unrburnt sites, higher levels of complexity estimated through variation in remaining vegetation heights and frequency predict higher levels of bird presence and richness.

Methods

**CH 2. A synthesis of landscape level fire correlations with reported bird presence and diversity patterns.**

Hypothesis

Fire can have significant landscape level effects on avian community assembly at large scales.

\*This is not a 3-3 site level comparison like the field survey proposed above - I would view is an opportunity to use all the new GIS stuff you learned and do larger scale work.

Predictions

1. Fire at large scales reduces reported levels of avian presence at similar scales.
2. Climate and other landscape level data can be used to predict avian communities.
3. There is a temporal lag in recovery and the extent of burn also predicts avian community patterns.

Methods

Fire rasters from??

Bird data from ebird, bbs, or any other bird data repos such as gbif

Or use a few target bird species only. Do not have to do all,.

SO basically I am proposing for your synthesis

You need fire data - ie how much an area is bunt in size and extent or intensity from remotely sensed data or even aerial imagery and then you need some bird data…. So work from bird data first? Or look up big desert burns in Cali or anywhere in the SW USA - then go the other way.

You need fire lat long, extent, duration?

Then you need bird data even a few years later. BE SOOO COOL do this synthesis right

CH3. A manipulation of habitat complexity in a burnt region to examine avian community responsiveness.

Hypothesis - Structure provided by burnt vegetation is an important form of habitat for birds.

Predictions

1. Presence of fake perches critical in burnt regions relative to controls
2. Height matters
3. Complexity matters

Methods

Add poles of different heights with a t at the top in 3 burned and 2 unburnt regions.

Put cam traps at them.

DONE!!

SO FUN!!