

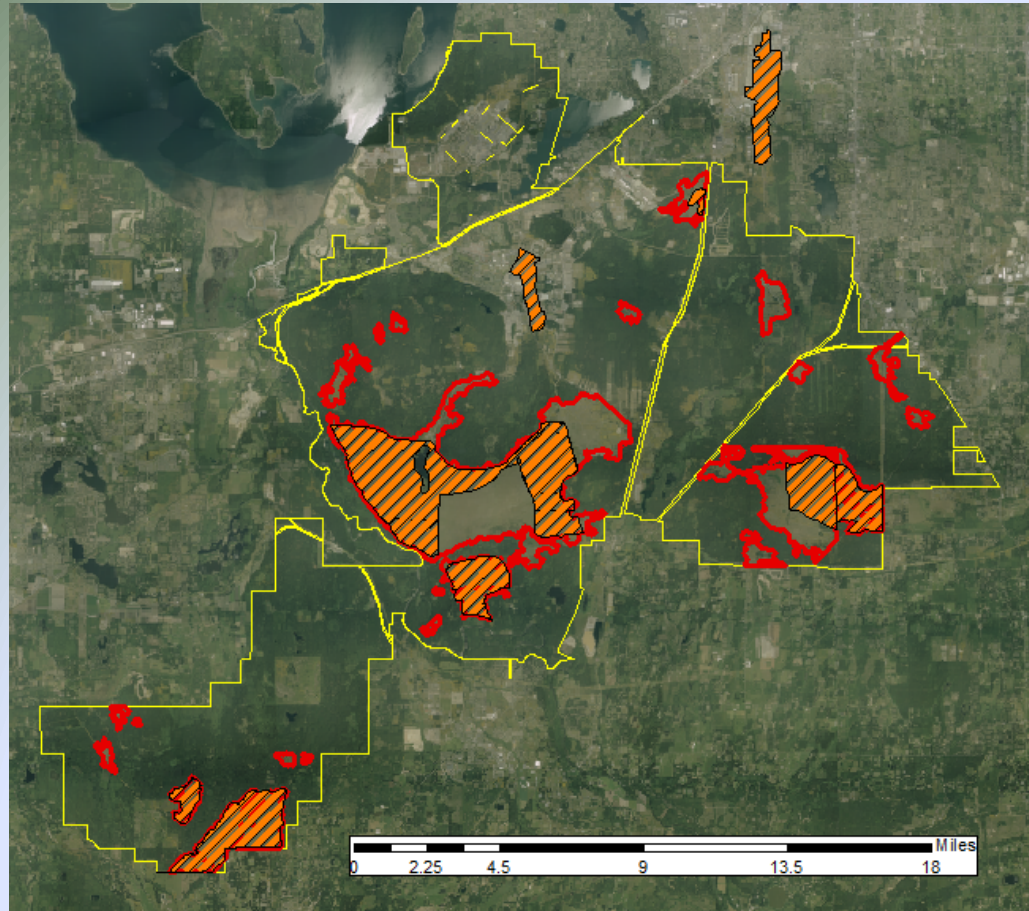
Prairie Habitat Monitoring – Joint Base Lewis-McChord



Center for Natural Lands Management

Priority Habitat Areas

- > 11,000 acres
- 3 Federal-listed species
- High-quality Prairie
- Other Rare Species
- Multi-use Landscape



Where Are We?

Where Are We Going?

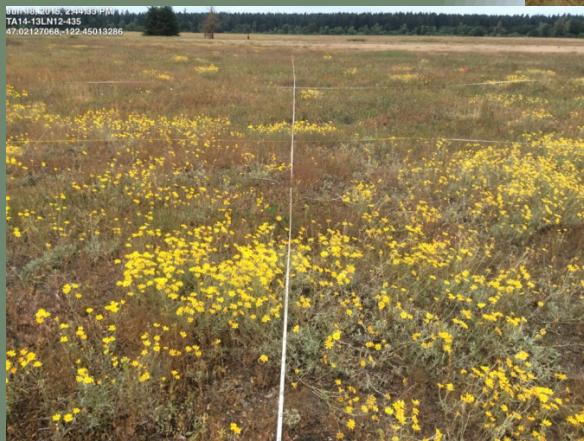
- What is the current condition?
- What do we want the prairies to look like?
- What is our reference?
(Are all prairies the same?)



Range 50



Range 74/76



Training Area 14

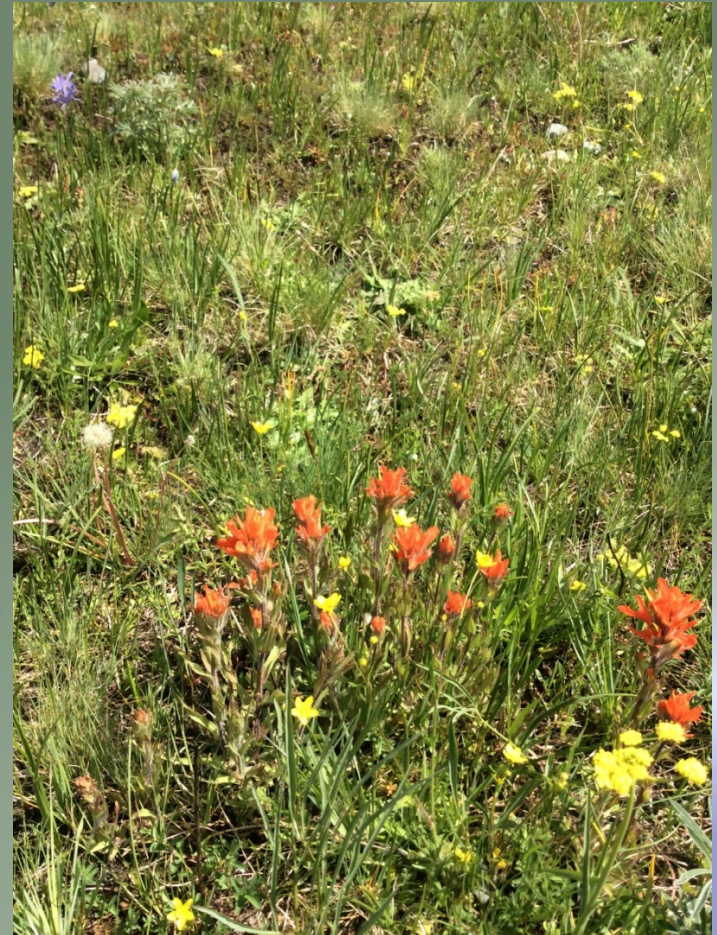
Assess Condition – Prairie Monitoring

Goals:

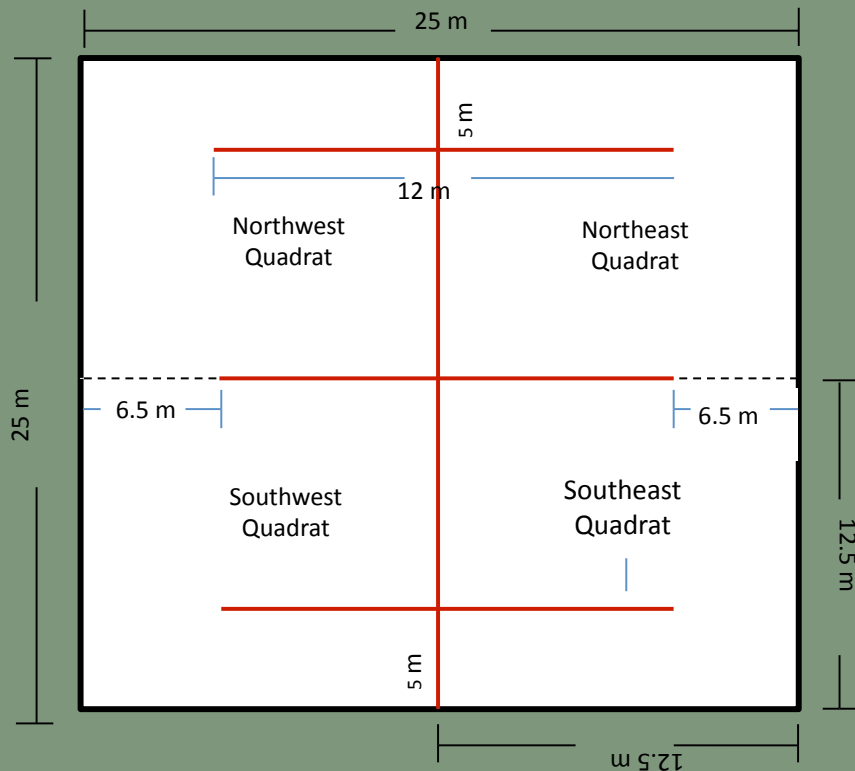
- Quantify vegetation cover & structure
- Measure vegetation richness
- Assess trend

Objectives:

- Functional Group Cover
 - $\Delta = 25\text{-}30\%$ w/ power
 - $\pm 25\%$ precision
- Richness
 - α & β richness
 - Chao estimator of total species



Plot Design



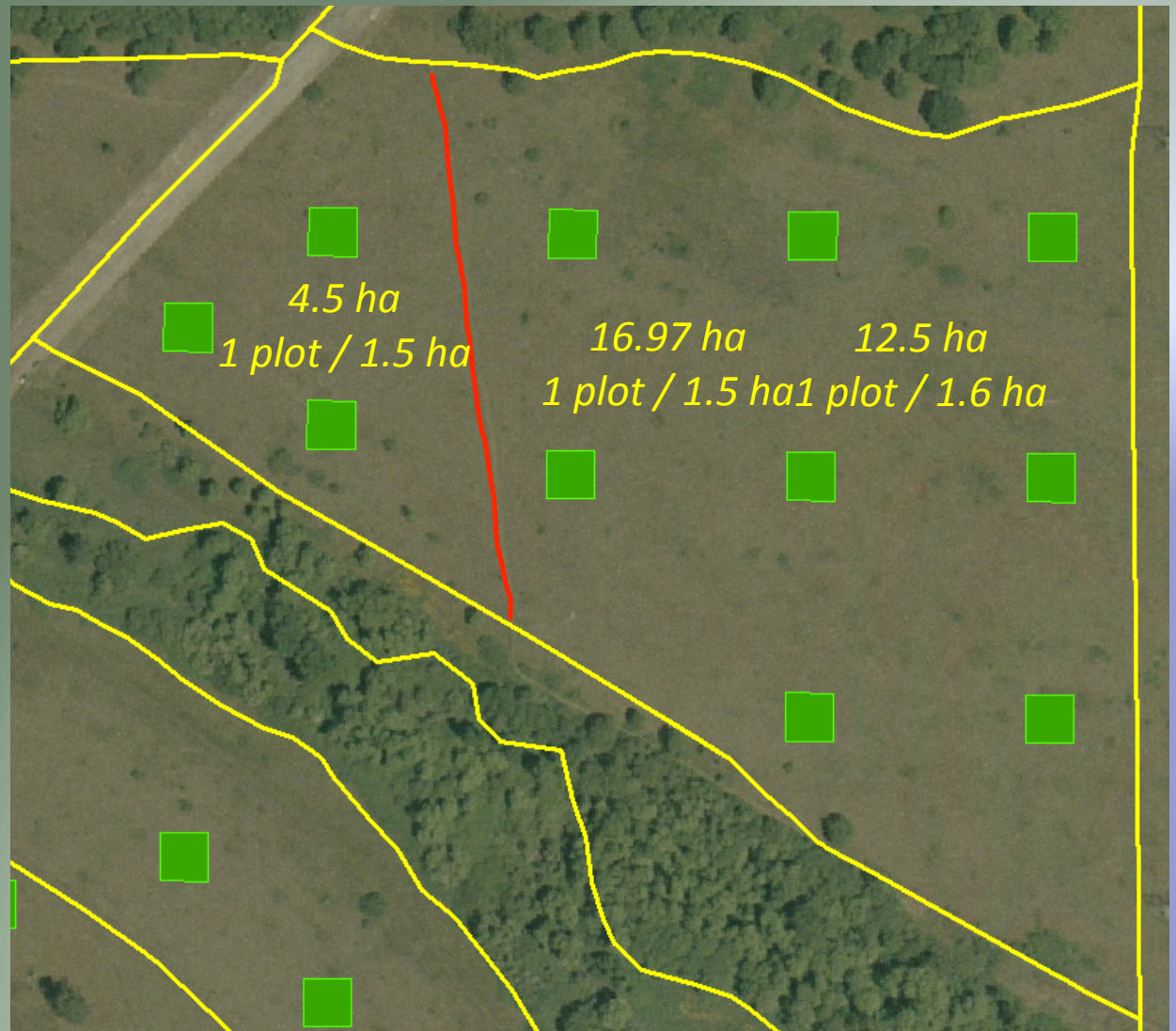
- Quantify cover – Point Intercept
- -88 hits – 0.5- and 1-m spacing
- Record species, ground cover, & max height per hit



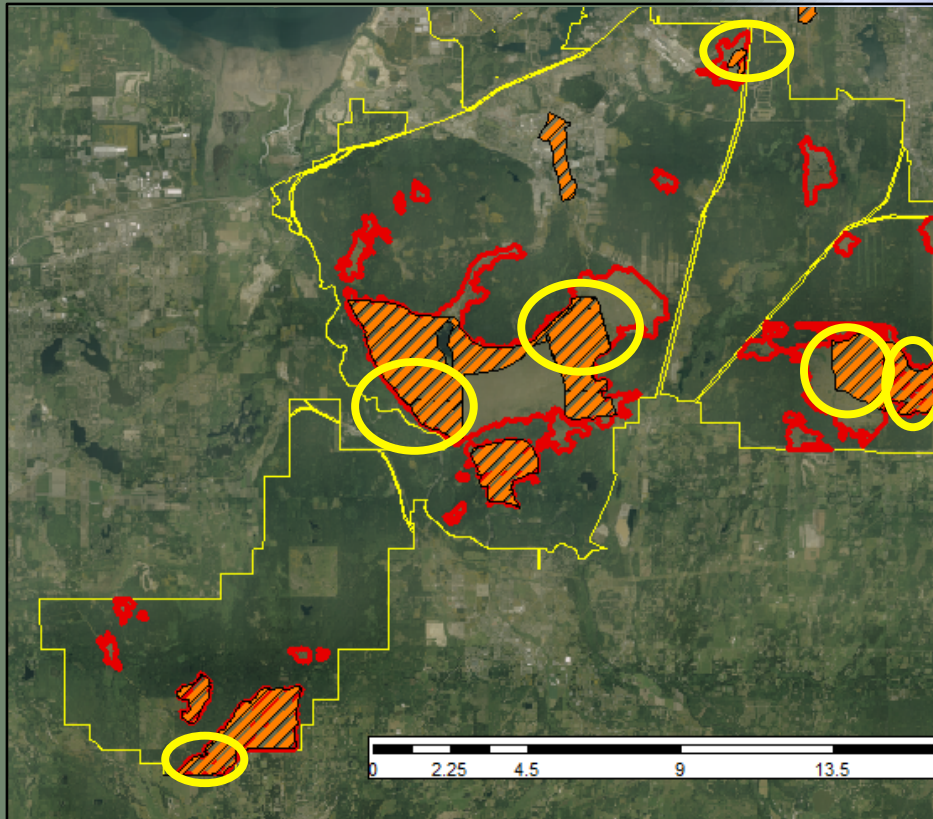
- Measure Richness – area searches
- 4-minute searches per quadrat
- Additive species list

Adaptive Design

- Inference Area = Management Block
- Sample Density
-# plots / ha
- Regular Distribution
-Random start
- Management Blocks w/in Prairie sampled at same density



2015 Effort



- 6 Prairies
- 23 Management Units
- 244 Plots
- Late April – Late June

Analysis

Point Intercept

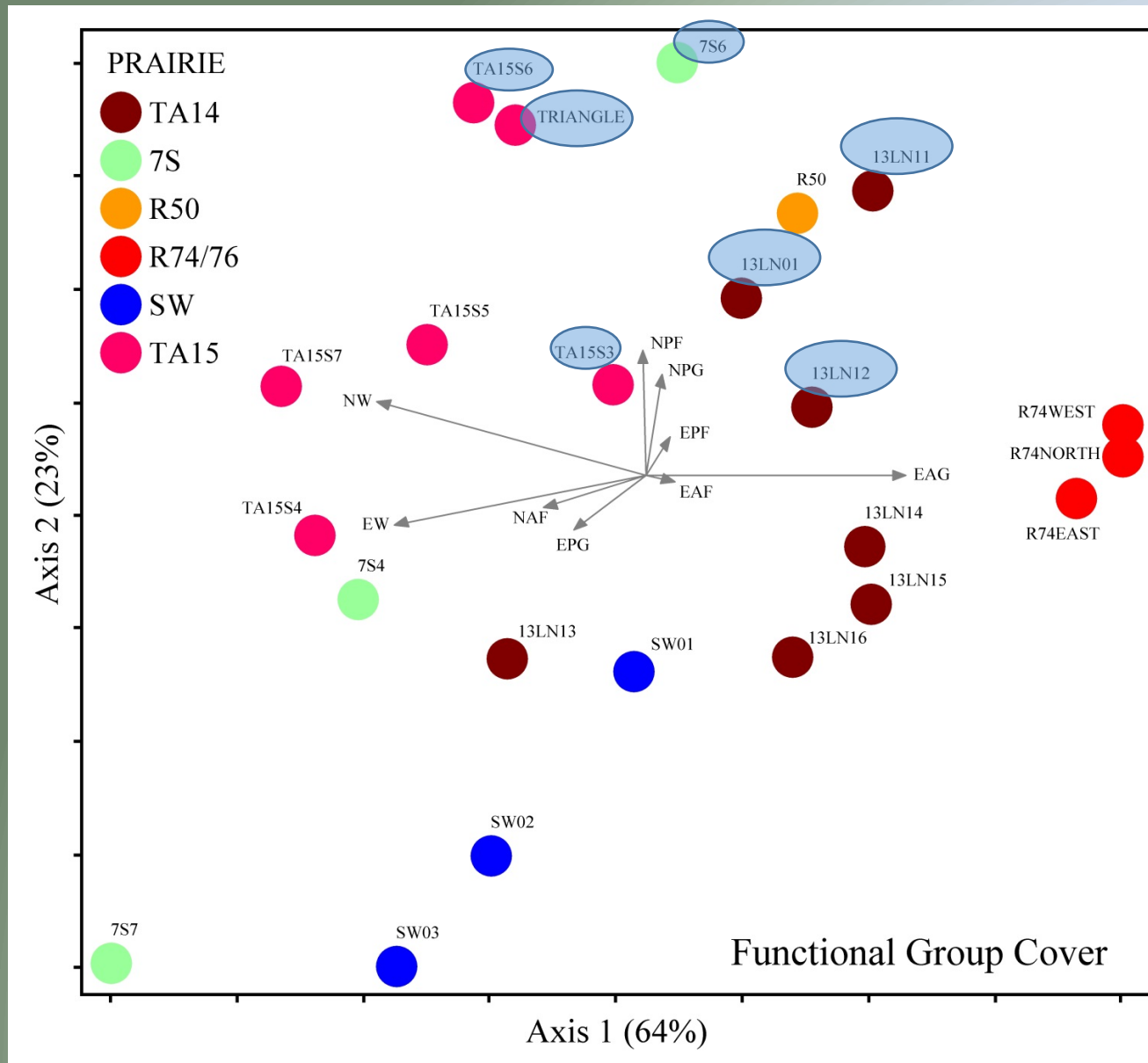
- Preliminary Investigation of Dataset
 - *NMDS Ordination*

Area Search

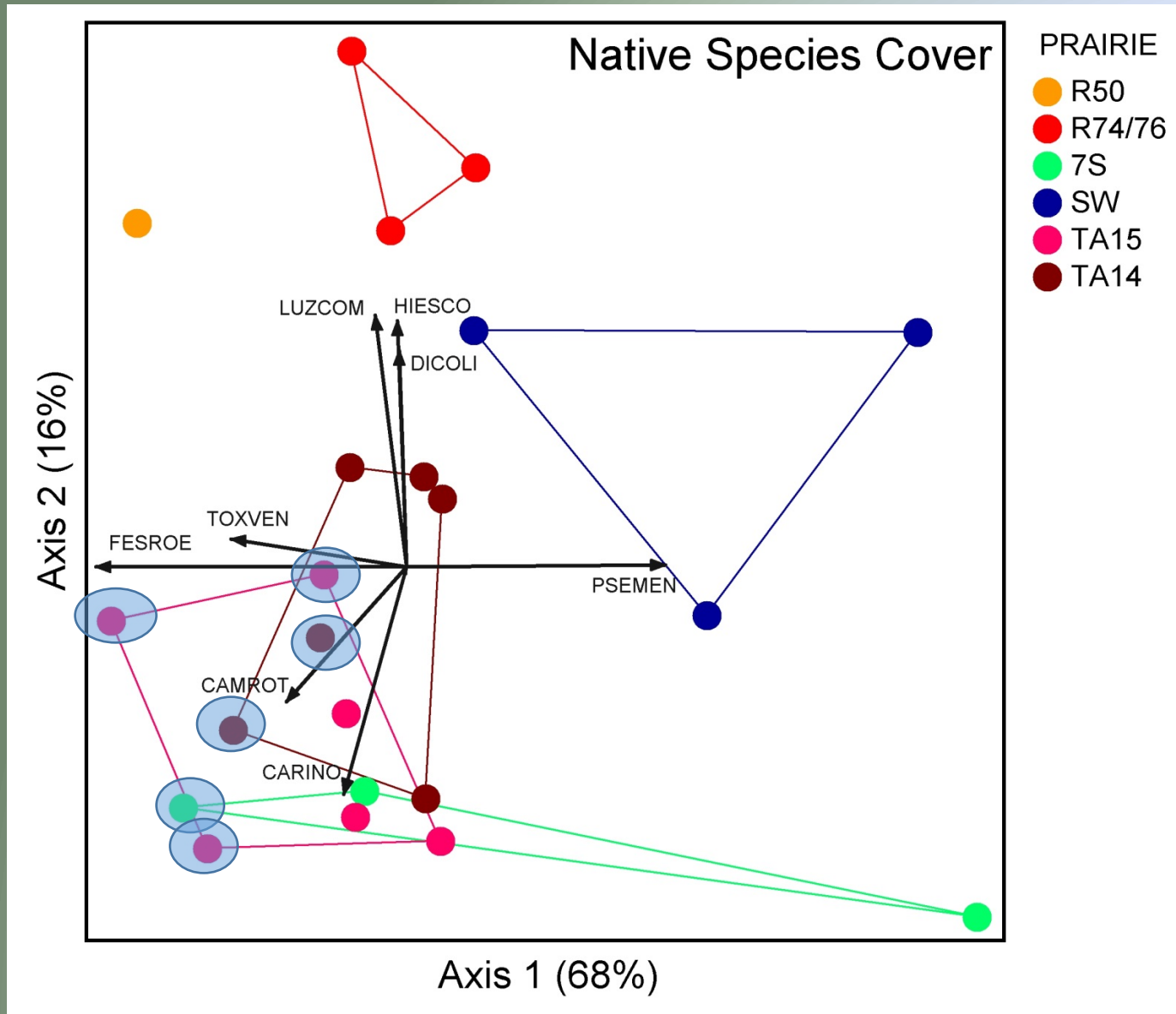
- Alpha Richness
 - *Mean # species per plot*
- Species Area Curves



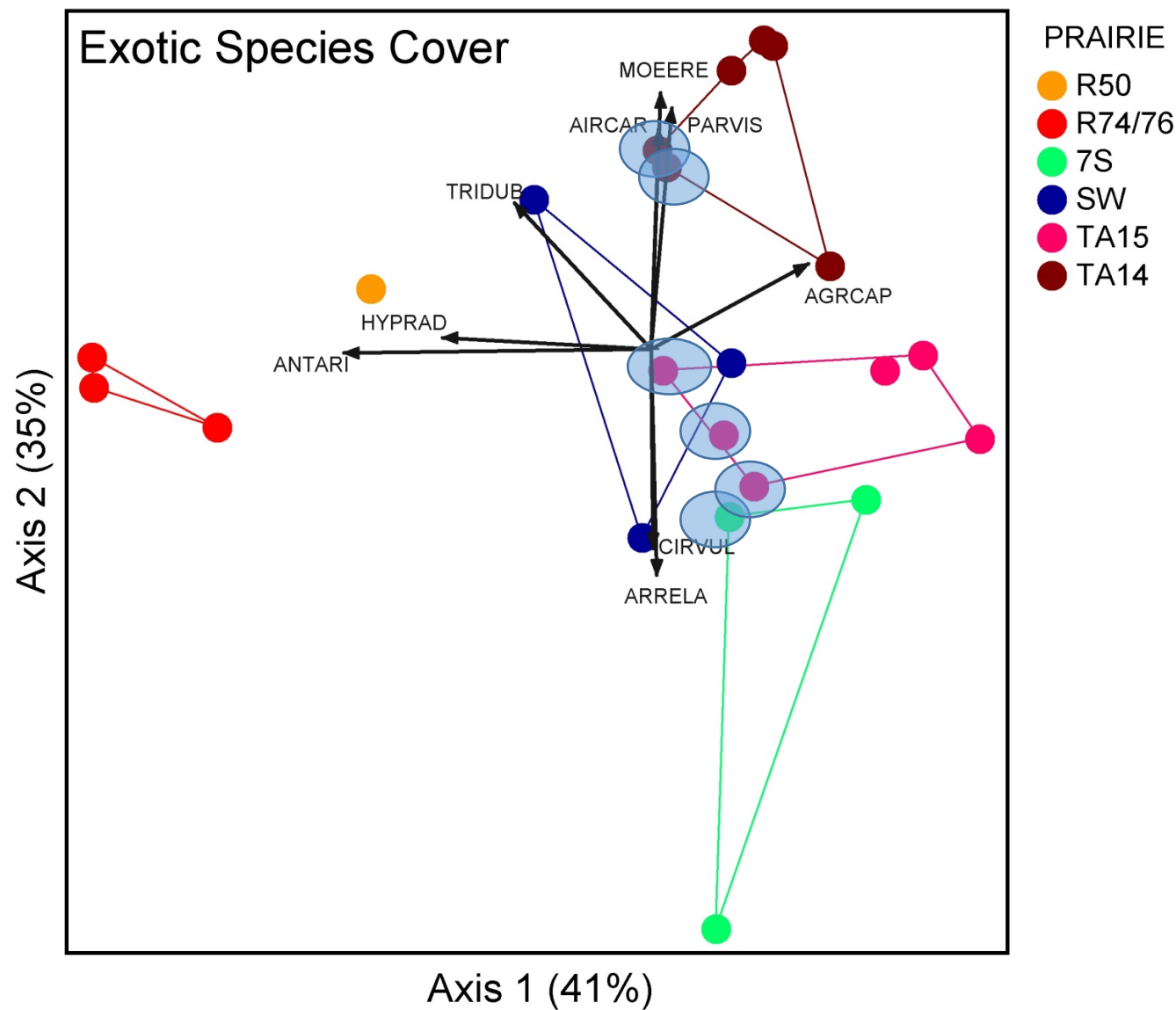
Ordination – Functional Group



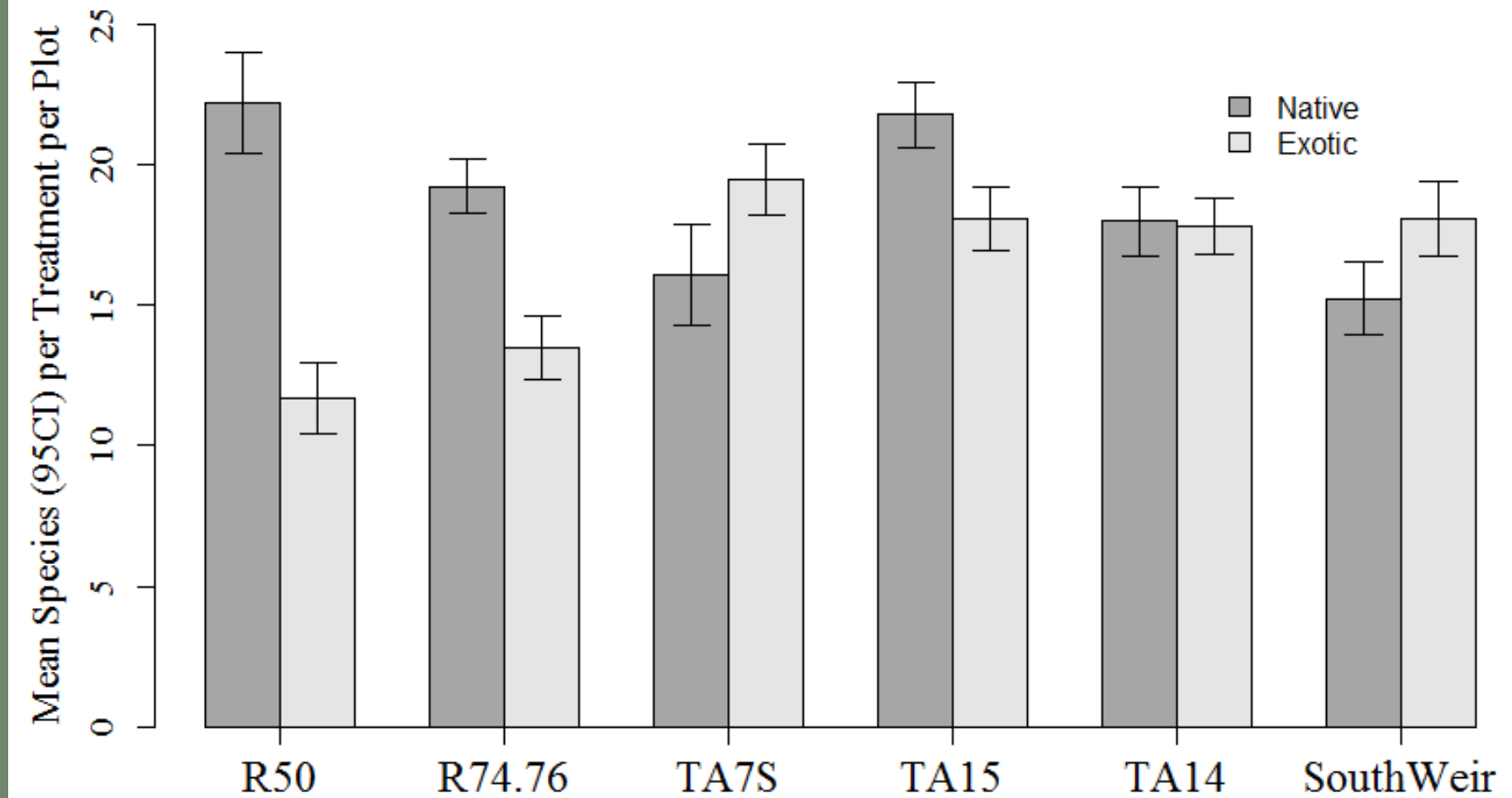
Ordination – Native Species



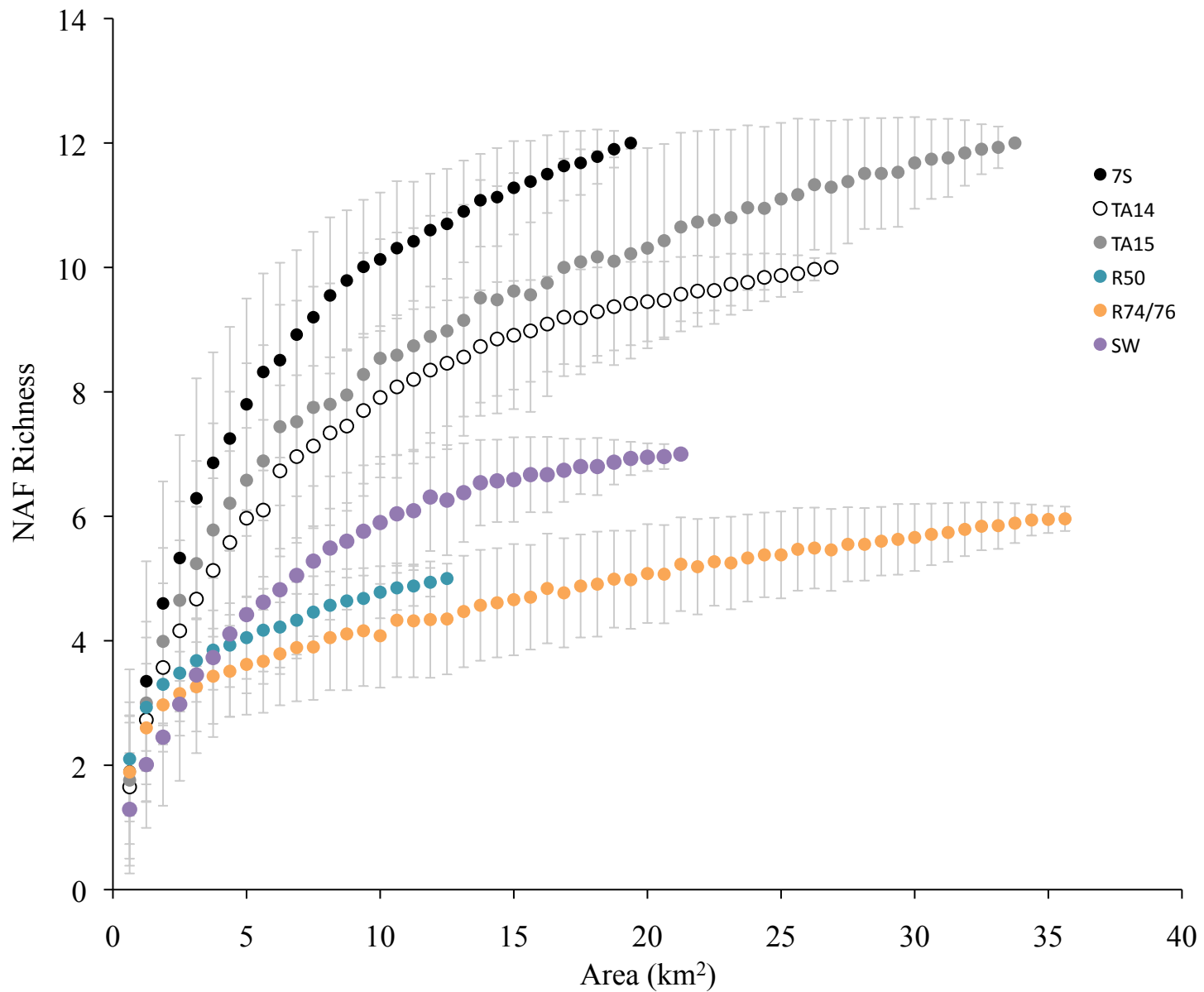
Ordination – Exotic Species



Species Richness



Species-Area Curves

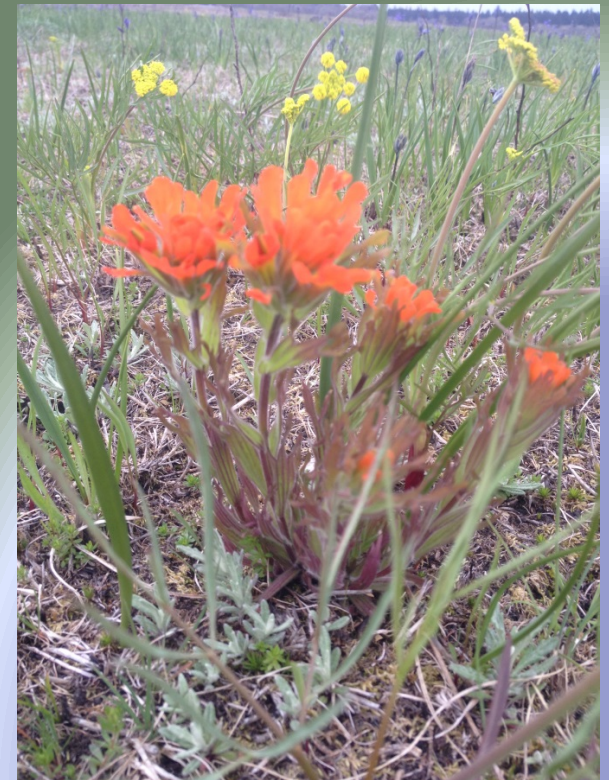


Summary

- Within prairie variation in Functional Group cover, but...

...functional group assemblages are unique among prairies.

-
- Native richness varies moderately among prairies



Where Are We?

Where Are We Going?

- **What is the current condition?**
 - Variability in condition among management blocks
- **What do we want the prairies to look like?**
 - Enhancement appears to ↑ nativity
- **What is our reference? (Are all prairies the same?)**
 - Individual prairies are unique,
...suggesting multiple reference sites.

Just Getting Started

- More robust community analyses
- Track enhancement efficacy
- Guide management actions – seeding/plugging efforts
- Fire-effects Monitoring
- Species Relationships
 - Streaked-horned lark nest preference
 - Gopher distribution



Thank You



Analysis & Data Summary:
Adam Martin

Questions?

