

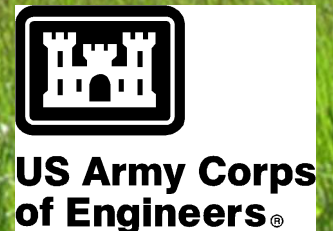
Long-term Adaptive Management Impacts on Plant Communities in Upland Prairies

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Upland Prairies in the Willamette Valley

- Imperiled
- Home to many rare species
 - Kincaid's lupine
 - Fender's blue butterfly
- 100 Acres of occupied or potential habitat at Fern Ridge Reservoir, managed by USACE





Adaptive Management at Fern Ridge

- Management of sites began prior to 2008
 - Goal of restoring a matrix of native prairie grasses with moderate native forb diversity
- Monitoring each spring by IAE (2008-2017)
- Long term dataset of detailed plant community data

Objective: Examine the effectiveness of adaptive management treatments and trajectory of the plant communities over time

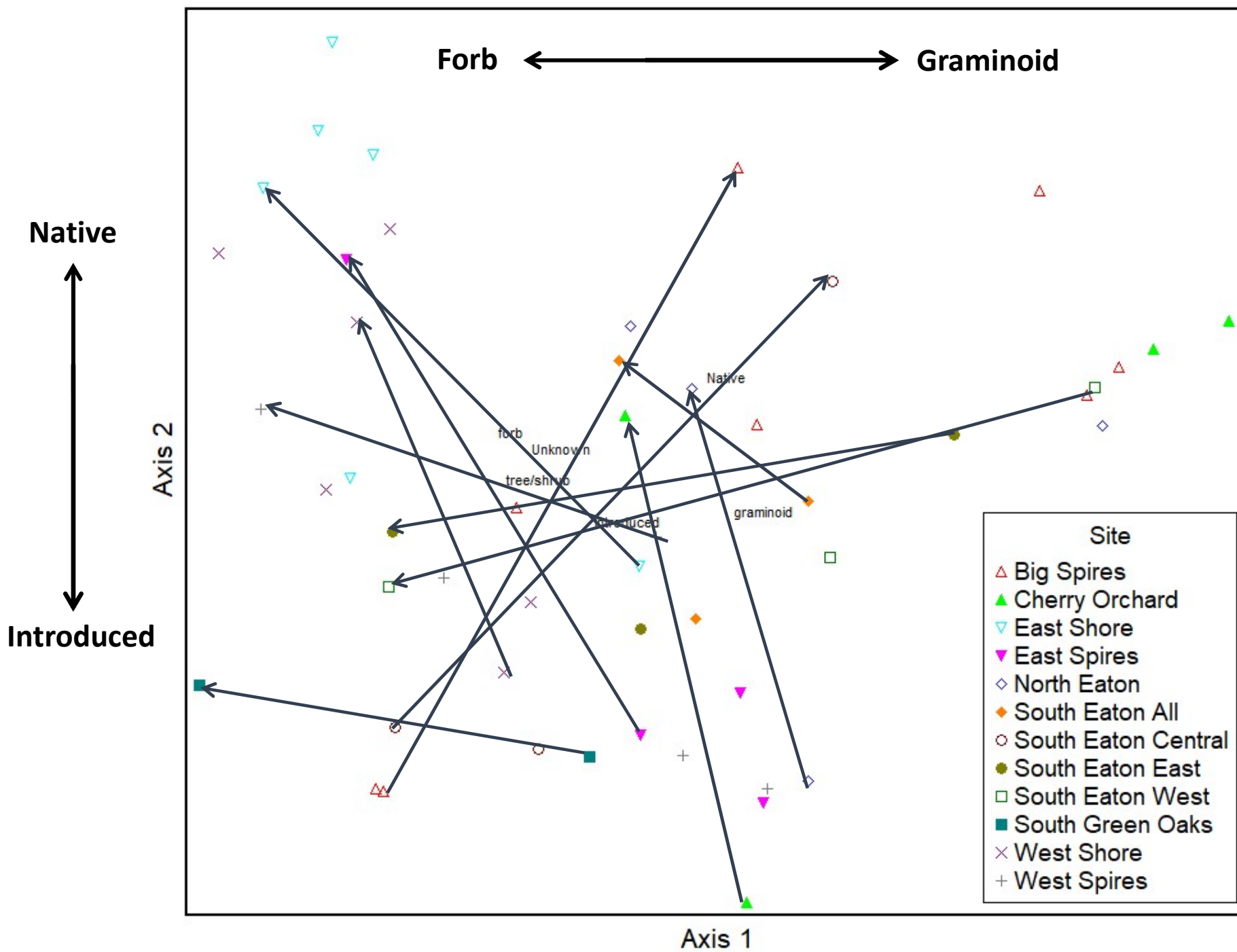


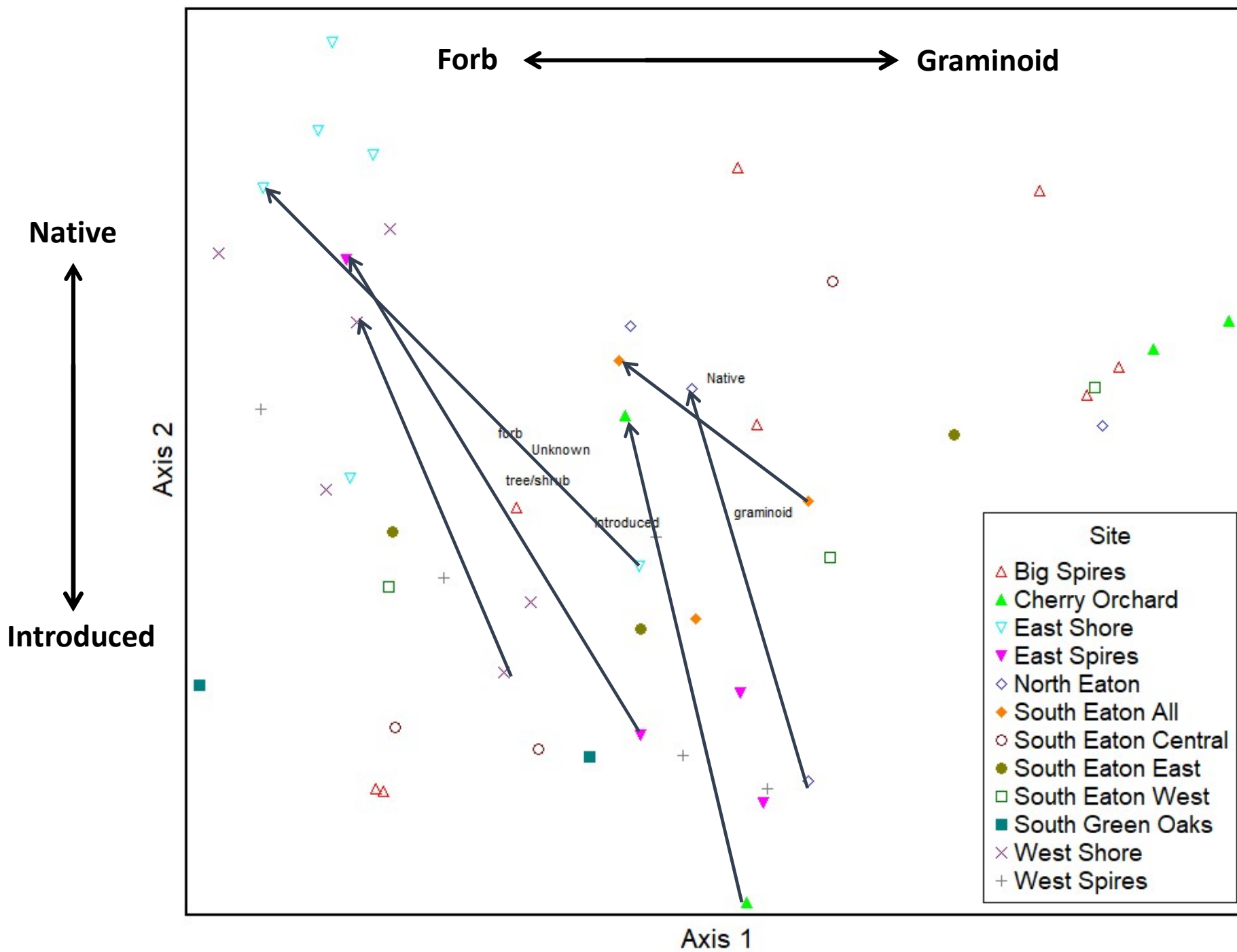
Specific questions:

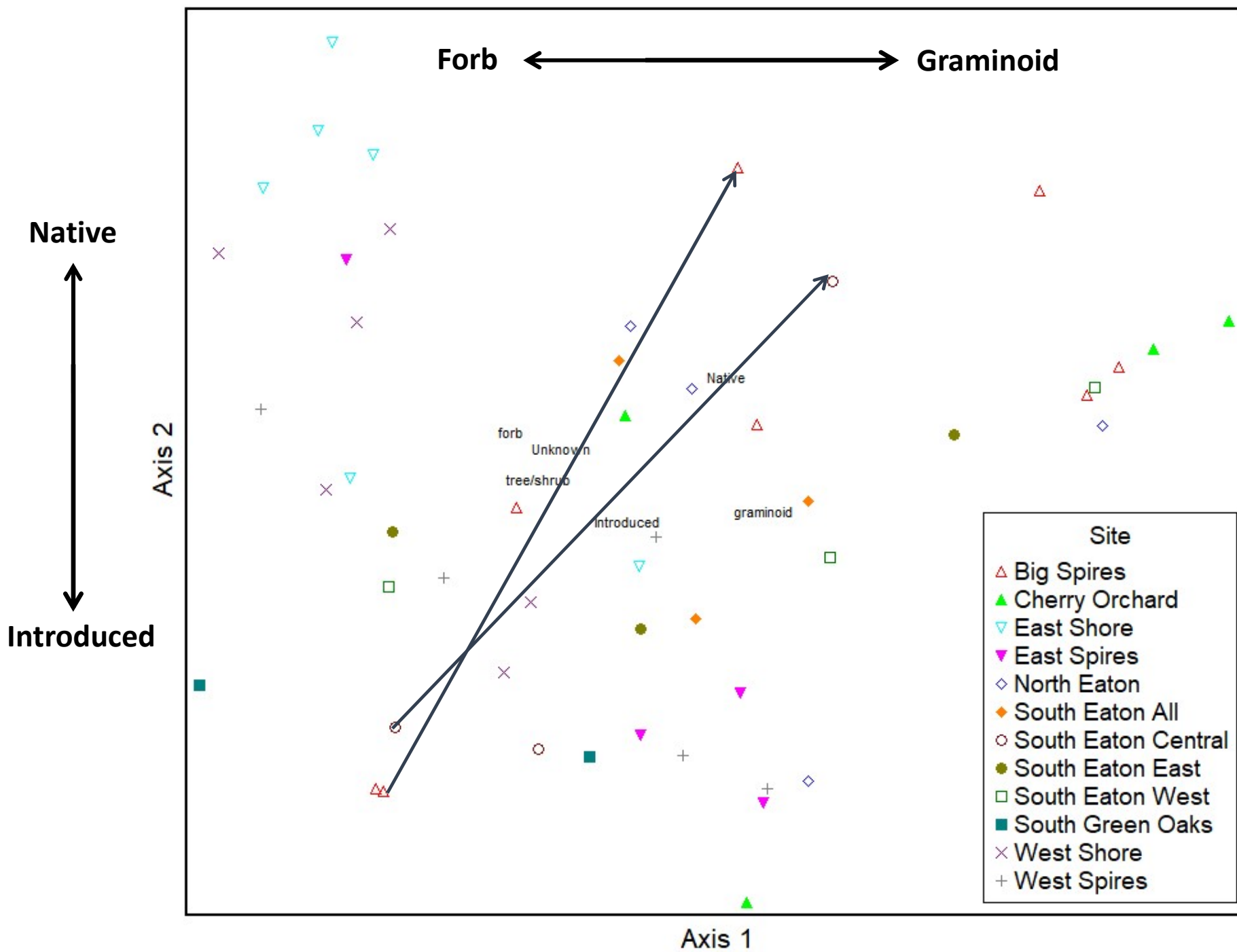
- What are the impacts of management treatments?
- How do the plant communities change over time?
- Are certain management treatments associated with target functional groups (native forbs or native graminoids)?

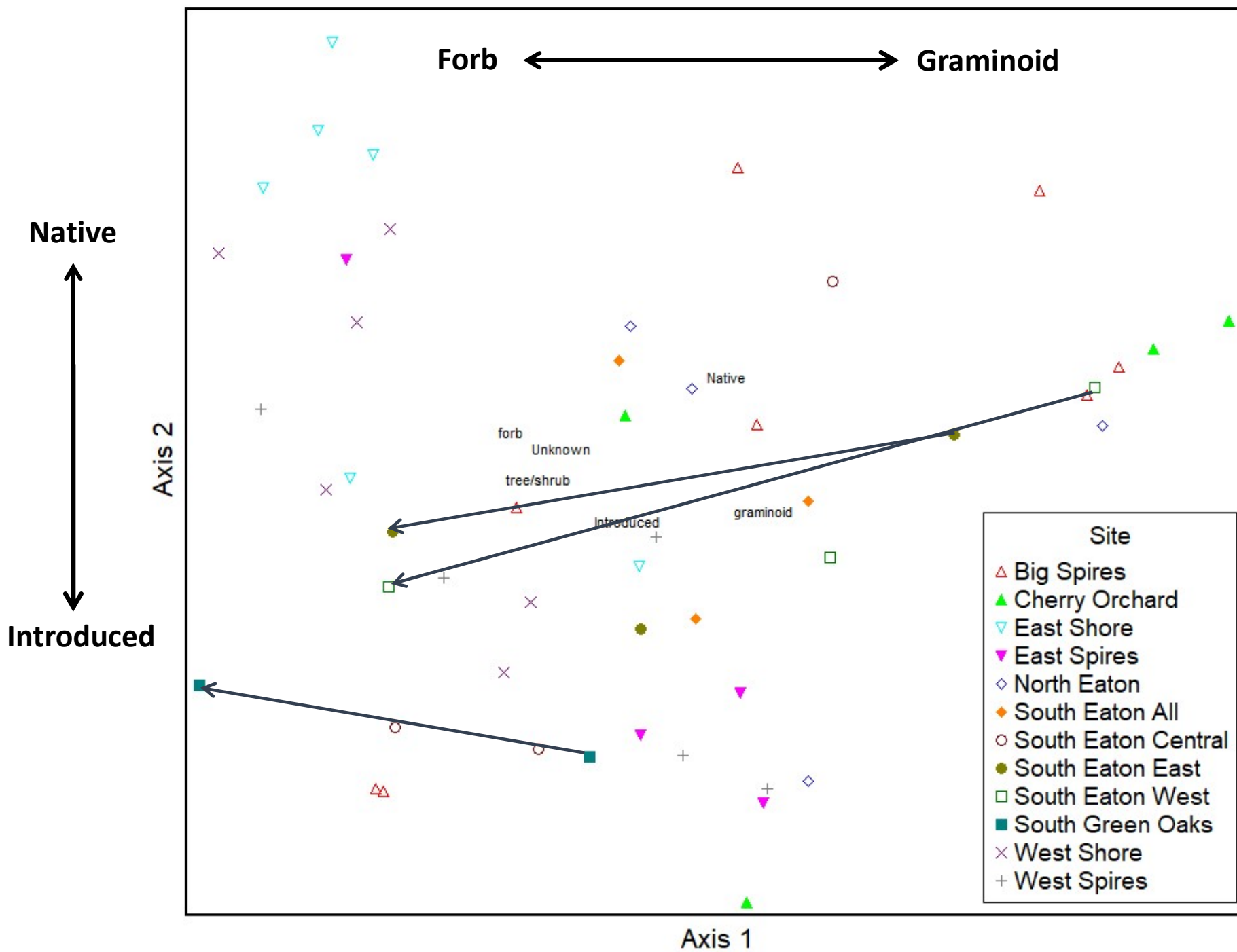
Analysis

- Non-Metric Multidimensional Scaling (NMS) Ordinations (PC-ORD version 7.0)

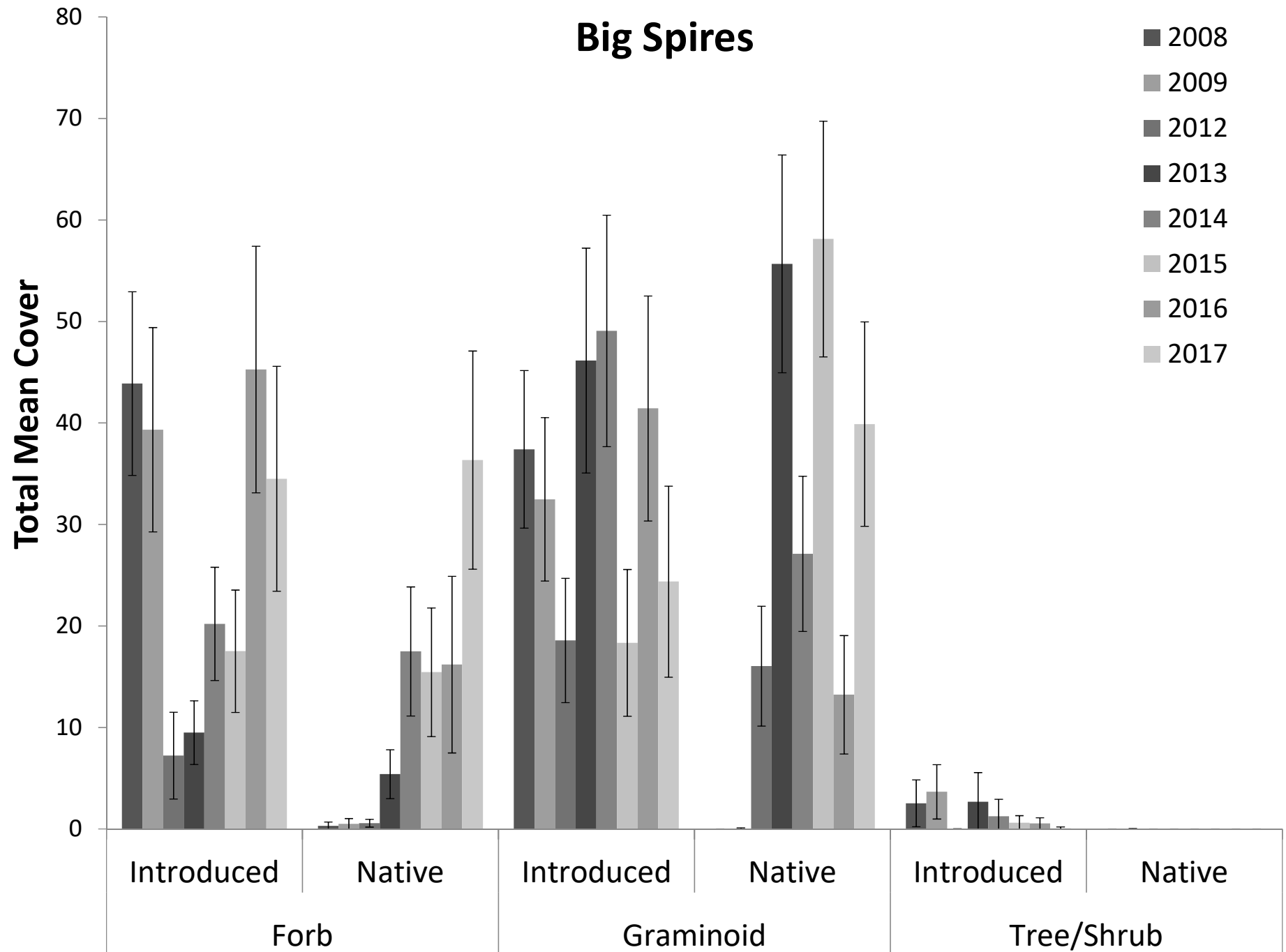








Big Spires

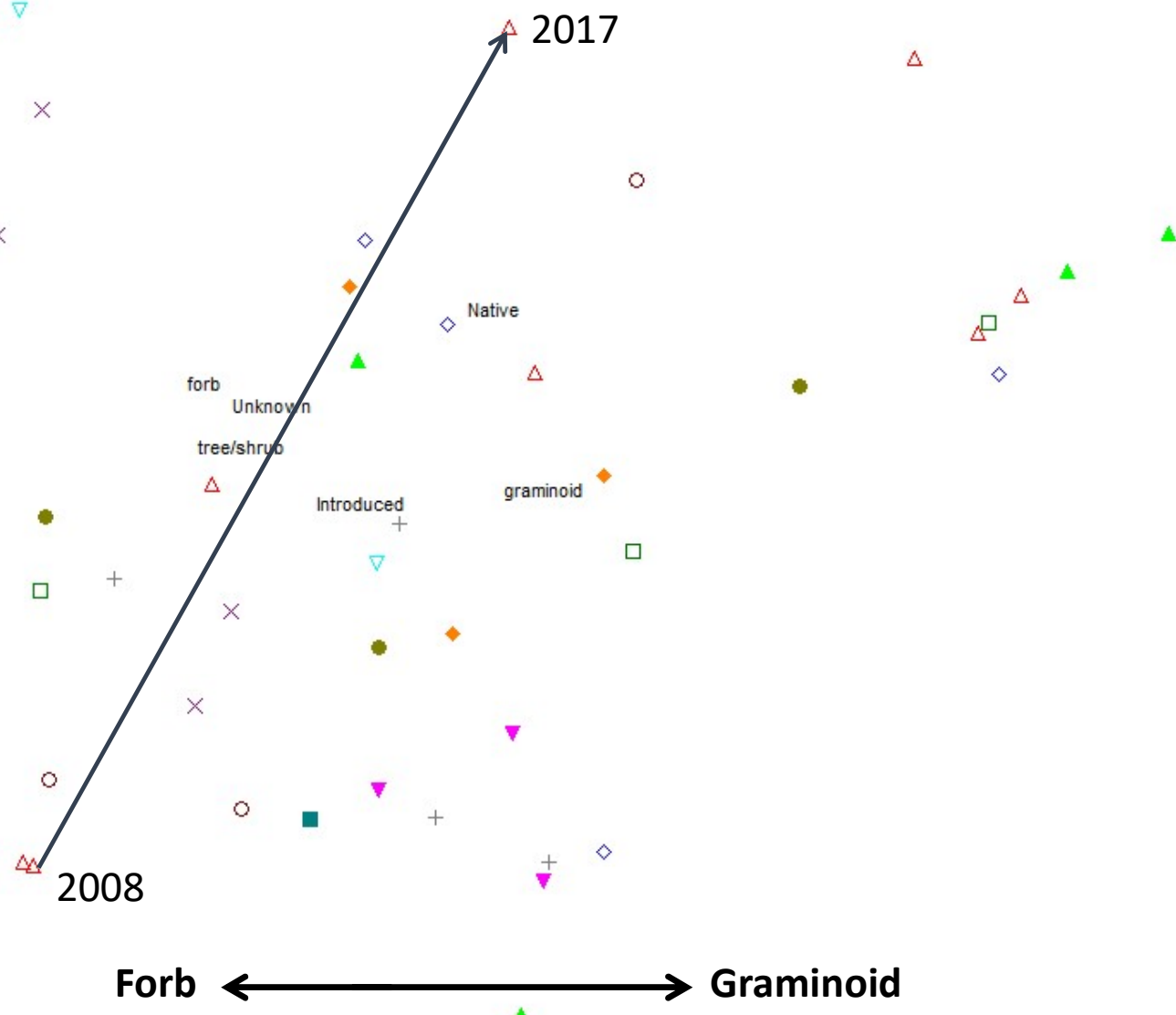


Big Spires

Introduced forb to native graminoid composition

Native
↑
↓
Introduced

Axis 2



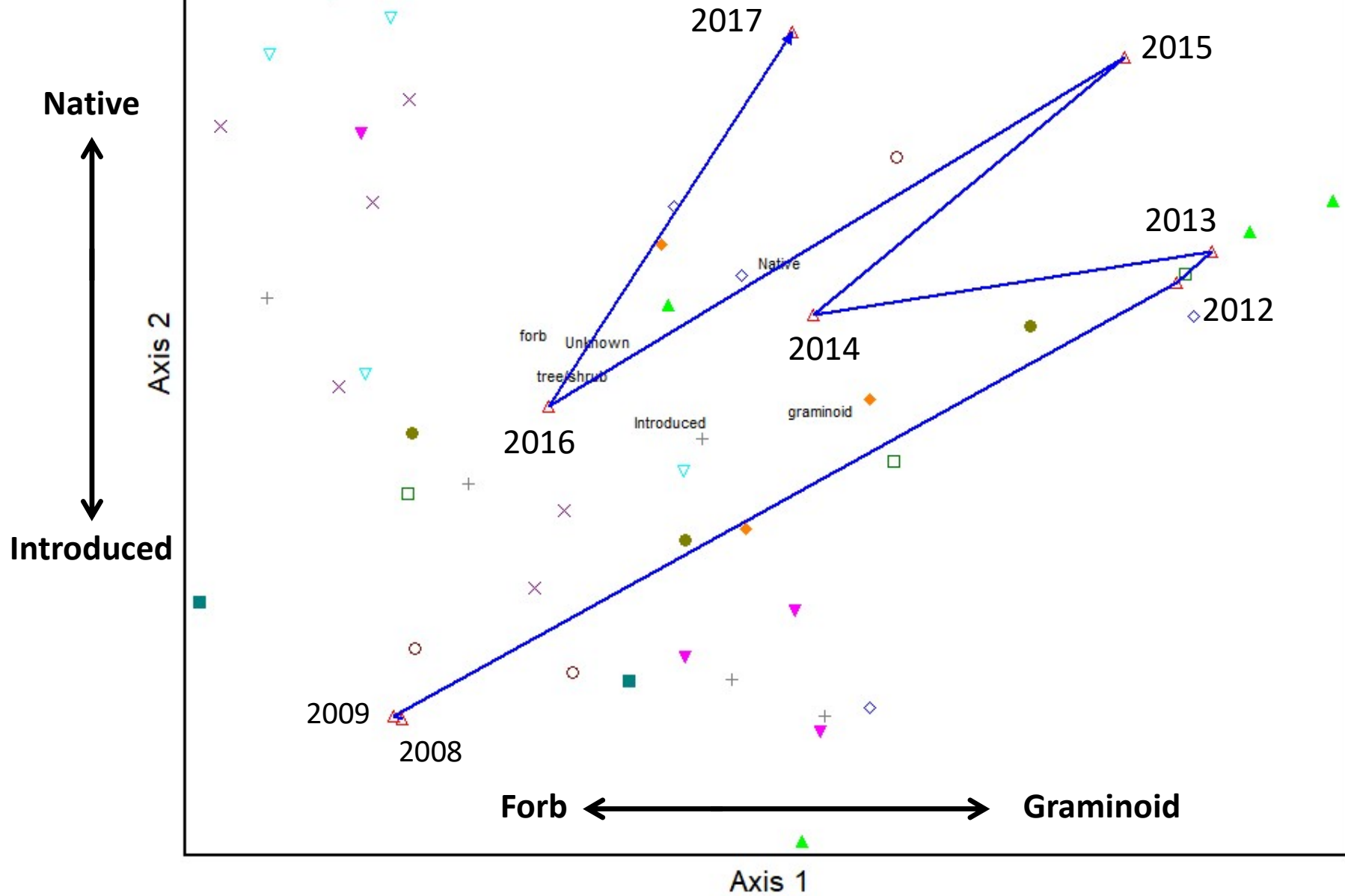
Forb

Graminoid

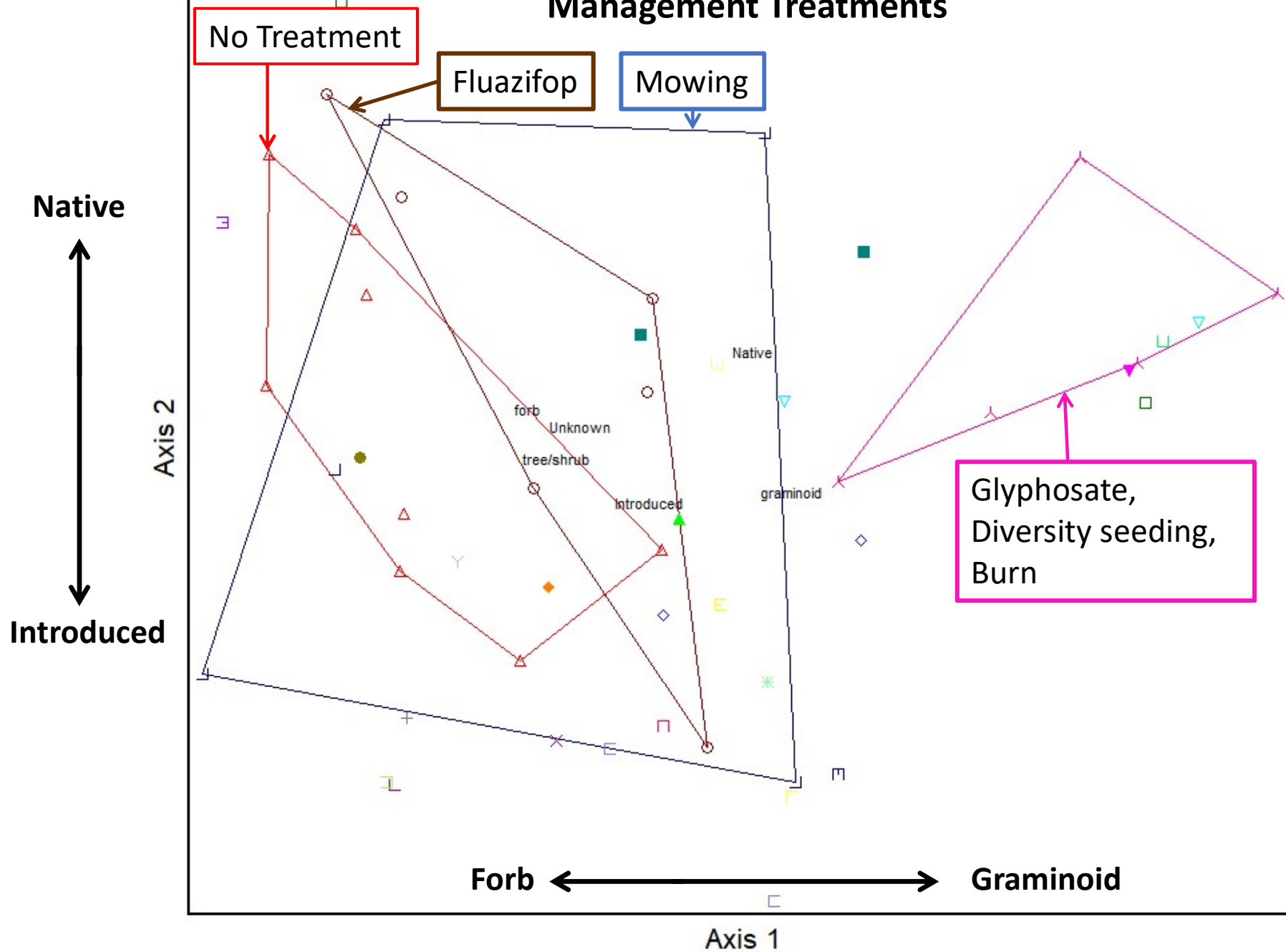
Axis 1

Big Spires

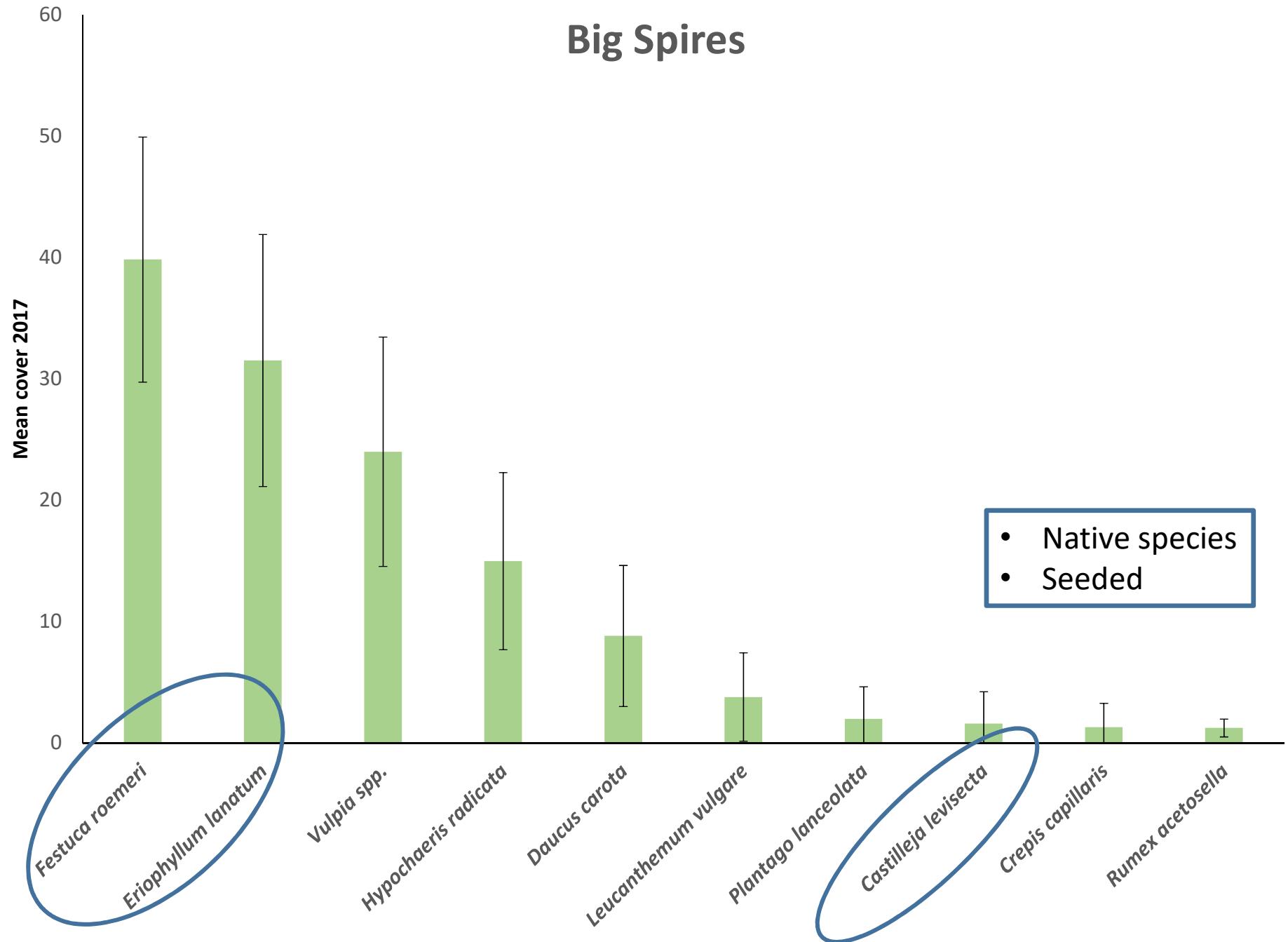
Introduced forb to native graminoid composition



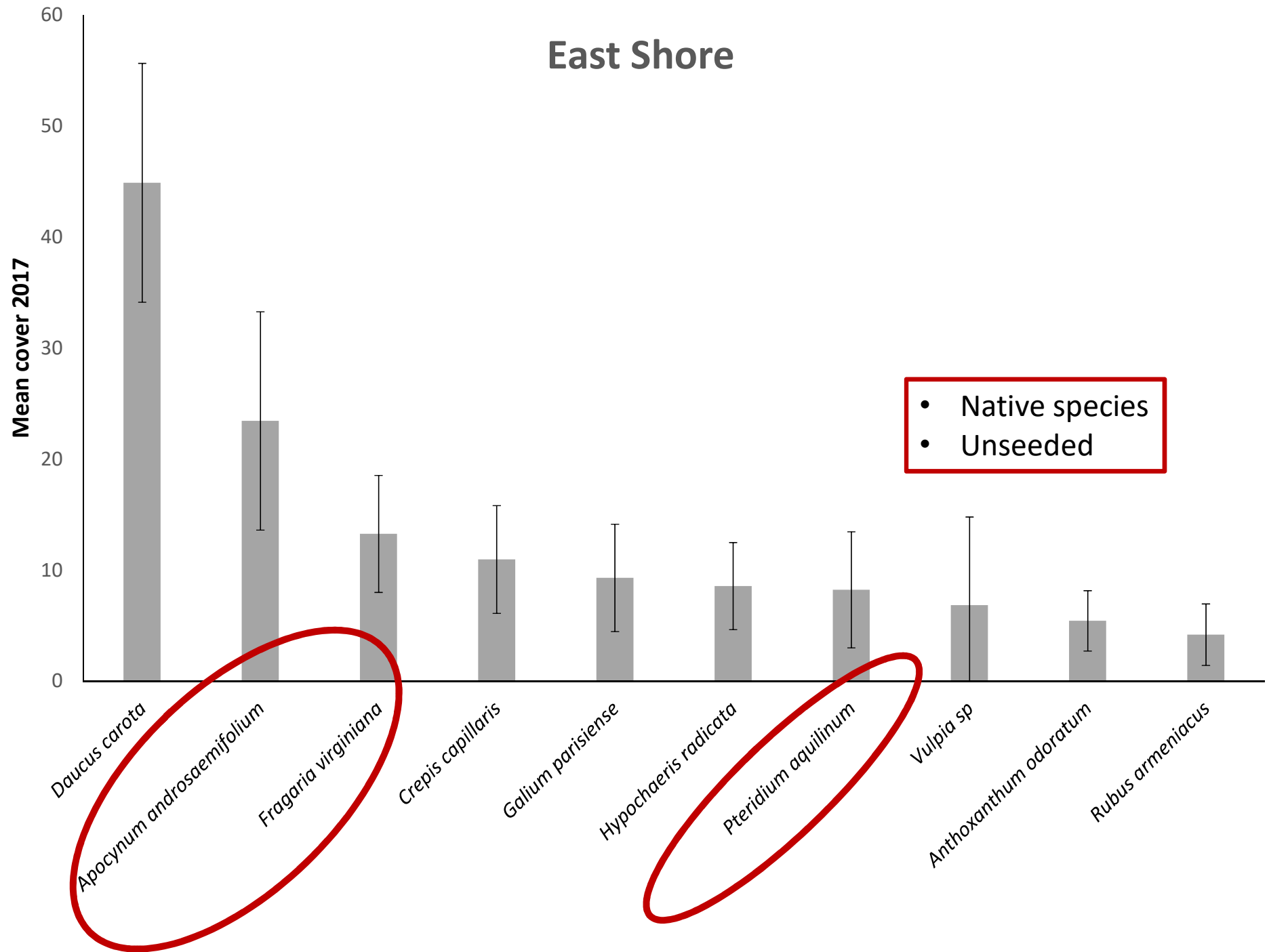
Management Treatments

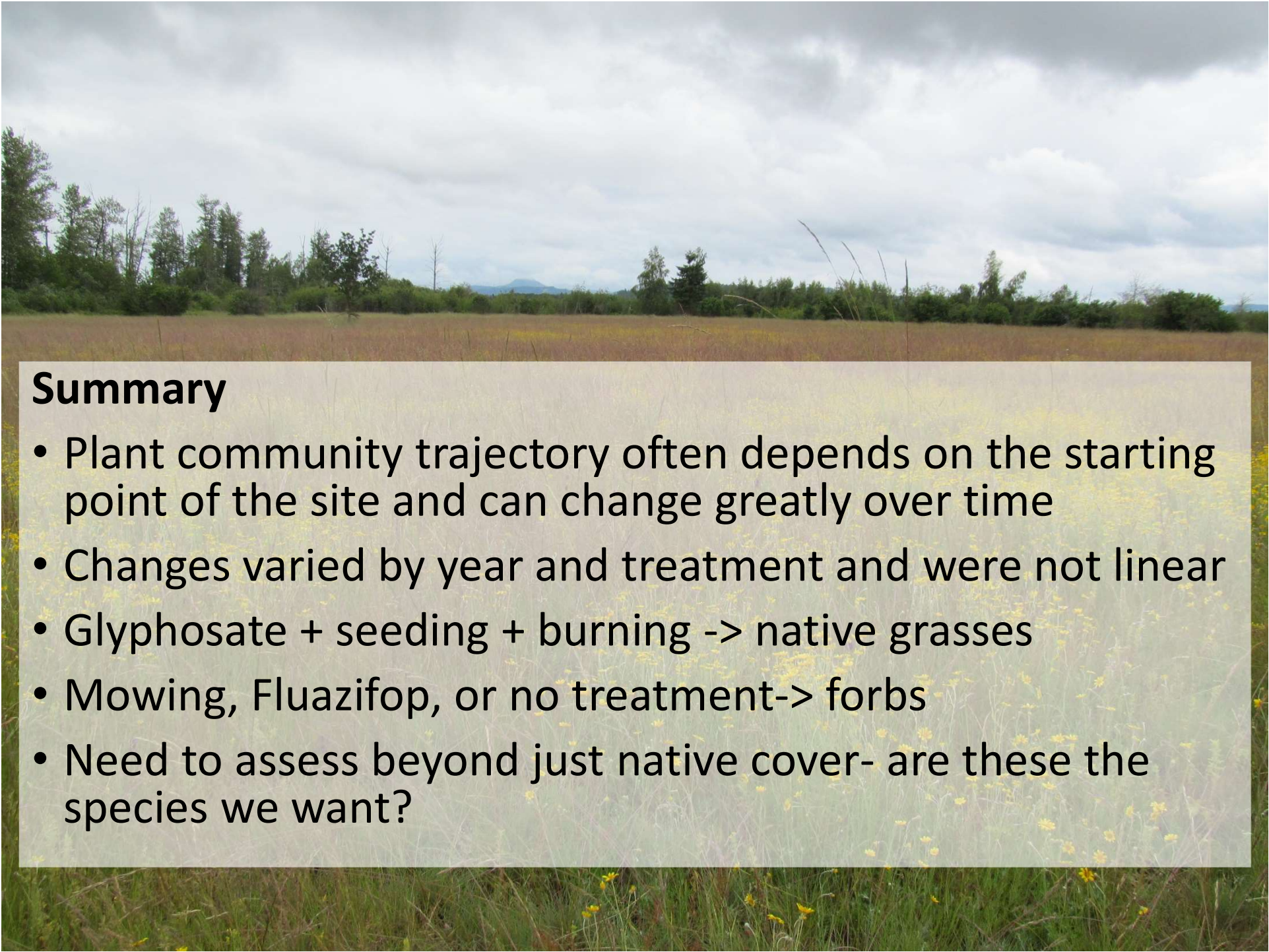


Big Spires



East Shore





Summary

- Plant community trajectory often depends on the starting point of the site and can change greatly over time
- Changes varied by year and treatment and were not linear
- Glyphosate + seeding + burning -> native grasses
- Mowing, Fluazifop, or no treatment-> forbs
- Need to assess beyond just native cover- are these the species we want?

A photograph of a grassy field with a dense line of trees in the background. The field is green with some brown patches, and the trees are mostly green with some bare branches. The sky is overcast.

Special thanks:

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