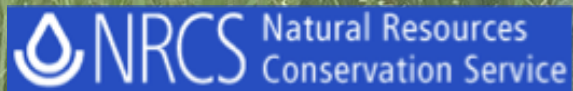


Establishing prairie communities on actively managed grazing lands in western Washington

Sarah Hamman

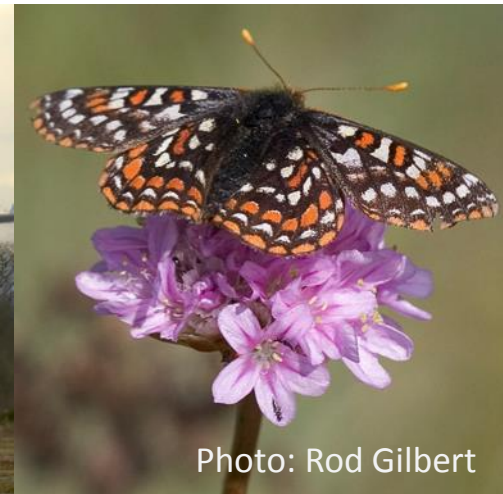
Center for Natural Lands Management

Fred Colvin, Peter Dunwiddie, Marty Chaney, Ted Thomas, Lucas Patzek



Sentinel Landscapes Program

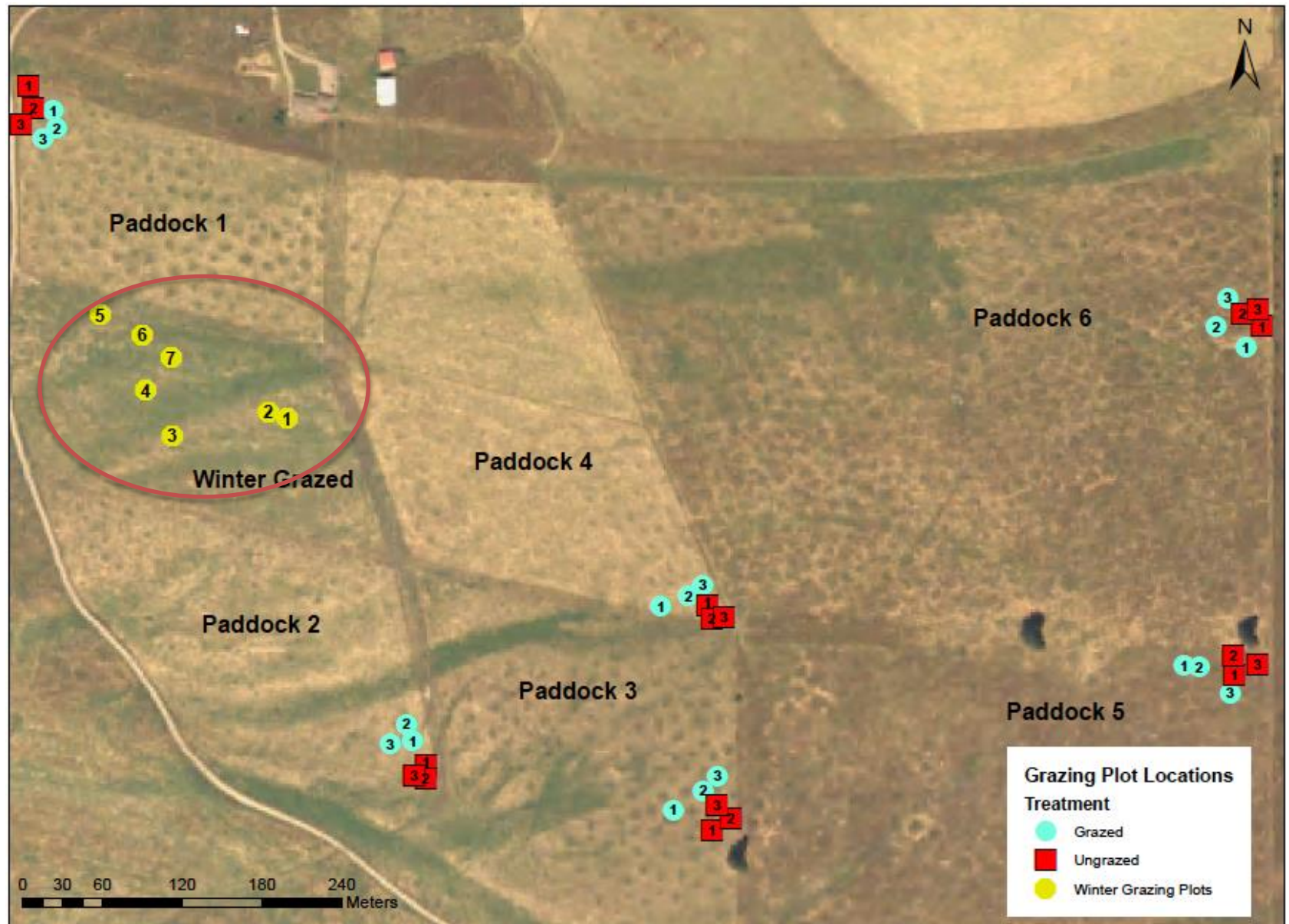
- New program between Departments of Defense, Agriculture and Interior that aims to protect rare species and habitats on working lands to allow greater flexibility for training on military lands.
- South Sound prairies designated as first Sentinel Landscape in 2013.



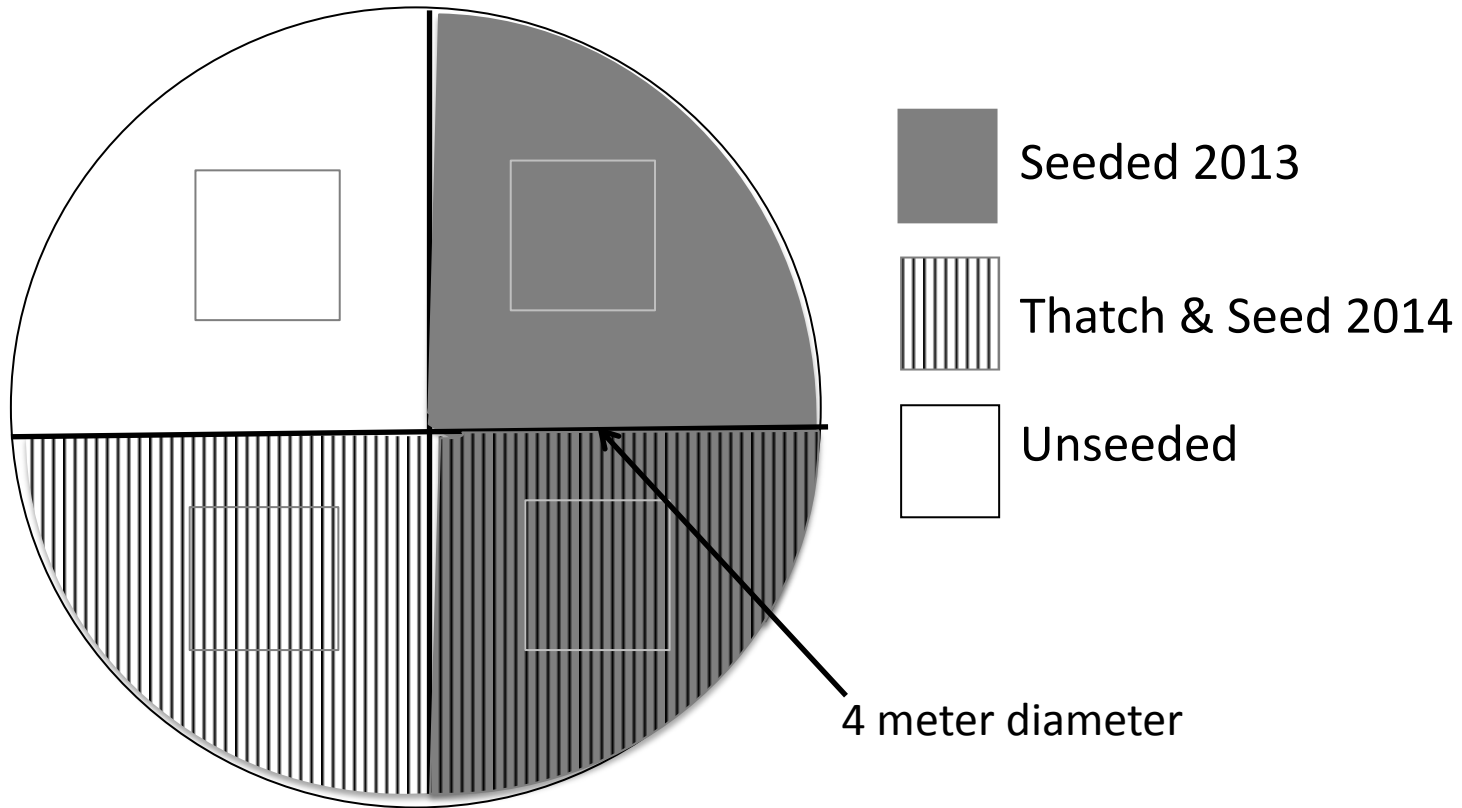
Project questions

1. Can we get prairie plants established on working lands?
2. Do the additional prairie species affect forage quantity or quality?
3. Can prairie communities be maintained over the long-term on grazing lands?

Experimental Design

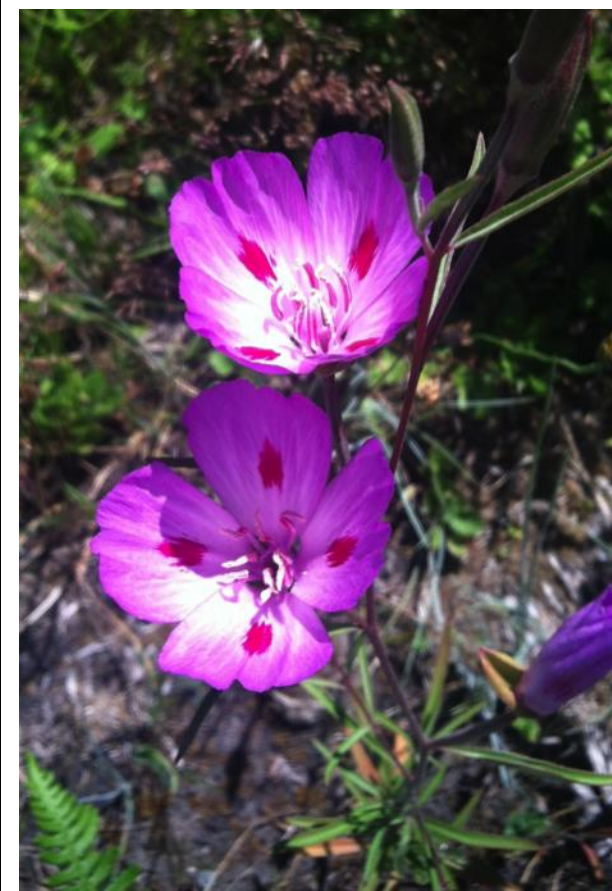


Experimental Design



Species	Ann./Peren.	Target density (plants/m2)	Seeds/m2
Achillea millefolium	P	2	5
Armeria maritima	P	2	7
Castilleja levisecta	P	3	300
Cerastium arvense	P	4	9
Clarkia amoena	A	4	24
Collinsia parviflora	A	4	16
Danthonia californica	P	3	10
Eriophyllum lanatum	P	1	3
Erigeron speciosus	P	2	5
Festuca roemerii	P	7	78
Koeleria macrantha	P	2	7
Lomatium triternatum	P	2	20
Lomatium utriculatum	P	4	24
Lupinus albicaulis	P	1	4
Lupinus bicolor	A	2	12
Microseris laciniata	P	3	18
Plectritis congesta	A	4	16
Potentilla gracilis	P	2	21
Ranunculus occidentalis	P	3	8
Sericocarpus rigidus	P	7	156
Sisyrinchium idahoense	P	2	16
Solidago missouriensis	P	4	24
Solidago simplex	P	4	24
Viola adunca	P	6	36
Total		76	838

Seeded 24 native species:
-3 perennial grasses
-4 annual forbs
-17 perennial forbs

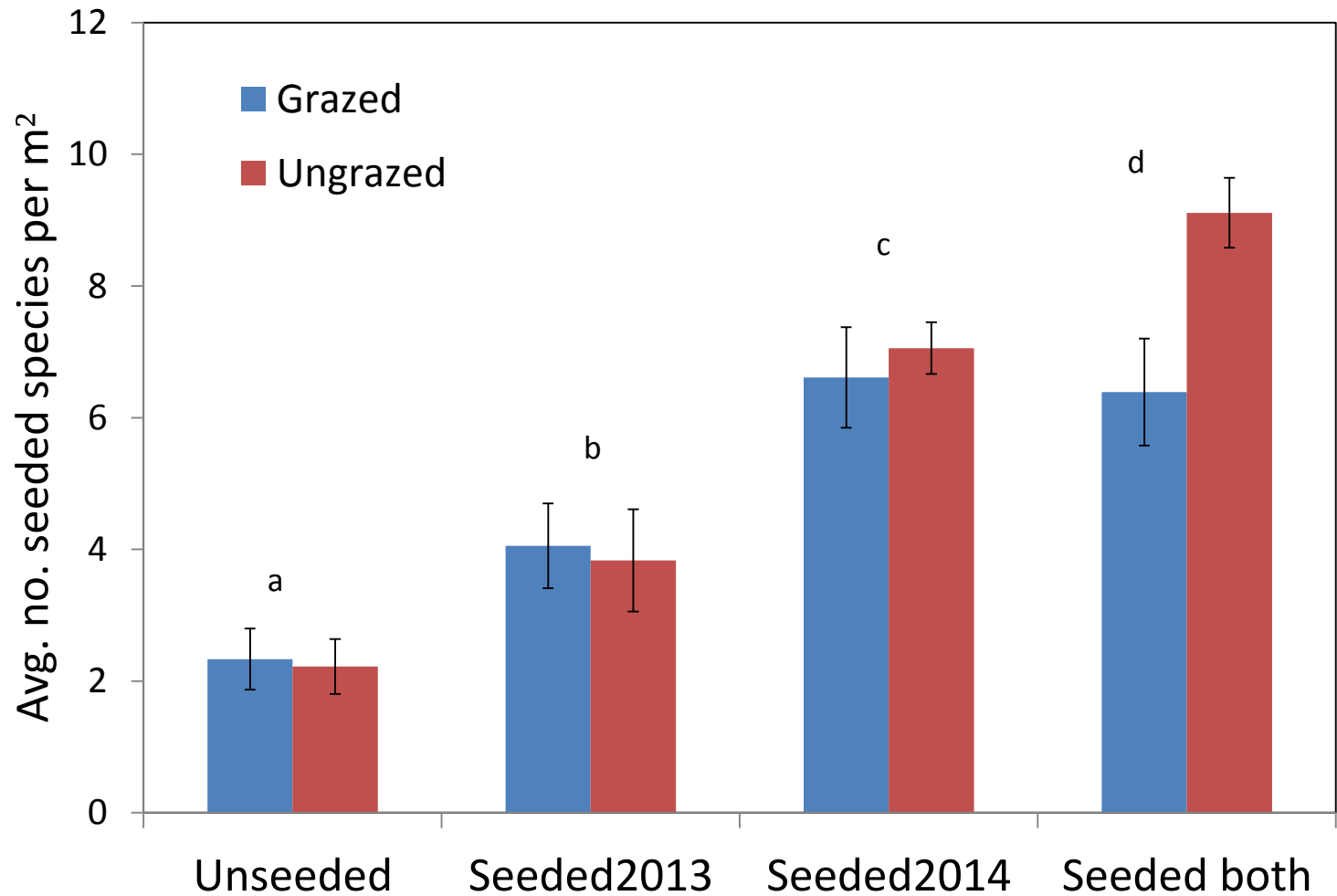








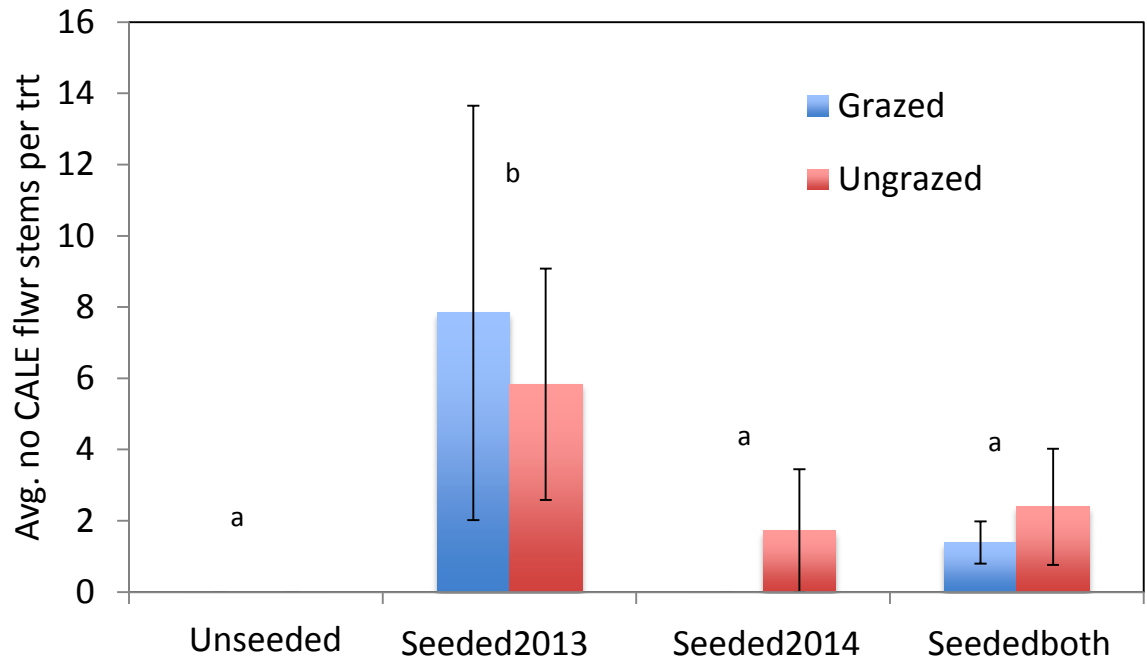
Native plants establish well in grazed areas



Grazing impacts native composition

Boosted by grazing	Compatible	Less compatible/requires higher rates
Castilleja levisecta	Achillea millefolium	Armeria maritima
Lomatium utriculatum	Cerastium arvense	Clarkia amoena
Sericocarpus rigidus	Collinsia parviflora	Danthonia californica
	Microseris laciniata	Eriophyllum lanatum
		Festuca roemerii
		Lomatium triternatum
		Lupinus albicaulis
		Lupinus bicolor
		Plectritis congesta
		Potentilla gracilis
		Ranunculus occidentalis
		Solidago missouriensis
		Solidago spathulata

Golden paintbrush establishes well in grazed areas



Native seeding does not affect richness or abundance of forage grasses

- Average of 4 forage grass species in all plots
 - Orchard grass, soft brome, colonial bentgrass, meadow foxtail, kentucky bluegrass
- Grazed plots = 25% grass cover
- Ungrazed plots = 21% grass cover



Take advantage of opportunities



Take home messages

- We can get native prairie species established on working lands
- Several prairie species (at least 7) are compatible with a high rotational grazing regime that includes spring deferment
- Seeding native species at a moderate seeding rate does not change abundance or diversity of forage grasses

Questions?

Sarah Hamman:

shamman@cnlm.org





- Ask Fred how this worked for him – any concerns about implications
- Assuming that grazing will make for more long-term diversity
- We're basically asking landowner to do spring deferment
- Need to have incentive for landowners - provide grazing lands for a few months during spring window
- For native prairie sites – have