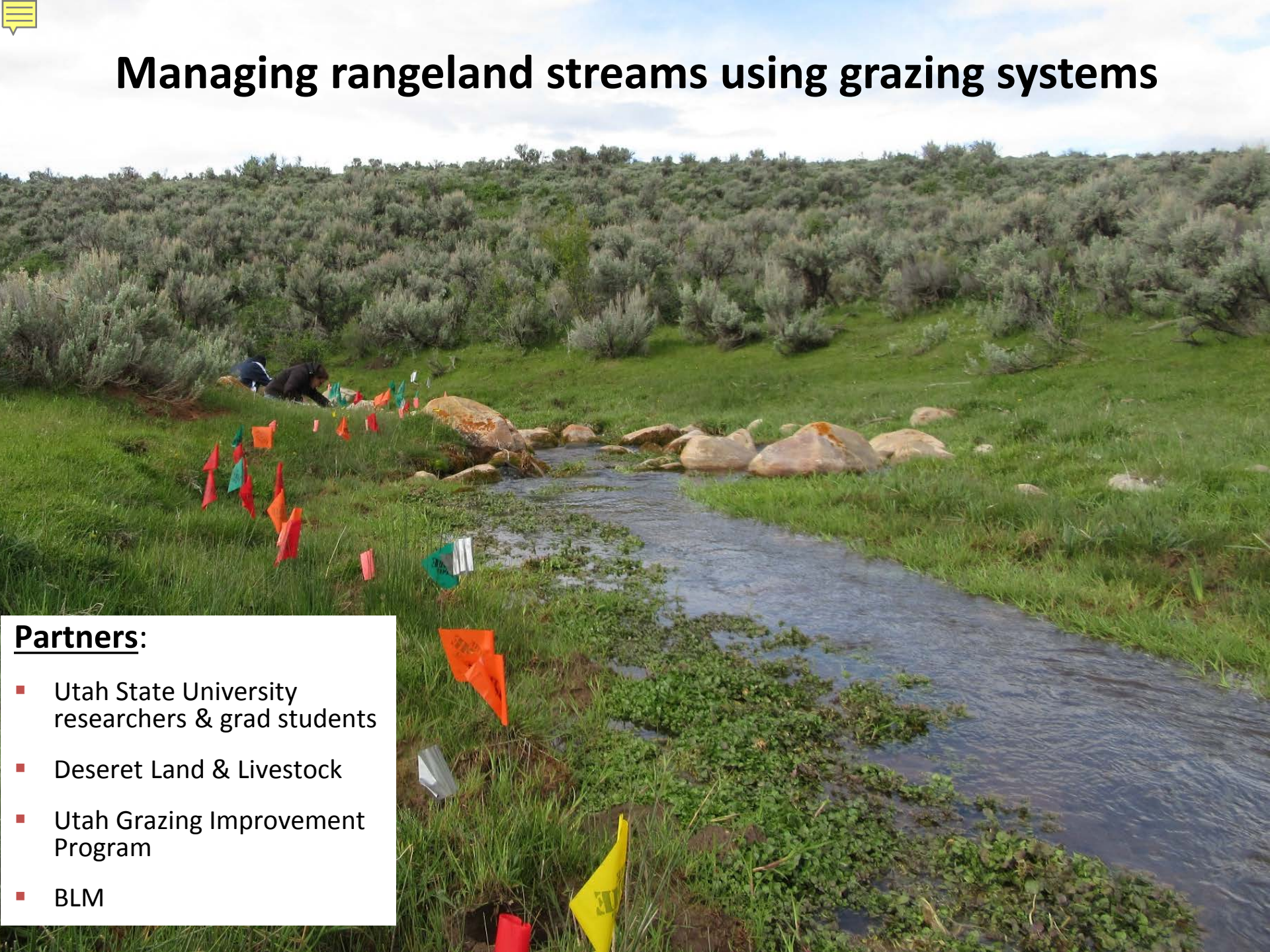
Managing rangeland streams using grazing systems



Partners:

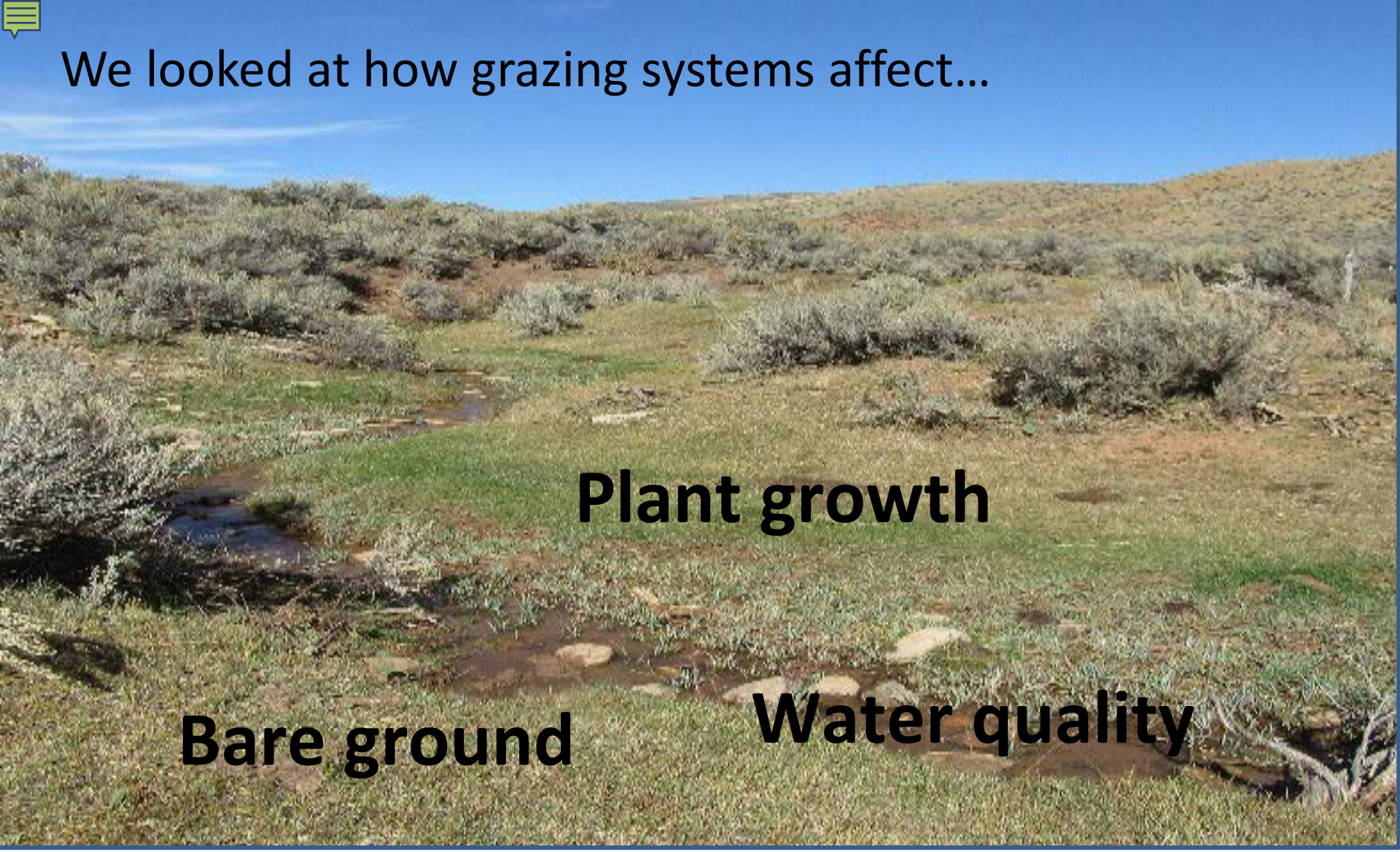
- Utah State University researchers & grad students
- Deseret Land & Livestock
- Utah Grazing Improvement Program
- BLM

Healthy rangeland streams are important because they…

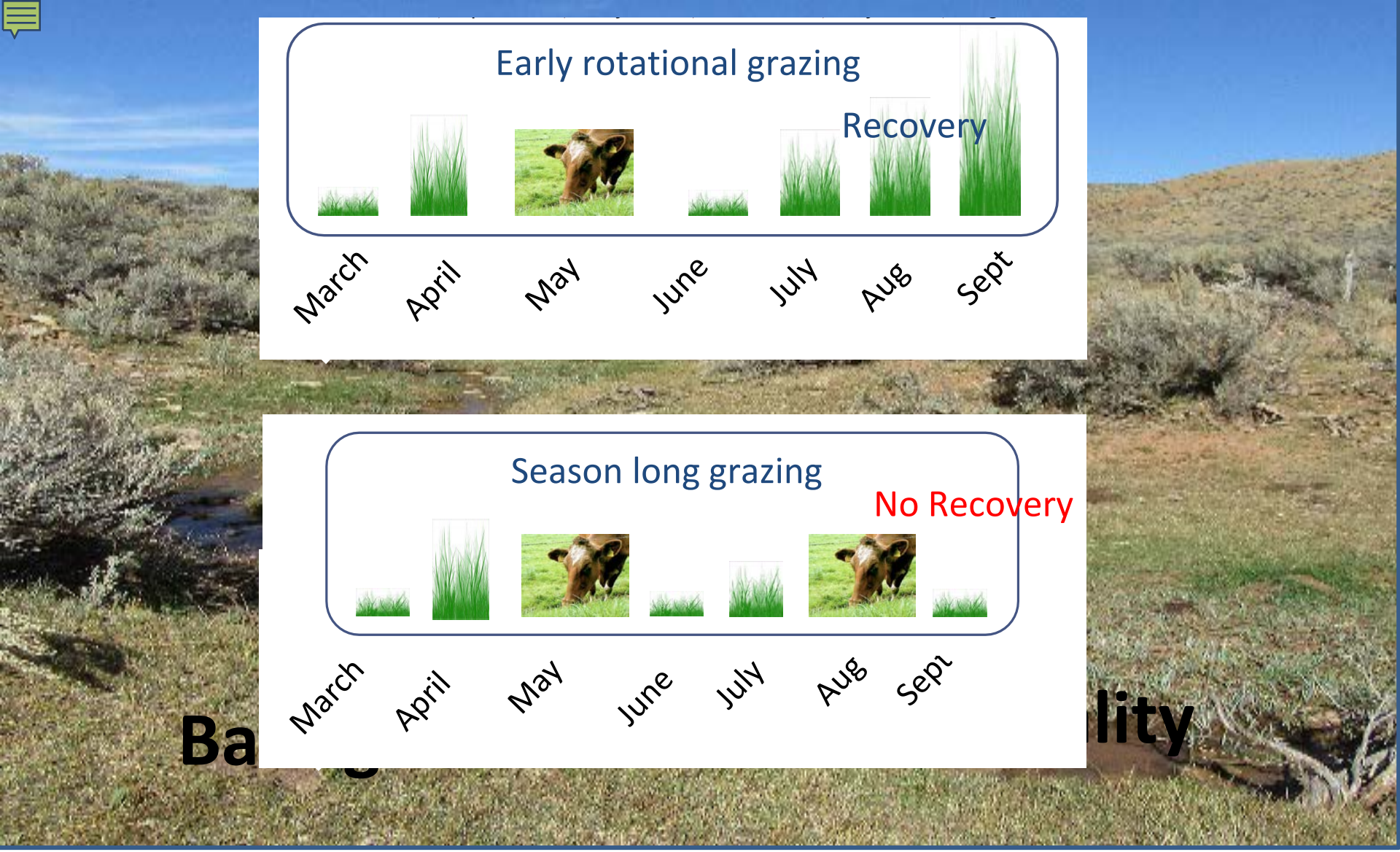
- Provide water & forage for cattle
- Provide habitat for sage grouse
- Promote water quality

How can we use grazing to manage for these values?

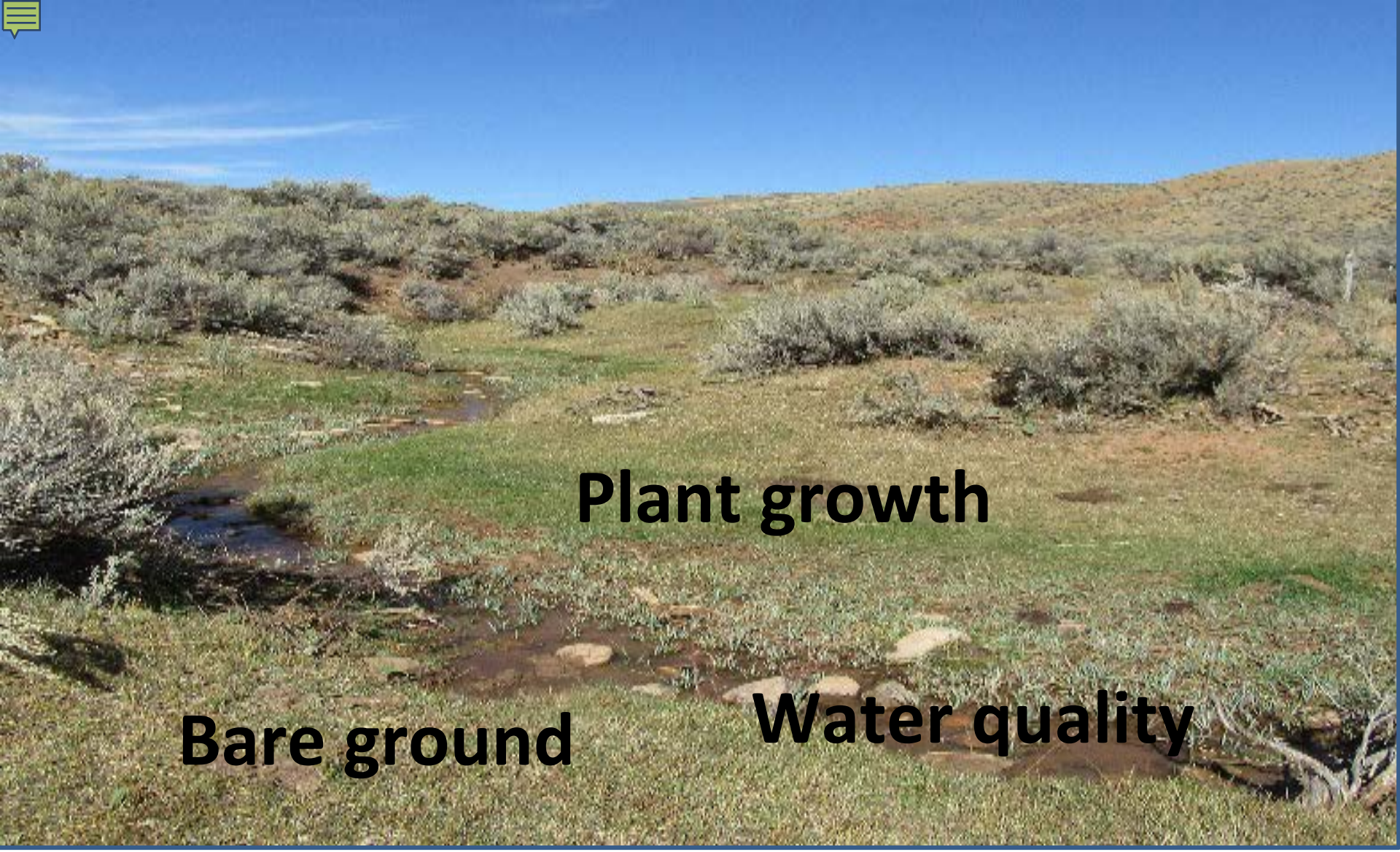
We looked at how grazing systems affect…



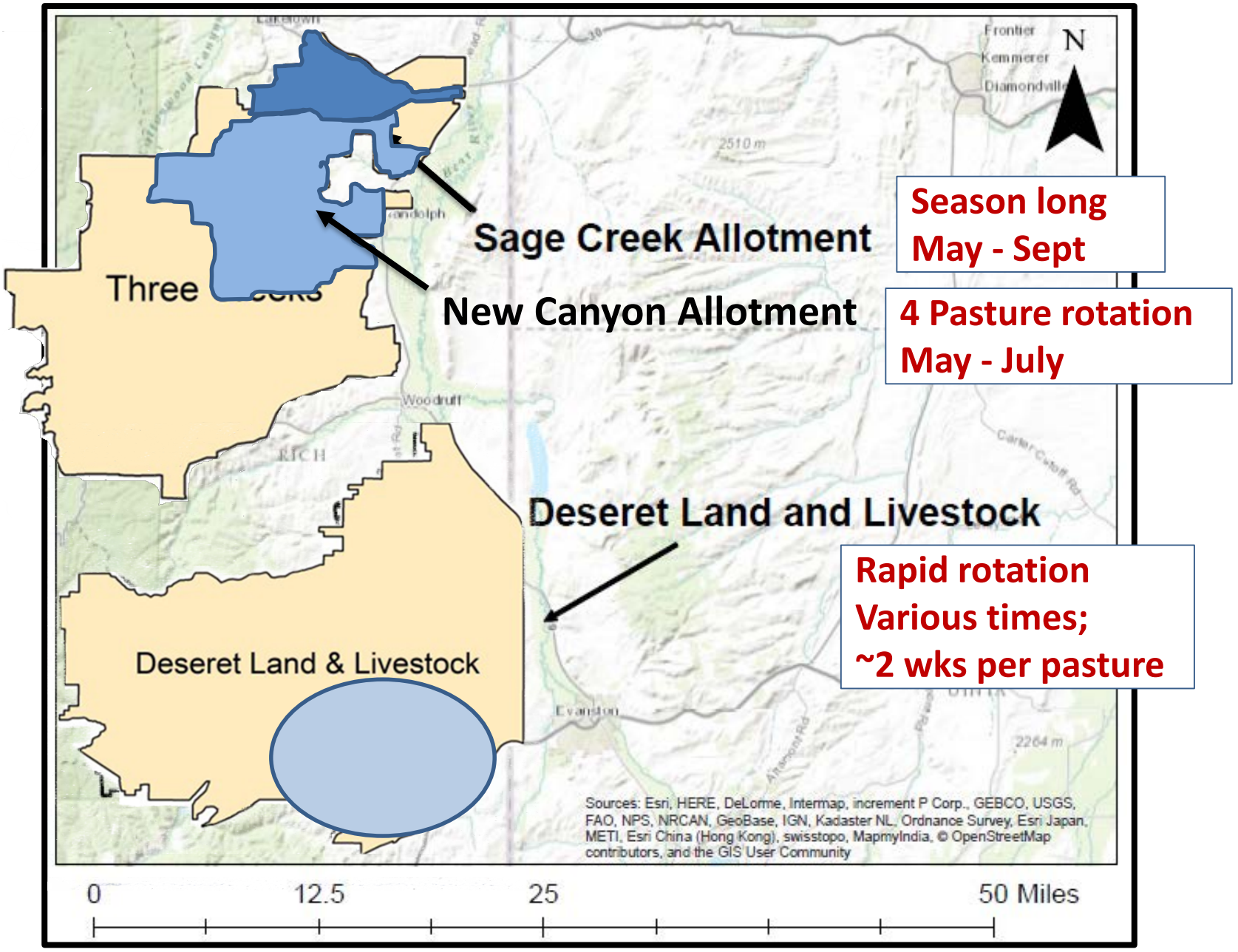
Timing – when cows are in the pasture
Duration – how long cows are in pasture



- Erosion (sediment, bank stability)
- Water quality (ecoli, nitrogen)
- Habitat for sage grouse



- Season long – May 15- Sept 15
- 4 pasture rotation – May 15- July 1
- DLL's rapid rotation – Varies, but 2-3 wks


Sage Creek Allotment
New Canyon Allotment
Deseret Land and Livestock
Deseret Land & Livestock
Season long
May - Sept
4 Pasture rotation
May - July
Rapid rotation
Various times;
~2 wks per pasture
N
Frontier
Kemmerer
Diamondville
Woodruff
Evanston
2510 m
2264 m
Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community
0
12.5
25
50 Miles

Methods:

- Regrowth of herbaceous plants – point-line intercept
- Water quality in riparian areas – e-coli, nitrogen, particulate sampling

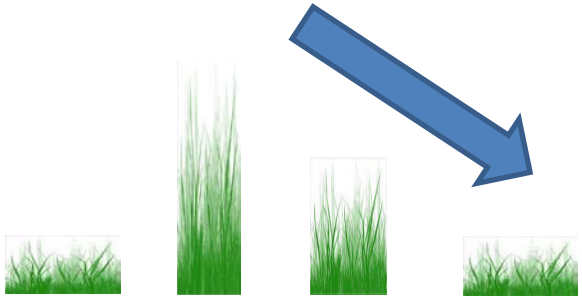
Grazing systems

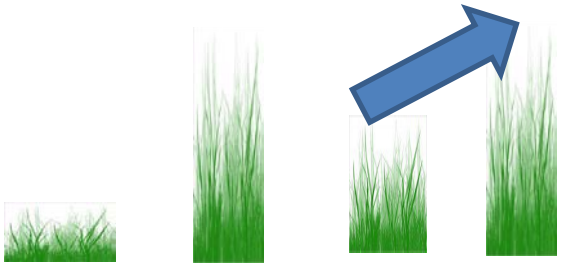
Season Long

No recovery

4 pasture rotation

Recovery





- Shorter stubble height
- More bare ground & erosion

- Better grouse habitat
- Better water quality

Grazing systems

Sage Creek

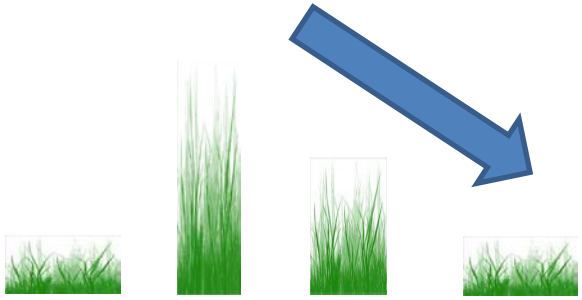
Season Long

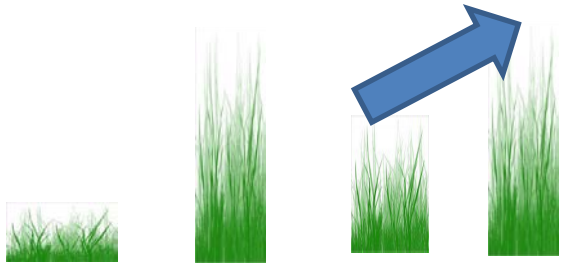
No recovery

New Creek Canyon

4 pasture rotation

Recovery





Deseret Land & Livestock

DLL: rapid rotation

- Late season grazing– but rested otherwise

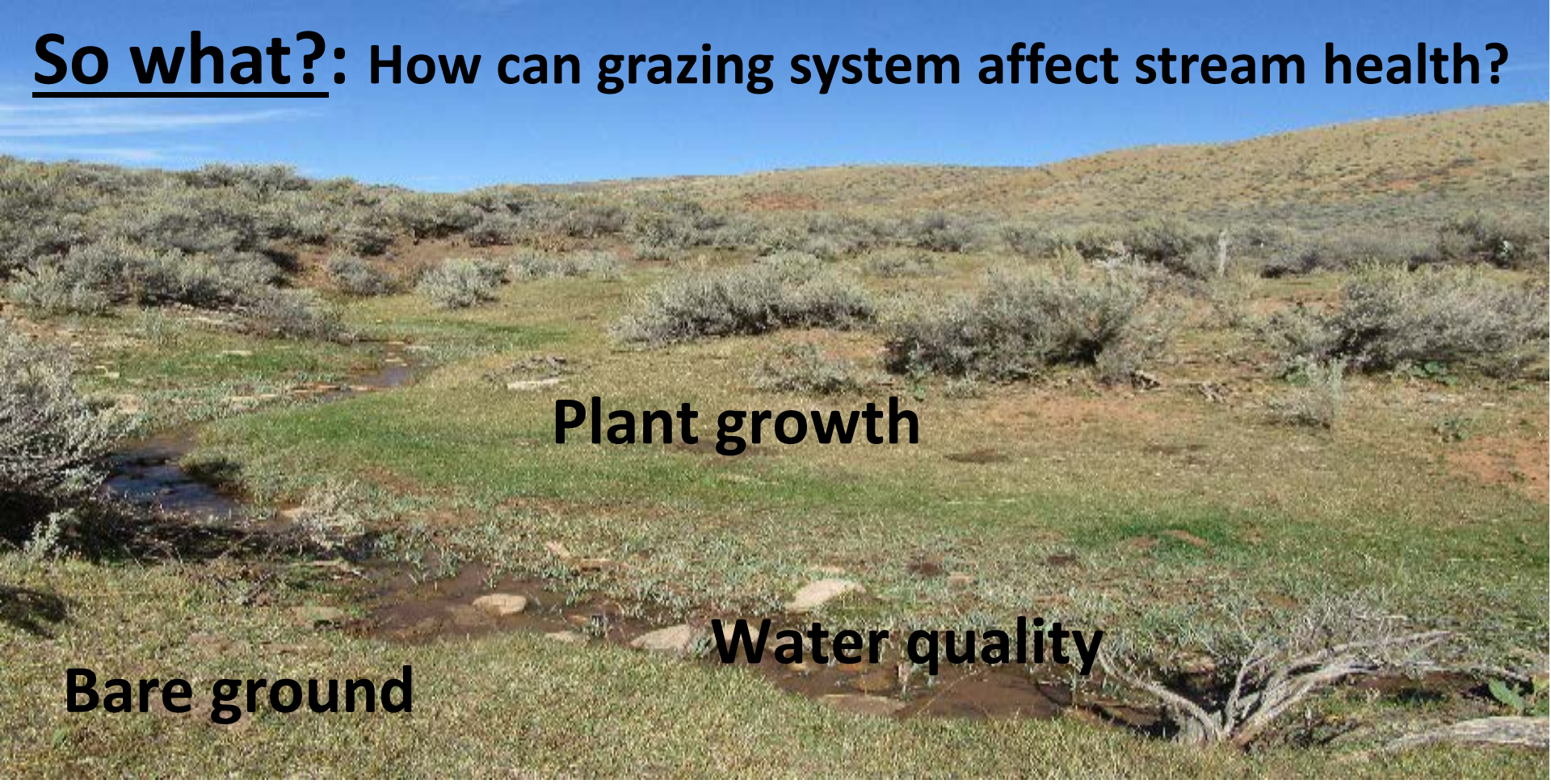
REST

- Early season grazing

RECOVERY

- Better grouse habitat = taller grasses
- Less bare ground & less chance for erosion
- Better water quality = ecoli always in compliance

So what?: How can grazing system affect stream health?



Different grazing systems -- Season long vs Rotational-- affect each of these three characteristics of streams

Rotation is beneficial for:

- Stream stability
- Water quality
- Sage grouse

Your input…