

Vegetation Sampling Results

East Block Grazing Experiment Annual Meeting
December 1, 2006
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Source: Teetaert (2006)

Current Work

- ❑ Thesis research conducted in conjunction with baseline study
- ❑ Thesis research will examine the interactions between cattle grazing and the distance to water by comparing the upland and lowland differences in plant species composition, vegetation height, and biomass in the grazed and ungrazed pastures

Objectives

- ❑ Monitor differences in plant species composition between grazed and ungrazed pastures
- ❑ Examine differences between upland and lowland plant species composition in pastures
- ❑ Examine differences in plant height and biomass between upland and lowland areas in pastures
- ❑ Identify management implications

Study Design

□ **Vegetation**

- 50-m X 20-m modified Whittaker sampling plot
 - Plant species richness identified during walk-through survey
 - Plant species relative abundance visually estimated using foliar cover class method in 10 1-m X 0.5-m frames
 - Bare ground, lichen, and surface litter visually estimated within the 10 frames, and vegetation height to complete and partial obstruction measured using Robel pole

- **What worked well**
 - Smaller frame size
 - Constant validation of estimates and plant identification
- **What could be done differently**
 - Stake out inner plot

Study Design

- **Clipping and Weighing Biomass**
 - 75-m transect with 4 1-m² sampling plots
 - Clipping of current year growth and collection of litter
 - Clippings dried and weighed

- **Next year exclusion cages?**

- **Overall worked well**
 - Time spent clipping depends on plot characteristics

Data Analysis

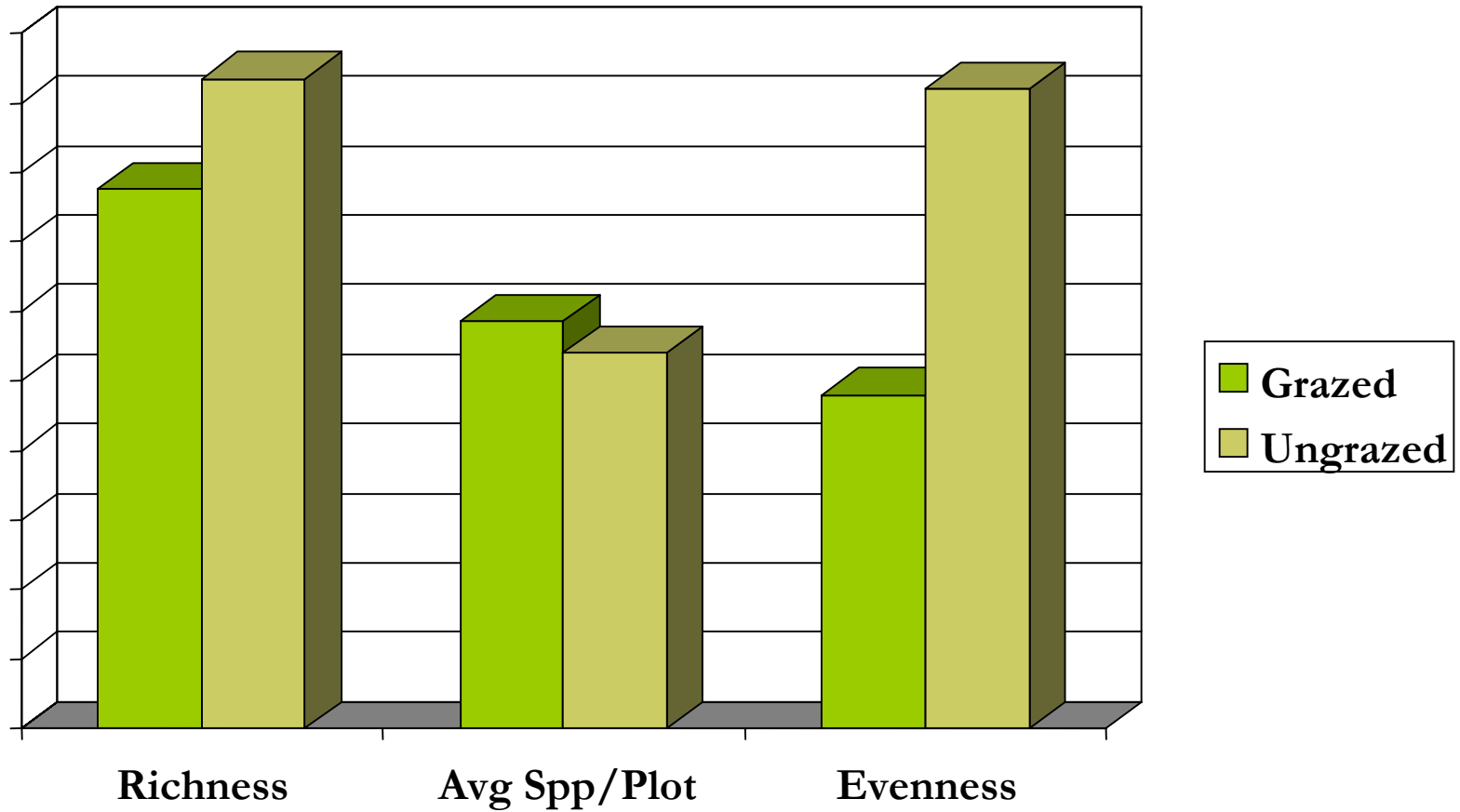
□ Preliminary Results

- Richness
- Species/plot
- Evenness
- Simpson's Reciprocal Index
- Shannon-Weiner Index
- Standard deviation

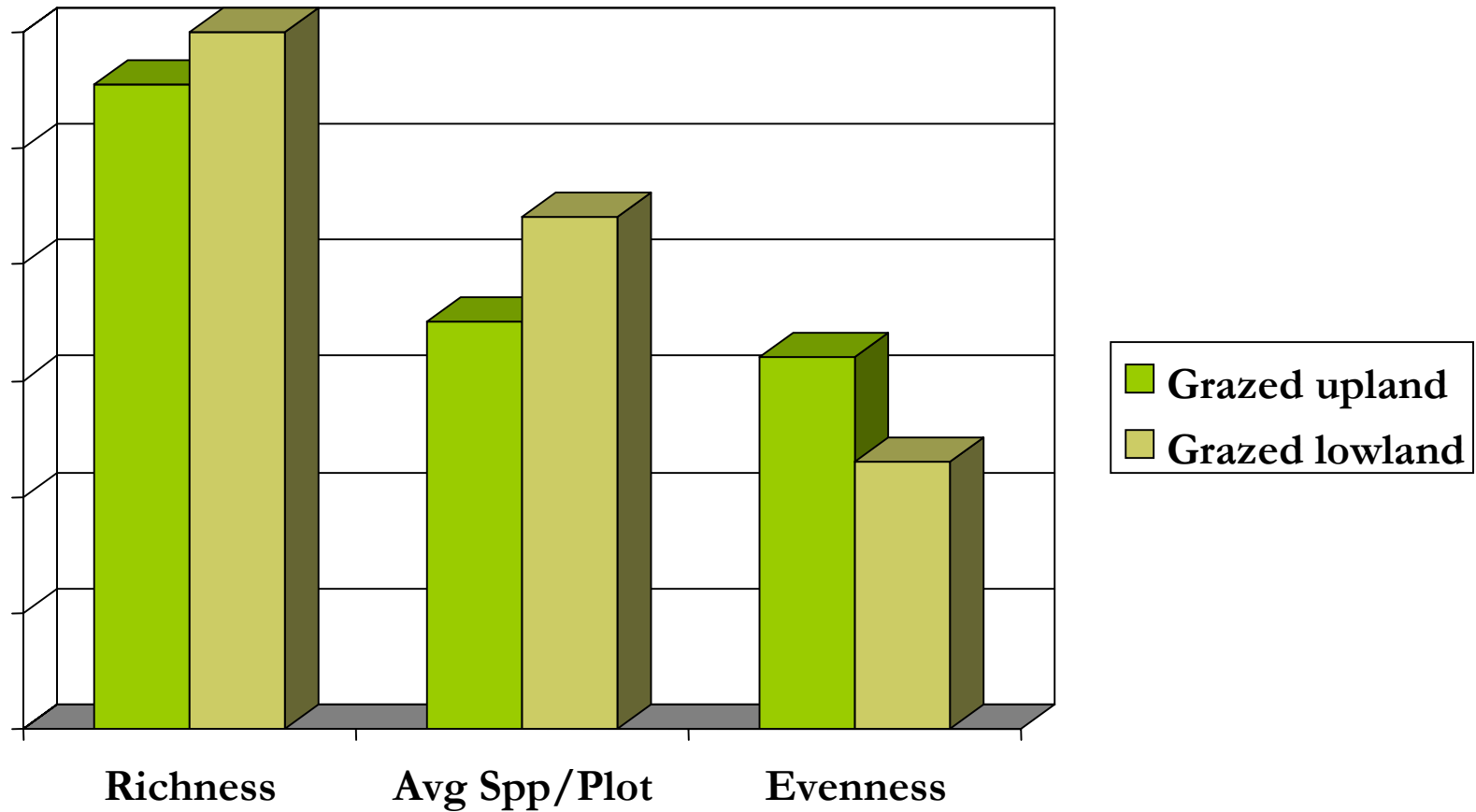
□ Thesis project

- Still researching possibilities

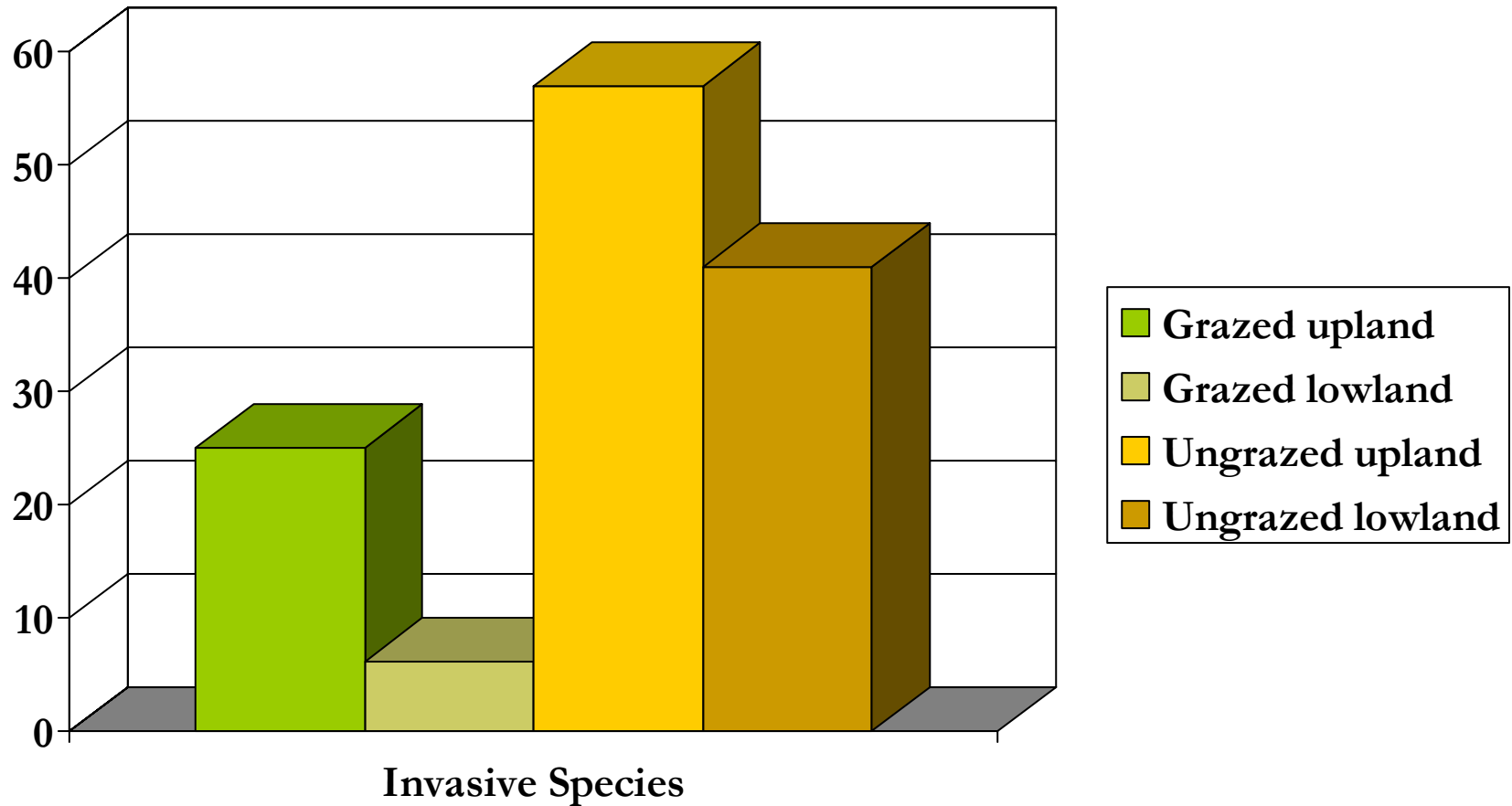
Preliminary Results — Grazed vs. Ungrazed



Preliminary Results — Grazed Upland vs. Grazed Lowland



Preliminary Results — Invasive species



Preliminary Results

	Grazed	Ungrazed
Richness	155	187
Spp/Plot	39.25	36.00
Evenness	0.24	0.46
1/D	38.09	86.10
2 exp ^{H'}	39.03	88.03
Std. Deviation	8.89	7.80

Preliminary Results

	Grazed upland	Grazed lowland
Richness	111	120
Spp/Plot	35.88	44.31
Evenness	0.65	0.46
1/D	72.03	55.47
2 exp ^{H'}	8.27	12.67
Std. Deviation	6.52	9.74

Preliminary Results

	Ungrazed upland	Ungrazed lowland
Richness	163	154
Spp/Plot	36	39
Evenness	0.66	0.63
1/D	108.55	96.44
2 exp ^{H'}	39.28	50.47
Std. Deviation	7.30	8.35

Questions

