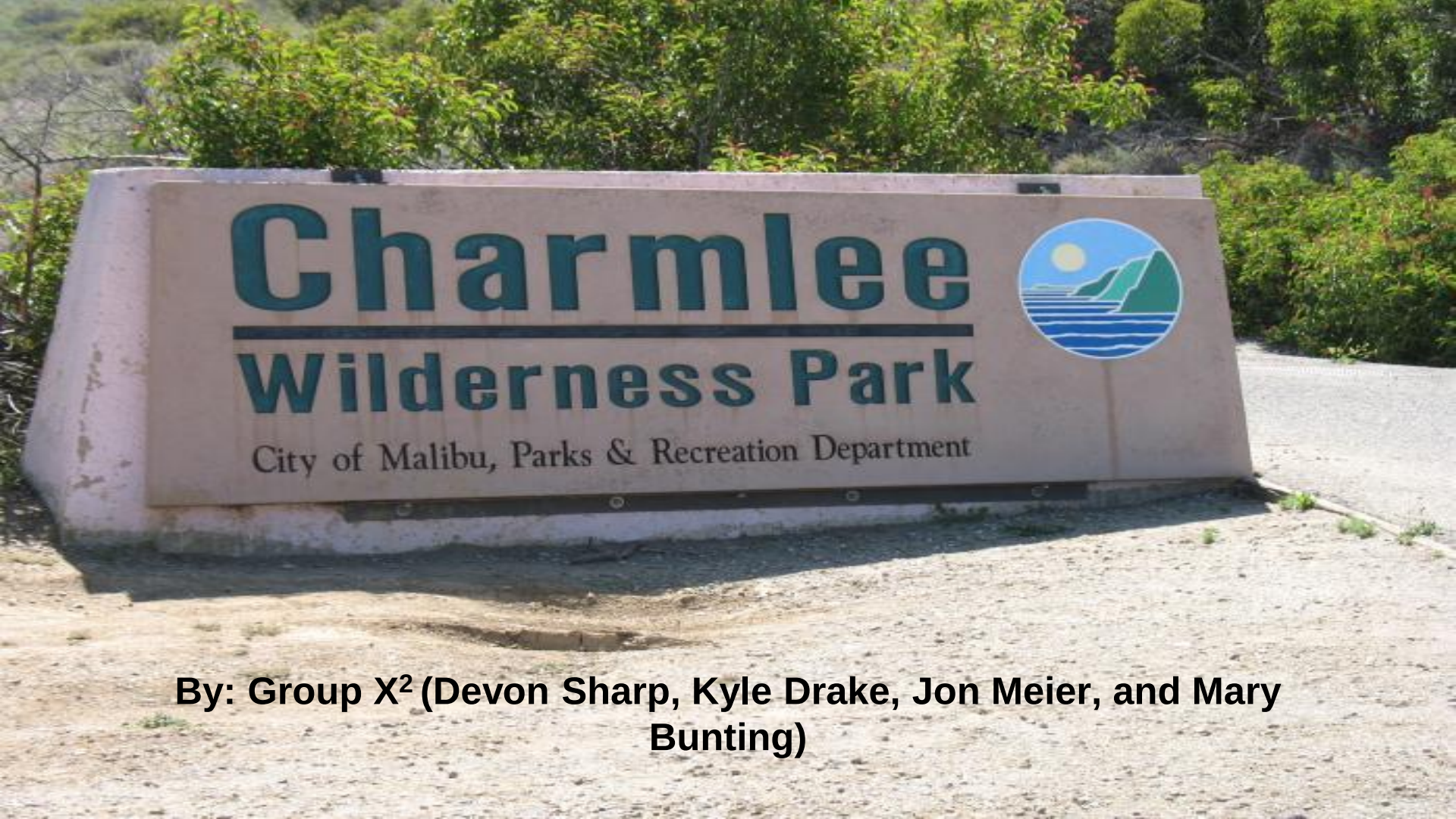


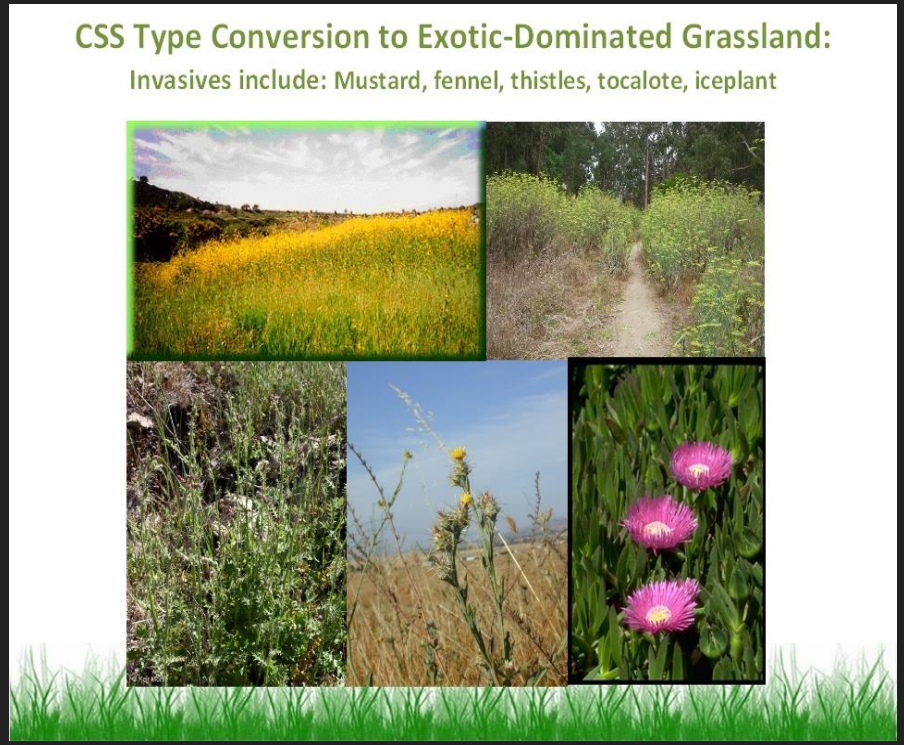
By: Group X^2 (Devon Sharp, Kyle Drake, Jon Meier, and Mary Bunting)

Location of Study Area

- Charmlee Wilderness Park
- Malibu, CA
- End of Potrero Road at the Reservoir

Hypothesis

- CSS invades firebreaks where mustard-dominated habitat has been mechanically disturbed, thus destroying the allelopathic compounds that were once used to dominate the area.



Data Collection

- Six 30 meter transects
- Identified vegetation at every meter
- Collected samples and pictures of species

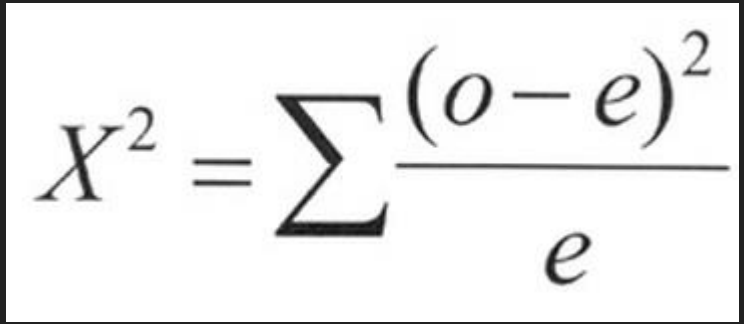
Species Encountered

- *Artemisia californica*
- *Baccharis pilularis*
- *Amaranthus albus*
- *Conyza canadensis*
- *Sisymbrium officinale*
- *Bromus diandrus*
- *Malosma laurina*
- *Acourtia microcephala*
- *Adenostoma fasciculatum*
- *Asclepias fascicularis*

Invasive/ Non-native

Chi-Squared Calculations

- 2 X 2 Chi-Squared analysis comparing *Artemisia californica* with other species within each transect AND within Charmlee park as a whole



North Transect Results

Transect 1

X^2_{calc}	1.573
alpha	0.05
df	1
X^2_{crit}	3.841
prob	0.210
Effect Size	0.064
Power	0.240

Transect 2

X^2_{calc}	0.726
alpha	0.05
df	1
X^2_{crit}	3.841
prob	0.394
Effect Size	0.044
Power	0.137

Transect 3

X^2_{calc}	2.434
alpha	0.05
df	1
X^2_{crit}	3.841
prob	0.119
Effect Size	0.08
power	0.345

South Transect Results

Transect 1

X^2_{calc}	0.022
alpha	0.05
df	1
X^2_{crit}	3.841
prob	0.882
Effect Size	0.008
Power	0.048

Transect 2

X^2_{calc}	0.042
alpha	0.05
df	1
X^2_{crit}	3.841
prob	0.838
Effect Size	0.01
power	0.052

Transect 3

X^2_{calc}	0.249
alpha	0.05
df	1
X^2_{crit}	3.841
prob	0.618
Effect Size	0.025
power	0.08

Conclusion

- No significant evidence that CSS is invading mechanically disturbed habitats
- Accept the null hypothesis
- Suggestions for future study?

Struggles

- Initial problems finding the site to transect
- Multiple GPS issues in the field
- Additional technology uncertainty
- Trying to identify dead critters
- Limited daylight

Questions?