



The mission of The Nature Conservancy is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive.

# Comparison of Treatment Methods for Sparsely Distributed *Spartina anglica* Infestations

Kat Morgan  
Danelle Heatwole  
Roger Fuller



## Meet *Spartina anglica*

- "common cordgrass"
- hybrid between *S.alterniflora* (US) and *S.maritima* (UK)
- 100 worlds worst aliens

IUCN, ISSG, GISP 2000



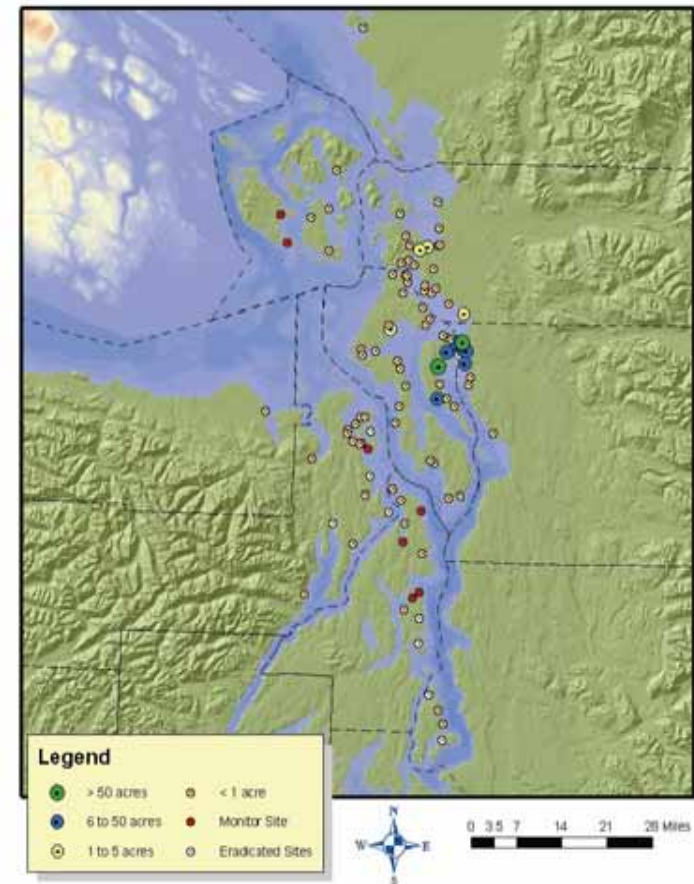


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# General Impacts

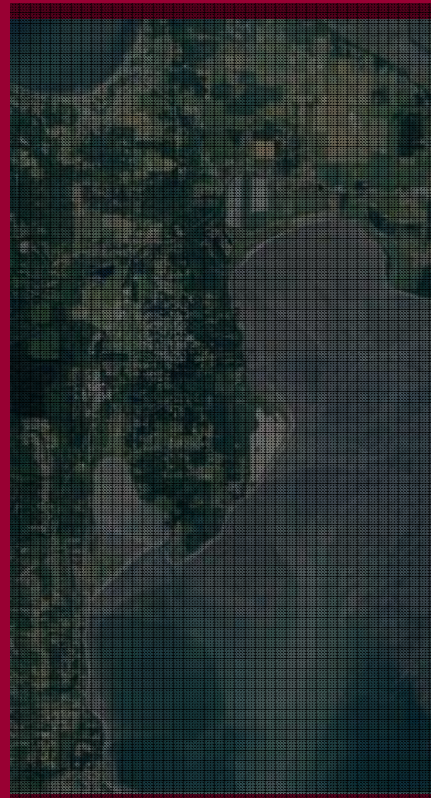
- exclusion of native vegetation, invertebrates, shorebirds, and fish through soil accretion and elevation change
- threatens economic interests (shellfish harvest & recreation)





## Experimental Design

- large-scale monitoring in 2004 identified a need to study dispersed populations
- assess treatment efficacy/efficiency
- inform management

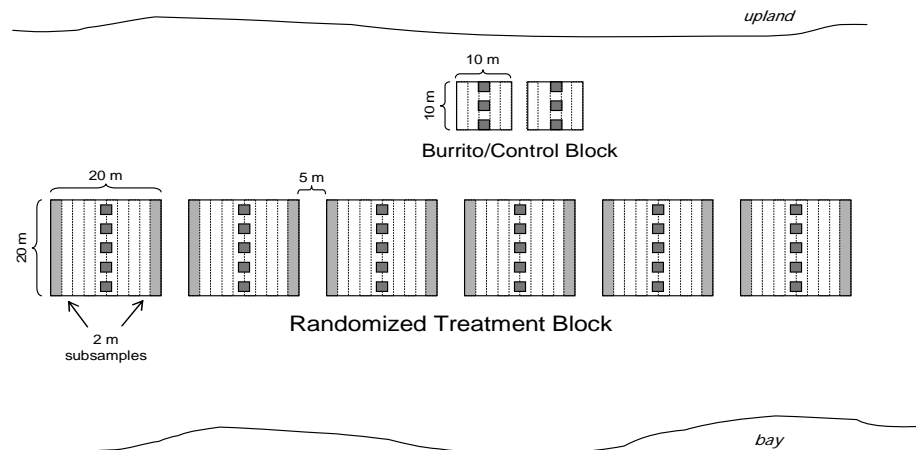




# Experimental Design

-3 Replications: 5 Treatments, 1 Control

Glyphosate, Imazapyr, Mix, Mix+pull, Manual, Control





## Timing

-summer 05 & 06: Monitoring June & August, Treatment July

## Metrics

-characterization: salinity, sediment, native vegetation

-stem count, height, diameter, flowering, browning

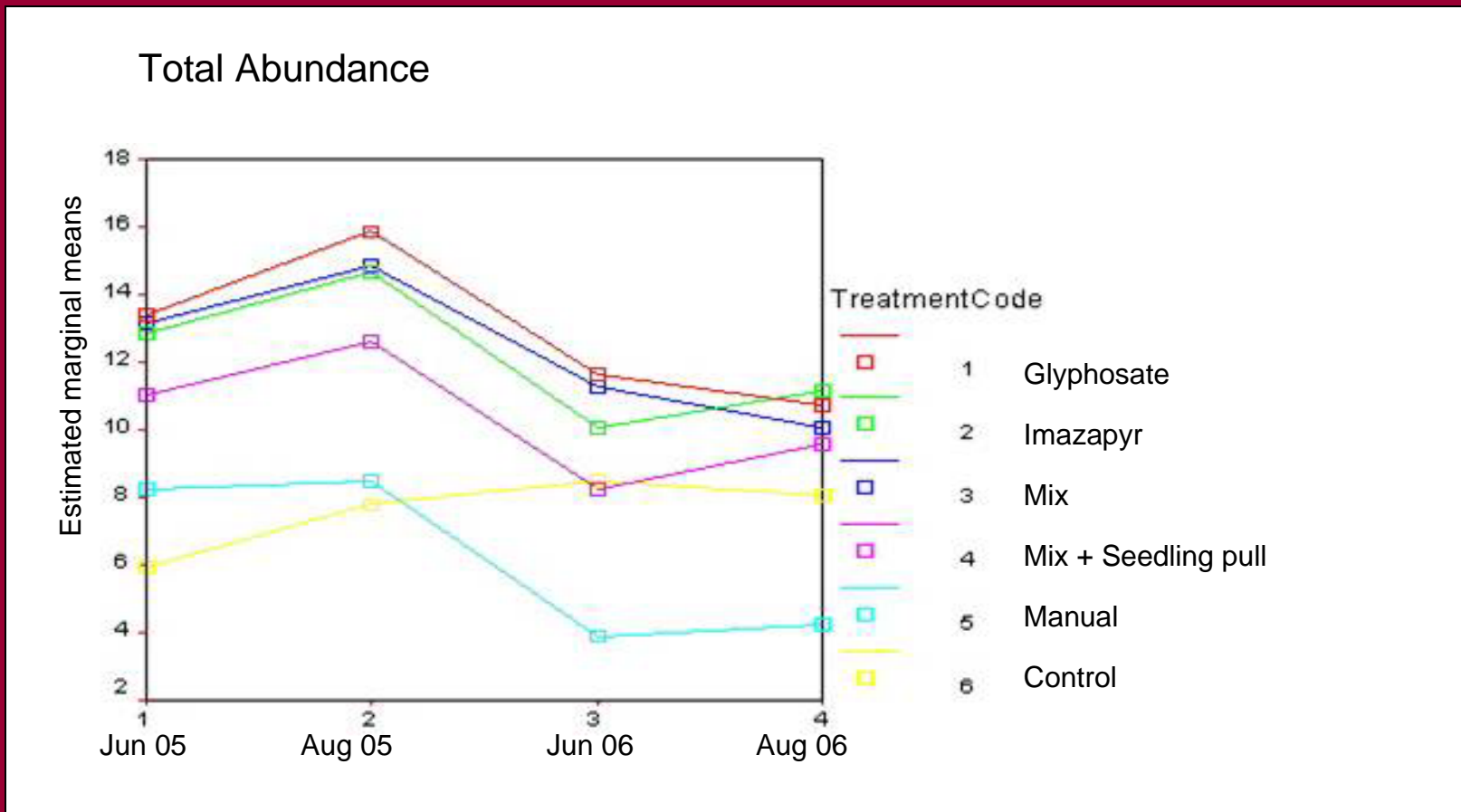
-abundance by diameter size class (<10cm, 10-50cm, >50cm)





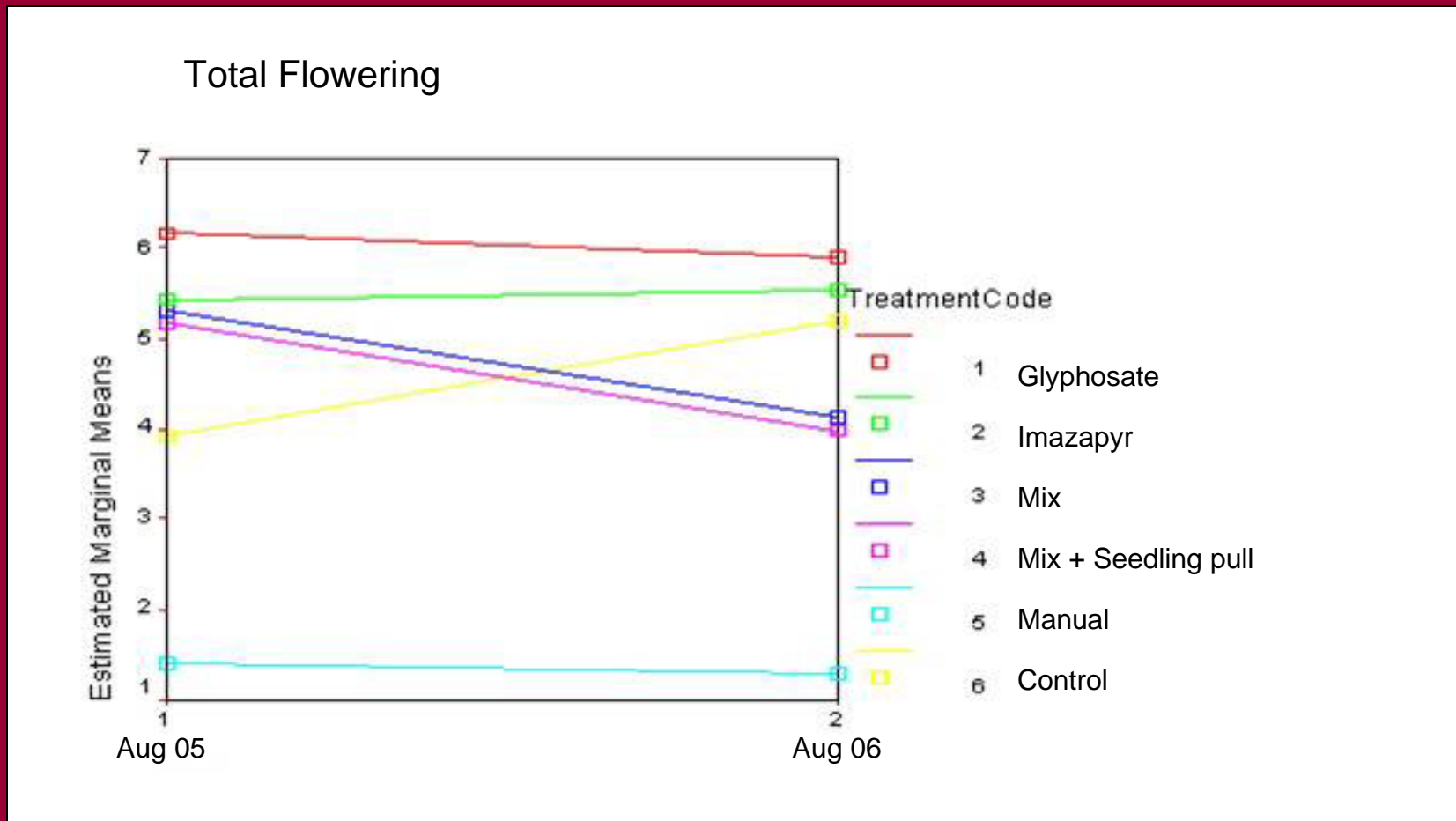


# Results:



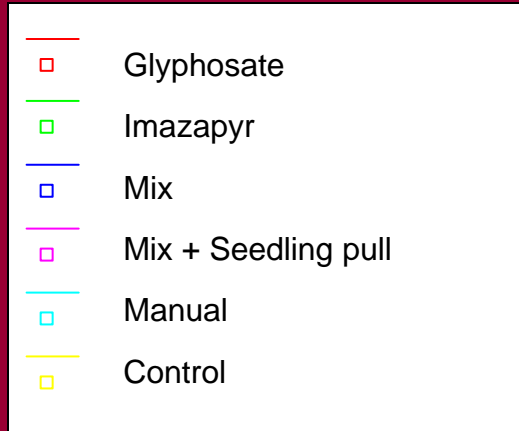


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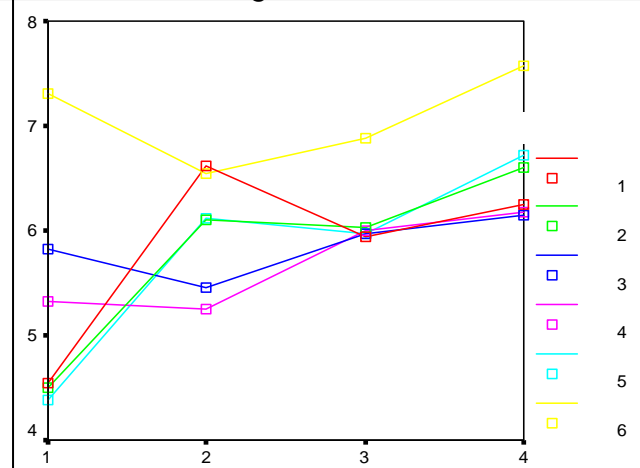
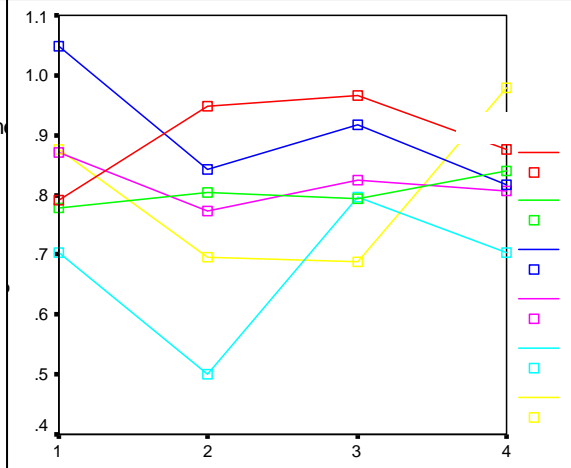
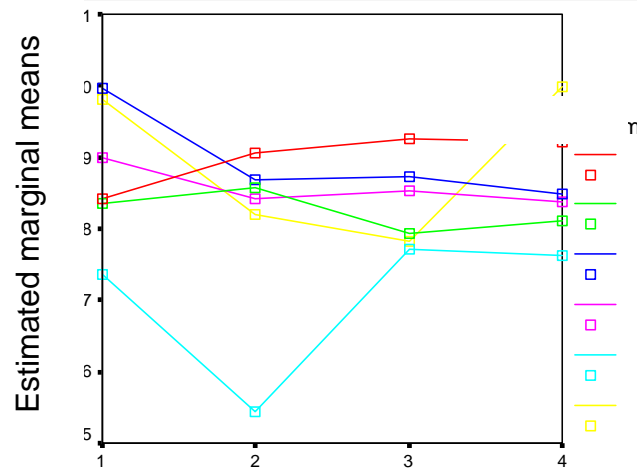
# Results:



diameter

# of stems

height





## Discussion

- any treatment is good; chemical mix is better
  - Confirmed effectiveness
- population oscillation due to seedlings
  - Incorporate seedling removal into treatment regime
- challenging treatment conditions





## Next Steps

- Analyze the rest of the data

  - Vegetation effects; cost analysis; burrito effects; photo monitoring

- June 2007 monitoring, and then treat



## Acknowledgements

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2005: Amy Hamlin, Jon Hoiland

2006: James Sellick, Arielle Stein

WCC treatment crews

Roger Fuller, Danelle Heatwole,  
Jo Wilhelm

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