Salt marsh restoration following the Deepwater Horizon Oil Spill

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Remediation

Raking, removing plant matter:
- decreases mass
- lowers elevation
- increases exposure to tides
- causes decomposition
Exacerbated land loss

Salt marshes already suffer extensive erosion

Ecosystem service damages; economic impacts

Coastal marshes provide:
- critical habitat
- fisheries
- water treatment
- flood protection
- tourism and jobs
• Data suggests *S. alterniflora* is robust to some degree of oiling

• Remediation activities are leaving shoreline cleared of vegetation
Results

- Transplantated plants have a high rate of survival

- Plots exhibit 50-90% cover at beginning of subsequent growing season
Remaining Questions

• Long-term development, subsidence/erosion

• Ecosystem consequences across genetic variation
Ecosystem consequences of genotypic identity and diversity

Ecological performance of *S. alterniflora* cultivars (Connahs, Bernik et al.)

- *S. alterniflora* genotypes are being identified and cultivated for aerial seeding of Louisiana marshes by LSU AgCenter

- Promising strategy for coastal restoration, but need for further information on ecological viability of cultivars

*S. alterniflora* clones at LSU Rice Research Station (www.lsuagcenter.com)
Conclusions

- Transplantation is successful post-remediation

- Could be a cost-effective remediation tool, conducted in concert with other remediation activities

- Could exchange aggravated loss for improved restoration
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