

# How does it all pan out? Deciphering the salt pannes of southern Maine, USA

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## Two Big Points

- Not all salt pannes are the same.
- Location within the marsh generally tends to dictate what sort of panne you'll find.



## So, what's a salt panne?

- Pools of salt water
- Soft bottoms
- Remain flooded



## Why is it important to study salt pannes?

- Very little known
- Important habitat for birds and commercially valuable fisheries
- USFW's "Open Water Marsh Management"



## Study Site



## Marsh Basics

- Marshes are dynamic
- Salt marsh plants are good proxies for elevation



*Spartina alterniflora* (top, low marsh) and *Spartina patens* (left, high marsh)

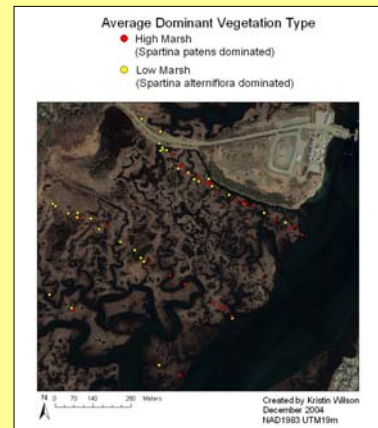
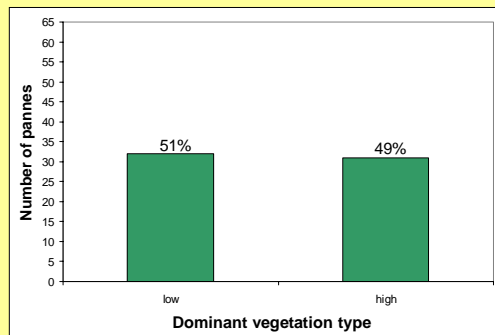
## Hypotheses

- Older portion of marsh (inlet side) would have pannes with:
  - High marsh vegetation
  - Steeper banks
  - Unknown shape
- Newer portion of marsh (landward side) or portions altered by human activity (near Harbor Rd.) would have pannes with:
  - Low marsh vegetation
  - Graded banks
  - Unknown shape – perhaps more irregular?

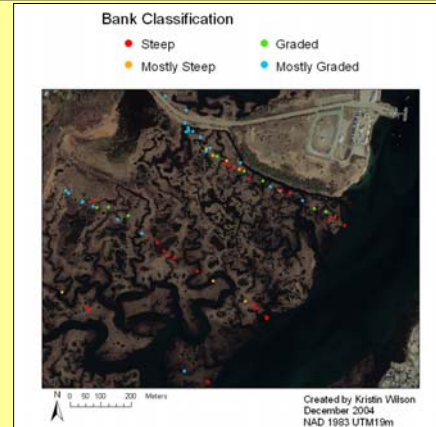
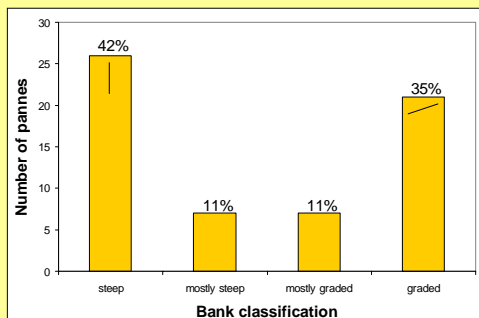
## Methods

- Field work
  - 3 transects; every panne encountered (62)
  - 3, 1m<sup>2</sup> plots per panne; % cover recorded
  - Basic characteristics (shape, bank class)
- Electronic work
  - Transfer data into electronic form
  - Re-collect gps points
  - Collect recent aerial photo, rectify and reference
  - Combine data and analyze

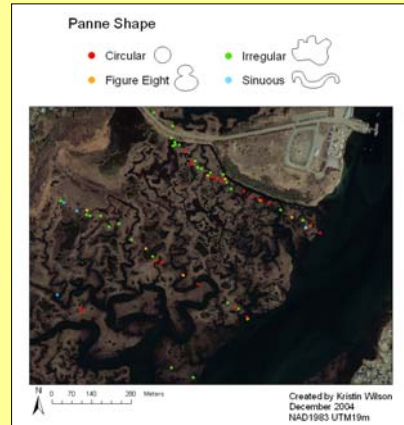
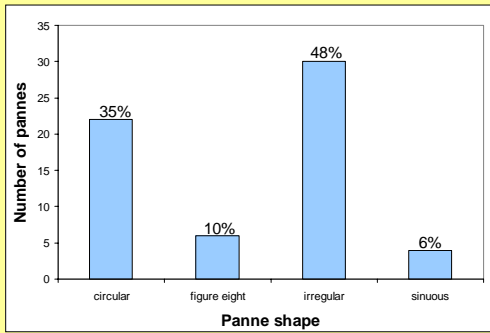
## Results



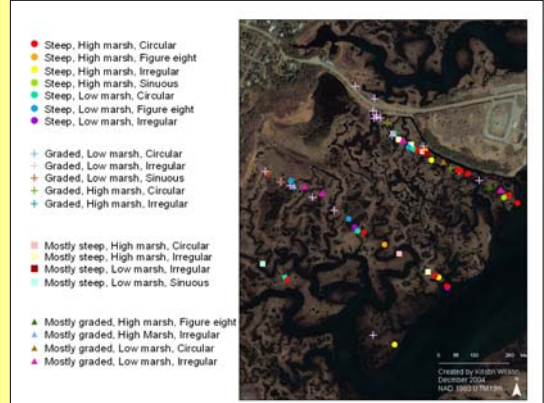
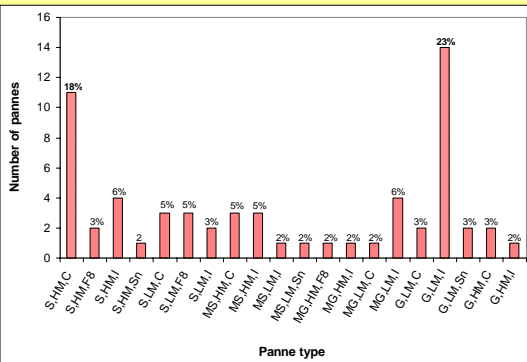
## Results



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## Conclusions

- Clearly, not all pannes are alike.
- The landward and roadside pannes:
  - graded banks
  - low marsh vegetation
  - irregular shape
- Inletside pannes:
  - steep banks
  - high marsh vegetation
  - circular shape

## Thank you

- Kathleen Bell
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- Joe Kelley
- Mathew McBride
- Wells National Estuarine Research Reserve
- Rachel Carson National Wildlife Refuge



Who has a question?

