



# SHARP: Saltmarsh Habitat & Avian Research Program

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The Saltmarsh Habitat & Avian Research Program (*SHARP*) is a large, collaborative initiative to conserve the tidal-marsh bird community of the Atlantic seaboard. This community contains a high proportion of endemics (see Focal Species on right), and is threatened by surrounding land development, habitat degradation, and global sea level rise. The overall project objective is to locate important regions for tidal marsh birds within Bird Conservation Region (BCR) 30, and to identify which regions and species within this area may be most sensitive to land and seascape change.

Please visit [www.tidalmarshbirds.org](http://www.tidalmarshbirds.org)



Seaside Sparrow<sup>a</sup>  
(*Ammodramus maritimus*)



Nelson's Sparrow<sup>a</sup>  
(*Ammodramus nelsoni*)



Saltmarsh Sparrow<sup>g</sup>  
(*Ammodramus caudatus*)



Willet<sup>e</sup>  
(*Tringa semipalmata*)



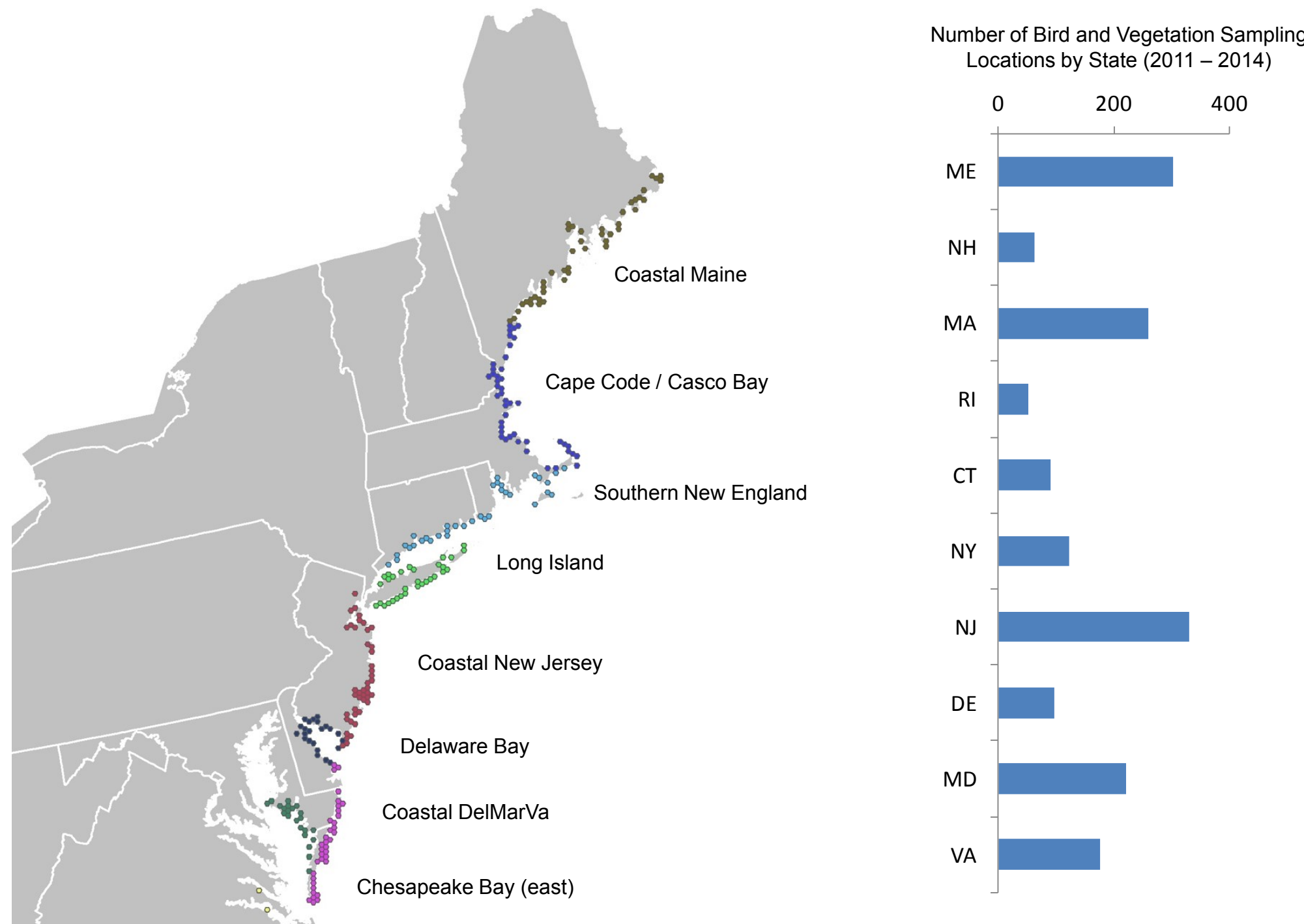
Clapper Rail<sup>b</sup>  
(*Rallus longirostris*)



American Black Duck<sup>c</sup>  
(*Anas rubripes*)

## Tier 1 – Extensive surveys to locate population centers

- GRTS (Generalized Random Tessellation Stratified) sampling scheme
- Surveyed >1,400 points annually using passive and broadcast methods
- ~ 3 visits per point per year
- Percent occurrence of Saltmarsh Sparrow in 2013 ranged from 7 % of points surveyed in VA to 66 % of points in RI
- Clapper Rail in 2013 was not detected from ME-RI, but was detected on 95 % of points surveyed in VA



## Tier 2 – Intensive surveys to assess broad geographic trends in demography

Using intensive plots located in Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York & New Jersey, we assessed geographical trends in:

- Seasonal fecundity (all six species)
- Adult survival (all three songbird species)



Saltmarsh Sparrow nestling<sup>a</sup>



Seaside Sparrow nest<sup>d</sup>



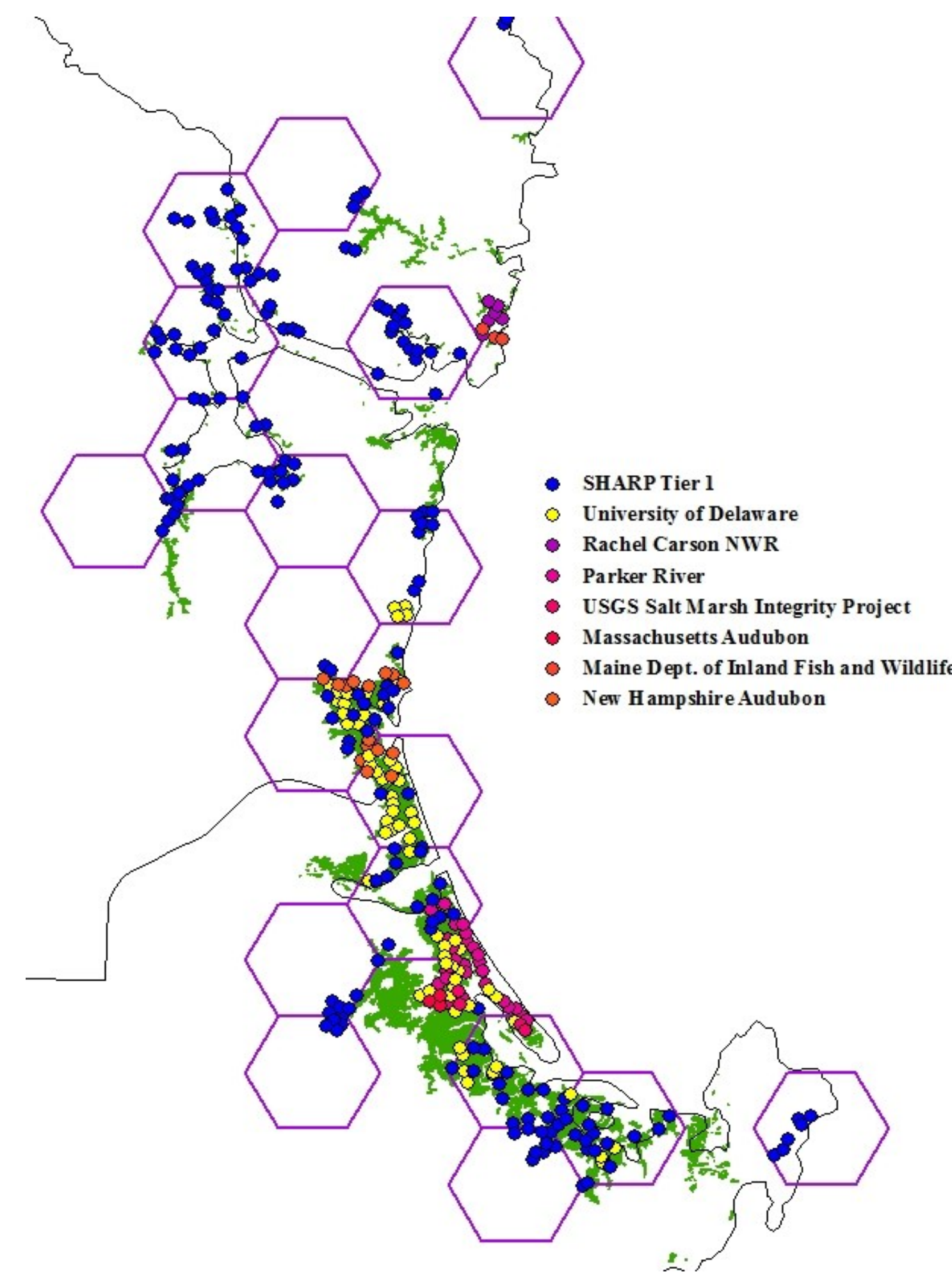
Wing chord measurement<sup>e</sup>

### 2011-13 Preliminary Results:

- 1,906 nests monitored (90% sparrow nests)
- 4,541 sparrows banded during the breeding seasons (May – Aug)

## Tier 3 – Resurvey historic locations to identify temporal trends

For the subset of species with prior survey data, we assessed changes in abundance and distribution through time by revisiting sites across portions of the range.



### 2011-13 Preliminary Results:

- 14 organizations shared 3,006 points where historical point count or broadcast survey data had been collected
- We resurveyed 440 of those shared points in 2011, 457 in 2012, and 425 in 2013
- Highest numbers of points resurveyed were in ME and MD
- Highest proportion of points resurveyed was in NH

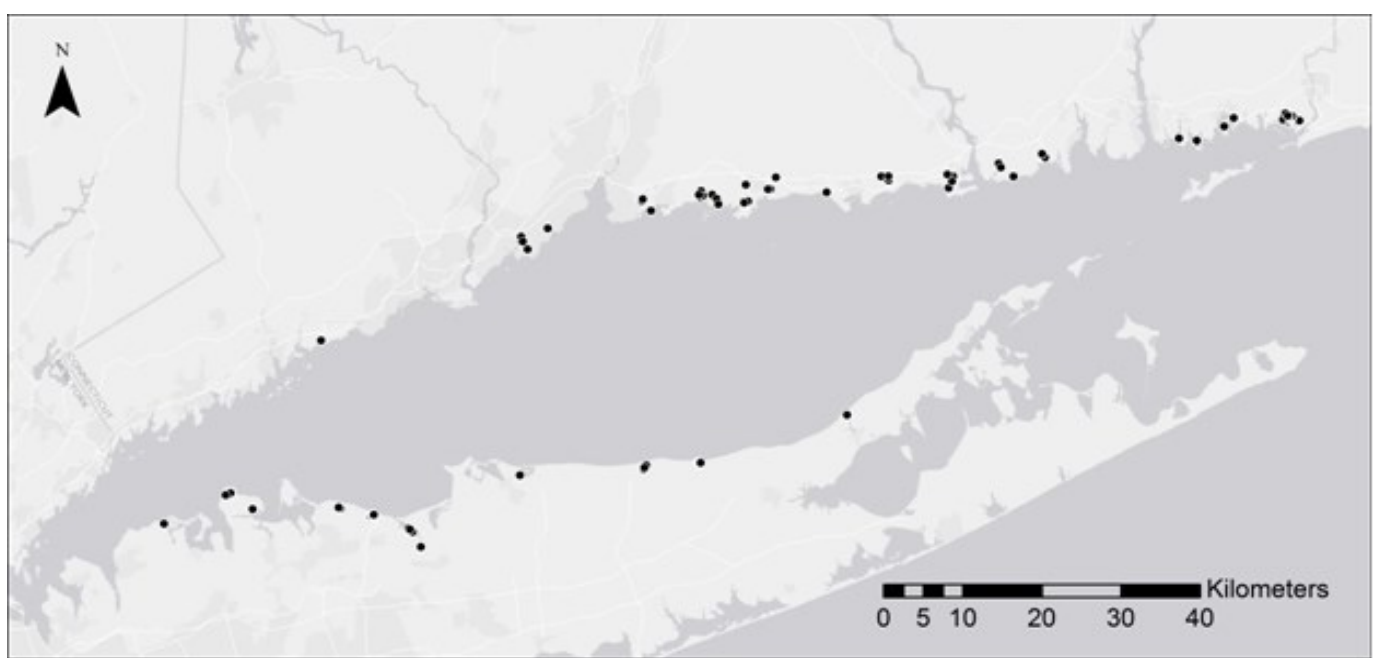
Map of new points selected from GRTS and historic survey points in Massachusetts, New Hampshire and Maine.

## Ongoing Analyses and Projects:



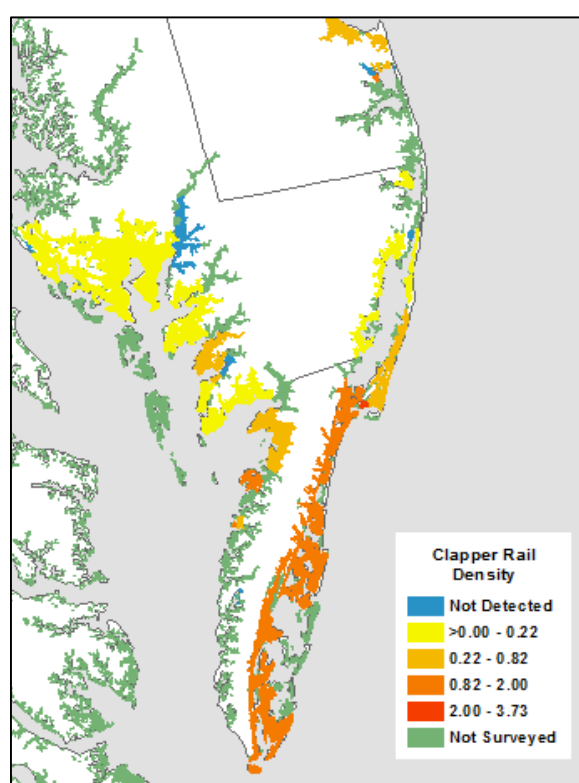
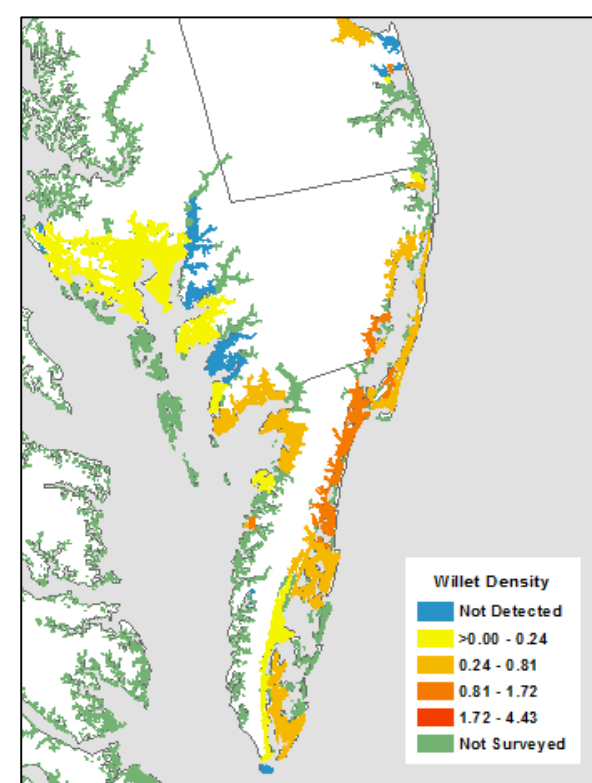
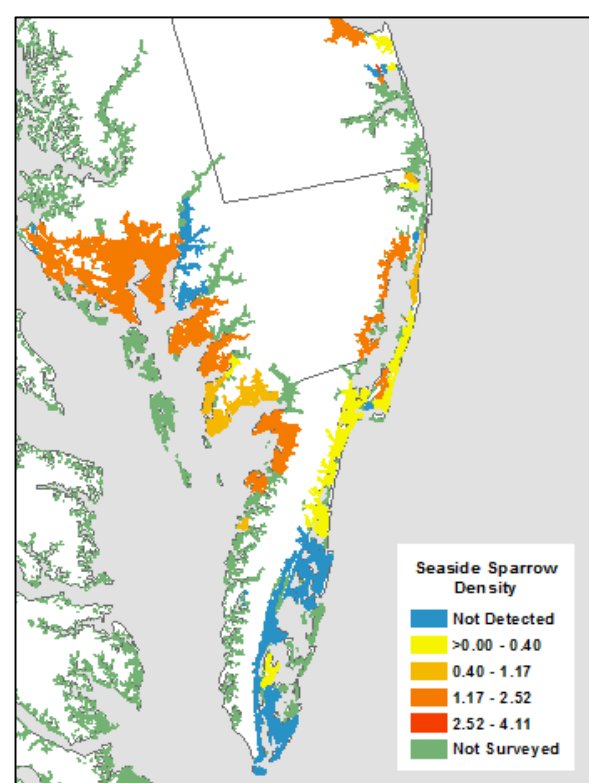
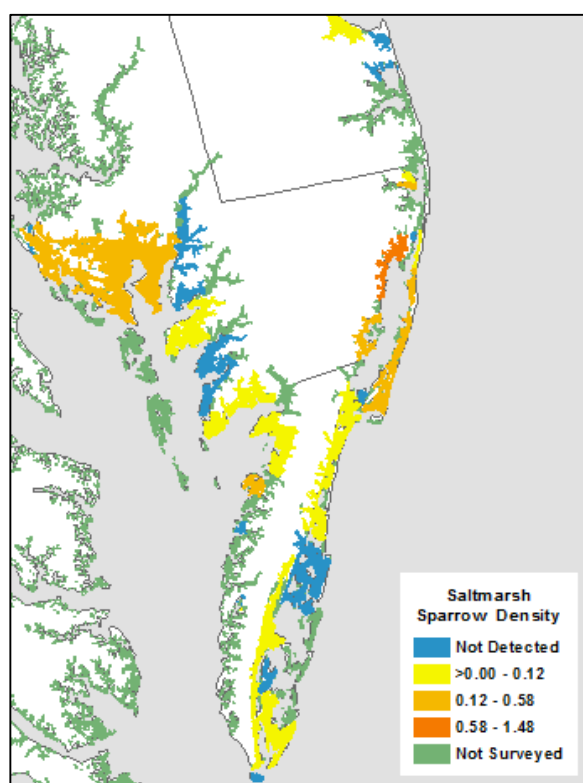
Saltmarsh Sparrow<sup>h</sup>

During 2013, members of the SHARP team initiated a series of studies to document the effects of climate change on coastal habitats around Long Island Sound. This work is funded by the Long Island Sound Study, via the Connecticut DEEP and involves both compiling and analyzing existing data sets, plus collecting new data. In addition, we developed a simple protocol for tracking marsh migration into the uplands and set up ~170 transects around the coast of Long Island Sound, randomly-placed in shallow-elevation areas where transgression is predicted to occur. At these sites, we collected baseline data on the presence of saltmarsh plants extending inland from the marsh edge and on tree densities and mortality.



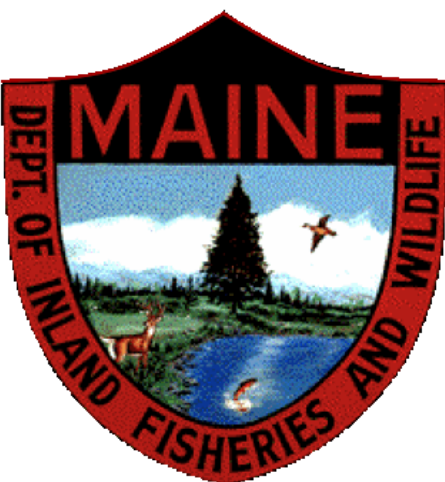
### Indicators of Climate Change in Long Island Sound

### Estimating Abundance of Focal Bird Species



### Field Assessments

- Specifically, our project will assess:
- habitat damage and wildlife population impacts,
  - biological effectiveness of restoration actions, and
  - demographic impacts on the most threatened species.



### Acknowledgments:

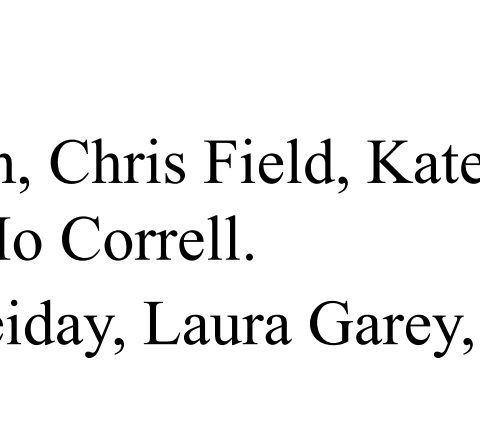
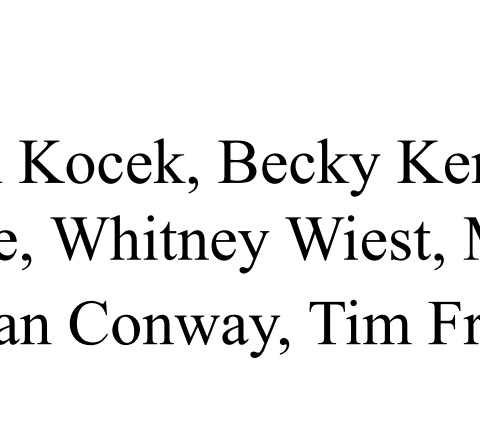
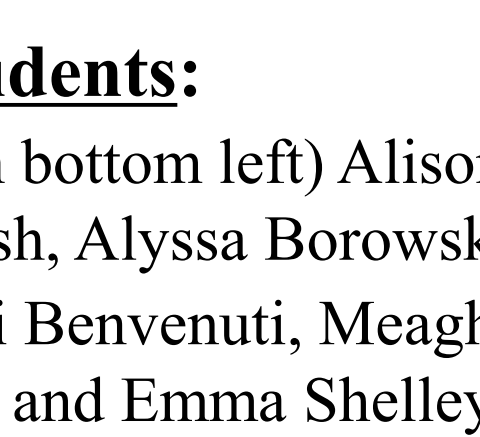
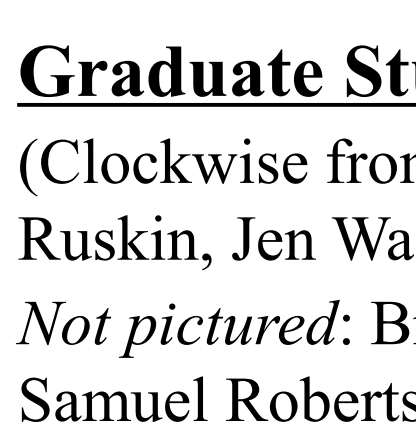
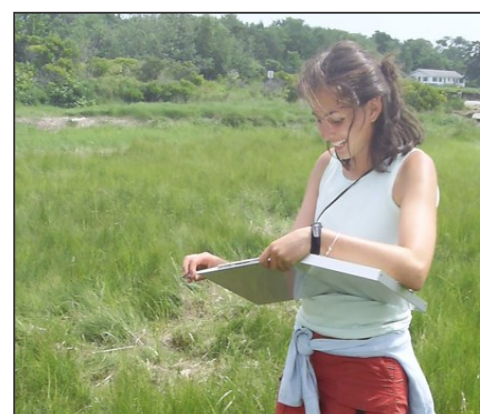
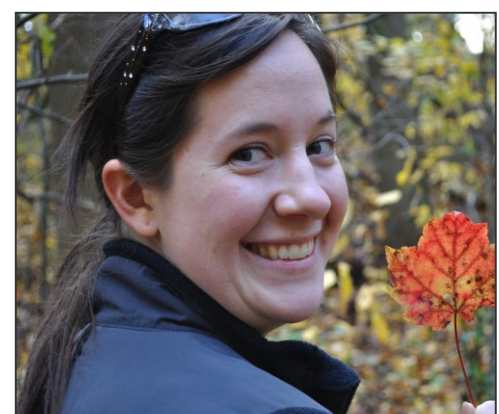
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### Affiliations:

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### Photo credits:

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### Graduate Students:

(Clockwise from bottom left) Alison Kocek, Becky Kern, Chris Field, Kate Ruskin, Jen Walsh, Alyssa Borowske, Whitney Wiest, Mo Correll.

*Not pictured:* Bri Benvenuti, Meaghan Conway, Tim Freiday, Laura Garey, Samuel Roberts, and Emma Shelley