



# SALTMARSH HABITAT & AVIAN RESEARCH PROGRAM:

*Conserving tidal marsh birds in our changing land & seascapes*

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## CONNECTICUT – Summary of key findings

### I. Saltmarsh Vital Statistics:

- Connecticut supports 4,928 ha of saltmarsh
- Saltmarsh comprises <0.01% of the land area of Connecticut

### II. SHARP Field Effort:

- 98 survey points visited in 2011 and 2012
- 5 demographic study plots, encompassing 67.4 ha total, investigated by UConn crews
- 1,754 birds banded across 3 species
- 316 nests monitored among 5 species



### III. Survey Results:

- 3,052 ha of saltmarsh surveyed by SHARP
- 21 SGCN observed; tied with Maine and New York for highest in northeast region
- Key tidal marsh bird responsibilities:
  - **Saltmarsh Sparrow:** 3% of northeast regional population
- Abundance estimates of focal species: (95% CI)
  - **Clapper Rail:** 146 individuals (27 to 266 individuals)
  - **Willet:** 801 individuals (186 to 1,417)
  - **Nelson's Sparrow:** outside of species' normal breeding range
  - **Saltmarsh Sparrow:** 1,592 individuals (794 to 2,391)
  - **Seaside Sparrows:** 1,026 individuals (0 to 2,526)
- Trend estimates of focal species:
  - **Clapper Rail:** within Connecticut, significant declines estimated at -12.9% annually since 1998; for USFWS Region 5, significant declines estimated at -4.6% annually since 1998
  - **Willet:** within Connecticut, within both Connecticut and USFWS Region 5, no evidence of population change, 95% CI overlapped zero
  - **Nelson's Sparrow:** not estimated for Connecticut, outside of normal breeding range; for USFWS Region 5, significant declines estimated at -4.2% annually since 1998
  - **Saltmarsh Sparrow:** within Connecticut, significant declines estimated at -9.5% annually since 1998; for USFWS Region 5, significant declines estimated at -9.0% annually since 1998



- **Seaside Sparrow:** within both Connecticut and USFWS Region 5, no evidence of population change, 95% CI overlapped zero
- Extent of saltmarsh modifications among 98 survey points:
  - 74.5% of survey points had ditching within 100 m of survey point
  - No evidence of Open Water Marsh Management within 100 m of any survey point
  - 48% of survey points were upstream from a tidal restriction

#### IV. Demographic Results:

- Nest monitoring of focal species
  - **Clapper Rail:** 27 nests monitored, 0.80 nests/ha, daily nest survival probability=0.99
  - **Willet:** 57 nests monitored, 0.80 nests/ha, daily nest survival probability=0.93
  - **Nelson's Sparrow:** outside of breeding range
  - **Saltmarsh Sparrow:** 174 nests monitored, 2.14 nests/ha, daily nest survival probability=0.92, seasonal fecundity=0.30 broods/ female annually
  - **Seaside Sparrow:** 55 nests monitored, 1.02 nests/ha, daily nest survival probability=0.90, seasonal fecundity=0.47 broods/ female annually
- Population viability analysis
  - **Saltmarsh Sparrow:**
    - Mean growth rates for 5 sites: -0.52 to -0.15 in 2018, declining to -0.89 to -0.38 by 2063
    - Median time to extinction for 5 sites: 6, 13, 14, 27, and >50 years
  - **Nelson's Sparrow:** not estimated; outside breeding range
  - **Seaside Sparrow:** Median time to extinction = 38 years (95% CI = 16 years, >50 years)

#### V. Regional Conservation Implications

- On average, tidal-marsh specialists have declined across New England and USFWS Region 5 as a whole over the last two decades.
- For Saltmarsh Sparrows, these declines are most severe on marshes with tidal restrictions, although the trend remains across all specialists even when excluding Saltmarsh Sparrow.
- Within Connecticut (the only state where historical nesting data were available), nest density is also declining for Saltmarsh Sparrows, Seaside Sparrows, and Clapper Rail, with Saltmarsh Sparrows showing the strongest decline. The declines can be explained by increases in rates of nest flooding since 2002.
- Seasonal reproductive success (incorporating nest success and re-nesting rates) for Seaside Sparrows declined from south to north within USFWS Region 5, and Nelson's Sparrow reproductive success was highest at the farthest upriver marshes.
- Saltmarsh Sparrow seasonal reproductive success was highly variable across the range and is driven more strongly by local rather than regional patterns. Nests across the range were equally likely to be flooded, but predation rates increased to the south.



**VI. For Additional Information,**

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- Or visit our website at: **[www.tidalmarshbirds.org](http://www.tidalmarshbirds.org)**

*Photo by Patrick Leary*