

BREEDING ECOLOGY OF
SEASIDE AND SHARP-TAILED SPARROWS
IN RHODE ISLAND SALT MARSHES

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THESIS ABSTRACT

The breeding ecology of Seaside (Ammodramus maritimus) and Sharp-tailed Sparrows (A. caudacutus) was investigated at four Rhode Island salt marshes which differed in ditching regime, plant community composition, and abundance of open water. Seaside Sparrows exhibited a strong preference for Spartina alterniflora communities at the two marshes where they bred. High-marsh S. alterniflora stands were used most extensively at the largely unditched Hundred Acre Cove site, while low-marsh S. alterniflora was the most often used type at the ditched, Palmer River marsh. Palmer River territories were, on average, twice as large as those at Hundred Acre Cove (9010 m² vs. 4545 m²), yet contained equivalent areas of S. alterniflora, the preferred foraging habitat. High-marsh S. alterniflora was also the most frequently used nesting cover at Hundred Acre Cove. At Palmer River one nest was built in S. alterniflora within an irregularly flooded, clogged ditch, and one nest was located in Iva frutescens.

In both 1981 and 1982, population density was much lower at the ditched, Palmer River site (0.11 and 0.22 males ha⁻¹, respectively) than at Hundred Acre Cove (0.55 and 0.62 ha⁻¹). The difference in relative abundance of high-marsh S. alterniflora was believed to be chiefly responsible for the differences in population density between the two sites.

Sharp-tailed Sparrow nest-site ecology and nest success was investigated at four marshes during 1981 and 1982. Nearly 80% of 199 nests were built in high-marsh graminoids (Spartina patens, Distichlis spicata, and Juncus gerardii). Nest sites in high-marsh graminoids were

located only in the upper 60% of that community's elevational range which reduced the risk of nest flooding during full-moon spring tides.

Sixty-three percent of all nest failures were caused by spring tides, primarily those occurring at the new moon. Most females renested immediately after flooding, and the probability of success was found to be greatest for these nests due to the similarity in the length of the nesting cycle and lunar periodicity. At the time of the next new-moon tides, some 28-30 days after the nest was started, young sparrows either had left the nest or were old enough to climb atop the nest or vegetation and avoid drowning.