



Assessing of the importance of horseshoe crab (*Limulus polyphemus*) eggs in the diets of migrating red knots (*Calidris canutus rufa*) and sanderlings (*Calidris alba*) during refueling stops on selected Florida beaches

Introduction:

Many shorebirds are listed as species of greatest conservation need in Florida. Successful migration and subsequent reproduction in these species depends heavily on food availability at refueling stops. Elsewhere along the East Coast, horseshoe crab eggs are the major food item at refueling stops for migrating shorebirds, but only anecdotal evidence is available for Florida. Relevant data is essential for successful conservation of these species in Florida because habitat loss due to coastal development affects shorebirds and horseshoe crabs.

Objectives:

1. Survey shorebird flocks on selected beaches to determine flock size and species composition

2. Color-band red knots and sanderlings to determine intra- and inter-annual beach usage
3. Determine proportion of horseshoe crab eggs in shorebird diets
4. Estimate densities of horseshoe crab eggs and other shorebird prey items on beaches
5. Assess beach refueling values by measuring shorebird blood metabolite levels

Approach:

Selected beaches will be surveyed to determine usage as shorebird foraging habitat. Densities of shorebird prey items will be estimated for the beaches. Red knots and sanderlings will be captured and banded to determine repeat beach usage; stomach contents will identify the importance of horseshoe crab eggs in their diet, and blood metabolite levels will indicate the refueling value of the study beaches.

Benefits:

Understanding the relationship between migrating shorebird fitness and available prey provides a means to define habitat quality for migratory shorebirds in Florida, and thus, a better foundation upon which to formulate management recommendations. This project will provide insights of migratory shorebird ecology and conservation at larger geographic scales by comparing study results with similar studies conducted in other areas of the United States and on other shorebird species.

Location:

Gulf Coast of Florida

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