TROPHIC POSITION AND DIETARY CARBON SOURCES OF INVASIVE MICE

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Background

• **The big picture:** Invasive species on islands are one of the leading causes of extinction
• **Midway Atoll National Wildlife Refuge** houses one of the world’s largest albatross colony
• **The problem:** Mice on Midway have gained attention due to their attacks on nesting albatrosses
• **The solution:** To protect albatross colonies, mice will be eradicated in summer 2020
• **Knowledge gap:** The diet of island mice has not been studied in great detail; therefore, the implications of the eradication are largely unknown

Study site & methods

• Mice trapped every week, from April 2018-May 2019 (n = 317)
• Plucked and prepared hairs used for stable isotope analysis
• Kruskal-Wallis test and pairwise Wilcoxon rank sum tests

Results

**Habitat:**
- The trophic position of mice is greatest in Wetland and Herbland habitats
- The dietary sources of carbon differ based on the habitat

**Season:**
- There are no significant differences in the dietary carbon sources of mice between seasons
- The trophic position of mice is greater in the fall than in the spring

Objective

• Determine the effects of season and habitat on the trophic position and dietary carbon sources of mice using stable isotope analysis

Hypotheses

**Habitat:**
- Trophic position of mice will be greater where arthropods are more abundant
- Dietary carbon sources will differ based on habitat

**Season:**
- The trophic position of mice will be greater in the spring and summer due to increased arthropod abundance
- Dietary carbon sources will be more abundant in summer due to increased plant density

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