

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Stable Isotope Analysis of San Miguel and Santa Rosa Island Foxes and Their Prey: Characterizing Dietary Preferences Across Islands and Habitats

Discipline: Natural
Type of Project: Technical Assistance
Funding Agency: National Park Service
Other Partners/Cooperators: University of Wyoming
Effective Dates: 7/1/2012 - 6/30/2013
Funding Amount: \$ 9,998

Investigators and Agency Representative:

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Project Abstract:

The goal of this project is to provide information on island fox foraging patterns that will enhance island fox recovery and conservation. Specifically, we have five objectives:

- Compare fox food item use and diversity among Santa Rosa and San Miguel islands.
- Examine seasonal variation in diet and diversity across these islands via $\delta^{13}\text{C}$ and $\delta^{15}\text{N}$ analyses of vibrissae segments collected from foxes captured during routine population assessments.
- Determine the extent to which island foxes are exploiting marine resources, especially marine sources of food that may be contaminated with organochlorides (e.g., DDT) and heavy metals. Does marine resource use relate to island size and the relative availability of marine derived foods (i.e., presence/absence of pinniped or seabird colonies)?
- Determine the extent to which island foxes are exploiting CAM plants, such as native cactus (prickly pear, *Opuntia*) or non-native succulents (sea fig, *Carpobrotus*).
- Interpret results in a manner that could inform and enhance habitat restoration efforts.

Outcomes with Completion Dates:

Expected products include a comprehensive database of diet preference for island foxes on San Miguel and Santa Rosa Island, combined with area (grid) -specific density data and individual characteristics, as well as several peer-reviewed publications on island fox diet and trophic relationships. Final Report is due by June 1, 2013.

Keywords: fox, foraging patterns, stable isotope, San Miguel Island, Santa Rosa Island, Channel Islands National Park, University of Wyoming