

Public Abstract

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Title:Demographic, behavioral and physiological responses of wildlife to reintroduction

To improve the outlook for conserving species and strengthen natural resource management, for my dissertation I evaluated factors influencing wildlife reintroduction success. Success is often defined demographically, where reintroduced populations need to reach a critical size before they are considered successfully recovered. I compiled and analyzed data collected from the 21-year history of the black-footed ferret reintroduction program and found that demographic success was correlated with large populations of their primary prey (prairie dogs). For large and potentially dangerous species, success can be defined in terms of how well the animals behaviorally adjust to their translocation. I evaluated the physiological and behavioral response of African elephant to reintroduction. I found that elephants exhibit chronically elevated physiological states for at least 10 years following reintroduction, during which time they exhibited refuge behavior, where they only utilize a restricted portion of the reserve available to them away from human disturbance. Further, the physiological state of elephants can effect fine-scale elephant movement decisions based on memory and environmental conditions, which has important implications to predicting and potentially managing current and future human-elephant conflicts. Collectively, these findings should provide useful information to managers on how to better successfully restore extirpated species.