

Information Crossfile

BOOK REVIEW

Decline and Recovery of the Island Fox

By the editor

THE STORY OF ECOLOGICAL RESTORATION OF THE CALIFORNIA

Channel Islands, including Channel Islands National Park, is an inspiring one, and the plight of the diminutive but resilient island fox (*Urocyon littoralis* spp.), the top predator in this relatively simple ecosystem, is central to the tale. By 1995 ecological monitoring on San Miguel and Santa Cruz Islands in the national park had detected rapid and alarming declines in the populations of island foxes there; subsequent assessments on Santa Rosa and Santa Catalina Islands confirmed population declines there as well. These findings set in motion a decade-long series of emergency conservation measures aimed at understanding the declines, weighing options to prevent the foxes' extinction, and fostering recovery of the species. The incredibly effective work of more than 100 biologists, land managers, academics, veterinarians, and other endangered species experts is explained from start to finish in this detailed account by NPS wildlife biologist Tim Coonan, NPS ecologist Cathy Schwemm, president and founder of the nonprofit Institute for Wildlife Studies David Garcelon, and two other chapter authors Cheryl Asa and Linda Munson.

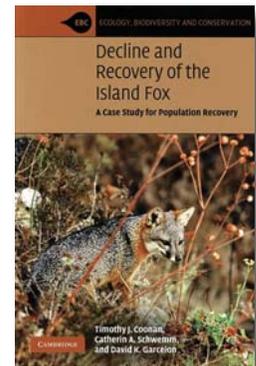
As part of the Ecology, Biodiversity, and Conservation series of Cambridge University Press, this book is a scientific treatise on the decline and recovery of four of the six subspecies of island fox. Though it is authoritative, its style is accessible and inclusive of nonscientists, describing specific topics in the context of the whole recovery effort and the social, political, economic, legal, and policy aspects of the management setting. It also does a marvelous job of relating this case study in population recovery to general ecological and restoration principles drawn from the literature. At many points the authors review conservation theory and then reason how it applies (or not) to the situation of the island fox, a most interesting leap of intellect that most readers will appreciate. I also value the manner in which the authors clarify jargon by interjecting stimulating alternative explanations that greatly improved my understanding of technical material.

Apart from the initial chapters that describe the life history and related biological facts of the island fox, I found the book to be very interesting and inspiring. In particular, when the story turned to the investigation of fox mortality, it read like a forensics mystery in which the protagonists gather and analyze evidence that challenges their assumptions, devise and test new hypotheses, and find meaningful leads. Eventually a picture emerges of unrelated yet contemporaneous causes of the declines: canine distemper virus (CDV) on

*Decline and Recovery of the Island Fox:
A Case Study for Population Recovery*

Timothy J. Coonan,
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Santa Catalina Island and predation by golden eagles on the other three islands. However, the story is more complex than this. Human influences on the islands were responsible for (1) the introduction of domestic dogs and the attraction of raccoons that may serve as hosts for distemper virus and (2) the introduction of pigs that became the primary food source of otherwise nonresident golden eagles that threatened northern Channel Islands foxes. Recovery of the island fox ultimately involved captive breeding programs for four subspecies of fox, eradication of feral pigs, relocation of golden eagles to the mainland, reintroduction of bald eagles that may help discourage golden eagle nesting, development and administration of a CDV vaccine for Catalina Island foxes, population modeling, federal listing as an endangered species, and the controversial reintroduction of captive-held or -born island foxes to the wild.

Throughout the text the authors acquire and integrate new information as they confront problems and work out solutions. They form workgroups, reach out for help, mount an educational campaign, revise conservation strategies, and contemplate actions. Their methods clearly improve over time. The process is not always smooth but they press on. They attribute their success partly to the ecological monitoring at the time, which detected the rapid decline. (Indeed the book makes a strong case for ecological monitoring even in the absence of any signs of trouble.) Not only did I get a good sense of the dedication and intelligence of the personnel behind the recovery work, but also I got to know the island fox and its ecological place on the islands, a pleasurable experience for me.

The book is substantial but not overwhelming. At 212 pages it has 15 chapters, 28 photos, 15 graphs or diagrams, and 14 tables. It will surely interest biologists involved with small mammal conservation or maintaining island biodiversity. It will also appeal to conservation-minded people for its uplifting story of successful intervention and recovery of this species and for the well-functioning team involved in these efforts. As the authors state in conclusion, "We suggest that with or without Endangered Species Act protection, species and habitat conservation will benefit most from productive and sincere human collaborations." I couldn't agree more.