

Sustainability Poster Pup: The Island Fox

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Against steep odds, and with an assist from man, a hardy species is making a determined comeback.

The island fox, a Channel Islands native barely a foot long, almost shrank to nothing. The fox's amazing story has a hopeful ending, and garners my first Noozhawk column because it epitomizes the term "sustainability."



Karen Telleen-Lawton (Don Matsumoto photo)

Gray foxes may have rafted from the mainland on storm debris around 20,000 years ago. Arriving to a different habitat, they gradually adapted to become smaller, more active during the daytime, and primarily vegetarian. In 1980, five of our offshore islands became [Channel Islands National Park](#). Over the next decades, ranching ceased and scientists began monitoring unique species such as the fox.

The first island fox census estimated 450 foxes on San Miguel Island. Five years later their numbers were reduced to a shocking 15. The three-island population had plunged 90 percent. Scientists radio collared eight San Miguel foxes, and within three months six of them were dead. The culprits left calling cards beside the carcasses: golden eagle feathers. Golden eagles had only ever been "rare to occasional visitors," but now were nesting. What had changed?

Behind the golden eagles' success lurked several human factors that reduced the sustainability of the island ecosystem. More than 100 years of ranching had completely

changed the landscape. An 1858 U.S. Coast Survey described islands so thick in chaparral that explorers spent most of their time crawling. By contrast, a 1930s passing sea captain described San Miguel Island as “a barren lump of sand.”

The endemic island species evolved without the presence of grazers like deer, elk, bighorn sheep, or even rabbits. When ranch animals were introduced, native plants, lacking thorns or chemical protection, were decimated. The resulting open range was like a buffet for the occasional golden eagle, which made off with fresh meat whenever it could evade the dominant fish-eating bald eagles.

The plethora of ranch animals also enticed the golden eagles to risk harassment by the bald eagles. Full-grown hogs were too large, but piglets, lambs and goat kids became easy prey, along with the diminutive foxes. But why couldn't the bald eagles keep them away?

Island Life

[Click here](#) for more information about the recovery of the island fox and other unique species of Channel Islands National Park.

Want to follow bald eagle parents incubating two eggs? [Click here](#) for the live EagleCam.

Enter Monsanto's DDT, introduced into the Pacific as agricultural runoff and dumped off the Palos Verdes Peninsula by Montrose Chemical Co. beginning in the mid-1940s and ending in 1971. Fish, the primary diet of bald eagles, ingested the DDT. The poison sabotaged their reproductive cycle, thinning the eagle eggs so they cracked when the parents incubated them. Breeding bald eagles disappeared from the islands in the 1950s.

These factors dovetailed just as the fox monitoring began. Because the situation was so dire, scientists worked on every level: relocating golden eagles, eliminating ranch animals, restoring habitat, and capturing most of the remaining foxes for a captive breeding program.

Just a few years later the results are encouraging. [As of November, there were 115 foxes on San Miguel Island, 55 on Santa Rosa, and more than 300 on Santa Cruz.](#) Not

yet a healthy population, but with the first two successful bald eagles hatches in more than 50 years, there is hope that one day the system will not require human intervention: a good definition of sustainability.

Karen Telleen-Lawton's Serendipity column is a mélange of observations supporting sustainability. [Click here](#) to graze her writing and excerpts from Canyon Voices: The Nature of Rattlesnake Canyon.