



Encyclopedia of Life

eol.org

Island Fox Podcast and “Meet the Scientist” *Urocyon littoralis*

In this podcast, reporter Molly Samuel journeys to Santa Cruz Island, off the coast of California, to look into the mystery of the island’s tiny foxes, descendants of gray foxes who rafted over from the mainland more than ten thousand years ago and branched off to form a new, smaller species. Twenty years ago, their numbers began to plummet, from three thousand in the early 1990s to fewer than one hundred by 2000. Samuel tells how conservationists solved the puzzle of the vanishing foxes and helped them stage a comeback.

Transcript

Ari: From the Encyclopedia of Life, This is One Species at a Time. I’m Ari Daniel Shapiro and I’m joined by Molly Samuel who’s been covering a story on Santa Cruz Island, which is where exactly Molly?

Samuel: The island is about 20 miles off the coast of Southern California and it’s part of Channel Islands National Park. It’s really remote. It’s surprising to realize that you’re so close to such a huge metropolitan area. There are plants and animals that live on the island that don’t live anywhere else in the world.

Ari: I guess it’s a little bit like the Galapagos?

Samuel: Yeah, that’s right. And the animal I’ve been reporting on is the island fox. Here’s some tape from Lotus Vermeer of the Nature Conservancy.

Vermeer: These foxes weigh in at a hefty 4 pounds when they’re full grown. So they’re tiny tiny little foxes. They’re almost catlike, too, in their behavior and appearance.

Samuel: The subspecies is *Urocyon littoralis santacruzae*. And when I was out there on Santa Cruz Island, I didn’t actually get to see one which was really disappointing, but I’ve seen pictures and they’re like little gray fur balls.

Ari: They sound really cute.

Samuel: That cuteness is a little misleading because they're also the top predator on the island.

Ari: Well I guess that tiny little thing can become predator on an island.

Samuel: Yeah, that's one of the things about islands all over the world is that since there are fewer species there's less punishment for evolutionary experimentation. So the fox evolved out there, there was nothing bigger or fiercer than it, and it got to be the top dog. Until the mid-90s and then their numbers began dropping really fast.

Ari: And did anyone have any idea what was going on?

Samuel: At first they couldn't figure it out. Here's Kate Faulkner, who's the chief of natural resources management for Channel Islands National Park.

Faulkner: Initially you don't know. Is this just a one-year decline, maybe food supplies aren't good and then the population's going to bounce back.

Ari: But it didn't bounce back.

Samuel: Right. They were puzzled for a couple years until they finally put radio collars on the foxes. And with the radio collars they could tell that a fox had died and more importantly they could tell when a fox had died. Here's Faulkner again.

Faulkner: Foxes that were most active during the day were the foxes that were dying. And so that kind of shifted the thinking and we started to look at, hmm, is there some kind of a daytime predator that is hitting these foxes.

Samuel: So they followed the radio signals coming from the dead foxes and they didn't find those dead foxes on the ground. They were high up in the air. They were golden eagle nests. Even though the fox – they had evolved to be the top predator, it hadn't stuck. They lived for thousands of years on the islands with bald eagles, and bald eagles only eat birds and seafood. But the bald eagles were wiped out by the pesticide DDT in the middle of the twentieth century. Once there were no more bald eagles, it opened up new habitat for golden eagles, which hunt land animals. And here I'll play some more tape from Faulkner.

Faulkner: What we think happened is the golden eagles that were prospecting for new territories, they would have found in recent years, that hey there's this great food supply out here.

Samuel: The island was crawling with feral pigs and feral sheep, which had been left there by ranches from before the island was part of a national park. So the golden eagles were initially

attracted by those pigs and sheep, but they soon discovered the island fox. Vermeer explains that the foxes were just completely unprepared.

Vermeer: The foxes, which being the top predator had never evolved any sort of instinct to look up, they didn't need to. So they were picked off like popcorn.

Ari: So once they knew the cause they must have been able to come up with some way to deal with it.

Samuel: Right. First the park service rounded up the pigs and the sheep and got rid of them because that's what had begun luring the golden eagles there in the first place. Rounding up golden eagles is not quite as easy and when I was out on Santa Cruz Island I ran into biologist Peter Sharp and here he describes the process to me.

Sharp: What we're going to be trying to do is netting them from a helicopter. So you sort of follow them around till they land and then you shoot a large net over them from the helicopter.

Samuel: It sounds like an action movie to me or something.

Ari: Like a lively chase scene.

Samuel: Yeah, I guess that is what it is. And then they also reintroduced bald eagles to the island and they helped discourage the golden eagles from moving back.

Ari: And the foxes rebounded?

Samuel: Yeah they did, though not completely on their own. The National Park and the Nature Conservancy were worried they would lose the foxes anyway because there were just so few of them left. So they captured a number of them and started a captive breeding program which they called "Foxes in Boxes." And it did all work. All the foxes have been released back into the wild. By last year there were about 1200 foxes running around the island where there had only been about a hundred just several years earlier.

Ari: Wow, it's a real success story.

Samuel: It really has been. And the fox is still listed as endangered, but it should be coming off the list soon and that'll make it one of the fastest species recoveries in the history of the Endangered Species Act.

Ari: That's Molly Samuel, a reporter based in San Francisco. To see some of Molly's photos and other audio clips from her time spent on Santa Cruz Island, go to our website, EOL.org. Our series, One Species at a Time, is produced by Atlantic Public Media in Woods Hole Massachusetts. For the Encyclopedia of Life, I'm Ari Daniel Shapiro.

Meet the Scientist

Meet Lotus Vermeer, the scientist you heard in the Island Fox podcast:



Where do you work?

I am the Director of the Nature Conservancy's Channel Islands Program in California.

What do you study?

I lead island restoration, and endangered and endemic species recovery efforts on The Nature Conservancy's Santa Cruz Island Preserve, and provide management and scientific oversight of complex, multi-partner conservation programs across the northern Channel Islands.

What are three titles you would give yourself?

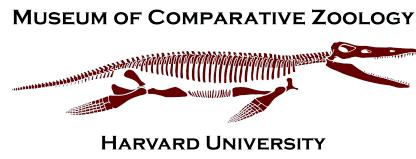
Conservation practitioner, marine biologist, mother

What do you like to do when you are not working?

Explore new places, hike/backpack, train horses, kayak, SCUBA dive, mountain bike, cross-country ski, chase after my 11-month old son.

What do you like most about science?

I love working on multi-faceted, multi-taxa research and landscape-scale restoration challenges. I derive great satisfaction from working in concert with teams of scientists, conservation practitioners and land managers, and being a part of efforts that help to bring species back from the brink of extinction, and restoration efforts that lead to tangible, lasting recovery of unique native habitats and landscapes. I love to share my passion for nature and the environment with others, and am energized by the inspiration and engagement of fellow scientists and conservationists who work so hard to protect the biodiversity of life on this planet.



The One Species at a Time podcast series is supported by the Harvard Museum of Comparative Zoology.