



## NEWS BRIEFS

### Blue Iguanas on the Rebound

The Blue Iguana (*Cyclura lewisi*) has lived on the rocky shores of Grand Cayman for at least a couple of million years — yet having survived everything from tropical hurricanes to ice ages, it has been driven to near-extinction by dogs, cats, and cars. Now, however, a breeding program some see as a global model has worked better than any had hoped to save a species that numbered less than a dozen individuals in the wild just a decade ago.

Roughly 700 Blue Iguanas breed and roam free in protected woodlands on the eastern side of Grand Cayman, a 35-kilometer-long speck in the western Caribbean that is the only place where the critically endangered animals are found in the wild. “The kind of results that we’ve gotten show that it’s practical and realistic to say you can restore a population of iguanas from practically nothing, just so long as you can capture the genetic variety from the beginning,” said Fred Burton, the unsalaried director of the Blue Iguana Recovery Program, a partnership linking the islands’ National Trust to local and overseas agencies and groups.

In Queen Elizabeth II Botanic Park, the “founders” (genetically diverse, wild iguanas captured for the breeding program) mate in 40-foot-wide pens featuring the rocks and vegetation of their natural habitat. These primarily herbivorous creatures have crimson eyes, grow to roughly 1.5 m in length, and are most colorful when they get excited. The founders’ young descendants are outfitted with transponder tags embedded beneath their skin. They are only released into

the botanical park and the 253-ha Salina Reserve after they reach two years of age and are big enough to defend themselves from rats, snakes, and most feral cats.

Burton and others concluded in 2001 that young Blue Iguanas should be released into the wild next to rough-hewn wooden shelters with tight passageways that mimic the rock holes and tree cavities where they naturally shelter from predators. The first year of that experiment, 100 percent of the young survived. “When we started, we didn’t know anything, so for years we just let the iguanas loose and we’d never see half of them again. A year after we came up with this very low-tech method of anchoring iguanas to the park, we found all of them were still living,” Burton said, adding that young iguanas soon outgrow the wooden shelters and hardwired behavior kicks in, driving them to make homes without any assistance.

Arthur C. Echternacht, a professor of ecology and evolutionary biology at the University of Tennessee, said the Grand Cayman program has succeeded by building unusually strong relationships with international scientists as well as support from local politicians and citizens. He also credits the tenacity and organization of Burton, a soft-spoken man who has been a steward of the Cayman Islands’ environment since he moved to the U.K. Caribbean territory in 1979. “Although Fred can seem to be a rather low-key, unexcitable Brit, he is passionate about the iguanas, very persuasive, and incredibly persistent,” Echternacht said in an email.

Early on, Burton sought and received the assistance of international conservation groups, zoos, and businesses. Financing and expertise, including veterinary support from the organizations has furthered the program’s success. John Binns, of the Tucson, Arizona-based International Reptile Conservation Foundation, said the basic infrastructure and steady focus of the Blue Iguana Breeding Program is “really a model on how to correctly restore a species year after year.”

When the program started in 1990, most Caymanians didn’t even realize that the island was home to an imperiled species. Confusing matters, invasive Green Iguanas (*Iguana iguana*), escapees from the pet trade, are flourishing in Grand Cayman and can be encountered across the island. Now, with growing pride in the Blue Iguana’s recovery, the reptile has inspired stuffed toys, bobblehead dolls, and other souvenirs. Visitors landing at the airport are greeted by a poster showing a Blue Iguana that states: “His ancestors have been here for 2 million years.” A Blue Iguana dubbed “Gorgeous George” graces the cover of the island’s phone book, while tourists go on Blue Iguana “safaris.”



The key to saving the critically endangered Grand Cayman Blue Iguana (*Cyclura lewisi*) is restoring the population in its native habitat. Photograph by John Binns.

However, not all has been smooth sailing for the breeding program. In May 2008, about a half-dozen Blue Iguanas were killed in their pens, prompting a police investigation that netted no suspects. The iguanas, two of them females that had been about to lay eggs, were found stomped and gouged. Burton said humans, possibly with a pet dog, were almost certainly behind the massacre. He further said it was an “acid reminder” that not everything could go the program’s way, even while it enjoyed broad support among most Caymanians. To protect the iguanas, the breeding pens are now ringed by a fence and barbed wire.

Other researchers have been able to breed captive Blue Iguanas far from their native environment, although they cannot match the success of the program at home. The overseas program is partly a hedge to make sure the imperiled reptile’s genetic footprint survives any calamity. Nearly 50 adult and juvenile Blue Iguanas live in 14 U.S. zoos and aquariums, all of which are partners of the breeding program. According to Tandora Grant, of the San Diego Zoo Institute for Conservation Research, ten new hatchlings are due to be born. In Europe, two Blue Iguanas live in the Prague Zoo in the Czech Republic.

Nonetheless, the key to restoring the endangered species remains in its native habitat on Grand Cayman, where Burton hopes to have 1,000 Blue Iguanas living in the wild, perhaps as early as 2015. “Once we hit 1,000 and we have a good genetic range out there, we can just let the iguanas handle things themselves out in the wild without us messing around with all this complex genetic planning,” Burton said at the park. Gesturing at the breeding pens, he said: “Soon this will all be redundant, and that will be a very exciting day.”

Adapted from an article by David McFadden  
Associated Press

## Python Caught in a Danish River

Only two species of snakes are native to Denmark, both of them relatively small and harmless. Consequently, angler Anders Hermansen was rather surprised when he caught a three-meter long python while fishing in a Danish river in early May 2012. The snake was dead when discovered. Based on photographs, it was most likely a Burmese Python (*Python bivittatus*, formerly considered a subspecies of the Indian Python, *P. molurus*). Keeping of large constrictors by private persons is illegal in Denmark.

Although no one knows for sure how this snake ended up dead in a river in Denmark. Most likely, it had either accidentally escaped from a private enclosure or was deliberately released into the wild. As no one has claimed the animal, its origins will remain a mystery.



Although a recently discovered Burmese Python (*Python bivittatus*) in Denmark was never likely to find a population, these snakes have become invasive in southern Florida, where they are wreaking havoc as predators of native wildlife. Photograph by Suzanne L. Collins, CNAH.

Fortunately, the Danish climate is not suitable for pythons, so damage was limited to the loss of the snake and a startled angler. Elsewhere, where the climate is more suitable, the release of exotic pythons is known to cause considerable harm. People have been releasing snakes into the Florida Everglades for years. They have become firmly established and are wreaking havoc as predators of native wildlife.

This incident was used by the Danish Nature Agency to remind the public about the illegality and consequences of releasing pets into the wild. Pets will more often than not be very ill equipped to survive in the wild and will die a slow death — not, as many probably wish for their pets, live a “happy life” in the wild. If it does survive, it could become a considerable danger to native species.

Adapted from The European Network on Invasive Alien Species (NOBANIS)  
*Aliens-L Digest*, Vol. 428, Issue 1

## Habitat for Endangered Reptiles Creates a Bureaucratic Snake Pit

Karen Dillon<sup>1</sup>

Two rarely encountered species of snakes have created a bureaucratic snarl in Johnson County (Kansas) and have residents of a subdivision up in arms. Johnson County officials have for several years been trying to build a sewer line for a planned development — but the sewer line construction has been delayed because the state ordered the county to replace

<sup>1</sup> Adapted from an article in *The Kansas City Star* / 913, Johnson County’s news magazine.



Redbelly (*Storeria occipitomaculata*; top) and Smooth Earth Snakes (*Virginia valeriae*; bottom) are both listed as threatened species in Kansas. Efforts to preserve suitable habitats for these species, both of which are abundant throughout the eastern United States, have run afoul of a sewer project serving a new development in Johnson County, an affluent suburb of Kansas City. Such conflicts between wildlife and human needs are rarely resolved amicably — and the acrimony frequently spills over into antipathy for any conservation efforts. The situation in Johnson County is particularly egregious since it involves species not endangered throughout most of their ranges and snakes, which generally rank low in public esteem. Photographs by Suzanne L. Collins, CNAH.

any endangered species' habitat that is disturbed by the sewer construction. A few years ago, the state had warned the county that the line would disturb the habitat of the Redbelly (*Storeria occipitomaculata*) and Smooth Earth Snakes (*Virginia valeriae*), both listed as threatened species in Kansas.

So, more than a year ago, county officials designated 11 acres for the replacement habitat, located near the Blue River Wastewater Treatment Facility. The cost of the new habitat has been estimated from \$250,000 to \$500,000. Johnson County commissioners did not learn about the price tag until several weeks ago and some were quick to criticize the taxpayer expense.

Now, Tara Geer and other residents of subdivisions near the proposed habitat are wondering why they have only just

heard about the county's plans. Geer, who has sent emails to about 150 neighbors explaining the issue, says she plans to voice her concerns at the commissioners' meeting. "They are going to have to make a decision knowing that a bunch of people are upset about it," Geer said. "This has not been very well thought-out. What are you going to do when you want to sell your house? 'Oh please come buy my house. It has private views of the snake habitat.'"

Although the county had appeared to be ready to move forward on the mitigation plan, County Manager Hannes Zacharias said a vote by commissioners might be delayed. Commission Chairman Ed Eilert and others from the county are in discussions this week with Kansas Parks, Wildlife and Tourism officials to get more clarification from the state on what needs to be done. "Whether we can resolve the issue between now and the meeting is doubtful," Zacharias said. "We are having conversations to understand more clearly what the reasons are to have these two species protected in the way that they are requiring. We want to know if there are other alternatives to what we are proposing that are more inexpensive and what are our options and explore them more fully."

The ranges of the Smooth Earth and Redbelly snakes extend from Missouri to the East Coast, north to Canada, and south to Texas. Far eastern Kansas is considered the fringe of their territory and it's only in that area that they are threatened.

The proposed development began in 2007 when a consolidated sewer district was formed. Soon after, the county began collecting sewer taxes from landowners. The cost to build the sewers was estimated to be \$4.3 million. After the county submitted a permit to the state for the sewer work, it learned about the snake restrictions. Work was to begin in spring 2010 but was halted "because of the difficulties associated with obtaining approval for the project" from the Kansas Department of Parks, Wildlife and Tourism, according to a county summary last year.

Johnson County Wastewater staff had worked with the wildlife department for two years to try to solve the problem, according to the summary. According to the document, one county estimate for a new habitat was as much as \$1.4 million dollars or 33 percent of the project cost. The county already has spent \$500,000 on designing the sewer project, so to drop it would be difficult. One of the landowners, SC Real Estate Investment LLC, has quit paying the sewer tax bill. Developer Craig Eymann owns three parcels totaling more than 100 acres in the development. He owes more than \$100,000. "We are not going to write a big check for these sewers and nothing is being done," Eymann said. Eymann said he wouldn't have a problem with the snakes if he believed they were endangered but he doesn't agree with the state. "All this for a snake you can't see," Eymann said.

State wildlife department officials have said they think the cost for mitigation could be less than \$170,000 if the county would use a few acres of its large park holdings. Eric John, the state's ecological services chief, "is frustrated that we are not working together to improve park habitat as mitigation at what he believes would be low or no cost," wrote John O'Neil, the wastewater department general manager, in an email to county officials. "He plans to work with us to make that happen."

Just how many snakes might be shoved from their home by the sewer project is hard to tell. Wildlife officials pointed out that they do not plan to transport any snakes from their current habitat to the new site; they simply want the county to have a replacement habitat for the snakes. These snakes typically spend time in cool damp places and underground. With the drought, they are seen infrequently.

Geer said commissioners need to find a solution. "We elect these people to solve these types of problems, not to just throw their hands up at some bureaucracy and say, 'Oh well, we have to do it this way because we don't have a choice,'" Geer said. "You do have a choice. Make a change."

## Speaking of Endangered Species, What about People like Me?

Sarah Smith Nessel<sup>2</sup>

Ask not what your county can do for you — ask what your county can do for the Redbelly and Smooth Earth snakes.

The answer: Quite a bit, if state bureaucrats have their way. They want Johnson County to spend hundreds of thousands of dollars on a new habitat for these two species, which apparently are being tragically forced from the only homes they've ever known as developers continue to insist on building homes for humans.

Or maybe they aren't. Nobody's really sure, since snakes of these species hang out underground pretty much all the time. It's not easy to find anybody who's ever actually seen one. But they *might* be there, lurking under the surface of some land where a sewer project is planned. So, because of a state requirement that any endangered species habitat that's disturbed by development be replaced, we're now hearing talk of a possible snake habitat that would be funded by up to \$500,000 in county taxpayer money. That's on top of the \$40,000 that's going to an ecology expert to develop something called a "snake habitat mitigation plan."

<sup>2</sup> Sarah Smith Nessel is a freelance columnist who writes a weekly column about Johnson County life.

## Editors' Remarks

Although we generally favor conservation efforts, especially those that seek to facilitate the survival of amphibians or reptiles, the situation in Johnson County, Kansas raises some questions. Animals do not recognize political boundaries, yet many states list as protected, threatened, or endangered species with broad distributions that barely extend into the state. If the species involved are abundant elsewhere and habitat along the fringes of their distributions marginal at best, couldn't scarce conservation dollars be better spent on more deserving projects? Conversely, with habitat alterations and destruction running rampant, aren't any efforts to conserve natural habitats worthwhile — especially since benefits are not limited to the target species and many other species of plants and animals exploit these natural islands. Also, the costs of conservation are steadily increasing, so that delays will only result in the need for even greater dollar amounts being spent on fewer and fewer suitable parcels of land. Johnson County has the highest median household income in the state and ranks second only to Delaware County, Ohio (a suburb of Columbus), among Midwestern counties. Raging development has converted what until a few decades ago was among the most fertile farmland in the state into a sprawl of suburban neighborhoods. Consequently, wildlife habitat of any kind is increasingly rare, and the price tag for land of any kind is exorbitant by Midwestern standards. So, is preserving a little patch of natural habitat in suburbia such a bad thing? We say no — unless, of course, the amount of money slated for a little patch of degraded prairie in suburban Kansas City could be spent on more critically endangered habitats elsewhere in the state. And to the homeowners concerned about their property values, we say deal with it (especially since lots abutting anything remotely natural are rapidly becoming so rare that scarcity alone will eventually inflate their values).

The Editors of *Reptiles & Amphibians*

The thing I love about this column is that every time my idea well runs completely dry, some nutty news story emerges that fills the bucket again. If it's not my congressional representative skinny-dipping in the Sea of Galilee or a fainthearted mother being traumatized at the sight of a nude sculpture, it's a loony piece of anti-abortion legislation or the

news that the Kansas state Board of Education is helping draft national science-education standards. Missouri columnists get Todd Akin — I get the world.

I was foolish enough to ignore the saga of Redbelly and Smooth Earth snakes the first time it popped up, and now, fate is giving me another chance. It's even giving me some great quotes that I didn't have to go to the trouble of getting myself: A state ecologist told Kansas City Star reporter Karen Dillon that foot traffic won't harm the snakes' habitats, so, "We encourage people to go out and enjoy Redbelly Snakes." Whew. That settles the problem of what to do over the holiday weekend.

Johnson County commissioners, to their credit, are not reaching hastily for the checkbook. Food pantries are in need of assistance, Commissioner Calvin Hayden pointed out at a recent meeting as he declared the notion of spending half a million dollars on serpent digs "asinine." I was listening to a couple of talk radio hosts rant about all this as I ran errands on a recent afternoon. This would be the same afternoon that I learned, at 5:10 p.m., that the library branch nearest my house had closed at 5 p.m. Budget cuts, you see.

I'd be a little more sympathetic to the cause of conservation if these snakes actually needed protection. They're "endangered" in Kansas only because the eastern portion of the state is on the far western edge of their territory, and it appears that not very many of them live here. How do we know this? Because the state of Kansas spent hundreds of thousands of dollars to count them. The effort reportedly "yielded little data."

At any rate, Redbelly and Smooth Earth snake territory covers much of the eastern U.S. and portions of Canada. So "endangered" is a term best used loosely in this case. These species are like a reptilian version of those potted palm trees that appear outside upscale Johnson County retail centers every summer: They apparently don't care to be in this part of the country, but if you spend enough money on them and coddle them enough, you can make them feel right at home.

If store owners want to pour private dollars into tropical landscaping in the hope that people shopping in Kansas will suddenly think they're on vacation and start emptying their wallets, well, I can't argue. It's not my money. But the country's money *is* mine to some small extent, and I don't want it being spent on a snake habitat that costs hundreds of thousands of dollars more than my own habitat, which frankly is in dire need of mitigation. In fact, now that I think about it, I'm part of a species rarely seen in Johnson County: I'm a social liberal. I might even be endangered. Maybe I should apply for habitat mitigation funding. It conflicts with my general fiscal conservativeness, but I can live with a little cognitive dissonance. Spend enough money on me and coddle me enough, and I'll feel right at home.

## Galápagos Land Iguanas on Baltra Island

Rangers of the Galápagos National Park Service (GNPS), with the support of the Charles Darwin Foundation, surveyed the population of Common Land Iguanas (*Conolophus subcristatus*) on Baltra Island. Subsequent to the eradication of invasive species, especially cats, the principal predator of Baltra's land iguanas, the number of iguanas on the island has increased.

The approximate population size will not be known until data collected in the field have been tabulated, but it is estimated at 800–1,000 individuals. Rangers recorded sightings over four days along a 1-km x 100-m transect. The census was conducted at 0900–1400 h, when lizards are active, emerging from their burrows to bask.

The census will confirm population growth on the island, where iguanas had no natural predators other than the invasive species that are now under control or completely eradicated. Rangers also recorded the weight and size of 23 iguanas, and implanted chips that allow for individual identification in subsequent monitoring programs. The guards involved in the study have experience in wildlife management, and the capture and tagging of individuals was executed under strict guidelines to minimize the likelihood of any alterations in behavior.

Danny Rueda, head of the Department of Conservation and Restoration of Island Ecosystems at the Galápagos National Park, said the process of restoring ecosystems on Baltra is showing positive results. The Galápagos National Park Directorate is scheduled over the next three years to conduct rodent eradication efforts on the island and to continue with the comprehensive restoration of ecosystems.

Modified from a news release issued by the Proceso de Relaciones Públicas,  
Parque Nacional Galápagos  
26 September 2012



The population of Common Land Iguanas (*Conolophus subcristatus*) on Baltra Island in Galápagos National Park is rebounding after efforts to control invasive species, especially cats, the principal predator of Baltra's land iguanas. Photograph by Putney Mark (Wikipedia Commons).