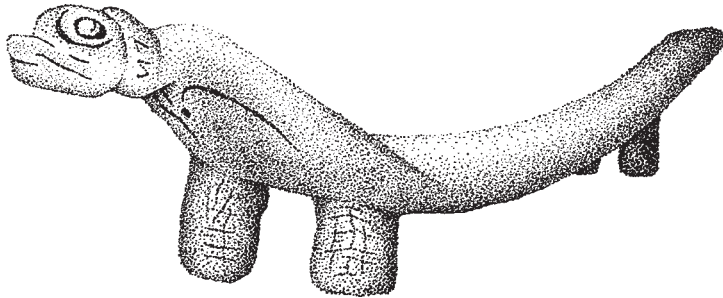


West Indian Iguana Specialist Group



Newsletter

IUCN - The World Conservation Union
Species Survival Commission

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News & Comments

The following press releases regarding Nike's donations to the Jamaican iguana project come from Karen Graham, Sedgwick County Zoo, and Rick Hudson, Fort Worth Zoo.

Lounging Lizard Wear - Nike designs vests for iguanas to test at the Sedgwick County Zoo (Wichita Eagle Newspaper, September 10, 1999)

By Jenny Upchurch

Nike is putting its trademark swoosh on the rarest lizards in the world. And the first reptile down the runway Thursday was at the Sedgwick County Zoo.

How did Nike get into lizard ready-to-wear? The zoo's reptiles curator, Karen Graham, wrote a letter asking the company to, just do it, please. And she volunteered her three iguanas, among only 23 at six U.S. zoos, to test vests designed to hold radio tracking devices. Fewer than 100 Jamaican iguanas remain in a 38-square mile area on the Caribbean island. To help boost their numbers, baby iguanas are collected as they hatch and raised at the zoo in Jamaica. Once they're too big for rats or mongooses to eat, the iguanas are released. Researchers track them with battery-operated radio transmitters. But the rocky, thorny underbrush in the appropriately named Hellshire Hills was, well, hell on anything holding the transmitters.

"Our homemade vests didn't hold up," said Graham, who has been to Jamaica twice to help study and release iguanas. "Other vests were stronger but didn't fit the iguanas well." She thought Nike's All Conditions Gear, its outdoor/hiking products line, could design a vest tough enough to outlast the 18-month batteries on the transmitters.

Damon Clegg, a designer at Nike's Oregon headquarters, says the vests were more of a footwear challenge than a clothing one. "These little creatures are low to the ground, and there's lots of abrasion," he said Thursday.

Fabric needed to be durable but breathable, so the cold-blooded reptiles could gain and lose heat; and it needed to stretch since the iguanas can grow to 6 feet in length. The final version has a stretchable, breathable mesh upper and a polyurethane coated leather belly portion. And it has Nike's All Conditions Gear logo.

"We probably went through six rounds of prototypes," Clegg said. "Karen calls this the Armani version because it's got real nice piping around the armholes."



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Editors:
Allison Alberts
Tandora Grant

Fourteen vests arrived this week at the zoo in west Wichita. The zoo's three iguanas, who won't be released, will wear them constantly so Graham can test the vest's fit and durability. But if you go to the zoo, don't expect to see Edith, Ida, and the unnamed male strutting their stuff. The life of a fashion-conscious iguana is stressful enough. To encourage the lizards to breed, zookeepers don't stress the lizards by putting them on view. If the vests pass the tests, Nike will produce about 100 for the Jamaican release program at no charge.



No, it's not a product Nike thinks could have commercial applications, Clegg said with a chuckle.

"We have some knowledge and ability, and I thought that it would be nice to pass along. It's been a real fun project," he said.

To learn more:

The Jamaican iguanas are not on display at the Sedgwick County Zoo. The zoo created a Web site about them, and 18 other West Indian iguanas, at: <http://www.scz.org/iguana/meet.html>

To see an iguana wearing an earlier vest in the wild, access: <http://www.scz.org/iguana/images/release2.jpg>



Nike's team iguana takes 'Just do it' seriously (Houston Chronicle, September 22, 1999)

By Andy Dworkin

Shifting from track to tracking, Nike has released its latest specialty apparel – tiny vests custom-made for the endangered Jamaican iguanas. Nike has built 15 of the rugged garments, complete with a tiny white swoosh, to hold radio transmitters that let scientists keep tabs on the 100 or fewer lizards living in the wild. A couple dozen live in zoos. The unusual project was hatched at the Sedgwick County Zoo near Wichita, Kan., where herpetologists are working to save the rare iguanas. The zoo keepers' own attempts

at fashion design fell apart amid the belly-scraping rigors of lizard life.

"A lizard is so low to the ground, it's really more like developing footwear, with an abrasion-resistant underbelly," Nike spokeswoman Dawn Leonetti said.

So in 1998, reptile curator Karen Graham called Nike's All Conditions Gear unit in Beaverton, Ore., which makes rugged outdoor wear.

"Honestly, I thought that it was an interesting design challenge," said Damon Clegg, the Nike designer who headed team iguana. "Anybody that got involved with it loved it."

A summer intern, Chiwel Lee, drew the initial sketches, which other designers massaged. After months of work, the first vests were sent to Wichita for field testing. Zoo keepers suggested a few changes, such as toning down the bright yellow and white materials used in the prototypes.

"If we use bright colors on them, it turns them into fodder for bigger animals," Clegg said. "They'd attract things with big teeth."

After about six redesigns, Nike produced the current vest, a demure gray-blue jacket. Although the garment looks simple, "it's actually quite a technical piece," Leonetti said. The vest must grow with the lizards, so it is made to stretch. Nike used its Dri-FIT fabric, which channels moisture from the skin for fast evaporation because trapping heat next to the skin could hurt the cold-blooded animals.

"It's similar to what athletes need to keep cool

in the sun,” Clegg said.

The company is donating the 15 vests. One of the Sedgwick County Zoo’s three iguanas is currently test-wearing a vest. The other garments will be tested in Jamaica. If they work well, Leonetti said, Nike will make 50 more.

Iguanas aren’t the first creatures with scientific clothing accessories, however. For the past year, some horned lizards in south Texas have been wearing tiny backpacks designed to carry small radio transmitters. The program is part of a conservation effort sponsored by the Texas Department of Parks and Wildlife. Although only four are part of the current study, up to 20 horned lizards were outfitted with the backpacks over the summer.



The following press release comes from Peter Murtha, United States Attorney, U.S. Department of Justice. Certificates of appreciation were sent to Special Agent Chip Bepler and Attorneys Peter Murtha and Thomas Watts-Fitzgerald on behalf of the WIISG regarding this matter.

Two South Florida Men Found Guilty Of Illegally Trafficking In West Indies Tortoises And Rare And Endangered Lizards (May 20, 1999 News Release)

Thomas E. Scott, United States Attorney for the Southern District of Florida and Lois J. Schiffer, Assistant Attorney General for the Environment and Natural Resources Division of the U.S. Department of Justice announced that a federal jury sitting in Fort Lauderdale returned guilty verdicts today after a three week trial against two south Florida residents, Dwayne D. Cunningham, 41, and Robert A. Lawracy, 32, for illegally trafficking in West Indian reptiles protected under domestic and international law in violation of the Lacey Act (the federal anti-wildlife trafficking statute) and the federal smuggling and conspiracy statutes. Cunningham and Lawracy were found guilty of conspiring with one another to violate the Lacey Act, the federal smuggling statute and the international treaty known as “CITES”, the Convention on International Trade in Endangered Species of Fauna and Flora, which is enforced through the Endangered Species Act. Additionally, Cunningham was found guilty of a Lacey Act violation and Lawracy was found guilty of importing wildlife contrary to law. Each of these charges are felonies punishable by up to 5 years in jail and up to a \$250,000 fine.

According to the Indictment, from 1992 through 1997 the defendants poached and then trafficked in CITES-protected reptile species that

originated on various West Indies islands. Several species and sub-species of *Cyclura* (commonly known as Rock or Ground Iguanas), including the White’s Cay Rock Iguana and the Exuma Island Rock Iguana, both of which exist only in the Bahamas Islands, and the Anegada (British Virgin Islands) Island Rock Iguana, as well as Lesser Antillean Iguanas and Red-footed Tortoises, were alleged to have been smuggled into the United States aboard cruise ships touring the West Indies that employed Cunningham as a comedian and Lawracy as a dive instructor. The aforementioned species and sub-species of *Cyclura* are currently threatened with extinction, with wild populations numbering in the low hundreds for the White’s Cay and Anegada Rock Iguanas, and are listed on Appendix I of CITES, the highest level of protection available under the treaty. The Rock Iguanas and Lesser Antillean Iguanas were often marketed for \$1,000 and more apiece.

The Indictment further alleged that in an effort to conceal the smuggling of Exuma Island Rock Iguanas, Cunningham procured from the U.S. Fish & Wildlife Service (“USFWS”) a permit for the “captive breeding” of species listed under the Endangered Species Act to create the impression that their sale of these reptiles stemmed from a viable domestic breeding program rather than smuggling of wild-caught animals.

Mr. Scott commended the Special Agents of the United States Fish and Wildlife Service for their work on the case.

The United States is represented in this matter by Thomas Watts-Fitzgerald, Chief of the Environmental Crimes Unit at the U. S. Attorney’s Office in Miami and Peter Murtha, Senior Trial Attorney, United States Department of Justice, Wildlife & Marine Resources Section.



Update On Action Plan Publication ✨ The page layout for West Indian Iguanas: Status Survey and Conservation Action Plan is in its final stages and will be published before the end of the year. The document, a collaborative effort of 27 individual contributors, is 117 pages in length and contains numerous maps and photographs. We are very grateful to Fauna and Flora International and Gina Guarnieri for taking on the layout task, and appreciate all the hard work that has gone into making the action plan possible. When it becomes available, WIISG members will each receive one complimentary copy. Additional copies can be purchased through the IUCN Publications Unit.

Digital Photo Archive ✨ The Chicago Zoological Society Chicago Board of Trade Endangered Species Fund has recently announced its support of the West Indian Iguana Specialist Group project to create a digital photo archive. The grant award is for \$1500. Tom Wiewandt of Wild Horizons, Inc. (Tucson, AZ) will be coordinating this project. The Specialist Group will be responsible for producing a report on project status by June of next year. Contact Tom Wiewandt (wildhorizons@worldnet.att.net) for instructions on contributing photographs.



WIISG Group structure ✨ In June of this year, several WIISG members participated in an IUCN workshop in Washington D.C. designed to address the structure and future direction of the SSC's reptile and amphibian network. WIISG participants included Allison Alberts, Sandy Buckner, Richard Gibson, and Jose Ottenwalder. Draft recommendations from the workshop were as follows:

Programmatic:

1. In order to address that main threats facing reptiles and amphibians today, the SSC Steering Committee and Executive Committee should endorse the workplan prepared at this workshop and provide all possible support to these activities.
2. The SSC should officially recognize the significance of trade on reptile and amphibian populations.
3. Actively encourage the Red Listing process for those groups not yet adequately addressed.

Network Structure and Support:

1. In order to tackle the immediate problems of getting information from the herp community to complete tasks such as the Red List 2000 and broadening of the SSC herp network, SSC should establish a Herp Conservation Task Force (HCTF).
2. With growing recognition of the urgency of herp conservation issues, we recommend that SSC adopt a more formal structure for its herp network as proposed in this report. Without this support, successful and timely implementation of the workplan will not occur.
3. SSC should accept Conservation International's offer of a Programme Officer for the amphibian and Tortoise and Freshwater Turtle Specialist Group, with gratitude.
4. The SSC Chair should appoint a Chair for the new Amphibian Specialist Group as soon as possible.
5. The SSC should encourage the West Indian Iguana Specialist Group to expand its mandate to the Iguana Specialist Group.
6. The SSC should support the formation of a South-east Asian Reptile and Amphibian Specialist Group.

Taxon Reports

Andros Island Iguana (*Cyclura cyclura cyclura*)

Here I provide a quick update about the Shedd Aquarium's recent Andros Island research expedition aboard our vessel, Coral Reef II. This iguana research program involved using members of the general public to assist with data collection and was a great success.

We spent six days (June 24-29) attempting to partially survey Middle and portions of South Bight. We hired a local guide/hunter the first day and he took us to three locations in Middle Bight. The trip started off promising with an initial quick capture but our fortunes then turned and we only captured one additional animal over the ensuing two days. We surveyed six locations in Middle Bight and usually observed scattered tracks but no significant signs of iguanas. One of the locations included a cay where iguanas were historically collected in the 1960's. We spent two days on the island and only observed one iguana and some tail drags.

South Bight was more promising. We identified a cay where the iguanas appear to be living well and we captured 15 individuals from the island. We also captured iguanas from three additional cays in South Bight including a first-year hatchling.

A total of 23 iguanas were captured (13 females, 9 males, 1 juvenile). Mean weight and SVL for females were 2.08 kg \pm 1.33 kg and 36.18 cm \pm 9.71 cm, respectively. The largest captured female was 49.7 SVL and weighed 4.75 kg.

Mean weight and SVL for males were 3.56 kg \pm 2.11 kg and 42.14 cm \pm 9.51, respectively. The largest captured male was 50.0 SVL and weighed 6.45 kg. In addition, a total of 22 blood samples were collected.

The singular threat to the populations that we surveyed is hunting pressure. Virtually every local inhabitant has eaten iguana and they are still hunted on remote cays by the itinerant crab hunter.

I intend to continue with the Andros surveys and will provide a more detailed account at a later date.

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Jamaican Iguana (*Cyclura collei*)

Exotic Predator Control In The Hellshire Hills, Jamaica

In an effort to confer protection to the remnant population of the endangered Jamaican Iguana, we have been conducting a removal-trapping program aimed at reducing the density of the introduced Indian mongoose. The mongoose is a voracious predator of ground-dwelling reptiles, and is believed to be responsible for apparent low recruitment in the iguana population. Our predator removal plot is located in the very center of the Hellshire Hills, in the vicinity of the primary iguana concentration – including the only two known iguana nesting sites. A primary objective is to reduce mongoose predation on young iguanas, and thereby improve recruitment into the breeding population. We are also conducting an experimental study which seeks to determine whether mongoose removal is an efficacious strategy for preserving biodiversity more generally.

As elsewhere, the mongoose has proven to be easily trapped in the Hellshire Hills. We use standard wire mesh live traps baited with smoked red herring, and now have over 40 traps deployed along a loop trail within an area of roughly 1 square km. Trapped mongooses are sacrificed, weighed, and sexed, and then their digestive tracts are dissected for use in analyses of dietary preferences and parasite loads (see below).

Since our initial removal effort in May 1997, we have recorded over 12,000 trap days (1 trap day = 1 trap open for 1 day) and have removed over 150 mongooses. As evidenced by a reduction in capture rate (roughly an order of magnitude), we are confident that our removal plot is 100% free of resident mongooses. At present (August 1999), we are capturing an average of 1-2 mongooses per week, and assume that these captures represent two distinct categories of mobile individuals. We suspect that most captures represent dispersing animals; the observation that over 80% of trapped mongooses are males is consistent with the interpretation that the trapped sample consists primarily of immigrants. A second, smaller group likely consists of individuals whose home ranges lie outside the removal plot, but whose occasional long-distance forays result in contacting our trap line. Since male mongooses are known to have larger home ranges and greater overall movement distances, this suggestion is also consistent with the observed male bias in our captured sample.

It also appears that mongooses are trapped quickly after entering the removal plot. Only once have free-ranging mongooses been observed in the removal plot since trapping was begun in 1997; in this

instance two juveniles were noted at the northern end of the no-mongoose zone, near a trap from which their mother had been recently removed. Both juveniles were trapped and removed within 24 hours. On the other hand, observations of free-ranging mongooses have remained common in the control area. Overall then, removal trapping of the mongoose appears to be a viable conservation strategy – at least within small conservation zones. However, the maintenance of even a small mongoose-free zone requires a tremendous field effort; and because the Hellshire Hills constitute a mainland (i.e., large island) habitat, a successful predator removal campaign must necessarily be a continuous one.

A major component to this trapping program concerns documenting potential responses of mongoose prey species to the removal of this non-native predator. Although our primary focus is on the terrestrial reptile community, we have also enumerated the relative abundance of most large arthropod taxa.

Before initiation of mongoose trapping in May of 1997, we established three pitfall trap grids (each containing 16 20-litre bucket traps + drift fencing), and generated baseline measures of abundance for the



Byron Wilson checking traps

terrestrial fauna over a 50-day trapping period (February to April). Two of these plots are located in the mongoose-free zone; a third plot (north of the mongoose trapping area) is serving as an experimental control, against which to compare changes in faunal abundance noted on the two mongoose removal plots. We repeated our original (1997) pitfall trapping sequence in both 1998 and 1999. In fall of 1998 we established a second control plot (also with 16 pitfall traps), and began conducting 30-day wet season assessments during the month of October. Hence, we now have a total of four pitfall trapping grids which are opened during two discrete seasons of each year.


Although it is still early in the experiment, we have witnessed some encouraging trends. In particular, the relative abundance of the Jamaican skink has increased at both of our mongoose removal plots, while abundance has remained essentially unchanged at the control plot. Projections for the dry season assessment in the year 2000 suggest that we will document a statistically significant, positive influence of mongoose removal on the abundance of the skink. And while we have yet to capture a juvenile iguana in a pitfall trap, informal observations suggest that small iguanas may be benefiting from our predator removal regimen; no sightings of juvenile iguanas were recorded in either 1997 or 1998, whereas we recorded four such observations during the first half of 1999. In addition, a juvenile iguana (SVL=197mm) was captured in a mongoose trap in June of 1999 – the first ever capture of an individual in this size class.

An important component of this study is the analysis of mongoose diet. This research is being headed by Mr. Delano Lewis, and will constitute part of his Masters thesis for the Department of Life Sciences at UWI, Mona. Mr. Lewis has so far examined the contents of nearly 150 stomachs, and the preliminary results are quite interesting. Lizards clearly seem to make up the bulk of the mongoose's diet in the Hellshire Hills. *Anolis* lizards appear to be the most common prey species, with up to nine individual *Anolis* having been noted in a single mongoose stomach. Perhaps more interestingly, the remains of several rare species of ground lizard have also been noted; including at least four specimens of the recently re-discovered blue-tailed galliwasp (*Celestus duquesneyi*).

We are also involved in a study seeking to elucidate host-parasite interactions in the mongoose. Two parasitologists in the Life Sciences Dept. (UWI), Dr. Ralph Robinson and his graduate student Miss. Lisa Daley, are currently examining mongoose intestinal tracts to characterize the parasite loads carried by mongooses in the Hellshire Hills. To date, over 80

intestines have been examined, and roughly eight parasite species have been tentatively identified. In the near future we will be collecting material from a disturbed habitat, as a primary aim of the research is to compare parasite loads in "undisturbed" (= interior Hellshire Hills) versus human-disturbed habitats.

We are grateful to the University of the West Indies and Rick Hudson of the Fort Worth Zoo, TX for generous financial support of our mongoose work.

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Goat Islands, Jamaica Update

On 7 June 1999 a team of biologists visited the Goat Islands off the SE coast of Jamaica to make a preliminary assessment of the island's potential to support Jamaican iguanas, *Cyclura collei*, again. Formerly part of the iguana's historic range, this species disappeared from these islands in the 1940s and were declared extinct. Great Goat Island is an uninhabited 1 km² limestone cay roughly 1 km offshore from the Hellshire Hills. It is a dry limestone forest that supports a remnant population of the Jamaican iguana that was rediscovered in 1990. This report summarizes our observations and discusses the potential and measures necessary for restoring Great Goat Island as a protected iguana sanctuary.

The team consisted of three members of the IUCN/SSC West Indian Iguana Specialist Group (WIISG) including Glenn Gerber, Byron Wilson, and myself accompanied by Edwin Duffus. A local fisherman transported us to the island from Port Henderson. Having heard of the large feral goat population on this island, we were expecting to find a somewhat barren landscape denuded and badly damaged by goats. We were all pleasantly surprised to find the island's vegetation in much better condition than anticipated. Though the under story is heavily impacted, many of the iguana food plants found in the Hellshire Hills are present in sufficient numbers to support iguanas. The under story is presently dominated by an aromatic shrub (*Croton* sp.) which is disproportionately abundant, indicative of an overgrazed ecosystem. However it was the consensus of the group that if the goat population were eliminated then the vegetation should regenerate in time. As is, the vegetation would likely support a small population of

iguanas. Furthermore, the number of potential nesting sites is remarkable, and unlike the Hellshire Hills which has few suitable nesting areas, Goat Island has abundant soil filled depressions.

The island has a substantial number of feral goats which are “subsidized” by the provision of fresh water from locals on the mainland. Ownership of the goats in question, and this issue would have to be resolved before removal or eradication efforts could be initiated. Once ownership is assigned, then a system of financial restitution could possibly be implemented, though Mr. Duffus firmly disagrees with this idea. He believes the goats are there illegally and that the violators should not be rewarded for breaking the law. Fortunately no one seems to depend on the goats for their livelihood, and they are maintained here for the purposes of periodic harvesting when someone wants goat meat.

Removal of the goats could proceed in one of several ways: (1) the goats could be shot and turned over to a local meat packing plant that processes goat meat; (2) they could be removed by their “owners”; (3) a small bounty could be placed on goats and a roundup organized among local hunters. Regardless of which method is employed to remove the goats, it should be done in a manner that is non-confrontational such that the local goat owners do not become hostile and vindictive. The long-term success of the Goat Island restoration project will likely depend on the good will and support of the local people.

Great Goat Island also supports Indian mongoose which would require eradication. This could be accomplished through the application of poison bait which would be quicker and easier than trapping. However, a thorough search of the island for any remaining iguanas should be done prior to any poisoning efforts.

The Goat Islands, along with a significant portion of southeastern coastal Jamaica known as the Portland Bight (includes the Hellshire Hills, Portland Ridge, Braziletto Mountain, and encompasses all the marine area out to the 200 meter depth contour) are now officially protected under a management agreement with a local NGO, the Caribbean Coastal Area Management (CCAM) Foundation (Peter Espeut, Director). The Portland Bight Protected Area is large with a total area of 724 sq. miles (1876 km²) making it Jamaica’s largest protected area so far. Under that group’s management plan, which has been accepted by the government, the Goat Islands are slated for tourism purposes including a field station and boats. The plan



Edwin Duffus and Byron Wilson

also includes restoring the iguana population to the island. Thus the timing appears to be right to begin dialog with the Natural Resources Conservation Authority (NRCA) and CCAM to propose the restoration of Goat Island as an iguana sanctuary.


This small island, due to its close proximity to the mainland, offers enormous potential as a tourist destination. The terrain and environment are not overly challenging, and once restored, tourists would have a reasonable expectation of seeing iguanas. Visitors could come here on a day trip through a local tourist charter/fishing boat, search for iguanas with the aid of an interpretive guide, and enjoy a fresh fish lunch cooked on the beach. An iguana enclosure could be erected which would serve the dual purpose of hardening headstarted iguanas prior to their release while providing visitors a guaranteed opportunity of

seeing iguanas. Interpretive graphic panels at this facility would describe the natural history of the Jamaican iguana, and tell the story of its rediscovery and the efforts being made to save it from extinction.

In order for the above scenario to be realized, several things will be necessary. First, a full-time warden will need to be hired which will necessitate the construction of a modest field station with living quarters; a boat will also be necessary for transportation to the mainland and patrolling the island. Ideally a project manager who is already knowledgeable about the ongoing iguana recovery program will be selected, and I submit that WIISG member Byron Wilson, PhD is an excellent candidate for such a position. His specialty is predator control, and he is in his second year as a Research Associate with the Life Sciences Department at the University of the West Indies in Kingston. Byron is presently working full-time in the Hellshire Hills, systematically trapping mongoose while measuring the effects of this program on terrestrial species composition and relative abundance. A Jamaican should also be employed as an assistant, to keep the project tied to the local community.

Foremost, some form of "social intervention" will need to be initiated to gauge the feelings and reactions of the local population to the proposed plans. Due to social tension and widespread unrest among Jamaica's poor, the handling of this issue will be critical to the success of the Goat Island project. CCAM Director Peter Espeut is a sociologist and hopefully adept at negotiating these situations. If the situation is handled poorly, then long-term security measures for the project's personnel and property will need to be factored into the equation.

The group also visited Little Goat Island which is very close to Great Goat Island, being "joined" by an impenetrable morass of mangrove swamp such that a boat patrolling the islands would have to circle both islands at once rather than traveling between them. Little Goat differs significantly in that it is flat, primarily sandy in composition, and heavily impacted by man and animals. We saw charcoal burners at work and numerous goats are present. On old landing strip and bunkers remain from a 1940s U.S. military installation. In short, the island is probably not worth any serious restoration efforts.


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St. Lucia Iguana (*Iguana iguana*)

What little is known about iguanas on St. Lucia suggests that they are facing a conservation crisis. Their closest relative is the green iguana (*Iguana iguana*) which is found on several Caribbean islands, and in Central and South America. The St. Lucian animals are quite distinct morphologically and recent genetic work confirms that these animals are historically and currently isolated from mainland *I. iguana*. Although never considered common, these animals are rarely seen in the wild, even in the core of their suggested range. Extensive wildlife studies in these areas have failed to find evidence of iguanas. Animals have been reported occasionally to the Forestry Division of the Ministry of Agriculture in St. Lucia and as a result there are now four individuals in captivity at the mini-zoo in Union, St. Lucia. Although these animals are well cared for and they occasionally lay eggs, their current enclosures do not include habitat that is conducive to successful breeding. The WIISG has agreed to aid the St. Lucia Forestry Department in developing a conservation program for iguanas on St. Lucia. Together, we have submitted a grant proposal to the Lincoln Park Zoo Scott Neotropic Fund which has three primary objectives:

- to improve the captive facilities to allow successful breeding
- to survey key sites for the presence of wild iguanas
- to assess potential release sites for animals produced by the captive breeding effort

Secondary objectives include training St. Lucian biologists in iguana captive breeding and husbandry, survey methodology, and habitat evaluation, and education of the few people responsible for continued hunting of gravid females in the wild.

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Bartsch's Iguana (*Cyclura carinata bartschi*)

Shortly after the White Oak Plantation meeting of WIISG in October 1998, another visit to Booby Cay, Mayaguana was made by John Bendon and Joe Wasilewski, President of the International Iguana Society. This was to further assess the status of the Booby Cay iguana. The following is a brief summary of our findings. A full account of the trip can be found in Iguana Times Vol. 7, #3.

Two days were spent on the cay, which is difficult to reach, owing to the coral reef surrounding it, the weather, and the moods and availability of the fishermen who take us there.

Nine medium to adult iguanas were captured and measured, eight fitted with PIT tags and blood sampled, and all nine released again exactly where they were caught. A few hatchlings and yearlings were observed and two hatchlings were caught for observation only, being extremely easy to snatch from rocks owing to their naivete. Although, all captured animals were in a healthy condition, some broken tails were seen, and one animal with a bulging eye was tagged. The heaviest lizard caught was a male at 1.8 kg, but the largest one was a male of SVL 37.55 cm, TL 37.45 cm. In most animals, the body and the tail were of almost equal length.

The much discussed goats, which we were told had been removed, were still present, slowly munching their way through the cay. At least thirteen were counted. Eric Carey of the Ministry of Agriculture in Nassau was contacted, and a letter was sent by the IIS to the head of the department expressing dismay. This matter is now in the hands of the Ministry and the IIS will follow their directive.

Rat droppings were numerous and two rats were spotted during daylight hours, suggesting that many more are present. Also, 17 *Casuarina* (Australian pine) trees were counted. An English language sign was erected, paid for by IIS, asking visitors to be careful of stepping on burrows and not to leave trash. The eight blood samples were sent to Mrs. Sandra Buckner to await CITES papers for import into the Untied States. The papers have now arrived and the blood will be sent forthwith for analysis.

Upon returning to England in May 1999, I contacted Mark Day of Fauna & Flora International and arranged a meeting to discuss the problem of the rats. As a result of that meeting, the "Booby Cay Project" was

launched. Mark Day is currently conducting a risk assessment for the elimination of the Booby Cay rat population, using maps, photographs, and reports from my three visits to the island. He thinks the program is feasible and will gather more information from me after the fourth visit in late October 1999, and hopes that on the fifth visit, probably March 2000, the program can be commenced, taking up to six weeks to complete. FFI and IIS, with the cooperation of WIISG, will hopefully all be involved in this important project, as it is still not known just how many of these iguanas remain. Booby Cay is their only known location.

The October 1999 visit has several goals: to destroy the Australian pine trees; to capture more iguanas for tagging and blood samples; to cross the 400 yard gap between Booby Cay and the mainland to see if there are any iguanas there; to make a new map (completed each visit); to pick up the numerous light bulbs and fluorescent tubes that litter the cay, estimated at about 1500; and to count the iguanas. Four people will be going: Glenn Gerber of the University of Tennessee, who will assess the population, Steve Connors of Miami Metro Zoo, Joe Wasilewski and John Bendon, both from IIS. We will assess any other wildlife resident on the cay. Following this trip, a further report will be sent to WIISG.

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Illustration by John Bendon

Recent Literature

Bendon, J. 1998. It takes two to tango on Booby Cay. *Journal of the International Iguana Society (Iguana Times)* 7(3):37-42.

Crother, B.I., editor. 1999. *Caribbean Amphibians and Reptiles*, Academic Press, San Diego, CA, 495pp.

Ehrig, R.W. 1998. Progress for *Cyclura rileyi cristata*. *Journal of the International Iguana Society (Iguana Times)* 7(2):27-28.

Glor, R.E., R. Powell, and J.S. Parmerlee, Jr. 1998. *Cyclura ricordii*. *Catalogue of American Amphibians and Reptiles* (657):1-3.

Knapp, C. 1998. Morphologic characters of herbivorous lizards. *Journal of the International Iguana Society (Iguana Times)* 7(1):11-17.

Knapp, C. 1998. Vanishing iguanas. *Journal of the International Iguana Society (Iguana Times)* 7(3):27-30.

Martins, E.P. 1998. Estimating ancestral states of a communicative display: a comparative study of *Cyclura* rock iguanas. *Animal Behavior* 55:1685-1706.

Mitchell, N.C. 1999. Effect of introduced ungulates on density, dietary preferences, home range, and physical condition of the iguana (*Cyclura pinguis*) on Anegada. *Herpetologica* 55(1):7-17.

Powell, R. 1999. Herpetology of Navassa Island, West Indies. *Caribbean Journal of Science* 35(1-2):1-13.

Powell, R., J.A. Ottenwalder, and S.J. Inchustegui. 1999. The Hispaniolan herpetofauna: diversity, endemism, and historical perspectives, with comments on Navassa Island. In: *Caribbean Amphibians and Reptiles*, edited by B.I. Crother, Academic Press, San Diego, CA, p.93-168.

Wasilewski, J. 1998. Booby Cay update. *Journal of the International Iguana Society (Iguana Times)* 7(2):29-30.

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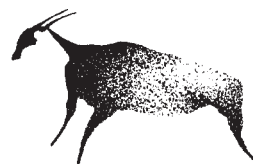
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