WIISG Contact Information

Sandra Buckner, Co-Chair
Bahamas National Trust
Email: sbuckner@bahamas.net.bs

Allison Alberts, Co-Chair
Zoological Society of San Diego
Email: aalberts@sandiegozoo.org

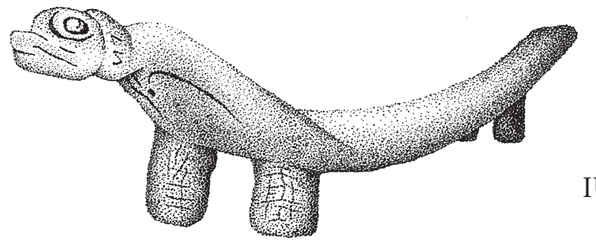
Jose Ottenwalder, Deputy Chair
UNDP-GEF Biodiversity Project,
Dominican Republic
Email: biodiversidad@codetel.net.do

Richard Hudson, Deputy Chair
Fort Worth Zoo
Email: iguanhudso@aol.com

IUCN
The World Conservation Union

SPECIES SURVIVAL COMMISSION

West Indian Iguana Specialist Group



Newsletter

IUCN - The World Conservation Union
Species Survival Commission

Volume 1, Number 1, Fall 1998

In This Issue

West Indian iguanas form a unique group of species inhabiting tropical dry forests throughout the Bahamas and the Greater and Lesser Antilles. They are among the most endangered of the world's lizards, primarily because much of their fragile island habitat has been eliminated by human development or severely degraded by invasive species. Because they are likely to be important seed dispersers for many endemic plants, the loss of West Indian iguanas has serious consequences for the ecosystems in which they live. Through partnerships with government agencies, conservation organizations, and research institutions, the IUCN/SSC West Indian Iguana Specialist Group (WIISG) seeks to help design and implement immediate and effective conservation measures on behalf of this unique group of lizards.

This is the first issue of the biannual newsletter of the WIISG. The purpose of the newsletter is to update group members and other interested parties on current and planned activities of the group, as well as to provide a forum for discussion of issues relevant to the conservation of West Indian iguanas. The future success of the newsletter will depend on timely contributions from group members and others. Whenever you have items of interest, please submit them to: Tandora Grant, Center for Reproduction of Endangered Species, Zoological Society of San Diego, P.O. Box 120551, San Diego, CA 92112 USA.

SAN DIEGO ZOO · SAN DIEGO WILD ANIMAL PARK

WIISG Newsletter
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C·R·E·S
Center for Reproduction of Endangered Species

Editor:
Allison Alberts
Associate Editor:
Tandora Grant

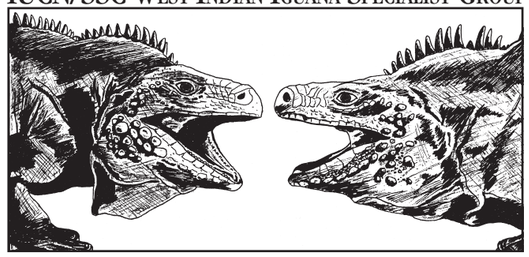
Group Activities

WIISG Logo ❋ Working from photographs supplied by the Department of Archives, Bahamas National Museum Collection, Tandora Grant (San Diego Zoo) has designed a logo for the WIISG. The logo is based on a ceremonial stool called a duho on which Lucayan leaders or caiciques would be seated when performing official functions. The mahogany-carved duho on which the logo is based was discovered in a cave on Long Island in the Bahamas and is believed to represent a very early artistic example of a West Indian iguana. Two other duhos were also found in the cave, one of which depicts a turtle. All are part of the permanent collection of the Bahamas National Museum.

Action Plan Update ❋ Publication of the WIISG *Status Survey and Conservation Action Plan for West Indian Iguanas* is now underway. The draft document, 157 pages in length, has been reviewed for content by the SSC Chair's office and for format by the IUCN Headquarters in Gland, Switzerland. Currently, page layout is being carried out by the Publications Unit of Fauna & Flora International. Through generous donations from the Fort Worth Zoo, the Denver Zoological Foundation, the Milwaukee Country Zoo, the Sedgwick County Zoological Society, and the Saint Louis Zoological Park, a total of $6,800 has been raised to cover publication costs.

Fund Raising ❋ Jeff Lemm (San Diego Zoo) has designed an attractive T-shirt to help raise funds for WIISG activities. Printing of the shirts was the generous donation of Allen Repashy at Southswell ScreenArts. It features a 4-color drawing of two adult male Cuban iguanas in a face-off position on both the front and back of the shirt, with the captions "IUCN SSC West Indian Iguana Specialist Group" and "Working to Save the World's Most Endangered Lizards" (see below). The shirt is ash-gray in color and available sizes include: Youth M and Adult S, M, L, XL, and XXL. The cost is $14 per shirt, ($10 for youth size) of which $11 goes to the WIISG. To place an order, please send checks made out to the FORT WORTH ZOO to Jeff Lemm, San Diego Zoo, P.O. Box 120551, San Diego, CA 92112. To date, over $1,600 has been raised through sales of the shirt. Sales of the West Indian iguana educational poster produced in Forth Worth two years ago also continue to be strong and were used to fund travel expenses for WIISG work on Anegada this year. Posters have now been distributed in several key range countries, including Anguilla, the Bahamas, the British Virgin Islands, the Cayman Islands, the Dominican Republic, Jamaica, Puerto Rico, and the Turks and Caicos Islands.

IUCN/SSC West Indian Iguana Specialist Group



Working to Save the World's Most Endangered Lizards

IUCN/SSC Wildlife Trade Programme ❋ At the request of the IUCN/SSC Wildlife Trade Programme, Rick Hudson (Fort Worth Zoo) has agreed to serve as the WIISG representative for trade issues within the group. The major focus of this program is to identify species threatened by trade and to recommend actions to address such threats. Primary objectives of the program include:

- To identify situations where trade in wild species appears unsustainable or detrimentally affects the status of non target species
- To focus on gaps in knowledge of the biology and status of species in trade
- To develop and promote those actions and/or mechanisms necessary to ensure the conservation of species detrimentally affected by trade
- To ensure that the SSC's expertise is used to influence the decisions of CITES and other relevant agreements
- To provide scientific support and capacity building to the Parties to CITES (and other relevant international agreements) in implementing conventions at national and regional levels
- To increase understanding about CITES and other relevant agreements within the SSC network

New Publication Available ❋ The 1997 IUCN Red List of Threatened Plants, representing 20 years of cumulative work and contributions of data and services from thousands of SSC and other experts and nine major institutional partners, is now available for sale through:

IUCN Publications Services Unit
219c Huntingdon Road
Cambridge CB3 ODL
United Kingdom
tel: 011-44-1223-277894
fax: 011-44-1223-277175
email: iucn-psu@wcmc.org.uk.

The cost of the book, which is 862 pages long, is £30, US$45. IUCN/SSC members will receive a 33% discount. This price does not include shipping and handling.

Recent Literature

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Allen's Cay iguana ***(Cyclura cychlura inornata)***

For his thesis research, Chuck Knapp (University of Florida) will be studying an introduced population of Allen's Cay iguanas translocated by John Iverson (Earlham College) and Peggy Hall in 1988 and 1990. He will be investigating the characteristics of the population as it increases, focusing on population dynamics, spatial partitioning, home range, and paternity lines. He is particularly interested in using microsatellite DNA to construct a family tree of the population to determine the characteristics of successful breeders. A trip to the Exumas in March of 1998 was very successful, yielding blood samples from 29 iguanas, including four of the original founders. The population appears healthy at between 50 and 60 iguanas. The work is being sponsored by the Shedd Aquarium.

Lesser Antillean iguana ***(Iguana delicatissima)***

With support from the UK Foreign & Commonwealth Office, Glenn Gerber and Karim Hodge (Anguilla National Trust) conducted a conservation assessment of Lesser Antillean iguanas on Anguilla in Fall, 1997, managed by the Anguilla National Trust and Fauna & Flora International. Although relatively few animals were located, valuable data were obtained on distribution and abundance, habitat suitability, abundance and sex ratio, thermoregulatory behavior, feeding ecology, potential nest sites, and current threats, including the recent colonization of Anguilla by common iguanas. In addition, blood samples were collected for genetic analyses. Beginning in October, 1998, Steve Reichling (Memphis Zoo), Brian Leysner (CARMABI Ecological Institute, Curaçao), and Mark Day will conduct a conservation assessment of this species on St. Eustatius. A study of current distribution will be followed by a population estimate using a combination of mark-recapture and distance sampling techniques. An assessment will also be made of the value to iguana conservation of two newly designated national parks.

Richard Gibson (Jersey Wildlife Preservation Trust) successfully hatched the first captive-bred Lesser Antillean iguana last year and both offspring and parents are continuing to do well. Other institutions housing this species include the Memphis Zoo and the San Diego Zoo's Center for Reproduction of Endangered Species. A WIISG-based working group, consisting of Mark Day, Michel Breuil (Paris Museum of Natural History), Glenn Gerber, Karim Hodge, Steve Reichling, Brian Leysner, Richard Gibson and Quentin Bloxam (Jersey Wildlife Preservation Trust), and Allison Alberts has been established to address the implementation of conservation recommendations for this species.

Common iguana ***(Iguana iguana)***

Since 1996, James Gilardi (Wildlife Preservation Trust International) has been working in collaboration with the Forestry Department on St. Lucia in dry forest areas of the island where common iguanas once occurred. However, extensive fieldwork in these areas has not resulted in detection of any animals, suggesting that iguana populations there are now extinct or extremely rare. Potential causes of the decline include hunting for food, egg predation by rats, pigs, and dogs, and predation on juveniles by cat and mongooses. There is a small population of 3.4 animals in captivity in the zoo in Union, St. Lucia. These animals have previously laid eggs, but they have not been incubated due to lack of a proper facility to care for eggs and young and local expertise to design a captive breeding program. Genetic analyses carried out by Scott Davis indicate that five of the St. Lucia captives are genetically identical and distinct from mainland green iguanas, showing divergence levels of 2% (equivalent to subspecies or higher in *Cyclura).* Given their precarious status in the wild, St. Lucia iguanas are clearly in need of immediate conservation attention.

Cyclura pinguis hatchling

Web Page The WIISG web page, currently under development by Matthew Davis and Karen Graham (Sedgwick County Zoo), is nearing completion. The site is quite extensive and beautifully illustrated with maps and photographs throughout, and includes information on the basic biology of West Indian iguanas, their habitats, their conservation status, threats to their survival, and WIISG activities on their behalf. Links to several related sites are also provided. The address for the site is:
http://www.scz.org/iguana

CITES Permit Obtained On 18 February, 1998, the WIISG obtained a blanket CITES permit from the U.S. Fish & Wildlife Service which, in conjunction with individual export permits from CITES management authorities of exporting countries, will allow multiple importations of blood samples from both captive and wild individuals of all species of *Cyclura.* This permit will greatly facilitate genetic studies, as well as health screening of headstarted juveniles. The permit remains valid for one year, and can be renewed thereafter on a yearly basis. Thus far, the permit has been used by several investigators to facilitate importation of samples from the Turks & Caicos Islands (Emilia Martins, University of Oregon), Jamaica (Rick Hudson), the Bahamas (Chuck Knapp, University of Florida; Bill Hayes, Loma Linda University), Cuba (Allison Alberts, San Diego Zoo), the British Virgin Islands (Scott Davis, Texas A & M University), and the Dominican Republic (Bill Christie, Indianapolis Zoo). For more information, please contact Allison Alberts.

Meeting 1998 The 1998 WIISG meeting will be held in Yulee, Florida at White Oak Conservation Center on October 9-10. The agenda includes updates on various taxa, prioritization of conservation activities, funding strategies, and administrative issues concerning group organization, structure, communications, publicity, and coordination with other IUCN Specialist Groups. White Oak, founded by Mr. Howard Gilman, has a long history of concern and support for wildlife and environmental conservation programs. By hosting a variety of meetings over the years, the Center has worked to bring key people together to develop and further conservation initiatives. The WIISG is fortunate to have the opportunity to meet there and looks forward to a most enjoyable and productive meeting. Rick Hudson is coordinating arrangements for the meeting.

Taxon Reports

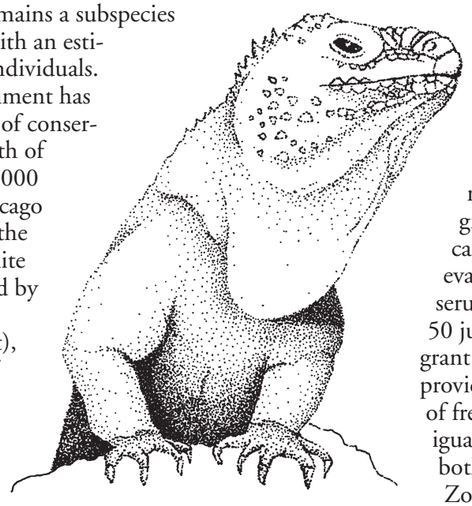
Turks and Caicos Iguana ***(Cyclura carinata carinata)***

Glenn Gerber (University of Tennessee) has been working closely with Coastal Systems International to help insure that proposed development plans for Big Ambergris Cay in the Turks and Caicos Islands will minimize negative impacts on the 18,000 iguanas currently inhabiting the island. Of the three cays which account for most of the land area on which iguana populations are still healthy, Big Ambergris is the largest and most important in terms of providing suitable habitat for this species. Development plans for Big Ambergris include a nature preserve, as well as provisions for monitoring the impact of development on the iguana population. Proposals are underway to relocate affected animals to other suitable cays in the area and to closely monitor their success following translocation. Letters have been sent on behalf of the WIISG to the Ministry of Natural Resources (Departments of Planning and Environmental and Coastal Resources) and the Turks and Caicos National Trust to offer assistance.

Cuban iguana ***(Cyclura nubila nubila)***

Because wild populations of Cuban iguanas remain relatively healthy, this species provides a useful model for developing conservation strategies that can be applied to more endangered taxa. Allison Alberts and her research group continue to monitor the growth and survival of two groups of juvenile Cuban iguanas reintroduced to the U.S. Naval Base at Guantanamo Bay, one of which received an 18-month headstart prior to release. Of the few iguanas that have been recaptured, all have adapted well in terms of growth, thermoregulation, predator avoidance, and social interactions. With a grant from the U. S. National Science Foundation, opportunities for base residents to participate in data collection and population surveys were provided. In addition, an educational video describing the basic biology of iguanas, their conservation status and requirements, and the goals, study methods, and results of the research program was produced.

White Cay iguana ***(Cyclura rileyi cristata)***



The White Cay iguana remains a subspecies of great concern to the WIISG, with an estimated population less than 200 individuals. Fortunately, the Bahamian government has now formally endorsed two types of conservation activities for this taxon, both of which are moving forward. A $3,000 grant to the WIISG from the Chicago Zoological Society has facilitated the eradication of black rats from White Cay. This project was coordinated by Mark Day, Bill Hayes, Sandra Buckner (Bahamas National Trust), and The Bahamas Department of Agriculture with rodenticide provided by Zeneca Agrochemicals. Two cays that appear very promising as potential sites for establishment of a second wild population have also been identified. Although they have yet to be surveyed on the ground, both look appropriate from the air and are government-owned. The WIISG will work with the IUCN/SSC Reintroduction Specialist Group to develop translocation plans.

Jamaican iguana ***(Cyclura collei)***

The headstarting program initiated at Kingston's Hope Zoo for the critically endangered Jamaican iguana continues to move forward under the direction of curator Nadin Thompson, with over 100 animals in captivity. As of June, 1998, 20 headstarted juvenile iguanas had been outfitted with radiotransmitters and released into the Hellshire Hills of Jamaica. At least 14 of the released iguanas, currently being monitored by Richard Nelson (Natural Resources Conservation Authority) and Edwin Duffus (Jamaican Iguana Research and Conservation Group), are known to have established home ranges and are feeding quite well. Byron Wilson and Peter Vogel (University of the West Indies) have developed an extensive mongoose trapping program for the area, which has also trapped several rats and cats. As a result of the extensive presence of conservation personnel in the field, core iguana habitat has remained free of charcoal burners, pig hunters, and stray dogs. The total captive population now stands at approximately 100 individuals with 22 in the U.S. and the remainder at the Hope Zoo. Captive reproduction has not yet occurred but is expected this year.

Funding has been obtained by Rick Hudson and Allison Alberts to develop health screening protocols for headstarted juvenile Jamaican and Anegada iguanas prior to release into the wild. A $2,000 grant from the Pittsburgh Zoological Society will facilitate parasite evaluation, hematologic studies, and serum biochemical analyses on up to 50 juveniles of both species. Another grant from the St. Louis Zoo will provide $6,700 for nutritional analysis of free-ranging and Hope Zoo captive iguana diets. Funding support for both the field project and the Hope Zoo headstart program continues to be solid, with 20 U.S. zoos now contributing resources. Major supporters include the American Zoo and Aquarium Association, Disney Foundation, and the Fort Worth, Central Florida, Indianapolis, San Diego, Sedgwick County, Toledo, and Tulsa Zoos.

Ricord's iguana ***(Cyclura ricordi)***

Bill Christie (Indianapolis Zoo) and Jose Ottenwalder (UNDP-GEF Biodiversity Project, Dominican Republic) are initiating fieldwork on critically endangered Ricord's iguanas in the Dominican Republic. This species has a very limited distribution, occurring only in southwestern Dominican Republic, where it is restricted to the arid Valle de Neiba and the most xeric portion of the Peninsula de Barahona coastal lowlands. A trip to that country in 1997 revealed high quality habitat on the mainland with dense *Opuntia* cactus that will unfortunately make population censusing difficult if not impossible there. However, Isla Cabritos is much more easily traversed, and the field team saw about 35 Ricord's iguanas and 12 rhinoceros iguanas *(C. cornuta cornuta)* there, some of which were sampled for future genetic analyses. Local interest in an iguana study appears strong, and censusing of Isla Cabritos is scheduled to begin in 1998.

Mona Island iguana ***(Cyclura cornuta stejnegeri)***

A major threat to the survival of the endangered Mona Island iguana is invasive species, particularly feral goats and pigs. Fencing of remote nest sites (two 20m x 15m plots) for iguanas on Mona Island is now underway, with the support of the Puerto Rico Department of Natural and Environmental Resources, the U.S. Fish and Wildlife Service Caribbean Office, the U.S. Coast Guard, the Sociedad Chelonia, and the Toledo Zoo. Funding in the amount of $7,500 is being sought to repair coastal fencing as well. Letters of thanks on behalf of the WIISG have been sent to project participants. In addition, Miguel Garcia (Puerto Rico Department of Natural and Environmental Resources) and Peter Tolson, Tim Reichard, and Tim French (Toledo Zoo), have begun to assess the nature of a troubling blindness syndrome seen in several adult iguanas on Mona Island. Nestor Perez (University of Puerto Rico) will be undertaking his thesis research on Mona Island. He is particularly interested in studying recruitment and survivorship of juvenile iguanas, and will be utilizing radiotelemetry in his work. In addition, he will be measuring overall population size, quantifying egg loss to pigs and rats, and determining the effect of exotic vegetation on incubation of iguana eggs. Finally, 33 blood samples from wild iguanas on Mona have been provided to Scott Davis for phylogenetic analysis.

Anegada iguana ***(Cyclura pinguis)***

The critically endangered Anegada iguana originally occurred in Puerto Rico, the U.S. Virgin Islands, and the British Virgin Islands, however, hunting, habitat loss, and invasive species have reduced this species to a single island, Anegada, with perhaps less than 200 individuals remaining. At the request of the British Virgin Islands National Parks Trust (BVINPT), the WIISG is assisting in the development of an integrated approach to ensure the recovery of this species. In October, 1997, Rondel Smith (BVINPT), Rick Hudson, and Jeff Lemm constructed a small headstarting facility on Anegada Island to house three iguana hatchlings. Though field time was extremely limited, several adult and sub-adult iguanas, as well as tail drags and scat samples, were observed in the Bones Bight area, and a possible nesting site on a small island in Manhead Pond was identified. Blood samples collected from a wild adult male at Bones Bight, another male in captivity, and the three juveniles in the headstarting facility have been delivered to Scott Davis for genetic analysis. Most local residents on Anegada are aware of the plight of the iguana, and perceive the large feral cat population as the causative factor. Joseph Smith Abbott (BVINPT) facilitated productive meetings with Louis Potter (Town and Country Planning Department/Office of the Chief Minister) and Sheila Brown (Ministry of Natural Resources and Labour). To ensure a long term partnership, the WIISG has signed a formal Memorandum of Understanding with BVINPT to work cooperatively on developing conservation strategies for Anegada iguanas. Building on this, Joseph Smith Abbott and Mark Day (Fauna & Flora International) have received a major grant in the amount of £28,750 from the Environment, Science, and Energy Department of the UK Foreign & Commonwealth Office to facilitate conservation activities on Anegada. The goals of this program are:

- To conduct population censusing and mapping at nesting sites and other potential sites where adults may be found.
- To expand the current headstart facility to accommodate growth in the number and size of animals reared in the facility.
- To train Senior Terrestrial Warden Rondel Smith in iguana husbandry and facility maintenance at other iguana rearing facilities currently operating in the region.
- To develop environmental education materials to raise public awareness of the importance and vulnerability of iguanas on Anegada.
- To conduct a feasibility study for the control or eradication of cats on Anegada, in partnership with the IUCN/SSC Invasive Species Specialist Group.

San Salvador iguana ***(Cyclura rileyi rileyi)***

San Salvador iguanas are presently restricted largely to five tiny offshore cays (Gaulin, Goulding, Green, Low, Manhead) and two cays within Great Lake (Guana and Pigeon), with a remaining total population of approximately 500-600 individuals. Recent fieldwork by Bill Hayes and Ron Carter (Loma Linda University) on San Salvador iguanas suggests that numbers remain fairly stable other than a recent decline on Green Cay and continuing declines on Low Cay. Potential threats include predation by rats, hurricane damage to vegetation, decimation of cacti by introduced moths, and smuggling.