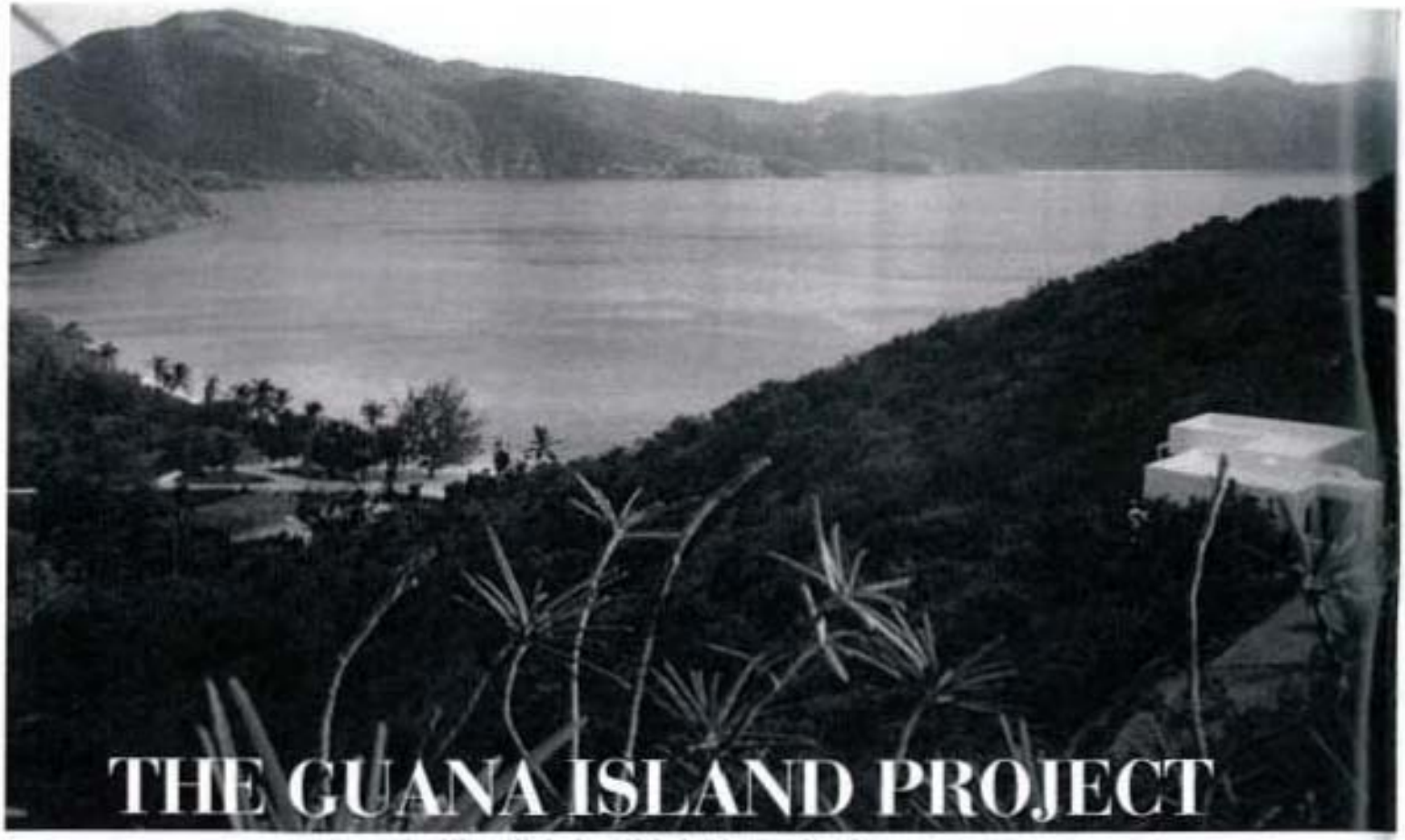

THE GUANA ISLAND PROJECT

By Alison Wickwire Olivieri, Director, Development

What does sitting in a soft chair on a lovely tropical island sipping after dinner drinks and looking at the distant lights of St. Thomas Island have to do with environmental education? Why are we allowing volunteers and even Connecticut Audubon staff to spend time in the British Virgin Islands?

Actually this is one of the most exciting things I've done since joining Connecticut Audubon four years ago. Each October, a small luxury hotel on Guana Island in the British Virgin Islands, hosts "Science Month" and invites specialists from all over the world to come to this tiny island to conduct scientific field research projects. How did this all start?

Some of our readers may be familiar with The Guana Island Club. It is open as a small (30 people maximum) tourist resort from November to April where relaxation, quiet, and privacy are guaranteed. Most of the buildings were constructed during the 1930's and '40s after the Bigelow family of Boston (of Bigelow Carpet fame) purchased the 850-acre island and invited their friends to build vacation cottages. Erma Fisk's family was one of these and many of us knew Erma as a fellow bird bander or have read her books, among them, *The Peacocks of Baboquivari*.

In the late 1970's, Dr. James "Skip" Lazell, Director of The Conservation Agency of Jamestown, RI, met the present owners of the island, Dr. Henry Jerecki and his wife, Gloria. Sensing their interest in conservation, he mentioned the intriguing idea of setting up the island as a nature preserve where he would attempt to restore all the plants and animals that had formerly occurred there. Despite its small size, this island still had an incredible variety of plants and animals – "the richest fauna known for an island of its size anywhere in the West Indies and probably the world," to quote from Lazell's *Guana Island: A Natural History Guide*.

The island's owners were enthusiastic about the plan and in 1980 the Guana Island Project began. This is "conservation science" at its best. Not only is the island being restored (sheep eliminated in addition to reintroductions of plants and animals), but the biology of the island is being studied from every angle. There is a constant incorporation of the new scientific findings into the conservation management of the island.

During October, a fully staffed hotel is provided through a private foundation, allowing scientists (with minimal expenses of airfare and equipment), to do research on the island. With a beautiful room, 3 delicious meals a day, and the exciting company of other scientists, who wouldn't endure 100-degree heat and fire ants? Generally 15-20 scientists are present at any given time during the month with Skip Lazell and Henry Jerecki consulting on what projects will be undertaken in any given year.

Fred Sibley, Science Advisor to Connecticut Audubon's Birdcraft Museum, was invited to work on North American migrants during 1994 and in subsequent years, I went alone and with Judy Richardson, volunteer Chairman of the Board of Governors of Birdcraft Museum, to assist with the banding project that had developed. Last fall, Jenn Kittredge, Director of Education at Birdcraft Museum, was able to go as an assistant with what we called the "scorched earth" team.

What Is Conservation Biology?

We talk about this perfect match of science and conservation in a project made possible by the interest of the Jerecki family, but what has it really accomplished? For one thing, the flora and fauna of Guana Island have been more fully documented than those of any other island through a multitude of published scientific papers. In many cases these papers have dealt not just with the British Virgin Islands but with general biological theories and

principals of importance to a much wider audience.

For another, island vegetation has rebounded beautifully with sheep control and extensive replanting of native species. Surviving fauna have prospered under the new management plan. Three significant species have been successfully reintroduced with others in various stages of reintroduction.

Iguanas, tortoises and flamingos were extirpated from Guana Island and many other Caribbean islands by the Spanish, French, Dutch and British introduction of eco-system-destroyers like cats, dogs, pigs, goats and sheep. Dr. Lazell and Dr. Numi Mitchell, also of The Conservation Agency, have driven these projects and two of their successful restorations are worthy of additional comment.

The Rock Iguana, Iguana pinguis, formerly widespread, was only surviving on Anegada Island when the project started. Several individuals were brought to Guana and released. The population now numbers in the hundreds and surplus animals are available for reintroduction to other islands, including Anegada where it is now almost extinct (i.e. the vast majority of the world's population of this species is now found on Guana Island).

Captive American Flamingos were purchased from the Bermuda Zoo and released on Guana and Anegada Islands. These are now breeding and wild birds have joined the Anegada flock. This could turn into the nucleus for natural recolonization of many other islands in the northern and eastern Caribbean.

Life of a Field Assistant

What did I learn and what was my contribution to conservation science? Basically why did I go to Guana Island rather than listening to someone lecture about the results? Just plain nuts!

If you go as a tourist to Guana Island, you are treated as royalty. Overfed, overindulged – a week of luxurious swimming, boating, tennis or just relaxing. What's it like to go as a researcher or, more specifically, as an assistant to the bird banding projects?

I did find out that there are a lot more insect bites and sunburns involved in this work than there are candlelight meals. Catching a bird and banding it, with all the measurements and recording required, is not a simple task. Some days you only get a few birds, other days too many. And in the end you need 100 or 1,000 captures before you can say anything meaningful. Guana Island is humbling, challenging and exciting. After all the hard work and pain, each year has brought something new, different and usually unexpected.

Other groups work different schedules but bird banders usually run (literally) from before breakfast until late afternoon with well appreciated breaks for breakfast and lunch. During this time mist nets are tended (with frequent moves to new sites), birds are processed (identified, aged, sexed, fat determined, wing measured, and banded), censuses are conducted and counts made of color banded birds. Most researchers end up on the beach in late afternoon for a swim just as the insects come out but after the intensity of the sun has dropped. Then a refreshing shower, drinks and conversation take place before dinner.

Dinner, heated discussion and less heated conversations may run on until 10 PM. Some projects demand different schedules. The "frog ladies," for example, leave about suppertime to stay out all night watching the behavior of frogs about the size of your thumbnail. Jenn Kittredge and the "scorched earth" team frequently left after supper and worked until 2AM to enclose the plot they would start surveying at 8 the next morning.

Fred Sibley's Research on Guana Island

What is the "bird team" contributing to The Guana Island Project? Half of the banding work has concentrated on the resident Bananaquit, Coereba flaveola. Familiar to Caribbean island visitors, these yellow and black "sugarbirds" are easily caught as they come to a dish of sugar at the hotel. The project includes food preference tests (white vs. brown sugar), color marking for population density studies, nesting occurrence involving timing and triggers, and location fidelity.

The banding program also involves migrant birds, traveling from North America southward. Blackpoll Warblers, Dendroica striata, are the most common October migrant on Guana Island, although they had not been officially recorded from the BVI until 1989 and are still listed in most reference texts as "uncommon." Body fat on these birds is graded and individuals are aged with the finding indicating the whole population of this species is migrating over water to

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Guana Island . . . *The First Time*

By Jennifer Kittredge, Education Director, Birdcraft Museum

When I was asked to join the research team from Connecticut Audubon and travel to the British Virgin Islands and participate in the Guana Island Habitat Restoration Project, I jumped at the chance. I had never been to the Caribbean and the chilly month of October seemed the perfect time to go. As the newest member of the Connecticut crew, I did not know what to expect from this adventure. I certainly got much more than a wonderful week in the sand, surf and sun.

In addition to working with the bird banders from Connecticut Audubon, I was assigned to be a field assistant on a herpetological study of native lizards and their population densities. Basically, I was grunt labor assigned to clear vegetation and to get as dirty as possible doing it. We cleared a 100 square meter plot of island vegetation to bare earth to collect every single lizard living there. Most were no more than three inches long.

During the course of the entire month long study, thousands of small native lizards were collected from four 100 square meter plots. The scientists of the study concluded that they had found the greatest population density of vertebrates in the world thus far and plan to publish their findings in scientific journals in the near future.

There will also be future studies to monitor the vegetation regeneration in the cleared plots.

As an environmental educator, I spend my time teaching about the natural world to others. My trip to Guana Island was an opportunity to become the student and learn. I plan to call upon my Guana Island experiences and use what I've learned in my own teaching experiences. Who knows – perhaps I will be lucky enough to influence a future scientist who will travel to Guana Island some day and continue this important restoration project. ■

South America, a theory still disputed by a few diehard ornithologists.

We also have our moments of excitement that do not yet fit into a major pattern. We have trapped a number of first records for the Virgin Islands including a spectacular Golden-winged Warbler. Last year we caught a banded Bahama Pintail and a few months later one of the Black-necked Stilts we had banded that day was recaptured on St. John's in the American Virgin Islands at the same place and by the same lady who had banded the pintail.

Sometimes you just stumble into something. Fred became interested in dragonflies before last year's trip and, shortly after our arrival, a powerful and unique storm blew in from the southwest (winds are always from the northeast except during hurricanes and even then the storm is coming from the east) and dumped several feet of rain on us in a couple days. During and immediately following, the island was inundated with dragonflies. We improvised a new method of catching these creatures using mist nets and ended up with ten species for the British Virgin Islands. The previously published list was one, the previously collected list was three, and the total list for 1998 was three. We have some interesting results to interpret here.

Why Connecticut Audubon?

Maybe you haven't been reading between the lines and still wonder why Connecticut Audubon is allowing people to go to this exotic locality. The purpose of Connecticut Audubon is to provide high quality, effective environmental education, ensuring our organization's status as the foremost provider in Connecticut of environmental education programming. Our education must be based on real science, on data collected exactly the way it is described in this article. What better training for staff members than to visit the "field" where the research unfolds and to talk and work with the scientist doing this work.

What could possibly make a teacher-naturalist more passionate about his or her work than to gain the depth of understanding that comes with solving a puzzle documenting a rarity or contributing to field work in a remote location? In an organization devoted to educating students of all ages, field work helps to keep our science-based information up to date and it gives our educators the ability to make their classroom lessons come alive.

Participants in the 1998 Guana Island study project are (from left to right) Peggy and Fred Sibley, Judy Richardson, Jenn Kittridge and Alison Olivieri.

Science textbooks appear to have the final answer but in the "field" with a researcher you realize how little we really know about our natural world. Scientists have been working on Guana Island since 1980 with reptile surveys before that and lizard projects carried out every year, yet a new species of lizard was discovered on a nearby island in 1998. The frog ladies are working on a genus of tiny neotropical frogs with an immense number of species, yet almost nothing was known about the behavior and reproduction of this group until these two researchers from Canada started studying them. Each of these tiny steps forward foster new explanations and theories about how the natural world works and how we fit into this world.

Connecticut Audubon people involved in the Guana Island Project: Fred and Peggy Sibley (1994-1998), Alison Olivieri (1996-1998), Judy Richardson (1997-1998), and Jenn Kittredge (1998). Jenn writes about her experience in a companion piece to this article. A 45-minute slide presentation on The Guana Island Project is available by calling the Development Office at (203) 254-3315 or Connecticut Audubon Birdcraft Museum at (203) 259-0416. ■

Two Views of the Same Place

Alison's memories of the Guana Island experience are followed in italics by Fred Sibley's perspective and more rational point of view proving once again that men and women have different experiences when they are doing the exact same thing.

- The temperature is always well over 100 and sweat pours off one's nose and hands. *The temperature was actually never out of the low 90's.*
- The trails are lined with nothing but agave, stinging nettles, and hundreds of types of cacti. *Sure, but the 20-foot high flowering tree cactus is gorgeous and you forgot to mention the orchids.*
- Tarantulas, scorpions, fire ants, and the aggressive Jack Spaniard wasp are everywhere. *But only one person bitten in 3 years by a wasp, scorpions have weak bee sting level of bite, fire ants rare and tarantulas only come out when burrows flood.*
- We have to wade knee-deep in smelly hot mud, setting nets in a salt pond where the water temperature exceeds human body temperature and one slip would probably be fatal. *Sure, but look at all the neat shorebirds we banded.*
- The main hill from the beach to the hotel is steeper than anything you have seen before. One practically has to bend double to walk up the "road" carrying all the banding supplies. *Yes, it's steep but tourists and those with sweet smiles get rides up on the golf carts.*