

Chapter 5

Protected Areas

Half Moon Caye



Aerial view of Half Moon Caye

In 1820 the first lighthouse was built on Half Moon Caye at Lighthouse Reef, an atoll 60 miles east of Belize City. The caye is divided into two very distinct ecosystems, a coconut grove on the eastern end and a littoral forest on the western end. For over a hundred years the 45-acre caye has supported a nesting colony of red-footed boobies. The boobies co-exist with their pirate neighbors, the magnificent frigatebirds. Some 98 other birds have been recorded on the caye, of which 77 are migrants.

On the first of September, 1928, the western end of Half Moon Caye was made a Crown Reserve:

It is hereby notified that the following reservation is made under section 6 of the Crown Lands Ordinance - Chapter 83 of the Consolidated Laws, 1924: That portion of Crown Land at the Western end of Half Moon Caye containing 14 acres 2 roods 30 poles which was formerly leased to George Young by Lease No. 112 of 1918. S. G. 110 - 22

BAS' first project was management of Half Moon Caye.

Our Society is very much concerned about the information we have received that the colony of Red-footed Boobies on Half Moon Caye is being preyed upon by rats. This could be a serious threat to the survival of this unique nesting site, which has been in existence for over a hundred years, if allowed to go unchecked. Already the number of birds nesting there has been greatly reduced. It would never to do allow this important tourist attraction to be eliminated.

Our Society would like to request your permission to attempt to get rid of the rats on the Caye by the use of a rat poison called "Warfarin," which we have procured.

This poison, which must be mixed with rice bran in the proportion of 1 pound to 20 pounds, has a cumulative effect and has to be eaten continuously over a period of time. It should not harm the frigatebirds and boobies who live on the Caye since they are fish-eaters.

If this matter meets with your approval, we would also appreciate your asking the cooperation and help of the Customs Department in our efforts to preserve the nesting colony of Red-footed Boobies on Half Moon Caye. (Letter to the Chief Game Warden, August 18, 1969)



Meg Craig (second from left), Dora Weyer (second from right), J. J. Robateau (right) with Mr. Garbutt, the lighthouse keeper and his children on Half Moon Caye October 9, 1969

Rat Poisoning Campaign On Half Moon Caye

Dora Weyer

At 6:30 a.m. Thursday, October 9, 3 members of the Society, Meg Craig, Jim Parker and Dora Weyer, accompanied by Customs Comptroller J. J. Robateau, boarded the *Lolette* for Half Moon Caye. The *Lolette* was taking out personnel and supplies for the Public Works Department, who are working on the Caye repairing damage caused by Hurricane Francelia. Jim Robateau had kindly offered to let us go along on this trip so we could start the Society's Rat Poisoning Project.

This project - discussed at the BAS meeting on September 20 - was started because of repeated reports that rats on the Caye (presumably introduced accidentally by boats long ago) were raiding the booby nests, eating the eggs and possibly even killing and eating newly-hatched chicks. Verner, in his study of the colony, mentioned this as a major problem for these birds as long ago as 1959. Since then Hurricane Hattie decimated the colony. It has slowly been building back up in numbers since 1963, but so far as we can tell (because no actual nest count studies have been possible), the colony is just barely holding its own at this point. Pre-1963 accurate count records indicated that the colony was very much larger than it is today. It seems wise to do all we can to help these birds. Another severe hurricane might finish them off, whereas if the colony can build up to normal strength, it should be able to at least partially weather another such catastrophe.

At the suggestion of the Sanctuary Committee, and after discussion by the Board of Directors, Jim Waight, as President of the BAS, sent a letter to Chief Game Warden Lindo outlining the problem and requesting permission for the Society to undertake a rat poisoning programme. He pointed out that we would use warfarin, a poison that would not hurt the birds if they somehow got hold of it, nor would it be dangerous for children or domestic animals living on the Caye. The Forestry Department contacted the Controller of Customs Mr. J. J. Robateau, who reported back that, on questioning, his men out there verified the reports of rat depredation on the booby nests. And so permission was given.

Ford Young bought pure warfarin, 3 lbs., for us on a trip to Miami, Jim Waight bought a bag of cracked rice to use for bait, and we waited for a day when the *Lolette* was scheduled for Half Moon Caye and might have room for us.

We hoped to get out to poison the rats during September, October, or November. The last of the booby's young are leaving the island, able to fly on their own, in September. October is one month of the year when the boobies are not nesting at all, and only a few birds start the new nesting season in November. Therefore, we felt we would disturb the birds least by working at this time.

When the day came, it turned out that even with frantic attempts to adjust their schedules, it was impossible for any of the men on the Board of Directors to leave town. We two women were the only ones free and we felt we needed help. We saw Jim Parker on the street and roped him in on it as a strong, able-bodied young man. At the last moment, fortunately, J. J. Robateau was able to make the trip, too. He had originally planned to go on this trip of the *Lolette* to make an inspection of the lighthouse and the repairs to Hurricane Francelia's damage, but his schedule was so heavy he had thought it impossible for a bit. He was a tremendous help to us, making arrangements with Mr. Garbutt, the lighthouse keeper, to check and refill baits, and carrying the heavy and awkward load of bait and tin bait cans himself through the dense bush of the island all afternoon - no small job on a very hot day! Our most especial thank-you goes out to him.

The 9th dawned wonderfully clear and calm and we made the first trip out there we have ever made without getting at least a touch of seasickness! Mrs. Garbutt and her children were on board returning to the Caye. She told us the rats were terrible there! They ate all her young vegetable plants as soon as the seed sprouted; they gnawed the family's shoes; and they ruined the coconuts. The Garbutts have had to buy rat poison themselves and wage war on the rats constantly in order to survive.

The *Lolette* moored off the Caye at noon. We had eaten our sandwiches earlier in order to utilize every possible moment at the Caye and off we started. Mr. and Mrs. Garbutt came with us, both of them enthusiastic about the programme and hoping that we could, indeed, completely eliminate rats

from Half Moon Caye. They told us that the rats at this time of year lived entirely in the coconut trees, eating the coconuts, because there were no bird eggs. This proved to be true. We checked over the booby colony where only a few birds remained and saw no sign of rats being present. They were nesting in the center of the crown of the trees, raiding the coconuts. They gnaw a hole right through the thick fibrous outer covering of the nut, then through the thinner hard shell, and finally clean out every bit of coconut meat. They attack every nut on the tree they live on, from small ones only 3 to 4 inches long to big, full ones. Only when they've finished all do they move on to the next tree. This makes it easy for the Garbutts to know when the rats are all killed. They gather coconuts for their own use, of course, and know each tree as an individual, and know which ones the rats are attacking.

We set 22 poison baits out, 20 nailed on the trunks of the trees where rats were living at the moment, one in a shed where the Garbutts were having trouble with rats eating their supplies, and one in a shed where the fish were laid out for drying and the rats were gnawing the dried fish. In some cases the bait was placed in tins in such a way that rain could not get to it, but rats running up and down the trunk had easy access. In other cases, at Mrs. Garbutt's suggestion, because this was the way they had been doing it, we used halves of coconut husks and fastened them under the big coconut fronds so that the rain was kept out but it all looked quite natural. This last really seems the best way, and is certainly the easiest. The 20 trees chosen were all that were rat-infested in the SW quarter of the Caye and all along the West Side. By this time it was 5:00 p.m. and we still had a 6-hour return trip to Belize ahead of us. The Garbutts offered to check out and set baits on the remaining plantation on the east side the next day. They will also check all bait sets every two days, refilling where necessary and, in the event the rats have dirtied the bait, cleaning it out and putting in fresh. Rats will not continue to eat out of dirtied baits. A great deal depends on their continued help and, if in the end we are able to get rid of the rats on Half Moon Caye, the Society - and the boobies - will owe the Garbutts a great deal.

At the time of going to press, a report had been received from Mr. Garbutt that the rats were eating the bait well and

were now dying. He is coming into town shortly and at that time J. J. Robateau and Lydia Waight will see that he gets more bait to take back with him. At the moment we have enough, but we may well run out before the project is finished. However, the Public Health Department now starting a big campaign against the rats in Belize had offered to help us out and friends in the U.S. have offered to send more warfarin if necessary.

We hope to be able to go out on the *Lolette* again soon. At that time we will be able to see for ourselves how the project is progressing. (from the BAS Bulletin, October, 1969)

Expansion of Half Moon Caye Natural Monument

In 1971 Mr. Vivian Grey-Wilson asked Mr. Ford Young, a real estate agent and BAS Vice President, to sell five lots on Half Moon Caye. Mr. Grey-Wilson's father had been the Collector of Customs and either purchased or was given for his services these lots on Half Moon Caye. Mr. Young brought this information to the BAS Board, who requested that Government acquire the remaining private lots adjoining the Reserve on Half Moon Caye.

Dr. Craig MacFarland of *Centro Agronomico Tropical de Investigacion y Enseñanza* (CATIE) had visited Belize and was interested in Half Moon Caye. He got conservation societies to donate money to buy the lots. Out of these funds the sum of \$3,750 U.S. was paid to the Government of Belize, this being half the purchase price for the lots. Government contributed the other half and canceled several leases, so there were several Gazette notices, including the one on 20 October 1979 that expanded the Crown Reserve to include the entire Caye and part of the surrounding sea and reef.

Establishment of Half Moon Caye Natural Monument

Half Moon Natural Monument was established as Belize's first protected area under the National Parks System Act.

The order cited as the NATURAL MONUMENT RESERVATION (HALF MOON CAYE) ORDER 1982 (Statutory Instrument No. 30 of 1982), signed the 4th day of March, 1982, by the Minister of Natural Resources in exercise of the powers conferred upon him by section 3 (1) of the National Parks System Act 1981 (No. 5 of 1981), declared the area specified in the Schedule to the Order to be a Natural Monument. The schedule reads:

ALL that piece or parcel of land and sea lying and being part of Lighthouse Reef and the Caribbean Sea and containing Half Moon Caye in the country of Belize and bounded on the North by another portion of Lighthouse Reef and the Caribbean Sea, on the East by the Caribbean Sea, on the South by the Caribbean Sea, on the West by the said Caribbean Sea, and another portion of Lighthouse Reef and containing approximately 9,700 acres and being more particularly described as follows:

Commencing at a point having the geographic coordinates North Latitude 17° 11' and West Longitude 87° 30'; thence due north along the Eastern boundary for a distance of 5550 metres more or less to a point having the geographic coordinates North Latitude 17° 14' and West Longitude 87° 30'; thence due West along the Northern boundary for a distance of 7072 metres more or less to a point having the geographic coordinates North Latitude 17° 14' and West Longitude 87° 34'; thence due south along the western boundary for a distance of 5550 metres more or less to a point having the geographic coordinates North Latitude 17° 11' and West Longitude 87° 34'; thence due East along the Southern boundary for a distance of 7072 metres more or less to the point of commencement. (Gazette 20 March 1982)

International Media Coverage

The new Natural Monument attracted writers and became the subject of magazine articles. Dr. Anne LaBastille of West of the Wind Publications first came to Belize in April of 1980 when she was writing an article on the National Parks of Central America for National Geographic magazine. She wanted to include Half Moon Caye Natural Monument but that depended on the passing of the National Parks Ordinance into law by October of 1980, which did not happen. After the National Parks System Act was passed, Dr. LaBastille wrote "Paradise Gained: A New Country Creates Its First National Park," which appeared in *Animal Kingdom*, the magazine of the New York Zoological Society.

Diane Weyer, daughter of BAS founder Dora Weyer, wrote an article entitled "Half Moon Caye: Central America's First Marine Park," which was published in *Parks*.

Paradise Gained: A New Country Creates Its First National Park

Dr. Anne LaBastille

On March 20, 1982, shortly after my second visit there, Belize declared an area of offshore reefs, islands, mangrove keys, and sandbars the Half Moon Caye Natural Monument. It is the first unit in Belize's fledgling national park system and the only marine reserve among Central America's 26 national parks. . .

One side of the island looks like a vacationer's postcard: white-sand beaches dotted with graceful palms. The other half is covered with a dense growth of *Cordia* and gumbo limbo trees, vines and bromeliads, which support a thriving seabird rookery. . .

This nesting area is one of only two spots in the Caribbean where adult red-footed boobies sport elegant white-gold-and-black plumage rather than the usual dingy brown. (Trinidad's boobies also exhibit this flashy color phase.). . .

[From the observation post] I could see dozens of fuzzy white baby boobies and gangly black young frigates crouching timidly among the orange blossoms of the *Cordia* trees.

Some of the chicks lay prostrate in the sun, seeming to pant; others were shaded by siblings or branches and sat alertly, awaiting delivery of their meals. Overhead the parents nervously flew about, carrying food. Higher still, a few male frigates in breeding plumage soared on slender wings, their red throat pouches ballooning beneath them. A noisy, busy, yet attractive nursery. . . it is remarkable that a new nation has designated its first national park so soon after achieving independence. (*Animal Kingdom*, Aug-Sept 1982)

Management of Half Moon Caye

Trips to Half Moon Caye for the management of that reserve were accomplished through the generosity of Customs and the Fisheries Department.

On behalf of the Board of Directors of the Belize Audubon Society, I should like to thank you for inviting us to participate in your Department's visit to Half Moon Caye in April last. Four of our Directors went on the trip and it was a wonderful experience.

Our Society is greatly concerned about the reports we have received of raids on the Red-footed Booby nesting reserve. We are

Half Moon Caye: Central America's First Marine Park

Diane Weyer

Half Moon Caye looks pretty much as it has for the last thousand years. Hurricanes have blown down the trees from time to time but they've grown back. About 150 years ago someone added a lighthouse. It's still there. So are the coconut palms and the white sand. And the birds! The red-footed booby birds, the reason this particular island is the nucleus of the first marine park in Central America. . .

Once you've seen a couple of thousand booby birds crowding every available tree and shrub on the western side of the island with their haphazard nests, it's hard to think of the island as belonging to anyone else, but legally Half Moon Caye is part of Belize, a small, newly independent country which lies 60 miles to the west, across miles of open ocean and behind the second-longest barrier reef in the world. . .

Though Half Moon Caye would never have become Central America's first marine park without its boobies, it is much more than a bird colony. The caye itself is home to a host of other creatures including an endemic species of anole lizard (*Anolis allisoni*)... And stretching away from the caye to the east and south are miles of atoll reef where elkhorn, brain and staghorn corals create a background for one of the richest ecosystems in the world... To list all the creatures that dwell within the confines of Half Moon Caye Natural Monument would fill many pages. In this instance it is best to just be glad it exists and is protected, now and, hopefully, forever. (*Parks*, Vol. 7, Oct-Dec, 1982)

also concerned about the effects uncontrolled tourism could have on the caye and the reef.

In an effort to "put our heads together," we cordially invite you to come to our next Directors' meeting . . . We could then talk about Half Moon Caye and decide what we can do to try to help preserve it in its natural state. (Letter to Mr. G. W. Miller, 27 June 1978)

The effects of Hurricane Greta on Half Moon Caye are described in this letter to D. K. Ness written October 19, 1978.

... You missed all the excitement of hurricane Greta. We are still trying to clean up the mud in our yard.

The Lands Department sent out some of their staff to Half Moon

Caye early in the week to assess the damage done and Jim was invited to go with them. He reports that many coconut trees have been blown down and huge boulders have been washed up on the caye. The base of the lighthouse is damaged and the water in the "crescent" is much deeper. He could not get very far into the booby reserve because of the tangled undergrowth, but he saw a few dead birds and some young ones that had evidently fallen out of their nests, so the colony must have suffered some losses. He took out some warfarin and asked the lighthouse keepers to put it out on the coconut trees.

The fall migrants are arriving. Today we saw a pair of Summer Tanagers and they were beautiful. Jim saw lots of warblers on the Caye.

Additional funds from CATIE were given for the management of the Natural Monument, US\$1500 in 1979 and over US\$4,000 in 1984. Under the direction of the Half Moon Caye/Reef Preservation Committee, trails were cleared, an observation tower was constructed in the bird rookery, and picnic tables and a barbecue grill were built for the visitor area in the coconut grove. David Craig was the organizer of these efforts. He got an old water tower railing from the Belize Water Authority and a ladder from the Belize Brewing Company. With these and other donated materials, he and Lascelles Arnold built the first observation tower. Four large signs showing maps of the Caye and several other signs were donated by the New York Zoological Society.

A short-term management plan for the Half Moon Caye Natural Monument, based on the draft prepared by David Lovell, a consultant from CATIE, was sent to Government in May of 1985.



The first observation tower in the bird rookery on Half Moon Caye

In March of 1986, the Royal Engineers Dive Team of British Forces stationed in Belize, put down markers on the northern and western boundaries of the HMCNM.

For several years maintenance on Half Moon Caye was accomplished periodically by groups of volunteers from the BAS and the Fisheries Department. Participants were transported out to the Caye on the Fisheries launch, *Lutjanus*. Frank Bunting donated ten large buoys, which were placed to mark the boundaries and the permanent anchorages by a volunteer group of ten participants 11 to 13 August, 1990. Twenty-four bags of garbage were removed at that time. The next April, 51 bags of garbage were removed, the Visitor Center was painted, the observation tower was braced, the picnic tables were repaired and the trail cleared.

The tenth anniversary clean-up was held 24 to 25 May 1992. Sixteen adults and two children participated and gathered 43 bags of garbage. The 1993 volunteer group netted 33 bags of garbage, repaired picnic tables, cut 150 feet of new trails, put up new warning signs, and set up out poisoned bait to cut down the rat population that preys upon the booby eggs. The same year British Forces Belize repaired the observation tower.

A record 36 people were involved in the October 1994 expedition to Half Moon Caye. In addition to the usual beach cleanup, they dug a freshwater well, installed a hand pump, put up new signs, and laid



Half Moon Caye tenth anniversary cleanup

the concrete foundation for the new Visitor Center. In 1995 Belize Youth Conservation Corps volunteers cleaned the beach, cleared the trails, and worked on the interpretive signs. Though the groups worked hard there was always time for some recreational snorkeling.

A new Visitor Center and warden headquarters were built in 1995 by volunteers from a United Kingdom group, Raleigh International, which also involved Belizean volunteers. Funds for this project were provided by the Coastal Zone Management Project.

In August of 1997 another group from the United Kingdom, Trekforce Expeditions, constructed a new pier. More than 20 of the troopers, along with personnel from the Belize Audubon Society, worked for two weeks until the pier was finished. Besides providing much of the labour needed to build the pier, Trekforce Expeditions also contributed greatly to the cost of the materials.

The Belize Tourist Board made a donation of \$5,000 toward the purchase in 1997 of a 26-foot fiberglass boat from Belize Fiberglass Products. Appropriately, the name given to the boat is the *Sula sula*, the scientific name for the red-footed booby. The Coastal Zone Management Project provided funds to purchase needed equipment, such as the outboard engine for the *Sula sula* and dive gear.



The Sula sula donated to BAS by Belize Tourist Board and the Coastal Zone Management Project

Volunteers Abril Esquivel of Mexico and Gabor Vereczi of Hungary created an exhibit in the Visitor Center. Starting with the natural and cultural history of the Half Moon Caye Natural Monument, the visitor is led through colourful displays of flora and fauna, including the interaction between the nesting red-footed boobies and the magnificent frigatebird, followed by a reef model depicting corals and fishing resources, and impacts on coral reefs. They also documented tourist and visitation statistics, developed trail signs, assessed snorkeling areas and made recommendations for the management of the HMCNM.

But management of protected areas requires constant vigilance. Part of the Caye had originally been leased to Joseph and Austin Miller and they planted coconuts, but they never paid their lease, so the Government canceled it. Austin Miller, one of their heirs living in the United States, saw an article in the *Amandala* and suddenly realized he might have a claim to land on Half Moon Caye. He went to the Survey Department and renewed the lease. The people in the Lands and Survey Department took his money without checking, so he started building his house. BAS staff took all the old correspondence and Gazettes to the GOB, which ruled that the leases had been canceled. The construction was valued at \$7,000, so the BAS paid Mr. Miller \$3,500 and the GOB gave him another piece of land elsewhere in the country to settle the matter.

A preliminary management plan was written by Diana Williams in 1995. This plan was used by BAS and the Protected Areas Technical Committee to develop the final document. In 1997 a head warden was installed at Half Moon Caye through a grant from the Coastal Zone Management Project and later two wardens were added, paid from entrance fee income.

World Heritage Site

The United Nations World Heritage Committee formally adopted seven protected areas along the Belize Barrier Reef and its adjacent atolls as a World Heritage Site under UNESCO at their meeting in Merida, Mexico on December 4, 1996. HMCNM is included as part of this prestigious World Heritage Site.

Red-footed Booby Studies

Goshen College students conducted studies of the Red-footed Boobies on Half Moon Caye for several years. No study had been done on Half Moon Caye since the one by Jared Verner in 1958 in which he estimated 3,500 boobies and counted 1,389 nests.



red-footed booby

Considerable damage had been done by Hurricane Hattie on Half Moon Caye in 1961 and the BAS wanted to know if the colony had been restored to its previous levels. In November of 1974, Goshen students estimated 3,700 birds, one-sixth of which were immature. The next March 1,285 nests were counted and in 1977 there were 1,431 nests.

Two students of Goshen University, Goshen, Indiana, Ned Nafziger and Dave Bretz, carried out the annual count of red-footed booby nests on Half Moon Caye during the period February 23 to March 8. This was done as a project of their Study/ Service Trimester in Belize.

A final estimate of 1,329 nests was reached. This figure indicates a decline from the previous year that may possibly be a result of increased raids on the nesting colony. There are reliable reports that local fishermen land on the caye to collect eggs and kill the young birds. The boobies are so passive that it is easy to raid their nests.

This predation is strictly illegal. The area where the birds nest was made a Crown Reserve in 1928 and the red-footed booby was added to the list of protected animals by Statutory Instrument in 1950. Should this raiding of nests continue, the survival of the nesting colony would be seriously threatened. Red-footed boobies have nested on Half Moon Caye for over a hundred years and they should be allowed to continue to do so.

The task of counting nests was slow, tedious and difficult. The reserve is a tangled mass of vegetation on which the boobies nest, and most of the time the only way the counters could get about was

by crawling under the low growing trees. Ned and Dave are to be commended for the fine job they did under trying circumstances, and the Society would like to record its thanks and appreciation for their contribution to its work of conservation. (BAS Bulletin, April 1978)

Carolyn Pomeroy, a marine biologist from the University of Miami, conducted research at Half Moon Caye from October 1988 through January 1989, including a count of the boobies.

During the Christmas holidays of 1991 William E. Cross of Environmental Research Associates in Ontario, Canada, did another study of the nesting colony on Half Moon Caye.

In all, I counted 1325 red-footed booby nests, a number very close to those recorded in 1959, 1978, and 1981, and considerably higher than that recorded in 1988-89. Booby nests, viewed from below, are not much more than round piles of twigs about 1.5 - 15 m from the ground. It was easy to tell whether nests were occupied (virtually all were) because the inhabitants of lower nests peered at me over the edge of the nest, seemingly with curiosity, and those in higher nests were obvious by white tail feathers extending beyond the nest's edge. It has been observed that once nest construction begins, one pair member must guard the nest constantly against stick thievery by other boobies and frigatebirds, which can result in the dismantling of a nest in as little as a half hour. I didn't check for eggs, but most boobies were likely incubating, based on their behaviour and what is known of their breeding ecology. I also counted nesting magnificent frigatebirds, of which there were 71, about three and a half times previous counts; iguanas (the true iguana, Iguana iguana rhinolopha, and the wish willy, Ctenosaura similis), which were present in about every fourth tree; and roosting birds. (from the report of William E. Cross to the BAS, August, 1992)

Crown Reserve Bird Sanctuaries

In 1975 the Government of Belize reserved Bird Caye in Northern Lagoon (Manatee – not to be confused with the Northern Lagoon which is at Crooked Tree) as a bird sanctuary. In April of that year a BAS field trip group put up signs painted by Board member Shelly Matus alerting the public to the Reserve status of the caye and warning against hunting, shooting, and landing on the Caye. After the signs had washed away, they were replaced by Bert Forman in October of 1979.

The BAS continued their vigilance over this Reserve as shown in the following letter.

At a recent meeting of the Board of Directors of the BAS, it was reported to the Board that an army helicopter was seen performing exercises very near to Bird Caye, the more southern of two small mangrove cayes along the eastern shore of Northern Lagoon, Manatee.

We are sure you are not aware that this caye has been reserved by Government, at the request of our Society, as a bird sanctuary and nesting rookery. Large numbers of water birds (herons, egrets and ibises) nest and roost there and, in an effort to prevent them being disturbed, our Society has erected signs warning that no one should land on the caye.

Our Society would like to request that future army exercises be undertaken, if possible, in some other area, rather than in the vicinity of Bird Caye, so as to avoid affecting the birds that occupy the caye. (Letter to Officer Commanding Her Majesty's Forces, Airport Camp, 10 June 1977)

John Head, Commander, British Forces Belize, responded.

Thank you for your letter concerning the Bird Caye reservation. We were not aware of this information and I will ensure that our aircraft keep as clear as possible from the area. (Letter dated 27 June 1977)

The BAS lobbied for several years to get protection for other bird rookeries in Belize. Finally, in the Gazette of September 17 1977 (No. 39), seven cayes, including Bird Caye, were reserved that were rookeries for wood storks; great, cattle, and reddish egrets; boat-billed and tri-coloured herons; white ibis; frigatebirds; anhingas and other birds.

At that time BAS had no authority to appoint wardens. This phone message generated an investigation about wardens.

Dora Weyer called. She went to Bird Caye and met a man by the name of Lionel Heredia who goes to Bird Caye every week. Mr. Heredia told Mrs. Weyer that hunters are shooting the Egrets. He tried on two occasions to stop the hunters, but they only laughed at him and told him he had no authority to stop them. Mr. Heredia is very much concerned about this (he is a local tourist guide) and is willing to help prevent any more birds from being shot. The Ibis are just coming in and both Mr. Heredia and Mrs. Weyer feel that hunters will also start to shoot them. Mrs. Weyer would like you to call an emergency meeting, as early as possible, to explain the situation

to the Directors of the BAS and ask Mrs. Waight to write a letter making Mr. Heredia a warden for the BAS, giving him authority to stop these men from killing the birds. She feels this is a serious problem and something should be done promptly. (Phone message dated 7 April 1978)

At our last Directors' meeting, the subject of appointing wardens for the nesting reserves entrusted to the care of the Society was brought up. After some discussion, it was suggested that we write to you, asking for guidance in this matter, as you are undoubtedly familiar with the work of wardens in the National Audubon Society's sanctuaries and reserves.

As you probably read in our September 1977 Bulletin (you are on our mailing list), seven mangrove cayes that are nesting rookeries were reserved at our request "for the establishment of bird sanctuaries" under our Society's control.

We would like to know what authority these wardens have, whether they are paid and what they are furnished with. Any information you may be able to give us on this matter will be greatly appreciated. (Letter to Alexander Sprunt IV, 9 May 1978)

We develop a separate operations manual for each sanctuary to fit the natural resources and other features. We protect rookeries on islands by hiring seasonal wardens who patrol them during the nesting season. Our wardens try to maintain close contact with state and federal game wardens. Sometimes they get deputy game warden commissions without pay. Our uniforms are simply khaki with a shoulder patch with our emblem and AUDUBON WILDLIFE WARDEN written on it. Only under very special circumstances do our wardens carry guns. The situation may be different in Belize. We vary the time of day and day of the week for patrols so potential poachers cannot anticipate them. . . Sincerely yours, John W. Anderson (Alexander Sprunt must have passed our letter on to John Anderson.)

To whom it may concern:

Mr. Lionel "Chocolate" Heredia is hereby appointed Honourary Warden of Bird Caye, Northern Lagoon., The public in general is requested to cooperate fully with him in the preservation of this bird sanctuary. (Signed by James Waight, President of BAS, June 21 1982)

Columbia Forest Wildlife Refuge

Dora Weyer had the idea of reserving part of the Columbia Forest in the Toledo District as a wildlife refuge. Even before the formation of the Belize Audubon Society, she arranged an agreement with the Government of Belize that the Florida Audubon Society, along with Florida State University, would use that area for research and education. The Government agreed to declare 6,000 acres as a wildlife refuge. The following letter reiterates the Government's agreement and makes arrangement for the boundary demarcation.

I am please to inform you that Government has already agreed to declare this area as a wildlife sanctuary and nature reserve in which there will be no exploitation of the flora nor of the fauna. In view of the initiative and interest being shown in the project by members of the Florida Audubon Society, the Government has agreed to the following:

To redevelop the area surrounding the Columbia Forest Station and to provide basic facilities in an effort to attract tourists and other visitors to that part of the country,

To give preferential treatment to members of the Florida Audubon Society for use of the facility and

To provide equipment and demarcate the area for the formation of an access road in the area provided your society meets the running costs, labor, fuel and oil for the equipment. (Letter from the Ministry of Trade and Industry to Russ Mason of the Florida Audubon Society, 2 October 1968)

The demarcation of the boundaries did not take place until after the formation of the BAS. Spearheaded by Dora Weyer, members and friends of the BAS generously contributed toward the cost of the opening of these boundaries. By 1972 the work had been completed and the signs erected, but the wildlife refuge was never declared. A rice cultivation project in that area seemed to take precedence.

Guanacaste National Park

It was through the good offices of founding member Magnus Halcrow that the Society's request for reserving the 55-acre parcel of land at the junction of the Western Highway and Roaring Creek was granted. A dentist, Dr. Otto Faulkner, had applied for this property, but when he learned that it was to be reserved, he generously sent a contribution to the BAS towards its development. The Society applied to Government asking to purchase it, but Mr. Halcrow did some lob-

bying. BAS did not have to buy the land because in 1973 they were given a Conditional Free Grant for Guanacaste Park on condition that it be used only for a bird sanctuary or national park.

The area is located at the confluence of the Belize River and Roaring Creek, and the Western Highway, and with Government approval, was named Guanacaste Park for the very large, old guanacaste or tubroos tree (*Enterolobium cyclocarpum*) growing there. This large tree supports a large variety of epiphytes. The park also has numerous species of trees and plants, all of which are preserved in their natural state.

For many years, Guanacaste Park was managed by volunteer labor and donated materials. In 1974, Goshen College students cleared the first paths and made fences. Ford Young organized and



*A nature walk in Guanacaste National Park
led by Head Warden Eugenio Ah*

Field Trip Report

By Meg Craig

After a spell of cold, damp weather, Sunday morning, January 25, 1976, promised to be a fine day when three adults, two students and five teachers from Michigan, here for their practice reaching, met at the Bliss Institute for a combination bird-watching/working trip. The field trip organizer had sent out a call for help to clean the badly overgrown trails in Guanacaste Park, which is maintained by the Belize Audubon Society. Mr. Young was, unfortunately, not able to make the trip and the party set out in his Land Rover driven by Martin Meadows.

A sighting of interest on the outskirts of Belize City was a Short-tailed Hawk, which was a first for most of the party. Everybody had a good look. Further along the road, a White-tailed Hawk was seen and that also was a first for some.

On arriving at the Park, it was decided to do the bird-watching first, before the noise of chopping would disturb the birds and scare them away. After lunch the party set to work armed with machetes. Viewing paths, which had been cut through the Park last year by students of Goshen University, were cleared. The Michigan teachers were a great help, in spite of unfamiliar implements and a few blistered hands.

All of a sudden someone discovered some unwelcome guests and that sent all the party searching for ticks. The clearing around the house seemed to be full of them. There



Visitors eat a picnic lunch at Guanacaste National Park



Derric Chan explains the flora in Guanacaste National Park

followed a tick-picking session, which last for the rest of the afternoon. The younger members of the party decided to forego the usual refreshing swim as the river was in flood.

The visiting teachers were greatly impressed by the huge tubroos or guanacaste tree for which the Park is named. One of the three or four largest trees found in Central American forests, tubroos is a favorite timber for doreys; or dug-out canoes, as it is durable and not readily attacked by pinworms. The fact that this tree had divided into three boles or trunks may be the reason it has escaped being cut down.

The Guanacaste tree attains large dimensions, with a total height of up to 130 feet, the trunk (bole) being from 30 – 40 feet tall and 5 – 6 feet in diameter. It has a large, flat, wide-spreading crown and its broad, flat, shiny dark-brown seed-pods are curled into almost a complete circle in such a manner as to suggest a human ear. (Monkey's ear is one of the names by which the tree is known.) Fallen pods, flowers and leaves are much eaten by cattle.

Our guanacaste tree has survived to become a hanging garden of aerial plants. Many species of orchids, bromeliads, cacti, ferns and philodendrons are to be found growing on its branches. The Society plans to erect a sign listing all the plants on the tree for the information of those who visit the Park. During the course of the day, 58 species of birds were identified.

conducted several birding trips there. On one trip the participants erected warning signs. In 1978 Hurricane Greta did considerable damage in Guanacaste Park, so clean-up required a big effort by BAS volunteer work groups.

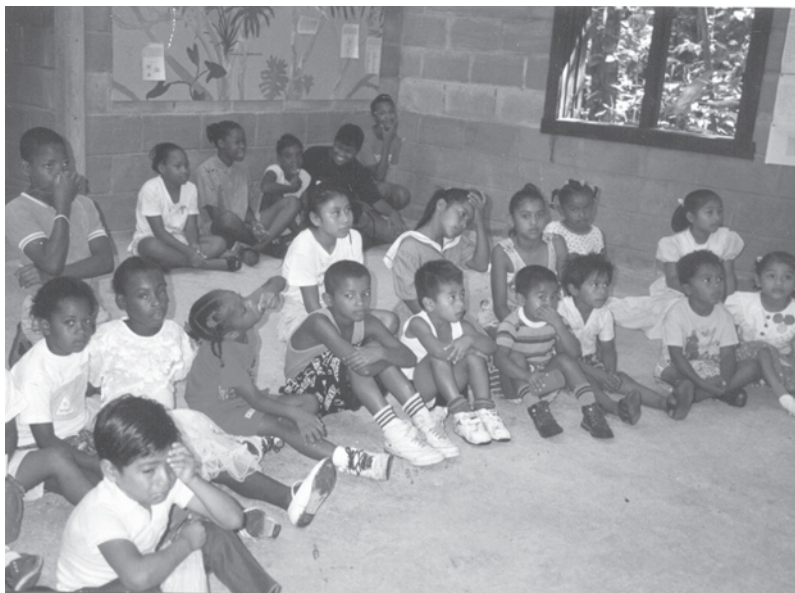
There was originally a house on the property in the area where the Visitor Center is now. Though it was removed soon after the area was declared a park, that area was still called the “house plot” and kept clear. BAS had to repair the fences, keep the trails clear, and keep horses out of the park. A horse-proof gate was designed, but it did not work. A warning sign was put up saying, “no horses,” and that solved the problem.

After 1987 there were BAS personnel at GNP fulltime. First was Peace Corps Volunteer Matthew Miller, who worked at Guanacaste Park and also at the Blue Hole National Park. In 1988 he planned World Environment Day ceremonies at Guanacaste Park with Hon. Dean Lindo, Minister of Agriculture, as the main speaker.

The next year a MacArthur Foundation grant was received to employ wardens for the Cayo Parks, Guanacaste Park and the Blue Hole National Park. Three wardens, Martin Ack, Juan Choc and Heraldo Ack, were the first Cayo Park wardens. Peace Corps volunteer Robert Habeck was assigned to the BAS and worked to help develop



The opening of the Guanacaste National Park Visitor Center educational display in March, 1994, which was dedicated to the Peace Corps Volunteer service in Belize



Children gathered for environmental education in the Visitor Center at Guanacaste National Park

Guanacaste Park and Blue Hole National Park.

In April of 1989 BAS sought the assistance of the Youth Environment Action Group of San Jose Succotz (YEAG) to conduct tours of the GNP during the Agriculture and Trade Show, which was held on the nearby National Show Grounds. A small thatched hut was built, using funds from the MacArthur Foundation, to provide shelter and an office for the wardens. In August of 1990 BAS held a workshop in GNP for YEAG.

Even though the National Parks System Act was passed in 1981, Guanacaste Park did not become Guanacaste National Park until April 22, 1990. At a ceremony at the park on World Environment Day, Hon. Florencio Marin, Minister of Industry and Natural Resources signed the Statutory Instrument that declared the area a National Park. A highlight of the ceremony was the planting of a mahogany sapling by Mr. Marin. Soon afterward construction commenced on a new Visitor Center which was completed in July.

A preliminary guide to the trees in the park was prepared in 1991 by Matthew Miller and illustrated by Laura Callahan. A list of birds was compiled by Bruce and Carolyn Miller and Chandler Robbins.

A beautiful butterfly display was prepared and donated by Jan Meerman, Manager of Shipstern Nature Reserve.

Villagers from nearby Roaring Creek participated in a Community Workshop in GNP in October of 1992. They formed the "Friends of Guanacaste" support group and provided valuable input into the Management Plan for the GNP, which was completed in 1993 by a committee headed by Peace Corps Volunteer Robert Mackler.

Students United for Nature (SUN), a group from St. John's College Sixth Form - 65 students in all - cleared the trails and worked on signs in the GNP in 1992.

Eugenio Ah, Head Warden of the Cayo Parks, organized an Earth Day poster contest in 1993, "Why is a Tree Important?" for the Roaring Creek School. Remarkable talent was exhibited in the artwork.

An educational display was prepared by Peace Corps volunteers Bonnie Gestring and Rebecca Nealey. The Guanacaste Education Center was officially opened on March 18, 1994, and dedicated to Peace Corps Service in Belize in recognition of their assistance to BAS' Protected Areas Management and Environmental Education Programmes. SEED and BYCC helped with the clean-up to prepare for the event. And again in October of 1994 BYCC was back to complete their work under the Sanctuary Enhancement Activities programme.

An interpretive booklet for the nature trail at GNP was developed by Michael Somerville, BAS Environmental Education Coordinator, assisted by Steven Creamer, a volunteer working in the BAS office during the Spring of 1997.

GNP was the destination of the Walkathon and site for the Opening of the 30th Anniversary Celebrations on February 6, 1999.

Crooked Tree Wildlife Sanctuary

Mrs. Dora Weyer had visited Crooked Tree Lagoon for many years because it was always a place that had a lot of birds. In March 1970 BAS made a river trip to Crooked Tree Lagoon along with a visiting tour of the Canadian Audubon Society. The causeway had not yet been built and all traffic was by boat. The tour participants drove 16 miles up the northern highway to Double Run, where the water treatment plant is located, and boarded a flat-bottomed tunnel boat that took them to Crooked Tree Lagoon. The next year a similar trip was planned with a group from Florida.

CROOKED TREE OR BUST**by W. Ford Young**

This could perhaps be titled "Crooked Tree or Bust!" When the Tropical Audubon Society of Miami, Florida, recently scheduled a bird watching trip to Belize, they were kind enough to invite the local Society to accompany them on a boat trip up the Belize River and Black Creek to Crooked Tree (Northern) Lagoon. Plans were made accordingly and a group of 29, 12 from Florida and 17 from the Belize Audubon Society, gathered at the Bellevue Hotel at 8 o'clock Saturday, February 20. The trip by car to Double Run on the bank of the Belize River was made in good order and the party embarked in a semi-covered barge at about 9:30 and took off upstream.

The weather was perfect and the trip up the river on the slow-moving barge was very pleasant indeed. Among the birds seen of particular interest to the visitors were three of the five local kingfishers (Ringed, Belted and Green), the little Sungrebe and the Cedar Waxwing, which is very rarely seen in this country. Everything went according to schedule until Little Falls was reached. The level of the water had dropped considerably since it was checked about a week before and while the towboat was able to pull the barge through the lower run of Little Falls with some difficulty, it was immediately obvious that it was not going to be possible to get through the second and more difficult run. Reluctantly, the decision was made to turn back downstream and the party disembarked at Double Run at about 1 pm after enjoying a pleasant lunch on board.

Since the group was still anxious to visit Crooked Tree Lagoon, it was decided to go by road. Recent reports from residents of Crooked Tree Village who had been going in and out by truck indicated that the road was "much improved." Apparently what they meant to say was that the road had dried out. After 16 miles of fighting sun-baked ruts made by freight trucks in the muddy Crooked Tree road, the four Land Rover drivers and their well-shook-up passengers breathed a concerted sigh of relief on finally sighting the lagoon. (We'll omit the gory details of the return trip.) At the lagoon edge the telescopes were set up and the visitors were rewarded with good views of several birds rather unfamiliar to them such as the Everglade Kite, Least and Pied-billed Grebes, Limp-

kin, White-tailed Hawk and what appeared to be a couple of Yellow Rails, which had not previously been recorded from here. They were so far away that identification was difficult, but members of the group from Miami who knew the bird felt that it was the small Yellow Rail.

During the late afternoon, the group drove in to Salt Creek Estate where they saw a number of hummingbirds, including the Plain-capped Starthroat, which had not been previously reported from this country, and also the Rose-throated Becard, which was new to the visitors, as well as the lovely little Hooded Warbler.

All in all, it was felt that the day was a very successful, if somewhat arduous, one and a total of 84 species was identified during the trip. (*BAS Bulletin* of February 1971)



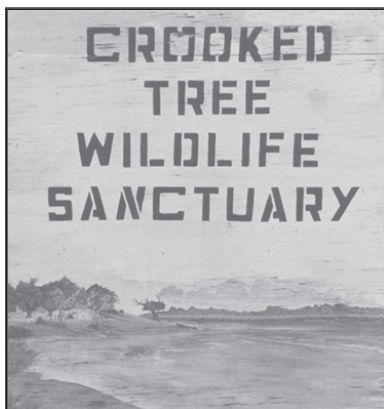
Lydia Waight (center) points out birds to visitors on a boat trip to Crooked Tree Lagoon

In 1971 Alexander Sprunt IV, Head of the U.S. National Audubon Society Field Office, along with Roland C. Clement and Mrs. Bradley Fisk, did an aerial survey of nesting sites for wading birds all the way from Florida along the coast of Mexico to Belize. Along with BAS Vice President Dora Weyer, they visited Crooked Tree Lagoon in which they were particularly interested because of its many water birds. At the request of the BAS and with the approval of Government, Dr. Sprunt came back in March of 1972 to assess Crooked Tree and make recommendations about its creation as a wading bird reserve. In July he submitted his report and proposal for the establishment of a Natural Area Reserve at Crooked Tree Lagoon. Copies were sent to the Premier, the Minister of Trade and Industry, who was responsible for national parks, and the Chief Forest Officer who was also the Chief Game Warden.

Establishment of the Sanctuary

Crooked Tree Wildlife Sanctuary, the first wildlife sanctuary declared by the Government of Belize, was gazetted on 8 December, 1984, (S.I. No. 95). The areas specified in the Schedule are:

- I. *The Crooked Tree Lagoon Area, which is described as: All that land in the Belize District comprising strips 300 feet wide measured inland from both shores or banks of Calabash Pond, Revenge Lagoon, the creek which connects Revenge Lagoon to Crooked Tree (Northern) Lagoon, Western Lagoon, Poor Hall Creek, Spanish Creek Lagoon, Southern Lagoon and Black Creek, and a strip 300 feet wide measured inland from the eastern shore of Crooked Tree (Northern) Lagoon, as well as all the submerged lands beneath each of the waterways listed above. Also included are approximately 600 acres of land between Western Lagoon and Crooked Tree (Northern) Lagoon, and approximately 2300 acres of land lying between Crooked Tree (Northern) Lagoon, and Black Creek on the south side of the junction*



of these two waterways.

- II. *The Mexico and Jones Lagoons Area, described as: All that land in the Belize District comprising strips 300 feet wide measured inland from both the eastern and western shores of Mexico and Jones Lagoons and also the submerged lands beneath these waterways.*
- III. *All lands leased or granted, which lie within both the areas described, are excluded.*

The Sanctuary is a critical habitat for water birds and other migratory and resident wildlife dependent on water, especially during the breeding season and during the dry season. There is considerable historic value to the area and its logwood forests, and the Sanctuary will protect a gene pool for the logwood tree (*Haematoxylum campechianum*).

The 22,000-hectare wetland area encompasses eight lagoons and Black Creek, which drains into the Belize River. The sanctuary is a subtropical moist zone and includes open water areas, lagoons and ponds with typical floating plants and high biodiversity, especially birds and aquatic communities. Since 1984 Crooked Tree Wildlife Sanctuary has been supported by the Wild Wings Foundation, which continues to provide support for its maintenance.

Management of the Sanctuary

In February of 1985 the first tentative operational plan for the Crooked Tree Wildlife Sanctuary, drafted by David Lovell, was presented to the Minister of Natural Resources through his Permanent Secretary. From April to June of 1986, Operation Raleigh, an organization of British young people, worked at Crooked Tree as volunteers. With funds provided by the Wild Wings Foundation they constructed a Visitor Center and marked the boundaries of the reserve. The area around the Center was fenced, signs were erected, the center was furnished and educational displays constructed. A Goshen College intern, Emily Fisk, worked at Crooked Tree for six weeks in the Summer of 1986, assessing the tourist potential of the village. Besides this work she screened the Visitor Center and started building a latrine. From 1986 through 1988 Peace Corps Volunteer Jennifer Ellsworth Sanchez was stationed at the Center. Steve Tillett was appointed as the first warden in 1987.



The Crooked Tree Wildlife Sanctuary Visitor Center in 1986.

The Visitor Center was built on land leased from John Jex for ten years. His property is at the entrance to the village at the end of the causeway. When that lease ran out in 1996, the Visitor Center was moved to the other end of the causeway and the displays were improved. But after a continued period of high water from Hurricane Mitch, the Visitor Center was moved back to the village end of the causeway in 1999.

Community Public Awareness Forum

On February 11, 1995, a Community Public Awareness Forum was held in Crooked Tree Village to forge a closer working relationship between the Sanctuary, the BAS and the people of Crooked Tree Village. Over 50 villagers attended the Forum.

Causeway

From the time the Ministry of Works constructed a causeway across the Crooked Tree Lagoon connecting the village with the Northern Highway in 1983, BAS expressed concern that the natural flow of water through the lagoon had been interrupted. A field trip to investigate the matter was taken in August of 1983. Some villagers were requesting that culverts be installed to allow free flow of the water in the lagoon. In late 1986 an especially severe storm with strong northerly winds dashed three-foot high waves against the causeway,

causing water to flow over at low spots and severe erosion damage to the road shoulders. Again the request for culverts was raised. In the Fall of 1992 the problem was solved with two 20-foot-wide cuts in the causeway, allowing the natural flow of water to return to Crooked Tree Lagoon. Bridges were constructed so traffic could pass.

Research Projects

Peace Corps Volunteer Tom Meekin, the husband of Catherine Meekin who worked in the BAS Office, made a fishery survey of the Crooked Tree Lagoon in 1985.

Researchers from the University of California at Davis studied wetland communities in northern Belize from 1993 to 1995. They analyzed plant, water and soil samples. They found that the dominant plant species are cattails (*Typha domingensis*), sawgrass (*Cladium jamaicense*), and rushes (*Eleocharis cellosa* and *E. interstincta*).

Volunteer Woodard Miley worked at Crooked Tree May 26 to June 7, 1994. He established a baseline water quality monitoring programme, a recording procedure for recreational and commercial fish catch, and made additions to the draft management plan. His



*Donald Tillett (left) and Rennie Jones testing
the water in Crooked Tree Lagoon*



Warden Rennie Jones conducts a tour of Crooked Tree Lagoon

work was conducted under the Farmer-to-Farmer Programme of the Florida Association of Voluntary Agencies for Caribbean Action. Equipment was provided to the Sanctuary and personnel were trained in its use.

Progressive Ladies Group

Peace Corps Volunteer Jane Mackler, wife of Robert Mackler, helped the women of Crooked Tree Village to organize the Progressive Ladies Group. The group was formed in September, 1993, sponsored by BAS. In March of 1994 they received a grant from the United Nations Development Programme under "Partners in Development," to work on income-generating projects.

Boardwalk

On September 15, 1997, the Belize Audubon Society and the British High Commission inaugurated a new Interpretive Boardwalk for the Crooked Tree Wildlife Sanctuary (CTWS). Situated north of the village of Crooked Tree, the boardwalk, the first of its kind in the entire country of Belize, extends for some three quarters of a mile through the lush lowland subtropical forest of this area, alongside the beautiful Crooked Tree Lagoon.

The boardwalk is accessible by small boats during the rainy season, and by vehicular traffic during the dry. This facility is a valuable tool for the Belize Audubon Society's Environmental Education Programme, and for the CTWS wardens to patrol and monitor this area, thereby ensuring the integrity of its flora and fauna. The boardwalk was built through the kind volunteering efforts of Raleigh International, CTWS park personnel, and locals from Crooked Tree Village. Funding was provided by the British High Commission.

Observation Tower

On Friday, March 13, 1998, the Belize Audubon Society and a volunteer group known as Trekforce Expeditions of the United Kingdom, officially opened a 25-foot Bird Observation Tower just a few miles south of the populated heart of the Crooked Tree Village. It offers anyone fond of the great outdoors, a spectacular view of the Crooked Tree wetland complex, home to myriads of migratory and resident water birds, and other fascinating wildlife. The Observation Tower also offers the observer a pleasant view of the enchanted Chau Hiix Mayan Site, and makes it an ideal area for education and recreation.

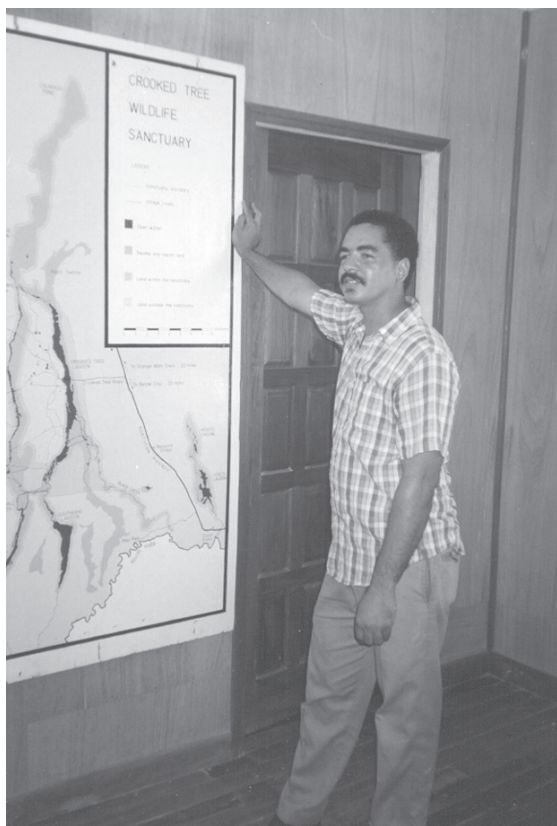


*Trekforce volunteers building the Observation Tower
at Crooked Tree Wildlife Sanctuary*

RAMSAR International Wetland

The RAMSAR convention is an intergovernmental treaty that provides the framework for international cooperation in the wise utilization of wetland habitats. The Convention entered into force in 1975 and presently has 96 contracting parties that have so far designated 858 areas, totaling 55 million hectares, as "Wetlands of International Importance."

On February 26, 1998, the Minister of Foreign Affairs signed the Instrument of Accession to the Convention on Wetlands of International Importance especially as Waterfowl Habitat, known as the RAMSAR Convention. The Crooked Tree Wildlife Sanctuary became the first RAMSAR site in Belize on August 22, 1998.



*Crooked Tree Wildlife Sanctuary Director
Donald Tillett shows map of Sanctuary*



The Blue Hole
Blue Hole National Park

The Blue Hole on the Hummingbird Highway was a favorite destination for field trips organized by Vice President Ford Young. In addition to the opportunity of taking a refreshing dip in the pool, there was good birding. The Blue Hole is a sinkhole in the limestone and has a small stream emerging from a siphon on one side and disappearing into a cave on the other side.

On a recent field trip to the Blue Hole, members of our Society were pleasantly surprised to find that neat concrete steps with a good, solid handrail had been built from the highway down to the bottom of the sink hole. They were also very pleased to note that the surrounding vegetation had not been destroyed.

Our Society would like to commend your Ministry for doing an excellent job of providing safe and easy access to this attractive spot. (Letter to the Minister of Trade and Industry, March 21, 1972)

Just a note to assure you that your Bulletin and Field Trip Reports are read and the contents carefully noted by the officers concerned with National Parks and Conservation here at the Ministry.

We were particularly flattered by the generous reference to the Ministry's little effort at the St. Herman's Blue Hole in the March Bulletin (Vol. 4, No. 1). More is to follow there and we hope this, also, will add to the enjoyment of visits to the area. (Letter from Ronald

Clark for the Permanent Secretary, Ministry of Trade and Industry, April 27, 1972)

Ten years later the steps needed attention.

On a recent visit to the Blue Hole on the Hummingbird Highway, it was noted that, on account of erosion that has been going on, the concrete steps have fallen into the Blue Hole.

Our Society would like to request that the steps be replaced and efforts be made to arrest the erosion. The Blue Hole is one of our best tourist attractions and is well patronized. The steps and railings added greatly to its accessibility.

We trust our request will be favourably considered and something done about it. (Letter to the Permanent Secretary, Ministry of Trade and Industry, November 12, 1982)

The 575-acre Blue Hole National Park (BHNP) was established when S.I. No. 109 of 1986 was signed by Hon. Dean Lindo, Minister of Agriculture, on November 23, 1986. BHNP has been managed by the Belize Audubon Society ever since and includes the Blue Hole, a sapphire-coloured natural swimming spring, and the almost half-mile long St. Herman's Cave. That same year a landscape artist from Panama sponsored by CATIE assisted in the design of use areas and a trail system for BHNP.

In 1988 funds from the MacArthur Foundation were used to construct a retaining wall to prevent erosion around the concrete stairway. A trail was cleared from the Blue Hole to the opening of St. Herman's Cave. The grant also provided salaries for wardens for both the GNP and the BHNP.

The same committee headed by Peace Corps Volunteer Robert Mackler that prepared the Management Plan for GNP, also prepared a Management Plan for BHNP, which was completed in 1994.

Guard Post at Blue Hole National Park

The guard post at Blue Hole National Park, constructed with funds from NARMAP, was handed over to the Forest Department on July 28, 1994. The BAS was asked by Forestry to man the post, so Derric Chan, Cayo Parks Head Warden, lived there.



*The Visitor Center at Blue Hole National Park
was opened on May 8, 1996.*

Adjacent Private Reserve

An agreement was signed on November 15, 1994 between the Christian Environmental Association (CEA) with national headquarters in San Jose, California and the Belize Audubon Society to permanently conserve land adjacent to the Blue Hole National Park.

Under this agreement, CEA was to raise funds to purchase 4,000 acres from Caribbean Investment Ltd. by 2001, which they will then convey to BAS. BAS conserves and manages the property under guidelines consistent with the management plan developed for BHNP.

RARE Trail at BHNP

On Thursday, November 27, 1997, the Belize Audubon Society officially inaugurated the uniquely designed RARE Trail, which was named for Rare Animal Relief Effort, the funding agency that made its construction possible. The trail extends for some two miles over rugged landscapes, and through the lush tropical forests of this 575-acre protected paradise. The RARE Trail features several campsites, a spectacular observation platform, and an array of beautifully painted interpretive signs. Majestic mahogany trees tower above the path and enchanted wildlife captures attention as one traverses in the midst of unique geological limestone rock formations, the spectacular cave complex, and archeological sites believed to have been occupied by the ancient Maya.

Cockscomb Basin Wildlife Sanctuary

Establishment of the Sanctuary

In the early 1980's concern for the jaguars of Belize was raised from two different places. James Hyde, Permanent Secretary for the Ministry of Natural Resources, had been approached by a citrus farmer who had encountered jaguars in his orchard. Mr. Hyde asked the BAS for a study of jaguars. At the same time, Archie Carr III, Assistant Director of the International Division of the New York Zoological Society, ran across references to jaguars in Belize in hunting magazines. He was in contact with Dora Weyer and asked if BAS would like a study of the jaguars of Belize.

Dr. Alan Rabinowitz was assigned to this task and supported by the New York Zoological Society (Wildlife Conservation Society). He first did a country-wide study of jaguars and chose the Cockscomb Basin for his two-year study. At the end of his study in 1984, Dr. Rabinowitz, with the help of Dr. Carr and members of the BAS, persuaded the Government of Belize to establish the Cockscomb Basin Forest Reserve and declare it a "no hunting" area (S.I. Nos. 93 and 94 gazetted 24 November 1984). The Forest Reserve was established under the Forest Ordinance and the "no hunting" area was under the Wildlife Protection Act.



The Cockscomb Basin Wildlife Sanctuary when it first opened in 1986. BAS Executive Director Mickey Craig is second from the left and BAS President James Waight is on the right

The World Wildlife Fund wanted to support this project, but they were concerned that the Forest Reserve was not enough protection. When BAS learned that 1,456 hectares had been excluded from the timber concession in the Forest Reserve, they were supported by WWF, CATIE and the New York Zoological Society in their request that this area be designated as a wildlife sanctuary.

Hon. Dean Lindo signed the Statutory Instrument declaring the Cockscomb Basin Wildlife Sanctuary on February 26, 1986 (No. 32 of 1986). This gave that area complete protection and paved the way for funding from World Wildlife Fund-U.S.

Management of the Sanctuary

A five-year management plan for the Cockscomb Basin was requested by the Minister. To accomplish this the Cockscomb Basin Management Planning Workshop was held at the Cockscomb Basin Wildlife Sanctuary from March 24 to April 5, 1987. The workshop was sponsored by World Wildlife Fund-U.S. and facilitated by Alan Moore, Wildlands Planner.

Excerpts from the "Short Term Management Proposal" for the Cockscomb Basin Wildlife Sanctuary

Objectives:

To initiate resource protection within the Cockscomb Basin Forest Reserve, the first area to be designated specifically for the protection of the jaguar.

To facilitate tourism based on the natural resources of the Cockscomb Basin, which will ultimately provide an economic basis for the areas of protection.

To demonstrate the compatibility of nature-based tourism and scientific research with controlled resource extraction.

To develop and carry out environmental education activities in the area.

To enlist the support of the local communities and involve them in the development and operation of the preserve.

To assist the Ministry of Natural Resources in any way possible in the development of wildlands management programmes.

Implementation:

The Belize Audubon Society is prepared to undertake the financial administration and oversight of the project with the assistance of NYZS, WWF-US and CATIE. WWF-US has already contributed \$5,000 US for the making and erection of signs and gates, establishing trails, and hiring men to monitor traffic in and out of the reserve. . .

To aid in resource protection a minimum staff of one chief ranger and two assistant rangers will be recruited. . . .

Signs have been constructed and will be placed strategically to help promote awareness of and visitation to the reserve. An entrance station will be built in Maya Center, where information (brochures, etc.) can be distributed and artisans will be able to display and sell their work. The access road will be improved in cooperation with the concessionaire. A thatched visitor's center will be constructed where exhibits can be displayed. Thatched and screened sleeping huts for up to thirty people will be built and also a kitchen/dining room/lecture hall. A potable water system will be installed. All facilities will be built by local labour and will use locally available materials. Guides will be recruited and trained from the local populace.

The Cockscomb project will be used as a focal point of an environmental education programme which will be presented to Mayan communities surrounding the reserve, Dangriga and nationwide.



Cockscomb Basin Wildlife Sanctuary Management Workshop sponsored by the World Wildlife Fund, 1987



The wardens for the Cockscomb Basin Wildlife Sanctuary with visitors (from left) WWF Programme Officer for Central America Steve Cornelius, Pio Saqui, Ignacio Pop, Emiliano Pop, Alfonso Ical, Park Director Ernesto Saqui and an unidentified visitor

Ignacio Pop and his son, Pedro, were hired as the first wardens. Peace Corps Volunteer Dan Taylor, a specialist in wildlife management, was assigned to the CBWS 1986 to 1987. Ernesto Saqui was hired as Park Director in May of 1987 and the staff has continued to grow.

On February 6, 1988, the 19th anniversary of the BAS, HRH Prince Philip, International President of the World Wildlife Fund, visited the CBWS. He presented an award to Ignacio Pop and planted a mahogany tree. More than twenty years later that tree has grown over thirty feet tall.

HRH Prince Philip planting mahogany tree in 1988 with Therese Bowman (Rath) and Ernesto Saqui watching →



Expansion of the Cockscomb Basin Wildlife Sanctuary

Therese Rath

The success of any protected area is integrally dependent upon the actions of the people and communities that live around and within it. If only for this reason alone, the November 6 ceremony at Maya Center marking the expansion of the Cockscomb Basin Wildlife Sanctuary from 3,600 to 102,000 acres was a definite success.

Plans started going awry the day before when continuous rains closed the entrance road to all but four-wheel drive vehicles. Alternate plans were quickly made to hold the signing ceremony at the primary school in Maya Center Village. We were set to begin at 9 am and by 8:30 there was an impressive audience including the Minister of Natural Resources, the Hon. Florencio Marin, Senator Conrad Lewis from Hopkins Village, Representative Stanley Usher from Toldeo, Chairmen of all the neighbouring Village Councils, representatives from the two citrus factories, large and small nearby farmers, BTIA representatives and the entire population of Maya Center Village.

Bad weather in Belmopan finally cancelled the departure of a helicopter carrying the President of the World Wildlife Fund-U.S., Kathryn Fuller; BAS President, Janet Gibson; BAS Acting Executive Director, Dolores Godfrey and Permanent Secretary in the Ministry of Natural Resources, David Gibson, who was carrying the papers to be signed. . .

Legal documents were not signed that morning in Maya Center, but anyone who was there will tell you that there was no better way to mark this historic occasion than by having all sectors of the community sitting in a crowded one-room schoolhouse in support of such a momentous event.

By 4 pm Minister Marin had made the trip by road back to Belmopan and a small group gathered in his office to witness the historic event . . . Mr. Marin then signed into law Statutory Instrument No. 127 of 1990, Wildlife Sanctuary Declaration (Cockscomb Basin)(Amendment) Order, which was gazetted on November 17, 1990.

In her brief address to the gathering BAS President Janet Gibson congratulated Mr. Marin and the Government of Belize for having foresight and an enlightened attitude in the protection of Belize's natural patrimony. She concluded by

accepting the challenge to manage the expanded CBWS to the best of our ability. (*BAS Newsletter* October - December, 1990)

It is not often that a country takes a step as important for conservation as Belize takes today under your leadership. Through the expansion of the Cockscomb Basin Wildlife Sanctuary to encompass 100,000 acres, protection of an extraordinary area rich in plants and animals and critical as a watershed will be multiplied thirty times over. . . You are setting an example for the entire world to emulate and you have my warmest and most enthusiastic congratulations. (Letter to Hon. Florencio Marin from Katherine S. Fuller, President, World Wildlife Fund, November 6, 1990)



Signing of the Statutory Instrument that expanded the Cockscomb Basin Wildlife Sanctuary (from left) Hon. Florencio Marin, Minister of Natural Resources; Hon. Glenn Godfrey, Minister of Tourism and the Environment; BAS President Janet Gibson; BAS Executive Director Dolores Godfrey; Sharon Matola, Director of the Belize Zoo; Joy Grant, Executive Director of Programme for Belize; Dr. Victor Gonzalez, Chief Environmental Officer

Further Expansion of the CBWS

In 1997 the CBWS was further expanded to 120,000 acres, including the section to the south that connects the CBWS with the Bladen Nature Reserve. This makes a continuous corridor of protected areas totaling 250,000 acres.

Maya Center Women's Craft Group

In 1987 the women of Maya Center organized a craft group. A craft shop was built at the intersection of the road to the CBWS and the Southern Highway where the gate to the CBWS is located. The Women's Craft Group is in charge of the gate and the registration of visitors. This has become a very successful business.



Maya Center Women's Group in front of their Craft Shop

CBWS Visitor Center

On March 29, 1993, the new Visitor Center in the CBWS was opened. The center was built by villagers of Maya Center and the excellent displays were the work of Peace Corps Volunteer Bonnie Gestring, who followed the plan designed by artist Deidre Hyde of WWF Costa Rica. BAS Executive Director Virginia Vasquez presented awards to the winners of the poster contest held at the Maya Center School. Music by the local marimba enlivened the ceremony.



(from left) BAS Protected Areas Manager Pamela Scott with Ofelia Pop, Ramona Pop, Tomasa Pop, and Prudencia Pop, members of the Maya Center Women's Group



Bonnie Gestring (above) and Pio Saqui (below) speak at the opening of the new Visitor Center in 1993





*Hikers approach Ben's Bluff on one of the trails in the
Cockscomb Basin Wildlife Sanctuary*



*Park Director Ernesto Saqui on a trail in the
Cockscomb Basin Wildlife Sanctuary*

New Tourism Facilities

Through a grant from NARMAP, the CBWS developed new, environmentally-friendly tourism facilities with composting toilets, and solar-generated electricity and water systems. The new dormitory accommodates 24 persons. Another new building has a central kitchen and dining room. A private cabin was built by Raleigh International volunteers with support from the British High Commission. The new facilities were opened on September 22, 1996.



BAS Secretary Jean Shaw and British High Commissioner Gordon Baker cut the ribbon opening the new facilities at the CBWS



Bernarda Pop (Choc), Celestina Pop holding baby Estevan Pop, and Claudia Saqui of Maya Center in front of the new kitchen/dining room building at the opening of these facilities in 1996

New Trails for CBWS

In 1995 a new backpacker campground called Tiger Fern Campground was developed on the pine ridge overlooking the entire Cockscomb Basin. Subsequently, a double waterfall was found nearby. Also in 1995 Raleigh International made a trail to the Outlier with backpacker campsites an hour's hike from the peak.

Advisory Committee for CBWS

As a result of a village meeting held at the end of October, 1997, in Maya Center in the Stann Creek District, an 11-member Cockscomb-Maya Center Advisory Committee was formed. The meeting brought together about 50 villagers, as well as representatives from the BAS, and the Forest and Police Departments. The meeting was called to address concerns presented by the villagers of Maya Center in regard to their relations with BAS and the Cockscomb Basin Wildlife Sanctuary.

The advisory committee was chosen as follows: eight leaders from Maya Center, two BAS representatives and a representative from the Forest Department. The eight Maya center members represent the Village Council, the Women's Group, the two religious denominations, the local school, and the tour guides. At their inaugural meeting on November 7, 1997, members of the Advisory Committee elected Ernesto Saqui as Chairman, Margarito Bolon as Vice Chairman, and Osmany Salas as Secretary.

The following were accepted as the Purposes and Objectives of the Committee:

- To bring together the major stakeholders,
- To work together, consult and advise for the Sanctuary,
- To meet every three months, or more frequently,
- To discuss plans, issues, developments and activities,
- To discuss problems, concerns, complaints and grievances,
- To seek to arrive at solutions together, and
- To advise the BAS in the employment of people from the buffer zone communities to work in the Sanctuary.

Committee members met weekly during the month of November to address the most outstanding and pressing issues, namely: 1) staff issues, 2) entry fee tickets, 3) entrance fee exemption for Maya Center, and 4) Sanctuary management issues.

Research in the Cockscomb Basin

For many years, even before the Sanctuary was established, the Cockscomb Basin has held a great attraction for explorers and scientists. The first expedition was conducted by then Governor Roger T. Goldsworthy in 1888 and others followed in 1927 and 1928, all looking for the highest point in Belize, Victoria Peak. The first zoological study was done by the Carnegie Institute in 1935. Stephen Russell collected birds in the late 1950's; Alan Rabinowitz, Ben Nottingham, and Michael Konecny studied jaguars and other cats in the early 1980's; Daniel Taylor studied reptiles and bats; Jan Meerman and Tineke Boomsma studied butterflies, dragonflies and damselflies; and Philip Elliot netted and banded birds; to name a few.

The most ambitious project was the reintroduction of black howler monkeys spear-headed by Fred Koontz, Robert Horwich, and Ernesto Saqui. From 1992 through 1994, sixty-two monkeys were translocated from the Community Baboon Sanctuary to the CBWS. Nearly all survived and the population is expanding at a rapid rate. Several troops took up residence near the Park Headquarters and are regularly seen and heard by visitors.

In May of 1995 the Maya Mountain Archological Project rediscovered a Maya site within the CBWS called the Pearce Ruin, one of the largest in southern Belize, and found two additional smaller sites.

Two graduate projects, James Kamstra's ecological survey of the Cockscomb and Kate Emmons' environmental education work, along with chapters written by Robert Horwich formed the basis of a major book about the CBWS. Twenty other authors and artists contributed to this 1996 book, which was edited by Judy Lumb.

Maya Mopan Entrance for CBWS

In 1997 a second entrance was begun for the CBWS. Trekforce volunteers carried out an expedition to the West Basin, starting from the village of Maya Mopan, to begin the process of cutting trails. The next Fall another group of Trekforce volunteers built latrines at this entrance, but that project was halted a couple of days before completion due to Hurricane Mitch.



Community Baboon Sanctuary Director Fallett Young at the trail entrance. The monkey bridge over the road (below)

Community Baboon Sanctuary

The Community Baboon Sanctuary was established in 1985 to protect one of the few healthy black howler monkey (*Alouatta pigra*) populations in Central America. The sanctuary is a completely voluntary grassroots conservation programme. BAS worked closely with the CBS Management Committee, composed of landowners from the eight Belize District villages included in the project.

The villagers of Bermudian Landing have taken an important step in protecting our natural heritage. They have pledged to support a Community Baboon Sanctuary by using their lands in accordance with a management plan which will benefit the Black Howler Monkey,



known locally as "baboon," and all wildlife, as well as the river and its forests.

They will not cut down trees, such as figs, roseapple, trumpet, bokut, hogplum, sapodilla, and bay cedar, which provide food for the baboons. They will leave strips of forest on either side of waterways, between property boundaries, and around plantations, in which the baboons can travel and feed. The programme will benefit landowners directly by reducing erosion and conserving the water table.

The Black Howler Monkey is an endangered species with a very limited range, which includes Belize, southern Mexico and northern Guatemala. (Press Release March 15, 1987)

In January of 1987 funds were received from the World Wildlife Fund for the CBS administered by the BAS. Fallett Young was hired as the Sanctuary Manager. In December of 1987, an additional grant was received from the Zoological Society of Milwaukee County. In 1990 a grant from Inter-American Foundation (IAF) was awarded to establish a revolving fund from which loans were made to persons in the Sanctuary desiring to develop small tourist accommodations on their property. The Museum was opened in the Visitor Center on April 8, 1989, the first natural history museum in Belize.

In 1996 the BAS ended its period of oversight of the Community Baboon Sanctuary and the CBS has operated independently ever since.

Society Hall Nature Reserve

Statutory Instrument No. 108 of 1986, gazetted 6 December 1986, cited as the "Nature Reserve Reservation (Society Hall) Order, 1986," declared the area specified in the schedule to be a Nature Reserve. This area was donated to Belize by the owner, Mrs. Svea Dietrich Ward. Mrs. Dietrich-Ward came to the BAS Board Directors meeting on February 12, 1987. She told the meeting that the area was an old mahogany claim, a little less than 7,000 acres between Roaring Creek and Barton Creek, five to ten miles south of the Western Highway and just north of the Mountain Pine Ridge. Mrs. Dietrich-Ward explained that when they bought the land in 1974, there was no National Parks System Act on the books. So they put the land down as a Nature Reserve which they gave to Government, except for 300 acres they

had sold and 50 acres which they kept for themselves. Society Hall Nature Reserve was included among the protected areas the BAS manages. The Government then leased the land back to the Wards and that lease was transferred into the name of the BAS in August of 1990. The name was changed to Tapir Mountain Nature Reserve (TMNR) on July 16, 1994.

Peace Corps volunteer Amy Smith focussed her work on the TMNR from 1994 to 1996. Support was obtained from the Nature Conservancy to allow David Tzul to be hired as a warden.

Hike and Bike for the Rainforest, sponsored by Coca Cola, was a fund-raising programme in October of 1994 that raised money for TMNR. A motorcycle was also donated to TMNR by International Conservation Relief, the organization behind "Hike and Bike."

The biological survey of TMNR that was completed in December of 1994 recorded 129 species of migratory and resident birds, ten mammals, 160 species of plants, 21 species of damselflies and dragonflies, 96 species of butterflies and moths, three species of fish, one amphibian species, and 12 species of reptiles.

The Friends of Tapir Mountain Programme was organized at a TMNR Community Workshop and Interpretative Field Trip on September 3, 1995, at Pook's Hill Lodge near the northeast corner of the Reserve. Village leaders, school teachers, students, and community health workers from seven nearby villages participated, 17 in all.

A Community Resource Center was built for Tapir Mountain Nature Reserve by Raleigh International with support from the Canada Fund Project in Belize. The Center was opened on May 5, 1997, in the presence of representatives of the buffer zone communities, Blackman Eddy, Roaring River, Ontario, Unitedville, Georgeville, Teakettle, San Antonio and Upper and Lower Barton Creek.

A guidebook was written by Amy Smith, illustrated by Mike Maurico, and published by the BAS.

Bladen Branch Nature Reserve

Statutory Instrument No. 66, cited as "The Nature Reserve Reservation (Bladen Branch) Order 1990" was gazetted on June 9, 1990. This 97,000-acre reserve is situated in the Toledo District along the Main Divide of the Maya Mountains, including the Central River, Bladen Branch and Richardson Creek.

Bladen Branch Nature Reserve is part of a continuous corridor of protected areas in the Toledo District, which includes Paynes Creek National Park, Port Honduras, Deep River Forest Reserve, and Maya Mountains Forest Reserve. It was also connected to the Cockscomb Basin Wildlife Sanctuary in the Stann Creek District when some 40,000 acres were added to the Sanctuary's southern boundary. Continuous corridors are very important for the maintenance of genetic diversity in wildlife populations.

Although the BAS never had official management responsibility for the Bladen Branch Nature Reserve, it was assumed for some time and BAS did act in that capacity. For example, a Rapid Ecological Assessment of the Bladen Branch Nature Reserve was carried out in March of 1993 by students and staff members from the BAS and The Nature Conservancy.

Shipstern Nature Reserve

Shipstern Wildlife Reserve and Butterfly Farm was established in 1987. The area of some 22,000 acres in the Corozal District includes northern hardwood forest, saline lagoon systems and mangrove shoreline.



Donald Tillett (left) accepts management of the Shipstern Wildlife Sanctuary on behalf of BAS from Jan Meerman (right)

On July 1, 1994, the International Tropical Conservation Foundation (ICTF) of Neuchatel, Switzerland, and the Belize Audubon Society signed a one-year contract for the management of the privately-owned Shipstern Nature Reserve. Under the contract, BAS managed the reserve with the ICTF providing the funds. This arrangement continued until 1997.

Green Reef-Belize

Green Reef-Belize is a private, non-profit membership organization dedicated to the promotion of sustainable use and conservation of Belize's marine and coastal resources. Green Reef was founded in June, 1996, by a group of concerned citizens and residents of San Pedro, Ambergris Caye, who are very much aware of the environmental and social problems affecting the community. In April, 1998, BAS signed a Memorandum of Understanding with Green Reef-Belize for the management of two bird sanctuaries located near Ambergris Caye. BAS facilitated the production of Green Reef's Strategic Plan, assisted with development of funding proposals, and co-sponsored the application for a volunteer from the Peace Corps.



An agreement is signed between Green Reef-Belize and BAS (from left) Alberto Nuñez, Mayor of San Pedro; Carlos Santos, BAS Vice President; and Osmany Salas, BAS Executive Director



The agreement is signed for BAS to manage the Blue Hole and Victoria Peak Natural Monuments (from left) Oswaldo Sabido, Acting Chief Forest Officer; BAS President Pepe Garcia; Hon. John Briceño, Minister of Natural Resources and the Environment