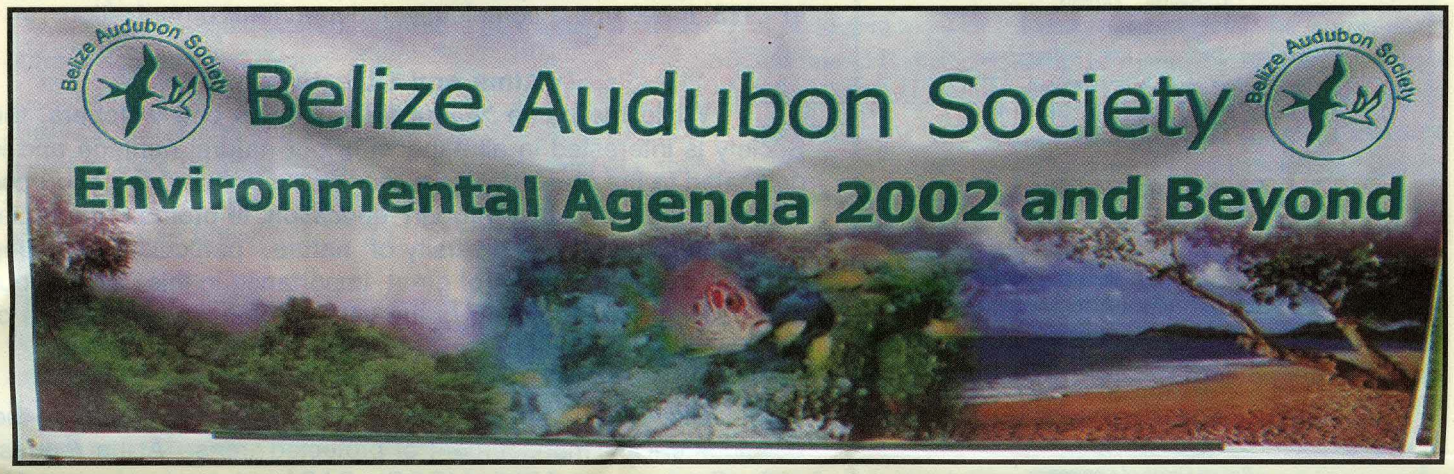
Belize Audubon Society
NEWSLETTER

Vol. 34 No. 1 June 2002



Key environmental policy makers attended the Belize Audubon Society launch of "*The Environmental Agenda 2002 and Beyond*" at the Radisson Fort George Hotel on Earth Day, Monday 22nd April. Ministers of government, representatives from UDP and We the People, the diplomatic corps, the commercial sector, the non-governmental community and other invited guests were introduced to BAS' uncompromising assessment of the state of the environment, intended to influence all sectors to take action on key issues to secure long-term sustainability of Belize's environment and natural resources for the benefit of all.

BAS President David Craig presenting the Agenda to Hon. Johnny Briceño, Minister of Natural Resources.

The Agenda details concerns within 12 key sectors that directly impact the environment, and Valdemar Andrade, Executive Director of BAS, presented a summary, focusing on the overarching concerns of lack of policy and outdated legislation, insufficient enforcement of laws and underfunded statutory bodies, poor inter-agency coordination and insufficient consultation, accountability and transparency. David Craig, President of BAS, challenged the government to address the problems outlined in the Agenda, and to do so in partnership with other sectors.

A copy of the Agenda was presented to Hon. John Briceño, Minister of Natural Resources, the Environment, Commerce and Indus-

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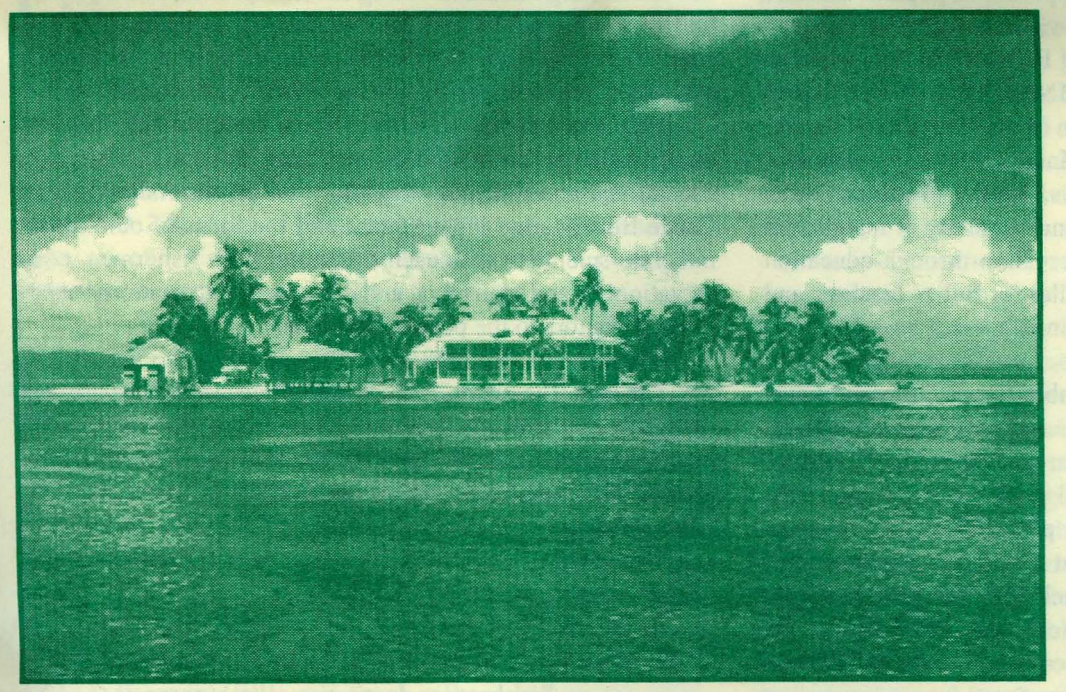
After 30 years, still in love–with the barrier reef of Belize
Anniversary of the Smithsonian Carrie Bow Marine Field Station

A birthday bash is in order because February 2002 marks the 30th anniversary of the day we initiated our coral-reef research program under the auspices of Belize Fisheries and founded a marine field station on tiny Carrie Bow Cay on the southern barrier reef, in Stann Creek District.

Scientists at the Smithsonian National Museum of Natural History (NMNH), Washington, D.C., have long been engaged in coral-reef research throughout the world and across geological time scales. This common interest eventually led to a collaborative initiative among representatives from five science departments, in part to economize our work but mainly to enhance its scientific breadth and focus. We wanted to include reef-related mangroves and seagrass meadows in our program and conduct long-term studies to enhance details and observe slow changes. Many science disciplines are needed for a comprehensive study program and our Institution represents most of them: zoology, botany, geology, and oceanography; systematics, biology, ecology, and paleontology.

In February 1972, Smithsonian Postdoctoral Fellow Arnfried Antonius and I "discovered" Carrie Bow Cay. Looking for the ideal site for our new research program we had already concentrated on Belize because it represents our tropical "home sea", the Caribbean, and its diverse and undisturbed reefs and atolls, close distance to the States, and friendly and environment-conscious people promised to provide the perfect environment for the studies we had in mind. Welcomed by the Bowman family of Dangriga, owners of Carrie Bow Cay, we leased part of this tiny (1 acre) island and founded a field laboratory. Carrie Bow is perched on top of the barrier reef and is geologically and ecologically part of it.

Why would a *museum* like the Smithsonian NMNH initiate such a study and use a field laboratory? People often don't realize that modern natural history museums, like the ones in London, New York, Paris, ours in Washington, and many more, are research institutions with enormous collections of animals, plants, fossils, rocks, and artifacts that were brought together and described in the scientific literature to document the world around us, past and present. Our research is the primary mission, exhibits and educational programs are our way of sharing with the public what we discovered and what still needs to be done. Most of our knowledge of biodiversity, as insufficient as it still is, is the result of biologists studying live animals and plants in their environment, or fossils in their paleoenvironment. We describe species, their morphology, anatomy, reproductive biology, and ecological needs and interactions, and we formulate theories about evolutionary and ecological relations which lead to more research questions. The first part of this work is best done at field stations (some ships have a similar function), the remaining tasks usually require sophisticated instrumentation, comparative collections, and libraries which are available at museum or other laboratories. **(Cont'd pg: 12)**



Carrie Bow Cay and the new Smithsonian Marine Field Station on the barrier reef looking west, March 2000 (Photo: Mike Carpenter)

After 30 years, still in love–with the barrier reef of Belize... (Cont'd)

Over the years, our group at NMNH and many collaborators from scientific institutions elsewhere in the Americas and in Europe, some from as far as Australia, have made substantial progress in exploring and describing the barrier reef near Carrie Bow Cay and the mangroves and seagrass meadows around nearby Twin, Tobacco, and Pelican cays. It is impossible here to mention individual scientists and examples of their work (our periodic progress reports include these) but two of my Smithsonian colleagues stand out for their leadership and sustained scientific contributions: Ian Macintye, a carbonate geologist with strong ties to reef biology and paleoecology as well as editor of the venerable *Atoll Research Bulletin* and co-founder of our program; and Ilka ("Candy") Feller, a biologist who joined us in the early 1980s and became instrumental in advancing our knowledge of mangrove swamp ecology. Because of severe financial restrictions, our research progress was slower than we would have liked but it helped that in 1985 our Museum received an increase to its budget base for the study of Caribbean coral reefs. Our program was since named Caribbean Coral Reef Ecosystems (CCRE).

Most of our work is highly specialized and published in scientific journals but we have also produced popular articles, manuals, field guides and teaching videos. Copies of publications are deposited in the library of Belize Fisheries, voucher specimens currently cared for at NMNH will eventually be part of the core natural history collection of the Museum of Belize. Our surveys helped Coastal Zone Management to identify marine areas, such as the Pelican Cays, worthy of protecting as nature preserves or research sites, and our study of mangroves at Twin Cays led to a series of conservation-through-education workshops conducted by Candy Feller for Belize teachers and resource managers at Turneffe Islands.

The year 1997 was remarkable for us in many ways. Because it had been declared the International Year of the Reef, we wanted to share our enthusiasm for this unique environment with students and the general public on as many occasions as possible, through lectures, poster sessions, and demonstrations, on site in Belize and at the National Museum of Natural History. Another reason to celebrate was that our Carrie Bow marine field station, the logistical base and catalyst of the CCRE program, had reached the respectable age of 25 years (1972–1997). But Neptune must have opted for a rejuvenation of this acclaimed facility, basically an old farmhouse transferred to the cay from central Belize in the 1940s. One "black day" in December, an accidental electric fire aided by termite-riddled lumber and fanned by a strong northerly wind turned most of the station to ashes—laboratory, kitchen, living quarters, even full wooden water vats. At least a dozen old coconut palms were burned or damaged. Valuable equipment was lost, including library, microscope, solar system, weather station, computers and balances.

Needless to say, we were devastated and seriously considered terminating the program at this point. But the Carrie Bow owners were willing to make a new start and cooperate with us in rebuilding a laboratory facility in traditional local style but to our specifications. With the help of a talented local architect-builder we soon had a suitable design and initiated project Phoenix, as we called the rebuilding process and effort to replace lost equipment. Despite a setback caused by hurricane Mitch (in 1998) that caused complete flooding of Carrie Bow Cay and substantial erosion of its shore, we planned to resume a full fieldwork schedule by 1999. Indeed, we rededicated the new laboratory building in August that year and renewed our commitment to collaboration with the Belize Fisheries Department and non-government organizations in the scientific exploration of the Belize coral-reef ecosystem.

Looking back and taking inventory of these 30 years I find very little that we should have done differently. With 650 research publications, our program is one of the most productive and efficient scientific investigations for the money spent. Our experience in the field, only a few meters away, day and night, from the communities we study, has been extremely educational and fulfilling. The closely-knit community of the Carrie Bow Marine Field Station and the focus of our studies integrate scientists with each other and with fishermen, conservationists and managers, and connect an international spectrum of visitors to the people of Belize.

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