THE FIELD NATURALIST

BULLETIN OF THE TRINIDAD AND TOBAGO FIELD NATURALISTS' CLUB

FOURTH QUARTER OF 1994

CLUB EVENTS FOR THIS QUARTER

Proposed Field Trips

Sunday 23 October 1994	Erin Bouffe & Savanna	Trail Guide#29&30
Sunday 27 November 1994	Arena Dam and Forest Reserve	
December 1994	No field trip planned	

Lectures For This Quarter

13 October 1994 John Spence (University of the West Indies),
THE COCOA GENE BANK AND THE PRESERVATION OF BIODIVERSITY

10 November 1994 Wilfred R. Chan (University of the West Indies),
CHEMICAL ECOLOGY OF MARINE ANIMALS

(No Meeting in December)

REPORT ON CARIBBEAN CONSERVATION ASSOCIATION XXVIII ANNUAL GENERAL MEETING IN GUYANA 23 - 26 AUGUST 1994

By Haroon Husain, President Trinidad & Tobago Field Naturalists' Club

I represented the Trinidad and Tobago Field Naturalists' Club at the Caribbean Conservation Association XXVIII Annual General Meeting held at the Georgetown Club, Guyana on 23-26 August 1994.

Delegates spent the first day reviewing CCA's mission statement and developing a strategic plan for the organization. The Annual General Meeting took place on the second day and culminated with the election of individuals and organisations to vacant posts on the Board.

On the third day six field trips were organised for delegates to visit environmentally sensitive projects viz. Barama, Omai, Santa Mission, Irrigation, etc. Field Workshops were held on the fourth day to discuss the issues arising from these project visits including environmental and social concerns. Reports were then presented for each Workshop. The day ended with a few resolutions being passed for action by CCA including a resolution for a comprehensive revision of CCA's constitution.

CCA's membership currently totals 537, comprising 388 individuals, 118 non government organisations and 19 governments.
My presence at the AGM enabled me to establish contacts with various regional and international member organisations and to get an insight into their projects and priorities.
The Club has been a member of CCA since 1969 but has not taken an active part in CCA activities or in becoming aware of the regional and international conservation issues. I would recommend that in future the Club seek election to the Board of Directors of CCA in order to broaden its perspective and enhance its efforts on conservation issues.

Further I would advise organisations and individuals with an interest in conservation, protection and wise use of the region's natural and cultural resources to join the CCA.
Membership type and fees are:

Organisational Member Caribbean	US$	75.00
Associate Member Non Caribbean Institution	US$	75.00
Associate/Individual Member	US$	15.00
Sponsoring Member	US$	250.00
Student Member	US$	5.00

CCA's mailing address is **Savannah Lodge, The Garrison, St. Michael, Barbados W.I.**

EDITOR'S NOTE
I should like to thank all who took time to tell me how much they enjoyed the Third Quarterly Bulletin. Comments *are always* appreciated.
No news about the annual Christmas get together as plans have not yet been finalised. You'll hear about it at the November membership meeting.
Just a reminder - The Annual General Meeting on 12 January 1995; pay your membership dues and be entitled to vote for your new Management Committee.
Finally, a most happy Christmas and an enjoyable season to all from the Management Committee, and of course, yours truly!
R. H.

LECTURES

14 April 1994

Floyd E. Hayes (Caribbean Union College), NATURAL HISTORY AND MYSTIQUE OF THE GALAPAGOS ISLANDS

The Galapagos Islands comprise an archipelago of volcanic islands that straddle the equator approximately 900 km west of the South American continent, in the eastern Pacific Ocean. The marine and terrestrial environments of the islands are influenced by three major oceanic currents: the westward-flowing South Equatorial Current at the surface, the eastward-flowing Equatorial Undercurrent below the surface, and the periodic southward-flowing El Niño Current. The interactions of these currents, combined with the archipelago's relative isolation from the nearest continent, have resulted in the evolution of a highly endemic fauna and flora. The unique morphological

and behavioral adaptations and phylogenetic radiations of the island's organisms have provided biologists, beginning with Charles Darwin, with a unique showcase of microevolution in progress.
During 1984, I spent nine weeks travelling to most of the islands with a biology class from Loma Linda University. The tour provided me with a splendid opportunity to photograph the physical environment and biota of the islands, which are best known for an assortment of strange vertebrates that occur nowhere else in the world. The reptilian fauna includes Geochelone elephantopus (giant tortoise), Amblyrhynchus cristatus (marine iguana) and Conolophus subcristatus and C. pallidus (land iguanas), all of which are endemic and exhibit insular gigantism. Some of the endemic (or nearly endemic) seabirds include the Spheniscus mendiculus (Galapagos penguin), Diomedea irrorata (waved albatross), Nannopterum harris (flightless cormorant), Butorides sundevalli (lava heron), Larus fuliginosus (lava gull) and the nocturnal Creagrus furcatus (swallow-tailed gull). Some of the endemic landbirds include the Buteo galapagoensis (Galapagos hawk), Zenaida galapagoensis (Galapagos dove), four species of Nesomimus spp. (mockingbirds) and a large radiation of Darwin's finches, subfamily Geospizinae, that includes 13 distinct species.

9 June 1994

William Ambeh (University of the West Indies), EARTHQUAKES AND EARTHQUAKE PREPAREDNESS

Almost all earthquakes occur when there is sudden movement (either horizontally and/or vertically) along a new or pre-existing zone of weakness (fault) in the Earth after the accumulation of stress or strain.
The sudden movement along a fault gives rise to seismic waves that emanate from the earthquake source and propagate outward through the earth.
Seismic waves are usually detected by seismometers which when connected to a recording system, is known as a seismograph.
It is often necessary to create networks of seismic stations. A minimum of four seismograph stations can calculate an earthquake's location and time or origin.
The concept of earthquake magnitude was first introduced by the American seismologist Charles Richter in 1935. Richter's original magnitude scale has subsequently been extended to observations on different instruments of quakes at any distance and depth.
The majority of quakes which occur around the world are concentrated along relatively narrow belts marking contacts between the earth's crustal plates.
Seismic risk is the expected or probable loss of life, of damage to property or of disruption to economic activity.
Seismic hazard describes the potential for dangerous, earthquake phenomena such as ground shaking, fault rupture or soil liquefaction which could result in adverse loss of life.
The principle hazards from earthquakes include surface faulting, ground shaking and ground failure while secondary effects are fire and tsunamis (tidal waves) in coastal areas. Five basic strategies that can be undertaken to mitigate the effects of earthquakes include:

a) Preparedness
b) Landuse
c) Building Codes, Standards and Design Practices
d) Insurance Relief
e) Information and Education

Trinidad and Tobago is poorly prepared to deal with the effects of any large earthquake.

8 September 1994

Ann Hilton (Freelance Journalist), THE CHALLENGE OF ENVIRONMENTAL JOURNALISM

The first challenge facing an environment journalist in Trinidad and Tobago is to keep body and soul together. Without some other visible means of support - a private income (if there still are such things) or, as in my case, a husband, an environment journalist in T&T would starve to death.

The second challenge is sorting the wheat from the chaff in all the literature that well-meaning international Institutes, Centres and Associations shower on journalists the world over. It seems that every environment group wants you to write articles on their special interest - be it over-fishing, solid waste, pollution of various kinds, pesticides, protection of special areas - you name it and they'll send books, journals, magazines, pamphlets and papers by the ton on their pet subject. You daren't throw them - well, most of them - away because you never know when you'll need a fact or two here, an opinion or two there to quote in a column to add weight to your argument.

The third challenge is to find space for all this stuff while the fourth is to find the piece you want to quote when you really need it.

Challenge number five is, of course, the English language itself. It's no use knowing the techniques needed to develop a biological control or the deadly effects of industrial chemicals if you can't communicate your concerns to your readers. You will have your basic library of assorted dictionaries, at least one handbook on style, an Atlas or two, dictionaries of quotations and troublesome words, dictionaries of proverbs and phrase fables, myths and legends and a basic Usage and Abusage book to steer you around the pitfalls of English Grammar and punctuation. Even though you have all that, you still need to find an angle that will grab your readers from the first sentence to the last, and be able to translate scientific concepts into language that your readers can understand.

As an environment journalist you need your specialised library of environment literature which includes books like Richard ffrench's *Guide to the Birds of Trinidad and Tobago*, Joy Rudder's *Our Native Land*, T&TFNC's *Trail Guide* as well as - maybe David Bellamy's *Botanic Man* and other expensive international publications.

The sixth challenge is gaining the confidence of the scientific community here. Local scientists are the only people who really know the local scene. One of the rules every young journalist has drummed into them is 'never, never show what you have written to the person you have interviewed.' But this is one rule that was made to be broken by anyone who first takes up environmental journalism.

A scientist has a reputation to maintain in the scientific community. If a young journalist misunderstands what she's been told, or simplifies it in such a way as to change the meaning (and even for the experienced journalist, that's all too easy to do) or twists the story, exaggerates the problem to make her piece more - let's say interesting - the scientist she interviewed to get the story may find him or herself appear to be at least a laughing stock, at most inept and incompetent. If you've the slightest doubt about the smallest detail - check it with your expert. In fact it's often the little, insignificant niggling details that destroy a journalist's credibility - even though they're not essential to your piece.

When you can't check your story by going to see a particular problem area you cover yourself by using phrases like 'it could be,' or 'it may be possible, or "it has been said,' or a simple 'perhaps' or 'may be' followed by some tearing of the hair and gazing into the middle distance for inspiration. The words that hint at what seems to be happening, or what you suspect, are the only way to deal with that challenge as you brace yourself for those you might have offended, or an interest group that disagrees with you. For it is only by publishing what's happening will anything get done - or stopped altogether. The

greatest challenge in T&T is dealing with bureaucracy. Which on the whole would try the patience of a saint let alone a journalist with a deadline to meet.
But perhaps the greatest challenge for any environment journalist is to provoke your readers, to enlist them in the battle to protect and preserve their own environment.
Parliamentarians and powers-that-be know columnists write for their own satisfaction (though not a living wage). But when voters and customers put pen to paper they take notice since voters are a politicians' only power base and every businessman needs customers - or he's out of business.
As an environmental journalist I throw out this challenge to you all. If you really care, write letters to Editors and keep on writing letters until something gets done. And if you don't write - "is Nariva, Aripo Savannahs and all our other environment problems to catch!"

FIELD TRIP REPORTS
By: Dan L. Jaggernauth

1. BOIS NEUF, 25 April1993

Leaving St. Mary's College at 06:06 we arrived at Manzanilla at 08:15. Our tour leader, Paul Comeau, took us through the muddy mangroves in which some of us sank up to our knees in muck. To avoid this, we diverted to the river, bypassing this difficult section. We saw evidence of recent fires where mangroves were burnt, several snakes and hundreds of conchs, Ampullaria gigas, were killed by the flames. Along the river there were patches of roseau palms, Bactris major. One of the villagers who accompanied us called the river "the boat line river", which makes Bush Bush accessible by boat.
At 10:20 we arrived at a hut in the forested area of Bush Bush and a small boat was seen at the river source. A search for monkeys proved futile. By 11:00 we reached a vast area of recently cleared land west of Bush Bush. Large areas of herbaceous swamp were graded for rice production. A large rice shed was constructed in the centre of this area using posts of the moriche palms, Mauritia flexuosa. Upon questioning one of the persons there whether he thought too much of the land was being bulldozed, he replied "they are feeding the nation."
Leaving the rice fields somewhat disgruntled, we journeyed to Bois Neuf, arriving at 11:50. Some of our members decided it was lunch time, while others explored the mud volcano. There was no human destruction of the forest around the volcano. A very small calabash was seen and Mrs. Comeau said it was a very rare species. Some mud flowed from the volcanic area. Other areas showed similar effects.
As we returned, an adventurous field naturalist indicated a cleared area in the Bois Neuf forest with some small wooden boxes and pots, suggesting the recent illegal planting of marijuana.
After several hours of tiring walk we arrived safely at Manzanilla at 16:45.

R. Hernandez

2. POINT RADIX, 26 September 1993

Leaving the University of the West Indies at 06:30, we drove through Valencia, Sangre Grande, and then Manzanilla with thousands of coconut trees on both sides of the road. Continuing the breezy coastal drive, we crossed a bridge over the Ortoire River and after passing through the village, we parked close to the side of the road, on a hill. We started off through the grassy road-way at 08:45. Proceeding on the trail, a farm and a few animals were seen along with a large sandbox tree, Hura crepitans, and clumps of bamboo, Bambusa vulgaris. Cattle egrets, Bubulcus ibis, were sitting on the backs of animals in the pasture.

Another ten minutes walk brought us to the edge of a cliff where we had a good view of Grand Anse beach. Far out in the ocean two drilling rigs could be seen.

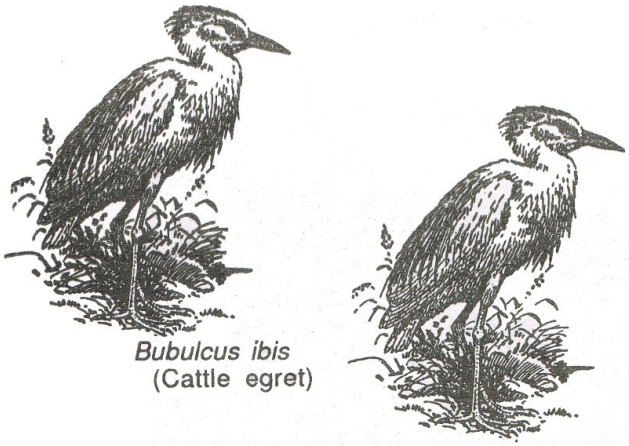
Arriving at Point Radix at 09:35, we were amazed at the length of the beach (approximately 1,900 feet). Our rest stop was under a shady tree which Victor Quesnel identified as the button mangrove, Conocarpus erectus. Some of the field naturalists walked to the south-west end of the beach and observed the land erosion. They noted that the shape of Trinidad could very well be different from present map representations. There was quite an exposed area at this end of the beach with just a few coconut trees with some large nuts.

Eric Ignacio and myself climbed across the middle headland and tied a long rope across, making it easily accessible for other members. Carving some more steps, the ladies walked across with safety belts and were as 'sure-footed' as goats. The beautiful sandy beach on the northern side was very tempting but impossible to reach. The headlands dropped steeply into the sea. The main attraction on the middle headland was the iron oxide deposits, some on the surface and others embedded in the sandstone. A visiting US Geologist said the fossilised structures were caused by the activity of Ophiomorpha (sea scorpions), many years ago.

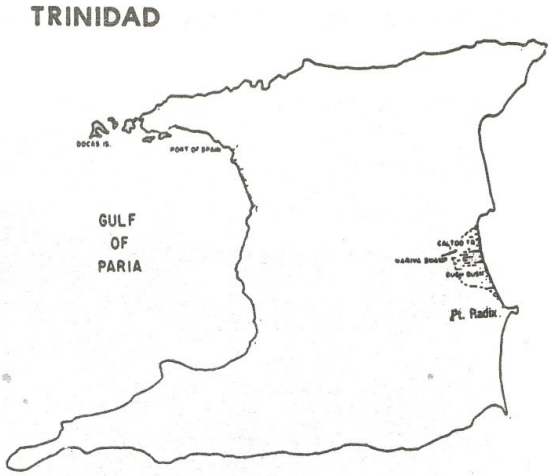
We walked back very carefully and took a sea bath, experiencing a very strong undercurrent. Knowing that it was dangerous for bathing, we frustrated the desires of some non-swimmers. We then heard a fisherman, Bert Peters, shouting to us. He caught a snake-like fish on his hook, and as he came closer, we told him that it was an eel. The large eel was very slippery and as Bert did not eat eel he told us we could take it. Edmund Charles decided to preserve it as a specimen.

Leaving Point Radix at 15:25, Bert Peters from the nearby village took us to Guantaro Point. Arriving there, he showed us an area where he had seen four manatees, Trichechus manatus, about four months previously. Bert told manatee researcher Jalaludin Khan that a return trip in spring time when the waters are less rough, would provide a better opportunity to observe the manatees.

We then left Guantaro Point, returned to our vehicle and drove safely home.



Bubulcus ibis
(Cattle egret)



RICE SPECULATIONS AT NARIVA

By: Paul L. Comeau
c/o National Herbarium

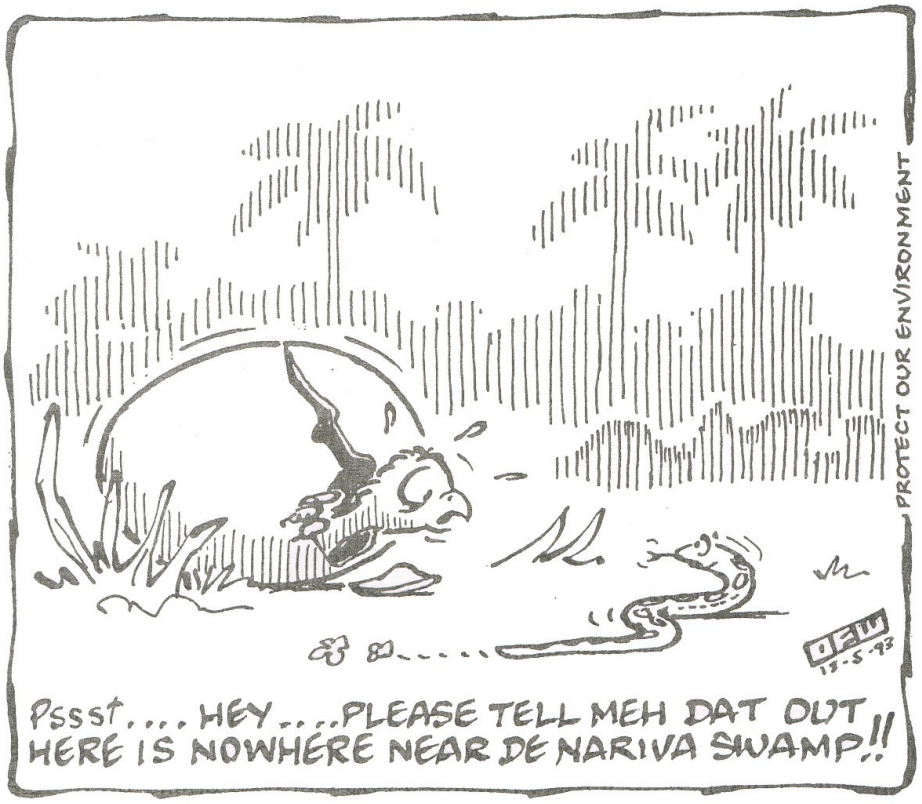
A trip to the Nariva rice fields is a good lesson in the economics of the agri-business industry. Several members of the T&T Field Naturalists' Club recently ventured to Nariva (3 July 1994) to investigate some of the rumors circulating about rice cultivation in the area. Proceeding down the Plum Mitan Road in a Land Rover courtesy of our driver and trip organizer, Ewoud Heestermann, we soon came across a recently cleared forest (near Poole) where 200 acres of rice are being cultivated by an absentee farmer who is appealing a court decision that forced him out of Nariva. It seems he has legal title to the 200 acre block of land. While examining and photographing this small scale production, one of the local residents recognized the author and re-introduced himself as "Thirsty" one of the many guides who accompanied club members to Bois Neuf in April 1993. Small world! According to our former guide, this is not the first time this area has been cultivated for rice. His grandmother can recall the previous occasion, but after the fields were abandoned, the forest returned. "Thirsty" is now worried about the spraying of the rice with chemicals like 2-4D and Propanol, broad-leaf herbicides and how these toxins are affecting his family's cultivation of bananas, citrus and coconuts, not to mention their drinking water.

Proceeding a little further down the Plum Mitan Road (heading towards Biche) we were greeted next, near the Cuche River and Wade Road, by the much larger poultry and rice production fields of Jai Ramkisson, another absentee farmer. The chickens need a quiet environment, away from the traffic noise, to produce lots of eggs for broiler production. Well, they seem to have found it on a 1200 acre spread (formerly a cocoa, coffee and citrus estate) on the Plum Mitan Road. According to Jai's estate manager, Mr. Cozier, the poultry end of the business employs about 120 local people at peak production times while the heavily mechanized rice cultivation employs at best only 20 people thus greatly reducing labour costs. Jai uses the husks from the rice mill to line the floors of his chicken coops. Also, he owns a $1,000,000 combine harvester that wasn't working (in need of repair) at the time of our visit. Apparently he wants to get out of the rice business and concentrate only on chickens. So he rents 800 acres of land to a family of 6 brothers at $600.00 (TT) per acre so they can produce on average about 5000 lbs of rice per acre per annum (2 crops). The most optimistic production figures for rice in Trinidad are 3000 lbs per acre but the second crop is grown under less than ideal conditions, hence the combined total of 5000 lbs per acre per annum. It seems the Japanese can get as much as 8000 lbs per acre. The people growing rice on Jai's farm are paying him $480,000 rent per annum for the land. The government pays a handsome subsidy of 89 cents a pound for rice, so these brothers are grossing about $3,560,000 per annum on production figures of 4,000,000 lbs from their 800 acres. Subtract Jai's rent for the land and use of the combine harvester, plus production costs (aerial and ground spraying) and wages for 20 people and you still end up with a nice profit. I'll leave it to the economists in the club to figure out how much. If you are concerned about all that spray getting into the chicken feed, not to worry. We were informed that the chicken coops have screens which are lowered when the crop-dusters fly over and presumably this keeps all those broad-leaf and worm toxins where they are meant to be, on the 800 acres surrounding the chicken houses. The worm problem is manifested by the number of egrets present, they seem to like these rice pests.

Moving on from the land of Jai and already much enlightened, we eventually found our way into Nariva Swamp via Caltoo Trace. Drainage improvement was underway by a private contractor (this was Sunday) as we entered the swamplands. Nariva on the north west landward side is almost completely under rice cultivation, approximately 6000 acres of the 12,000 acres that are classified as swamp. Some of this cultivated land has

government sanction, some is privately owned, and some is illegally used by squatters. The boundaries for these various areas are poorly defined and that's where the confusion arises both for the courts and conservationists who want to protect what is left of the natural swamp. As we proceeded further and further into this rice zone we crossed that boundary from legal to illegal cultivation. But where? Was it when we drove over a well constructed concrete and steel beam bridge which we were told had been privately built? Was it when we visited an equipment shed with three combine harvesters and several tractors inside (approximate value $3,500,000 TT)? Or was it along the muddy road and recently excavated drainage ditches as we got nearer and nearer to a rain-shrouded Bois Neuf? Who knows? We were told that the two largest rice farmers in the area have about 2000 acres under cultivation. At the current subsidized price, they would be grossing around $8,900,000 per annum on the production of 10,000,000 lbs of rice. Not a bad return, especially if they pay nothing for the use of the land. You can't blame the agri-businessmen for taking advantage of such a profitable loophole that has the government's blessing.

There is no such thing as a free lunch and the environment and fishermen who traditionally use the swamp are currently paying the price of this exploitation. Before leaving the swamp we had the chance to talk with one of those local fishermen. He had been out catching cascadoux from 4:00 until 11:00 am and had less than two dozen fish to show for his effort which he hoped to sell in the market for $60.00. During better days in the pre-agri-business era, he told us he would have caught three times that amount. He blamed the farmers and their heavy use of pesticides as well as the loss of traditional fishing areas. When it comes to the economics of sustainable development in Nariva, forget about the non-profitable natural wildlife downstream that continually is being flushed with chemicals, in the era of megaprofits only rice rules supreme!



INQUIRY

A ONE-WEEK WORKSHOP IN NATURAL HISTORY TECHNIQUES?

Victor Quesnel has recommended to the Management Committee that the Club undertake a one-week camp in natural history techniques, with a view to providing training to members who wish to improve their skills in original observation.

Victor and Ian Lambie are mandated to head a subcommittee to look into the feasibility and form of such a workshop. The Committee tentatively agrees that if there is sufficient interest among the membership, a workshop will be organized during the next 12 months on a trial basis. If it appears justified, it can be continued/repeated yearly.

If the idea of such a workshop appeals to you, please answer the following questions and return the sheet to a member of the Management Committee, or mail it to the Club at P.O. Box 642, Port of Spain.

Please respond promptly.

- -

Name:

Areas of natural history that you would especially like to see treated (e.g. palms, amphibians, freshwater life, savannas, venomous arthropods):

Any particular techniques that you would especially like to see treated (e.g. collecting herbarium specimens, bird banding, macrophotography):

Approximately how many Club field trips have you attended during the last 12 months?

Would you be able to attend a one-week workshop during:
December 1994?
July 1995?
August 1995?
[Cross out any in which you probably could not attend]

Any other remarks (use the back if necessary):

Blank

ANNOUNCEMENTS

1. The Draft Environmental Management Bill (1994) was made available for public comment in August 1994. The T&TFNC submitted comments based on the concerns expressed by the membership. The Club was invited to attend a meeting in September 1994 to discuss these concerns and recommendations with the Ministry of Planning and Development.

2. The Charter of the Council of Presidents of the Environment (COPE) was adopted by all COPE members at a meeting held on 21 July 1994.

3. The President of the T&TFNC has been appointed as the interim Treasurer of COPE until the Annual General Meeting which is scheduled for March 1995.

4. The COPE Secretariat, which was located at Stollmeyer's Castle, is now operational. Office hours are Tuesday and Thursday 11 a.m. to 1 p.m. COPE's telephone No. is 622-5430.

5. The Club plans to hold a one-week workshop in Natural History Techniques in 1995 with a view to providing training to members who wish to improve their skills in original observation. An appropriate questionnaire to the membership for comments/recommendations is attached.

6. An appeal to all members to support the Club's publications by purchasing a copy of "Living World Journal 1993-94." This Journal is being sold at $20 per copy, which is below the actual cost of production. Please contact the Treasurer for copies.

Hernandez

Nariva

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