### Friends *for* Conservation and Development Promoting Core Conservation







U.S. DEPARTMENT OF THE INTERIOR INTERNATIONAL TECHNICAL ASSISTANCE PROGRAM

The 21<sup>st</sup> Annual General Meeting of **Friends for Conservation and Development** is made possible in part with financing from the **US Department of the Interior- International Technical Assistance Program** 



This publication is made possible through the sponsorship of BRC Printing

### CHIQUIBUL NATIONAL PARK A QCC Site



Cover photo: Monitoring and Extension Services in the Vaca Forest Reserve © FCD Page 3 inset photo: Chaa Creek Page 12 photo: Tony Rath



### **MESSAGE FROM THE BOARD PRESIDENT**

For the first time FCD's Annual General Meeting is being held virtual. It is unfortunate but we feel it is imperative to bring you the most updated news about FCD and its conservation efforts in the Chiquibul-Western Maya Mountain Landscape. Great strides have been taken in the eradication of the wide scale harvesting of *xate* as well as illegal logging, poaching of scarlet macaws and the intrusion of cattle ranchers from Guatemala who have cleared off and fenced considerable acreages of land within Belizean territory. However, the situation is not yet under full control and efforts need to continue.

This year FCD has been forging new alliances with the Maya Leaders Alliance, Panthera, WWF-MesoAmerica and the Toucan Education Program just to name a few. These alliances we see as critical components of support to local communities who border the national forests of the Maya Mountain Massif and offer alternatives to the destruction of these forests which after all are the watersheds that provide nearly 60% of the water for our population. The fact that this is such a crucial issue, FCD has found it necessary to expand its areas of influence and have recently completed an advocacy strategy recommending a more determined landscape approach to management of the Chiquibul /MPR and Caracol Complex for which we feel we are positioned to play a key role in.

The Caracol Road Upgrade Project will encourage a growth in visitors to the forested areas of Chiquibul and with this growth will come challenges requiring better strategies and regulations to maintain the integrity of this pristine and valuable habitat.

For the past two years the office of the Economic Development Council has been developing guidelines in this respect with widespread consultations. FCD have obviously been involved in these discussions and hence the reason we see the need to expand the landscape monitoring. One of such discussions has been a proposal to institute a management presence at the Bald Hills, Mountain Pine Ridge to monitor and regulate visitation. It is time for an improved monitoring of this eastern flank as it contains the headwaters of the watershed for the Macal River and Roaring Creek.

The need for greater participation of our local businesses in supporting the preservation of the heart of our jewel is important. PACT, like other foundations, have been ardent supporters of FCD over the years for which we truly thank them. However, each one can play a role in supporting the viability of this critical ecosystem. The Caracol Road will allow those who have never ventured into these pristine areas to really appreciate what a treasure we have. I would encourage our local Belizeans to become more acquainted with the work of FCD and join us as a member. If you are planning a trip, I want to invite you to visit Las Cuevas Research Station. Just being there makes one realize just how important the Chiquibul Forest is. Be part of the FCD support systems. Thankyou.

#### Mick Fleming

President FCD Board of Directors



# MESSAGE FROM THE EXECUTIVE DIRECTOR

This year has brought many changes to our lives which has tested our resiliency



and adaptability. As we started our calendar year in November of 2019, all seemed a normal year. We started to prepare for the dry season and arranged visitation schedules for the incoming student groups from abroad such as Rice University who has been visiting Las Cuevas Research Station for more than ten years. The Park Ranger training schedule was in full swing, this time counting with the able support from the British Army Training Support Unit Belize and the US Embassy. But all that changed dramatically.

Compounded with the COVID-19 situation, were the large forest fires that impacted over 22,200 acres of the Vaca and Chiqubul Forests. Fires of this magnitude had never been registered by FCD since 2007 when we had started the management presence in the Chiquibul landscape.

Since the beginning of COVID-19 until now, thanks to God, we have maintained our presence in the field and our staff

have remained free from infection. But it has been an ongoing trend of adaptation. At the office, the administrative staff have been from time to time operating from home, while in the field we have recalled field staff from the conservation posts when necessary. Las Cuevas Research Station (LCRS) has remained the main impacted operation due to their dependence on visitation. Nonetheless this has provided an opportune time to assess marketing possibilities and explore new partnerships. With funding from the Protected Areas Conservation Trust and The Nature Trust of the Americas, considerable upgrading is ongoing at the LCRS facilities.

The environmental threats in the Chiquibul and Vaca Forests remain high with cattle ranching, gold panning, illegal wildlife trafficking, forest fires and looting affecting the rivers, forests, wildlife species and cultural features; therefore, the necessity of maintaining the Park Rangers, Eco-Guards, Research Staff, Karst Unit and other staff active throughout this period. All of whom continue to be supported by the Government authorities and the private sector.

As we close the FCD calendar year, we are grateful to our staff that have been bold in keeping the effort alive, despite uncertainties; and to our donors and funders who have reached out to give us confidence and financial security so that our conservation work continues. In the end we are only able to undertake this type of duty with the more than 100 institutions that support our efforts. Finally, I thank all the families that have kept the blessings and assurances with fortitude that all will be well when staff departs for duty.

#### Rafael Manzanero FCD, Executive Director

# FCD's Mission

FCD pioneers adaptive management of the Chiquibul Forest to improve the ecological and cultural integrity of the western Chiquibul-Maya.

# FCD's Vision

4p

FCD envisions healthy terrestrial ecosystems that are sustainably managed for Belize and the region.



SMART PATROL

### **Enforcement** and compliance

Every two weeks the FCD office is buzzing with much activity as Park Rangers are deployed to Tapir Camp and onwards to the various conservation posts. These posts are strategically located in hotspot

areas identified by FCD as critical areas where illegal activities occur within the limits of the Chiquibul National Park. The illegal activities range from cattle ranching, agricultural farming, looting, poaching and gold panning. The Chiquibul jungles are exuberant forest reservoirs teeming with wildlife and it is the duty of the FCD Park Ranger to be at the forefront in safeguarding these species. Reaching to the hotspot areas; however, is challenging due to the ruggedness and distance to traverse. A typical Ranger is young,



healthy and fit. But many of the Rangers are already suffering from knee injuries due to the heavy loads they have to carry in order to survive up to 17 days in the distant Rio Blanco Conservation Post.

This year, two expeditions were conducted in search of new breeding areas for scarlet macaws, which is the primary target for poachers, while one expedition was implemented in the Columbia River Forest Reserve to document illegal wildlife trafficking routes. From the Conservation Posts a total of 331 patrols were conducted by Rangers with support from the Belize Defence Force and the

Police Department to arrest environmental crimes, while the newly established antipoaching unit, supported by Harvest Caye Conservation Foundation covered 2,209.19 km in 39 patrols. Operation Wire Snipper with a man power of 72 men also saw the direct targeting of illegal cattle ranches located along the western flank of the Chiquibul and Caracol region, while 2 aerial recess were conducted, to assess forest conditions.

With support from the Wildlife Conservation Society and the US Department of the Interior – ITAP, FCD has built the capabilities of the Conservation Data Manager, making our field reports more comprehensive and reliable using the Spatial Monitoring and Reporting Tool (SMART).

Like in most of our programs, the Protected Areas Conservation Trust has been the primary institution supporting the Ranger Unit with proper equipment, uniforms, mobilization and training. The Ranger effort has resulted in containment of the human expansion footprint into the vastness of the Chiquibul which has resulted in a higher level of security, opened opportunities for recreation activities and a return of wildlife.



#### **RANGER EFFORTS CONTRIBUTED TO:**

- Discovery of new scarlet macaw breeding areas
- Containment of the human footprint in 8 hotspot regions
- Detainment of 13 persons illegally extracting forest resources

### **Fesearch and monitoring**

The question of how effective the efforts of FCD are in the Chiquibul Forest landscape is a query that we always have to bear in mind, since the work of every conservation organization is to improve the conditions of the natural environment and the wild species, which as a consequence enables the provisions of

goods and services such as air and water for the well-being of the human populations. To answer that question FCD is guided by a Biodiversity Research, Inventory and



by a Biodiversity Research, Inventory and Monitoring (BRIM) Framework that outlines the threats facing the natural systems and the interventions to use. Providing the interventions are successful, then the key conservation targets identified should demonstrate a stabilization or improvement over a time scale. This is where the FCD Research team plays a key role.

Every year 2 or 3 sets of data collection, using scientific methodologies are employed to assess a prescribed conservation target based on the Chiquibul National Park Management Plan. This year, FCD's Biologist and PhD

candidate Boris Arevalo with his four-person team conducted three research activities.

For a period of six months, the scarlet macaw key breeding area was monitored and protected. An in-situ lab rearing of rescued chicks was also put into effect with endorsement from the Belize Forest Department. By the end of the season, the results show that 14 nests were monitored, 25 eggs hatched and 18 macaws made it to the wild safely while another 7 were released from the laboratory. A Citizen Science Program, supported by ATCF and World Nomads saw the involvement of 20 volunteers.

A freshwater macro-invertebrate research on the rivers and streams of the Chiquibul Forest was also conducted for a third time which concluded that overall, the streams of the Chiquibul Forest have good water quality. Samples were collected at 38 sites, distributed across four major sub-basins: Macal River, Raspa River, Monkey Tail River and Southern Chiquibul River.

The team concluded the year by installing wildlife camera traps throughout the Chiquibul Forest in order to document the presence of big mammals including wild cats, peccaries and tapirs.



- An increase in the wild population of scarlet macaws
- Validation of the conditions of the Chiquibul streams
- Recovery of data on big mammals in the Chiquibul











### **Extension and community support**



In 2016 the Forest Department signed a letter of understanding which permitted FCD to organize a Friends of the Vaca Forest Reserve and assist the community farmers from Arenal, Benque

and Succotz to develop integrated farming systems within the reserve that would enable to reduce the forest, land and water degradation occurring in the Vaca plateau. Since then, FCD has maintained a presence and has provided extension services through an agroecologist. In addition, FCD Forest Rangers conducted monitoring to ensure that farmers didn't extend their activities beyond the permitted area.





development of agroforestry plots. This time, FCD formalized a community conservation agreement with each farmer involved to ensure that the beneficiaries would commit themselves to improve their stewardship role for the protection of the reserve.

Arenal is the closest community to the Vaca Forest Reserve and over the years the farmers have spilled over into the reserve, compounded by the fact that there are no boundary signs to delimit the reserve. FCD; therefore, paid special attention on this community in order to sensitize them about the reserve

and generate local support. The WWF-Meso-America, this year was pivotal in promoting this objective through a one-year project that sought to implement agroforestry practices in Arenal village, as an alternative to reducing land and water degradation in the Belize River Watershed. To this end, 3 farmers received assistance to install 3 agroforestry plots that would improve their farmlands and help promote green corridors for wildlife. The bulk of the work went into the development of 2 nurseries consisting of 10,000 seedlings

that would be planted along the riverbanks of the Mopan River. The Arenal Women's group led this effort successfully with the handing over of plants to community leaders of 11 communities. Other beneficiaries included 18 farmers from various communities and the Ministry of Agriculture who was the single largest recipient of plants for reforestation. The Women's group were also recipients of a food security program consisting of 350 chicks, food and vaccine supplements for the success of this project.



#### **EXTENSION EFFORTS CONTRIBUTED TO:**

- Community livelihood improvements among 11 men and 18 women
- Reforestation of riverbanks in 12 communities
- Launching of 6 agroforestry plots in the Vaca plateau





An integrate landscape management is envisioned for the Western Maya Mountains



### Community outreach and education

From the time FCD started to operate, environmental education and community outreach has been a central pillar of its work. This became infectious to FCD since its Executive Director

had worked at the Belize Zoo as an environmental educator in 1989 and thereafter at RARE for eleven years on environmental education distance mentorship. In 2007 as FCD moved to operate in the Chiquibul-Maya Mountains, it launched its Pride campaign centering on the water resources of the Maya Mountains. By then 22 communities were targeted in three districts. Water resource protection from then on has been a constant.

The effort has galvanized the formation of a binational watershed alliance and has moved people from local communities to care for their rivers.

This year, FCD's Environmental Educator, Wilford Justin Pook Jr. worked on two main areas of public outreach. The first dealt with sensitizing farmers and local people from communities near the Vaca Forest Reserve on the effects of illegal wildlife trafficking and the rules and regulations that protects wildlife. With the US Fish and Wildlife Service support he reached a total of 12 farmers in 4 communities and through social media reached over 2,000 persons. The other



public outreach activity centered on the protection of the Mopan River, supported by WWF-MesoAmerica. Specific presentations on water conservation in households and reforestation were presented to more than 200 persons, and through social media reached over 5,000 persons. Over 500 posters on wildlife and river conservation were distributed.



In addition, FCD's educator worked with community leaders from 10 communities on projects aimed at improving the conditions of the Mopan, Macal and Belize Rivers. He also reached out to 920 persons in 8 communities of the Toledo District with the aim of sensitizing them about the importance of indigenous forest stewardship and distributed 300 posters.

In Guatemala, FCD Environmental Educator, Veronica Avila worked closely with the Binational Watershed Alliance, Guatemala Chapter and the

youth group, *Todos Por Un Mundo Verde* in river conservation efforts. With the British High Commission support she was able to maintain contact with 9 communities and promoted community projects such as clean up campaigns and reforestation.

#### **EDUCATION EFFORTS CONTRIBUTED TO:**

- Sensitized local people to the effects of illegal wildlife trafficking in 4 communities  $_{
  m 
  ightarrow}$
- Improved awareness for river conservation in 19 communities
- Promoted awareness on the protection of indigenous lands in 8 communities



D





## hospitality and service

The Las Cuevas Research Station (LCRS) is situated in the heart of the Chiquibul Forest. Since 2015 when FCD took administrative responsibilities of this infrastructure it has steadily been upgrading and investing for an improved



hospitality and service. In 2016 Neil Rogers developed a Tourism Enterprise Development Plan that identified LCRS as the main hub for the launching of tourism activities into further destinations in the Chiquibul such as the Natural Arch, macaw observation areas, Chiquibul Caverns and Caracol. With the arrival of Arlo Cansino as FCD's Tourism Enterprise Manager, a Tourism Signature Experience Strategy has been developed, which seeks to further identify new partnerships and promote the Chiquibul as a wilderness destination using Las Cuevas Research Station as the primary hub. The strategy furthermore recommends specific improvements to the main buildings. FCD has been delighted to know that PACT is a prominent player for exploring the development of concessions in protected areas, which may herald possibilities for new investments at



LCRS

BELIZE

LCRS.

This year Las Cuevas Research Station had a reduction of visitation due to the pandemic. However, the station hosted 122 persons who undertook training sessions ranging from REDD+ to botanical studies; 178 guests who came to enjoy nature, conduct birdwatching and sky-watching. Another 8 persons conducted research. High level guests included Charge D'Affaires Mr. Keith Gilges, CEO Yashin Dujon from the

Ministry of Tourism and the Deputy Chief Forest Officer for a total of 308 persons hosted. In March the 3rd Annual Chiquibul Challenge Marathon became our largest event which attracted Belizean athletes for the grueling 42 km run to help save scarlet macaws. Proceeds from the event amounted to over Bz\$5,000.00.

With 13 international groups canceling due to COVID-19, this has provided FCD with an opportunity to upgrade the station through the financial assistance from the Protected Areas Conservation Trust and The Nature Trust of the Americas. Meanwhile the nature trails and bird tower have been kept open for the infrequent visitor, and the Chiquibul Visitor Center is being remodeled to depict more interpretive materials about the magic of the Maya Mountains.



#### STATION STAFF EFFORTS CONTRIBUTED TO:

- Catering services for more than 300 visitors
- Upgrading of 3 infrastructures at LCRS
- One partnership solidified as investor in development of LCRS

**I6** | Page

N

\*

5:

Located on the western flank of the Chiquibul National Park, Conservation Posts are vanguards for containing expansion of the human footprint from Guatemala

### **enthusiasm** and energy





The youth movement for the protection of the environment was forged since 1989 when the Youth Environmental Action Group was formed in San Jose Succotz. Back then, one of the main principles has been the promotion of love for the land. Today, this principle is demonstrated by the work of those that form part of the FCD Environmental Youth Group (FCD EYG) and



Todos Por Un Mundo Verde (TPUMV). This year the group continued creating awareness on the phase-out of single use plastics in Belize. The youth group conducted booth displays in various parts of Belize sharing information of the phaseout of single use plastic and alternative methods. Due to the outbreak of COVID-19 and the state of emergency declared in March, the youth group primarily created environmental awareness through its Facebook page sharing information about wildlife and the importance of protecting Belize's watersheds.

While following COVID-19 restrictions the group conducted a two week Go Green Summer Camp. The Summer Program was aimed at teaching young people to sew their own shopping bags. Youth Group members facilitated the trainings in sewing. This with the aim of avoiding the use of single use plastic bags and providing alternative methods to phasing out of single use plastic.

Belize and Guatemala share many features in common, one of them is the Mopan River. As a result, the FCD EYG and *Todos Por un Mundo Verde*, created by FCD two years ago in Guatemala, embarked on a second Citizen Science Program, oriented towards the collection of data on the quality of the Mopan River. In addition, members of the youth group participated on cleanup campaigns, reforestation projects and recycling programs

both in Belize and in Guatemala. The target area included the villages of Arenal, Calla Creek, Succotz and Benque Viejo Town and Melchor de Mencos. In addition, the FCD EYG rehabilitated their nursery at the Department of Youth Services Benque Center in support of the Youth Services Backyard Gardening Project and helped the Arenal Women's Conservation Group in the preparation of seedlings at the nursery.

On the 31<sup>st</sup> of October the youth group conducted its 2<sup>nd</sup> Annual Meeting virtually to report on their annual activities and renew their membership.





- Promotion of environmental consciousness among 937 Belizean youths by FCD EYG
- Sensitizing of 700 Guatemalan youths directly and over 4,000 persons indirectly by TPUMV
- 19 youths trained on new skills including sewing, water quality testing

**I8** | Page

N





## **Exploration** and inventory

In 1998 a small team of intrepid Youth Environmental Action

Group members, dared to undertake an expedition to the Chiquibul Caverns. The experiences remain etched on the annals of FCD's vibrant wilderness exploration history. Lenney Gentle, as the main navigator got stung by killer





This year the Karst Management Unit, centered their inventory work on three sections of the Chiquibul system, namely Actun Kabal, Natural Arch and Cebada. Following data forms provided by the Western Kentucky University and supported by Forecastle Foundation, the three-person team has documented to date a total of 64 features including 11 caves, 2 sink holes, 7 rock shelters, 14 single maya mounds, 7 maya sites and 12 water points among others. With two other regions to cover, accessibility and road conditions are major challenges to effectively conduct inventory in these isolated areas. With support from the USDOI, a

team of experts have been identified to build the capabilities of the Karst Unit, and a research activity has been activated to understand the extent of the recharge area for the Chiquibul Cave System and how recharge in the system respond to seasonal rainfall events. FCD remained actively involved in the World Heritage Advisory Committee advocating for the Chiquibul Caverns to be nominated as a site for consideration.

Another FCD program that has been evolving is the Eco-Guard Program. This year, Eco-Guards kept a monitoring presence, 24 hours every day at the Chalillo,

Vaca and Mollejon Dams administered by the Belize Electric Company (BECOL). The specific duties of the guards are to man the gates and protect the forested ecosystems comprised of over 1,700 acres of forest. Guards have observed emblematic wildlife in these areas and wildlife cameras are to be installed to further document the biodiversity. Since Eco-Guards are located on the buffer areas of the Chiquibul they become an important element of landscape monitoring in the western Maya Mountains.



H

#### KARST AND ECOGUARD EFFORTS CONTRIBUTED TO:

- Documentation of 64 cultural features in three sections of the Chiquibul Caverns
- Activation of research on water regime in the Chiquibul Caverns
- Protection of emblematic species in the Macal River Hydro facility ecosystem



**20 |** Page

## Partnerships

FCD is honored to have worked with more than 100 partner institutions from Belize and abroad. From the private sector and community-based organizations to government and international organizations, they have made our work more effective and result oriented.

#### **GOVERNMENTAL AGENCIES**

Belize Defence Force **Belize Forest Department Belize Police Department** Immigration Department Institute of Archaeology Agriculture Department Department of Youth Services Belize Tourism Board **Economic Development Council** Department of the Environment National Biodiversity Unit The Mining Unit Ministry of Foreign Affairs Ministry of National Security (Defence) Ministry of Forestry, Fisheries, Environment and SD U.S Department of the Interior-ITAP U.S Fish and Wildlife Service Republic of China (Taiwan) British High Commission of Belize British Army Training Support Unit Belize Council of Agriculture and Forest Bureau of Taiwan Mexican Embassy in Belize Consejo Nacional de Areas Protegidas (Guatemala) Organization of American States Protected Areas Conservation Trust Ministry of Education (Cayo District) Commonwealth of Municipalities of Southern Peten

#### COMMUNITY BASED ORGANIZATIONS



Cayo Watershed Conservation Alliance Care for Our Rivers and Environment Grupo Integral para Conservación de las Cuencas Todos Por Un Mundo Verde FCD Environmental Youth Group Friends of Vaca Forest Reserve Friends of Lower Dover Positive Environmental Group Calla Creek Village Council Arenal Women's Group Maya Leaders Alliance Julian Cho Society

#### NON-GOVERNMENTAL ORGANIZATIONS

Belize Nature Conservation Foundation Cayo Tour Guide Association Centre for Strategic Studies, Policy Analysis and Research Asociación Balam Consejo Indígena Centro Americano



COACAP ACOFOP XMET Engaged Scholarship and Service Learning Foro de Justicia Ambiental Belize Wildlife and Referral Clinic The Wildlife Institute The Belize Zoo and TEC Harvest Caye Conservation Foundation Chaa Creek Foundation Wildtracks

#### INTERNATIONAL ORGANIZATIONS

United Nations Development Program The European Nature Trust Forecastle Foundation Western Kentucky University The Nature Trust of the Americas Toucan Education Programs Wildlife Conservation Society World Wildlife Fund Panthera GEF-Small Grants Program World Nomad GIZ-Selva Maya Adventure Travel Conservation Fund Animals Saving Animals

#### **PRIVATE SECTOR**

Belize Communication Services Limited Belize Airport Concession Company Belize Electric Company Limited Chaa Creek Inland Expeditions ViaVenture Foundation Grace Kennedy Ltd. Bull Ridge Company Blancaneaux Lodge Bull Run Farms Turtle Inn Channel 5 Belize Channel 7 Belize



# **Board and FCD Staff**

### STRATEGIC GOAL

FCD aims to conserve the natural and cultural resources of the western Chiquibul Maya Mountains for the sustainable development of Belize.

#### **BOARD OF DIRECTORS**

Mr. Mick Fleming - Board President Mrs. Hannah St Luce Martinez - Vice President Mr. Joop Hendrikx - Secretary Mr. Jorge de Leon - Treasurer Mrs. Valerie Woods - Director Mrs. Tanya Santos - Director Mr. Tony Rath - Director

#### STAFF

Rafael Manzanero, Executive Director

Esther Sho, Programs Director Derric Chan, CNP Manager Arlo Cansino, TEDP Manager Rafael Mesh, Assistant Station Manager Marco Diaz, Chief Ranger Level I Cruz Alberto Keme, CNP Chief Ranger Elroy Reyes Jr., CNP Ranger Darrio Bautista, CNP Ranger Douglas Monroy, CNP Ranger Mainor Tzalam, CNP Ranger Reynaldo Sutherland, CNP Ranger Francisco Galicia, Research Assistant Ismael Landero, Chief Eco-Guard Daniel Cruz, Eco-Guard Gliss Penados, Eco Guard (Part Time) Orvin Mai, LCRS Caretaker Carlos Cocom, VFR Field Assistant (Until May) Angelica Morales, Cook (Part-Time)

Luceli Itza, Finance Manager Boris Arevalo, Biologist (Part Time) Wilford Pook Jr., Enviro Educator Diana Garcia, Accounts Clerk Demery Harris, CNP Chief Ranger Kenny Pech, CNP Ranger Erwin Chi, CNP Ranger Ellsworth Sutherland, CNP Ranger Pedro Manzanero, CNP Ranger Rahim Ponce, CNP Ranger Robin Magana, VFR Field Assistant Richard Angel Harris, Research Assistant Eric Antonio Max, Research Assistant Ronnel Melendrez, CCS Ranger Joerland de la Fuente, Eco-Guard Ryan Thompson, Eco-Guard Axel Castellanos, Eco Guard (As from Feb) Lenney Gentle, Eco Guard (Part-Time) Veronica Avila, Envi Educator (Until Mar) Lynn Katherine Coc, Janitor



CHI-HAH STREET SAN JOSE SUCCOTZ CAYO DISTRICT 823-2657 www.fcdbelize.org