



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

**ANNUAL REPORT 2018**





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*Chiquibul National Park  
A QCC Site*

**Cover photo:** Landscape vista of the Chiquibul Forest. Photo by Tony Rath  
Page 6, 7 and Page 11 photos by Tony Rath.



# FOREWORD



**2017-2018 has marked another year of big efforts and big successes for FCD. No doubt the Chiquibul-Maya Mountains is a complicated area to manage and conserve; however, with the support of multiple partners and donors we have been better in grappling with the challenges.**

This year, the research work conducted by FCD's Research team has been able to demonstrate by numbers that we are finally seeing recovery of wildlife and forests across the Chiquibul landscape. Our interventions are, therefore, working. At the forefront to the stabilization of this condition are the park rangers. Working together with the Belize Defence Force, Police Department and Forest Department personnel, the patrols and control systems against incursions at conservation posts have been central and pivotal of an undertaking by the FCD Park Ranger Unit. The focus of our attention has been largely the western flank of the park, but FCD remains clear that protecting the Chiquibul Forest, means being alert all around the periphery of the park, namely its buffer zone. In this regard, FCD has made a strategic move this year by engaging private partnerships.

Working with private institutions outside the borders of Chiquibul, has made a landscape management perspective more doable. And with the endorsement of the Ministry responsible for Protected Areas, the concept is becoming more practical. The Vaca and the Mountain Pine Ridge Forest Reserve buffers the Chiquibul. Partners there include the Belize Electric Company Limited, Pine Lumber Company Limited and Vaca local farmers.

This year has also seen core results and impacts by other FCD field staff. The Karst Management Unit has become avid in inventoring the Chiquibul Caverns; Las Cuevas Research Station started to investigate more on areas of tourism and public use, the Education Program was extended to Belize City and Peten, the FCD youth movement was invigorated and replicated in Melchor, Guatemala, and the first Park Ranger Junior program was launched.

The achievements of an organization are only possible through its staff, and for this I am indebted and thankful to all the staff that make a sacrifice on a daily basis to protect the richness and uniqueness of this country. Our work is also possible due to the support given by the donors and sponsors. These supporters believe in the cause for a better world and it is under this duress that FCD maintains its conservation effort in good standing and effective due diligence.

**Rafael Manzanero  
Executive Director**

# 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

- The Forest Department
- The Belize Defence Force
- The Police Department
- Immigration Department
- Institute of Archaeology
- Agriculture Department
- Department of Cooperatives
- Department of the Environment
- Solid Waste and Management Authority
- The Mining Unit
- Ministry of Foreign Affairs
- Ministry of National Security (Defence)
- Ministry of Forestry, Fisheries and SD
- U.S Department of the Interior
- U.S Fish and Wildlife Service
- Republic of China (Taiwan)
- British High Commission of Belize
- Canada Fund for Local Initiative
- BATSUB
- Council of Agriculture and Forest Bureau of Taiwan
- Municipality of Melchor de Mencos
- National Protected Areas Council (Guatemala)
- Protected Areas Conservation Trust
- National Association of Village Councils
- Commonwealth of Municipalities of Southern Peten
- Ministry of Agriculture (Guatemala)
- Department of Human Development (Cayo)



DEPARTAMENTO DEL INTERIOR  
DE LOS ESTADOS UNIDOS  
PROGRAMA DE ASISTENCIA  
TÉCNICA INTERNACIONAL



## Community Based Organizations

- CMMB Watershed Alliance (Belize)
- Grupo Integral para Conservación de las Cuencas
- Juntos Para Un Mundo Verde
- FCD Youth Environmental Group
- Friends of Vaca Forest Reserve
- Friends of Lower Dover
- Positive Environmental Group
- Calla Creek Village Council
- Benque Viejo 4H





## Non-Governmental Organizations



- Belize Nature Conservation Foundation
- Cayo Tour Guide Association
- Centre for Strategic Studies, Policy Analysis and Research
- Asociación Balam
- Guatemala Futura
- COACAP



- ACOFOP
- XMET
- Engaged Scholarship and Service Learning
- Foro de Justicia Ambiental
- Restorative Foundation
- Selvana Limited
- Belize Wildlife and Referral Clinic
- The Wildlife Institute
- The Belize Zoo and TEC
- WildTracks
- Scarlet Studios



## International Organizations



- United Nations Development Program
- The European Nature Trust
- Forecastle Foundation
- Western Kentucky University



- The Nature Trust of the Americas
- Wildlife Conservation Society
- World Wildlife Fund
- GEF-Small Grants Program
  - Summerlee Foundation
  - Concentric Advisors
  - Survival Wisdom

### Private Sector

### Other Sectors



- Mountain Equestrian Trail
- ViaVenture Foundation
- Pine Lumber Company
- Bull Ridge Company
- Blancaneaux Lodge
- John Taylor
- BECOL
- BCSL

- OAS
- Godfrey & Valerie
- University of Tenn
- Virginia Tech
- Channel 5
- Channel 7
- BACC
- FYFFES

- RARE
- AFID

## Toyota Challenge Sponsors



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# FCD's Mission

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





# FCD's Vision

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



# RANGERS ON THE FRONTLINE

**Rangers are the first line of protection for the biodiversity of the Chiquibul Forest at Conservation Posts. Every day FCD park rangers conduct patrols and operate as a Joint Force Unit.**

The Cebada Conservation Post, inaugurated in July, became the seventh Conservation Post that stands as the primary shield of protection for biodiversity in the Chiquibul Forest. On a daily basis, FCD Rangers conduct patrols and monitor against any illegal activity. They operate together with Belize Defence Force, Police and Forest Department personnel through a Joint Operating Protocol. Agricultural farming, cattle ranching, gold panning and illegal wildlife trafficking remains as primary threats to biodiversity.



To effectively undertake environmental law and monitoring (ELAM) activities the FCD must have the capacity and capability to operate. Through the Chiquibul Forest Investment Initiative (CFII), the Ranger unit acquired proper equipment and gear. Training is critical. This year the Royal Regiment of Scotland conducted FCD's annual ranger training and hosted

the visit of Brigadier Chris Barry of the British Army in the Chiquibul. In addition, Chief Ranger Diaz travelled to England to improve FCD's Ranger Training Module with supervision from Survival Wisdom. Spatial Monitoring and Reporting Tool (SMART) continues to be used by Rangers to collect field data.

Monitoring the buffer zone has become more urgent this year due to plans of tourism development in the Mountain Pine Ridge/Chiquibul and Caracol Complex. Partnering with the Belize Electric Company, the Chalillo (Private) Conservation Post was installed. From this location FCD is monitoring any human activity on the northern flank of the Chiquibul, and plans are underway to install a presence in the Bald Hills to monitor and protect the unique biodiversity of the north-eastern edge of Chiquibul.

## RANGER EFFORTS CONTRIBUTED TO:

- **90% reduction of illegal xate extraction**
- **0% poaching of macaws on areas patrolled**
- **Recovery of 982 hectares of forest**





# DATA FROM THE LANDSCAPE

Field technicians from the Research Unit and Karst Management Unit have the duty of collecting and analyzing data on natural and cultural attributes to help manage.

Every year the Research Unit undertakes two main biological monitoring programs. To this end, scarlet macaws were monitored and safeguarded. The team spent seven months at the main breeding habitat of macaws collecting data on the hatchlings and protecting them. By the end of the breeding period, the Unit ascertained that none of the chicks were poached, thus representing another year of no losses in the area. However, after two successful expeditions were undertaken further into the wilderness, it was found that illegal wildlife trafficking is prevalent, and that parrots appearing in Peten, Guatemala may well be from these remote areas. The Research Unit this year also conducted a comparative analysis of xate stocks in the Chiquibul Forest for the 2012-2018 period. The study shows a significant decrease in the density of illegally extracted xate leaves from 2012 to 2018 for both *C. ernesti-augustii* and *C. oblongata*. In 2012, an estimated total of 16,337,332 leaves of *C. ernesti-augustii* had been illegally extracted from the Chiquibul Forest, compared to 1,650,496 leaves in 2018, this represents an 89.9% decrease. FCD's Biologist undertook another comparative study, on agricultural farming for the 2016 and



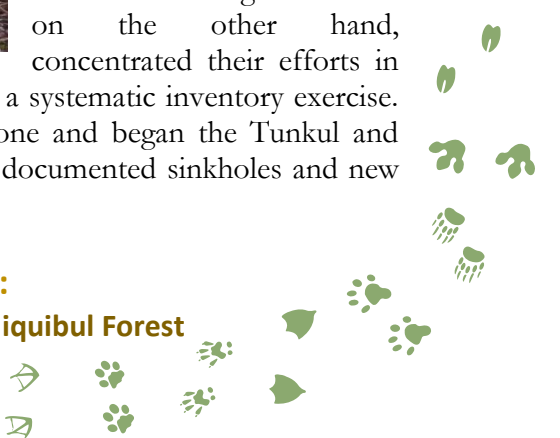
2018 period. In 2016, an estimated 3,754 ha. had been deforested compared to 2,888 ha in 2018. When comparing the deforested area in 2012 (highest recorded deforested area) to 2018, there has been a marked decrease of 25.37%, which is equal to 982 ha of recovered early secondary growth forest.

The Karst Management Unit on the other hand, concentrated their efforts in

collecting data from the Chiquibul Cave System through a systematic inventory exercise. This year they finished inventory of the Kabal Cave zone and began the Tunkul and Cebada Zones. Through this effort they discovered and documented sinkholes and new caves with Mayan artefacts.

## FIELD TECHNICIAN EFFORTS CONTRIBUTED TO:

- Improved knowledge about the state of the Chiquibul Forest
- Discovery of new breeding areas of macaws
- Discovery of new caves and cultural features













# IMPROVING LIVELIHOODS

Other FCD field technicians operate in the Vaca Plateau. But there, the FCD team works with farmers and local communities to reduce resource degradation and improve livelihoods.

The Vaca Forest Reserve is the northernmost protected area in the Maya Mountains whose management goal is to function as a key buffer for the Chiquibul National Park. In this regard, it has been the duty of FCD to work with the Forest Department in reducing land and forest degradation. To do this, FCD's field technicians continued working with farmers on climate smart innovative practices and increased technical support to farmers in areas of tilapia farming and beekeeping while promoting agroforestry and agroecology practices. The new methods employed helped in reducing forest fires, water contamination and improved wildlife habitat. University of Tennessee students, furthermore, provided technical expertise and research activities were enhanced. With all these efforts, the Alcalde from Arenal and farmers from Trio and Valley of Peace asked for support, thus our field technicians found themselves assisting three new communities.

During this year three exchanges were made for Vaca farmers to learn from others in areas of governance and agro-ecology. This led to the restructuring of the Friends of Vaca Forest Reserve. FCD field technicians also undertook training from the Landscape Manager in areas of integrated farming and farm planning. Field technicians and farmers attended the Tropical Agriculture Conference organized by Regeneration Belize and a

one week course on Fire Management in Chetumal, Mexico was attended.

Farmers are known to learn best through hands on activities, thus FCD has longed to have a permanent Farmers Field School. This year FCD entered on an agreement with Mr. Juan Cruz, which has enabled the creation of this school immediately on the boundary of the reserve. A robust farmers ongoing training is now possible in Vaca.



## FIELD TECHNICIAN EFFORTS CONTRIBUTED TO:

- Reduction of agricultural expansion in the Vaca Forest Reserve
- Increase of local economy among 12 farmers
- 26 best practice training sessions with 80 persons from 7 villages

# PROMOTING PUBLIC SUPPORT

Over 40% of the Belizean population depend on the water resources that is born in the Chiquibul mountains. FCD's educators have the task to educate and generate local support.

On the Mountains, the job of the ranger is to protect the headwaters, primarily from gold panners, through the Ceibo Chico Conservation Post. But outside the park limits, what happens upstream does have an impact on the local communities, and this is where FCD's environmental educators have a key role to play in promoting awareness of the public good and services derived from the Chiquibul-Maya Mountains with the aim of generating public support for the protection of the forest and water resources. This year the educational campaign targeted 40 communities in two districts including Belize City. By the end of the campaign in June a total of 6,245 students, 279 teachers were addressed on the topic of river conservation. Teachers became excited to learn more about the Chiquibul Forest and for the first time an organized program for primary schools to visit the Chiquibul National Park was conducted. 232 children and 47 parents visited the park.

Based on the results of the first year, FCD's Educator is extending its program in the two districts targeting new audiences. To do this effectively, a questionnaire survey on 1,051 persons have been finalized. Similarly, a total of 1,013 surveys were conducted among 15 communities in Peten, Guatemala by FCD/Balam's environmental educator. The data is fundamental to the design of the 2019 bi-national outreach program.



The impacts of river conservation have been documented more obvious through the work of the Bi-national Watershed Alliance which has brought a total of 18 communities together with one single mission: Caring of the shared water resources. Two planning meetings have been held this year and new executive members for both groups, namely the Chiquibul-Mopan-Macal-Belize

Watershed Alliance and Grupo Integral para la Proteccion de Cuencas Chiquibul-Mopan, have been nominated and elected.

## EDUCATOR EFFORTS CONTRIBUTED TO:

- Promoting awareness among 6,524 students and teachers in two districts
- Implementation of 18 community river conservation activities
- Strengthening of binational watershed alliance among 18 communities











# LCRS A HUB FOR LEARNING

**Twenty-three years ago Las Cuevas Research Station (LCRS) was opened. Since then the station has catered for both researchers and visitors. The tradition continues forward.**

The Mountain Pine Ridge/Chiquibul and Caracol Complex has been identified as one of four nodes for the development of tourism activities by the Government of Belize. With the development of an improved road network, though it will take some years to become a reality, it is certain that the wild areas of the Western Maya Mountains will become exposed. The Las Cuevas Research Station is positioned precisely in the heart of the Chiquibul jungles and is the best launching pad for remote excursions and deep explorations. The Tourism Enterprise Development Plan developed for the Chiquibul Forest, firmly recommends for Chiquibul to be open for specialized exploration and learning, and for FCD to become the Tourism Destination Management Authority. Although those plans are yet to firmly take roots, the Las Cuevas Research Station does remain as the central infrastructure for learning in the midst of the Chiquibul today.

This year the Station Manager and his staff hosted a total of 9 Universities, 145 students and professors who undertook biology and ecology classes. Three researchers also used the Station for conducting their research on the morelet tree frog, crabs and mollusks and scarlet macaws. Archaeological research on the small cave near the station was also conducted for an entire month.



The Station also catered for 8 groups who visited to enjoy nature, conduct group planning as well as explore the opportunity for tourism. In February, The European Nature Trust launched Bike Belize Adventure with 14 cyclists ending their one week adventure at LCRS and in March, over 70 athletes were welcomed for the annual Chiquibul Challenge Marathon. In August, the first Chiquibul Junior Ranger Summer Camp was held at LCRS with twelve children for an entire week under the slogan: Discover, Learn, Care.

## STATION STAFF EFFORTS CONTRIBUTED TO:

- Enhancement of visitor experience among 214 persons
- Facilitation of three biodiversity research studies
- Catering services to more than 485 visitors



# ENGAGING THE YOUTH

Another fine tradition of the FCD is youth action. Created in 1989 as the Youth Environmental Action Group, FCD maintains a youth arm whose aim is to promote love for the land.

Eight years after Belize's Independence, the Youth Environmental Action Group was born in San Jose Succotz. Ten years later it became the FCD. Outdoor exploration, provides an opportunity to observe and understand the wonders of nature and this, since early days, was the emotive key to the promotion of love for the land. Today it becomes more challenging to build a conservation ethic among youth, due to technology, but against this backdrop the youth movement at FCD still survives. This year the FCD Youth Environmental Group was reorganized and expanded its membership. Fifteen members from 6 communities comprise the group, who have become involved in various conservation activities including clean up campaigns, reforestation and celebration of specific global events. In preparation for next year, the group has developed a calendar of activities and have formulated their bylaws. This year has also seen the creation of Todos Por un Mundo Verde. This is a youth group created in Belize's nearest border town in Guatemala, Melchor de Mencos. The 18 members represent five communities who have become involved in community outreach education, reforestation and clean up campaigns. This group has also developed their bylaws and regulations as well as their calendar of events for 2018-2019.

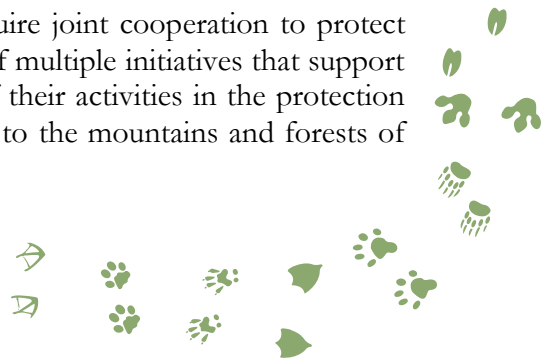
Since taking over co-management of the Chiquibul National Park, FCD has developed and maintained a robust bi-national effort with technicians, environmentalists and friends from Guatemala.

The ecosystems and species knows no borders and require joint cooperation to protect them at a landscape level. The youth movement is one of multiple initiatives that support this concept. Both youth groups have centered many of their activities in the protection of rivers, primarily the Mopan River which connects us to the mountains and forests of the exuberant Chiquibul. Follow them on Facebook.



## YOUTH EFFORTS CONTRIBUTED TO:

- Improved protection of the Rivers
- Enhanced love for nature among 30 youth
- Increased friendship and confidence across borders









# 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

**Mr. Jose Awe – Board President**  
**Dr. Isabelle Durant – Vice President**  
**Ambassador David Gibson - Director**  
**Mr. Joop Hendrikx - Secretary**  
**Mr. Lenney Gentle – Director**  
**Mr. Jorge de Leon – Director**  
**Mr. Tony Rath – Director**

### STAFF

**Rafael Manzanero, Executive Director**

Esther Sho, Programs Director  
Derric Chan, CNP Manager  
Angelica Morales, Cook  
Cruz Alberto Keme, CNP Ranger (From June)  
Pedro Manzanero, CNP Ranger (From April)  
Richard Angel Harris, Research Assistant (From July)  
Veronica Avila Flores, Envi Educator (From July)  
Evelyn Magana, Janitor (Until Dec)  
Carlos Cocom, VFR Field Assistant  
Robin Magana, CNP Ranger  
Demery Harris, CNP Ranger  
Jeffry Morales (From Sept)  
Toby Moreira, CNP Ranger (From July)  
Erwin Chi, CNP Ranger (From Jan)  
Wilford Pook Jr., Environmental Educator  
Eric Antonio Max, Research Assistant  
Billy Lerma, CNP Ranger (From June)  
Ryan Thompson, VFR Field Assistant  
Johnny Tzib, CCS Ranger (From Aug))  
Elroy Reyes Jr., Research Assistant

Luceli Itza, Finance Manager  
Boris Arevalo, Biologist  
Diana Garcia, Accounts Clerk  
Derry Harris, CNP Ranger  
Kenny Pech, CNP Ranger  
Marco Diaz, Chief Ranger Level I  
Corina de la Fuente (From Aug)  
Marcello Cal, CNP Ranger  
Dario Bautista, CNP Ranger  
Francisco Galicia, Research Assistant  
Ellsworth Sutherland, CNP Ranger  
Ismael Landero, VFR Field Assistant (Until Dec)  
Rafael Mesh, Assistant Station Manager  
Jairo Manchame, Landscape Manager  
Wendy Garcia, CCS Chief Ranger  
Ronnel Melendrez, CCS Ranger  
Douglas Monroy, CNP Ranger  
Pedro Bol, Research Station Caretaker  
Dennis Alvarado, Research Asst (Til May)  
Gabriel Lopez, Research Asst (Until Nov)





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