



Friends *for* Conservation and Development

Promoting Core Conservation

ANNUAL REPORT 2022



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CHIQUIBUL NATIONAL PARK A QCC Site



Cover photo: Research team at Upper Macal region © FCD

Page 3 inset photo: Chaa Creek

Page 4 inset photo: Yadna Prasad

Pages 5, 24 photos: Tony Rath

Page 18: John and Susana Vanzie

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MESSAGE FROM THE BOARD PRESIDENT

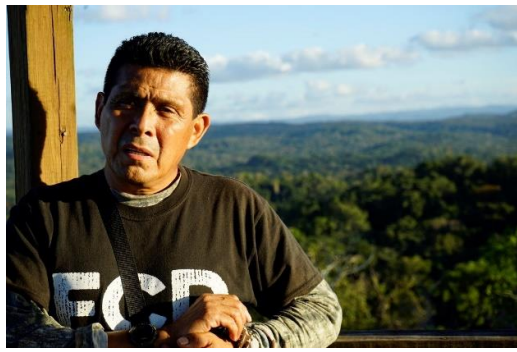
Friends for Conservation and Development (FCD) has advanced more this year as it moved towards consolidating a landscape management program in the Chiquibul-Maya Mountains. This; however, would not have been possible without the support from the many donors and supporters of FCD. I would like to take this opportunity to thank the Protected Areas Conservation Trust for constantly being supportive in strengthening the protected areas system in Belize and in particular the protection of the Chiquibul Forest. Private donors such as Fortis Belize and Harvest Caye have been key to the work of FCD as have our international donors, The Nature Trust of the Americas, USDOJ and USFWS who have been instrumental in ensuring their efforts and influence continue. The GIZ Selva Maya started collaborating with FCD this year, which has enabled the binational efforts to be strengthened. This progress would not have been possible without the support of the Government of Belize and in particular the Ministry of Sustainable Development led by Minister Orlando Habet.

At the helm and forefront are the field staff of FCD who earnestly patrol and monitor the flora and fauna of the Western Maya Mountains. These young dedicated men and women have constantly demonstrated that where there is a will, there is a way to safeguard these areas and make a difference. The territory within which FCD operates, requires a high level of commitment and training to withstand the rigors of everyday monitoring. Today, FCD has a conservation influence in approximately 9% of Belize and the work is truly demanding.

Considering all of the above, the effort and influence of FCD is not widely known within the country; thus, the FCD Board has made a targeted focus to communicate more of what it does through the hiring of a Communications Technician tasked with a new website design as well as a more active presence on social media. The Landscape Action Plan also encourages a more open and direct communication with the diverse set of stakeholders to promote a cohesive public participation endeavor. From the farmers in Vaca, to the lodge owners in the Mountain Pine Ridge and western Belize, community leaders in Guatemala and regulatory agencies in Belize – they all are a part of the wider landscape. It is a challenging task to align stakeholder interests while maintaining the integrity of the area, but at FCD we are certain that their involvement is key to success.

As we move towards another year, I would like to thank my colleagues on the Board whose guidance and support has, and is, imperative to the development of FCD. To those who are leaving after their tenure, a heartfelt thank you for your service to the organization and to Belize. To those joining us – I warmly welcome you as we aspire to make FCD more self-sustainable through new vision and technical acumen.

Mick Fleming
President
FCD Board of Directors



MESSAGE FROM THE EXECUTIVE DIRECTOR

The sequels of the pandemic are still being felt throughout the world and in the workplace. FCD is not an exception to the impacts on the work place as it appears that several staff have been recurrently on sick leave. Yet the work has continued on all its various fronts and landscape management in the Western Maya Mountains is becoming more a reality.

At our last Annual General Meeting, Minister Orlando Habet expressed Government's commitment in streamlining FCDs activities and to do this the Ministry responsible for protected areas defined a roadmap. Thus, this year, emphasis was made in the development of guidelines, standing operating procedures and actions plans to guide the streamlining effort in 6 sites including Las Cuevas Research Station, Bald Hills, Vaca Forest Reserve and Chiquibul National Park. Final endorsement from the Government has been delayed but this has not stopped us from having a management presence in these areas.

The year started with the inauguration of FCD's main headquarters in San Jose Succotz. The installation of the new building, meant more space to operate and ability for staff to function in a more inviting and comfortable setting. In addition, understanding that the costs of living are higher, a pay scale review and improvement for all staff was passed by the Board enabling for an improved incentive and benefit program.

This year also marked the closing of a three-year PACT Targeted Investment Program. The results encapsulate the impact of this investment together with other counterpart support and the dedicated effort from personnel to safeguard the ecosystems under our care: 15% reduction in agricultural incursions, 83.3% of the Chiquibul Cave System external surface surveyed, 15% reduction from gold panning, 83% increase in monitoring efforts, 77% increase in cultural and biodiversity monitoring in the Chiquibul National Park, leveraging of \$417,728.22 from other donors and 42 persons benefiting directly and indirectly from the investment. PACT has been a steady partner in the conservation and management of the Western Maya Mountains and has been a driver for new leveraging of funds. We are extremely grateful for their ongoing support.

The diverse programs ranging from research to education and binational relations to extension services have remained consistent thanks to the various financial institutions and partners who make the work lighter. Annually we rely on the collaboration and partnerships forged to do the work in compliance with our statutes.

Center to the achievement of this year's results are the dedicated Program Managers with their staff who are at the forefront of executing the various activities. Their dedication is unparalleled. To our Board members, FCD members, donors and friends – we take the opportunity to thank for the ongoing support. To God, we are grateful for the blessings.

Rafael Manzanero

FCD Executive Director



FCD's Landscape Action Plan

Is to assist FCD in integrating and strengthening its activities and support for landscape management in the Chiquibul Forest and the wider Chiquibul-Mountain Pine Ridge-Caracol Complex (CMCC), through playing an active role in supporting the implementation of the CMCC-Sustainable Development Plan.

Enforcement and Surveillance



RANGER EFFORTS CONTRIBUTED TO:

- Recovery of pasturelands along the western flank
- Containment of human expansion in 8 hotspot areas
- Protection of emblematic species

Mondays are busy days with mobilization of Rangers, as some are extracted out and others are deployed to the conservation posts and outposts located across the Western Maya Mountains. Some have traveled on bus from the day

earlier to reach on time. Others in the field may have left two days earlier to hike their way out of the Chiquibul jungle. The Park Manager is already prepared. Some will go to the Bald Hills and Vaca Forest while others are going to the Chiquibul National Park and Caracol. “I take time to mentor and encourage our Rangers”, says Park Manager Chan. The work is tough, requiring utmost stamina and dedication. The young Rangers deployed will make a two-week shift, aimed at reducing the environmental impacts through law enforcement and surveillance. With a limited, manpower FCD partners with the security agencies, namely the Belize Defence Force and the Police Department to cover a wider range and create a credible deterrence. The joint effort is unique and exists only in the Chiquibul Forest, where on a daily basis patrols and recces are conducted. To be more impact oriented, FCD sensitized over 150 BDF soldiers to the concepts of nature protection.

During this year in the Chiquibul National Park, Park Rangers centered their effort in addressing cattle ranching, agricultural farming and illegal wildlife trafficking. To reduce the cattle ranching activity, hotspot areas were identified via aerial recces and foot patrols. Once these were verified, the next action was to remove the fences. Two combined patrols were also conducted with Guatemalan counterparts where dialogue was ensued with Guatemalan community members. Illegal wildlife trafficking of macaws has also remained as a threat to the remaining population of macaws. As a result, the antipoaching unit was activated during the macaw breeding season. Rangers in Chiquibul and Caracol conducted a total of 289 patrols, representing a total of 2,004 hours of active recces with a land coverage of 3,651.5 km on foot and over 5,071.84 km on vehicle, aimed at monitoring and targeting poachers.

At the Bald Hills located in the Mountain Pine Ridge Forest Reserve, Forest Rangers established themselves at the Cooma Cairn Ranger Outpost. Their main tasking has been to monitor for forest fires, bark beetle and serve as a control station at the northeastern region of the Pine Ridge. Rangers have established communication with stakeholders in the area and patrolled the network of trails found in the area. Rangers conducted a total of 111 patrols, representing a total of 339 hours of active recces.

In the Vaca Forest Reserve, the two forest rangers had the aim of monitoring hotspot areas, wildlife populations and human expansion. All data collected was reported to the Forest Department for actions to be taken, primarily on the aspects of illegal logging, poaching and forest fires. The technical committee, Vaca Forest Reserve Working Group which includes the Agriculture Department, Forest Department, Belize Defence Force, Police Department and Friends of the Vaca were maintained informed of developments. These institutions have also been pivotal in the design of a robust governance framework for the reserve. Rangers conducted a total of 148 patrols, representing a total of 592 hours of active recces.

Joint forces patrol along the western flank of the Chiquibul National Park



Deployed Joint Unit located at Ceibo Chico, southern Chiquibul



Research and Monitoring



RESEARCH TEAM EFFORTS CONTRIBUTED TO:

- Successfully fledgling of 24 scarlet macaws
- Established a macro-invert study in the Baldy Beacon area
- Collected data on conditions of wildlife populations including jaguar, white lipped peccary and tapir

AS he starts the skiff and welcomes the citizen scientists embarking on a one-week volunteer work, Max exclaims, “I will be your captain and you can call me Captain Sparrow!!” Max leads a three-person Research Unit

whose main task is to conduct research and monitoring of conservation targets. The conservation targets include macaws, jaguars, headwaters and broadleaf forests. To meet the demand of the work, the year is divided into three segments so that most of their time is spent in the outdoors, either collecting macro-inverts, climbing the tall nesting trees of macaws, or checking the wildlife cameras installed across the landscape. The information recovered is the basis for understanding the conditions of the conservation targets. This data is analyzed by the Biodiversity Research, Inventory and Monitoring (BRIM) Technician who not only is the key for analyzing the raw data brought by the Research Unit but he is also responsible for downloading all the Spatial Monitoring and Reporting Tool (SMART) information gathered by the field personnel bi-weekly.

From the month of March, seven months were spent conducting biological monitoring at the Chalillo Lake. With support from 13 volunteers, the field staff remained active monitoring scarlet macaw nests along the regions of the Lake. A total of 15 active nests were systematically monitored during the 2022 Scarlet Macaw Nesting Season. Out of the 15 nests, a total of 38 eggs were laid, out of which 25 eggs hatched. Of these, a total of twenty chicks fledged naturally from their cavities, while four chicks fledged from the In-Situ laboratory.

The team was thereafter engaged in water quality. The results obtained are to complement the findings presented by the end of 2021. These first results of water quality monitoring for streams in the Chiquibul Forest, serve as a critical baseline data for ongoing monitoring. Measured water quality parameters were indicative of healthy freshwater systems which represent the conditions of most sites in the Chiquibul Forest. Added to this, the BRIM Technician led a first macro-invertebrate study of its type in the Bald Hills area in the Mountain Pine Ridge Forest Reserve. 12 sites were sampled resulting in a total of 1,168 individual macroinvertebrate specimens collected. The results are yet being analyzed by both Dr. Ed Boles and Dr. Boris Arevalo.

This year the Research Unit has also been involved in camera trapping to better understand the status of wildlife populations. The results are yet to be derived; however, in the previous wildlife assessment for the Chiquibul National Park and Chiquibul Forest Reserve, *Panthera* who serves as the key technical partner to FCD on this program, reported in May 2022, that, “Overall, the Chiquibul seems to be in a good state, especially compared to 2008. All distribution and capture rates seem to be equal, slightly lower, or somewhat higher compared to an equally well protected area, like the Cockscomb Basin Wildlife Sanctuary, east of the Main Divide.”

Research Unit partnered with Crocodile Research Coalition on crocodile and primate research



Research Unit partnered with Virginia Tech and Panthera on Jaguar research



Community Development



COMMUNITY DEVELOPMENT EFFORTS CONTRIBUTED TO:

- Improvement of livelihoods for 14 farmers in the Vaca plateau
- Restored degraded areas with 7,500 seedlings
- Reduced agricultural expansion in the forest reserve

The trail of dust left behind by the passing motorcycles as they speed into Vaca, reminds us of the disrepair, complicated road system in the area. When it is dry, then there is much dust, but when it rains, the road is muddy and slippery. Every Monday the two FCD Rangers travel up to the Vaca plateau, behind them, Ermain Requena, the Extension Technician. “Not everyone participates actively but I am happy that there are farmers that are constantly helping us to recover the area,” says Ermain. Similarly, to the complicated nature of the road, so are the relationships with farmers. Some of these famers have been in the area for more than 15 years and changing their practices into a more sustainable one with the natural environment has not been easy.

This year Ermain worked with 14 farmers located inside the reserve. These farmers produce mainly vegetables and the race has been to make them more productive but using sustainable best practices. Climate change has taken its toll in the area which also supports the doctrine of making more efficient use of the resources. Extension services to guide them and encourage them to go more into integrated farming systems has been the emotive key. Farmers were assisted not only with training or technical advice but they also became beneficiaries of subsidized materials including irrigation efficient systems and solar system to control cattle from grazing into the reserve. Farmers were also supported with seeds and taught the importance of growing inga as part of soil restoration. Four farmers joined on an exchange visit to see alternative practices used by local people in the Toledo District, including the use of inga alley cropping and gibnut wildlife ranching. Four women also visited Peten, Guatemala to learn about the marketing of breadnut and xate as non-timber forest products. Due to the threats of fires in the Vaca plateau, the farmers were also exposed to methods of preventing forest fires and fire-fighting tools were acquired. Farmers are essentially the first responders, in the event of a fire.

Farmers on the other hand have been involved in conservation and restoration activities. This year a total of twelve farmers joined in the cleaning and maintenance of Cacao Creek. This is their main source of water for irrigation and crop production. Two nurseries were installed and a total of 9,000 seedlings were cared for, with a total of 7,500 seedlings planted by farmers in the reserve. In addition, 2 other nurseries with 975 seedings were installed in the reserve with the support of Toucan Education Program.

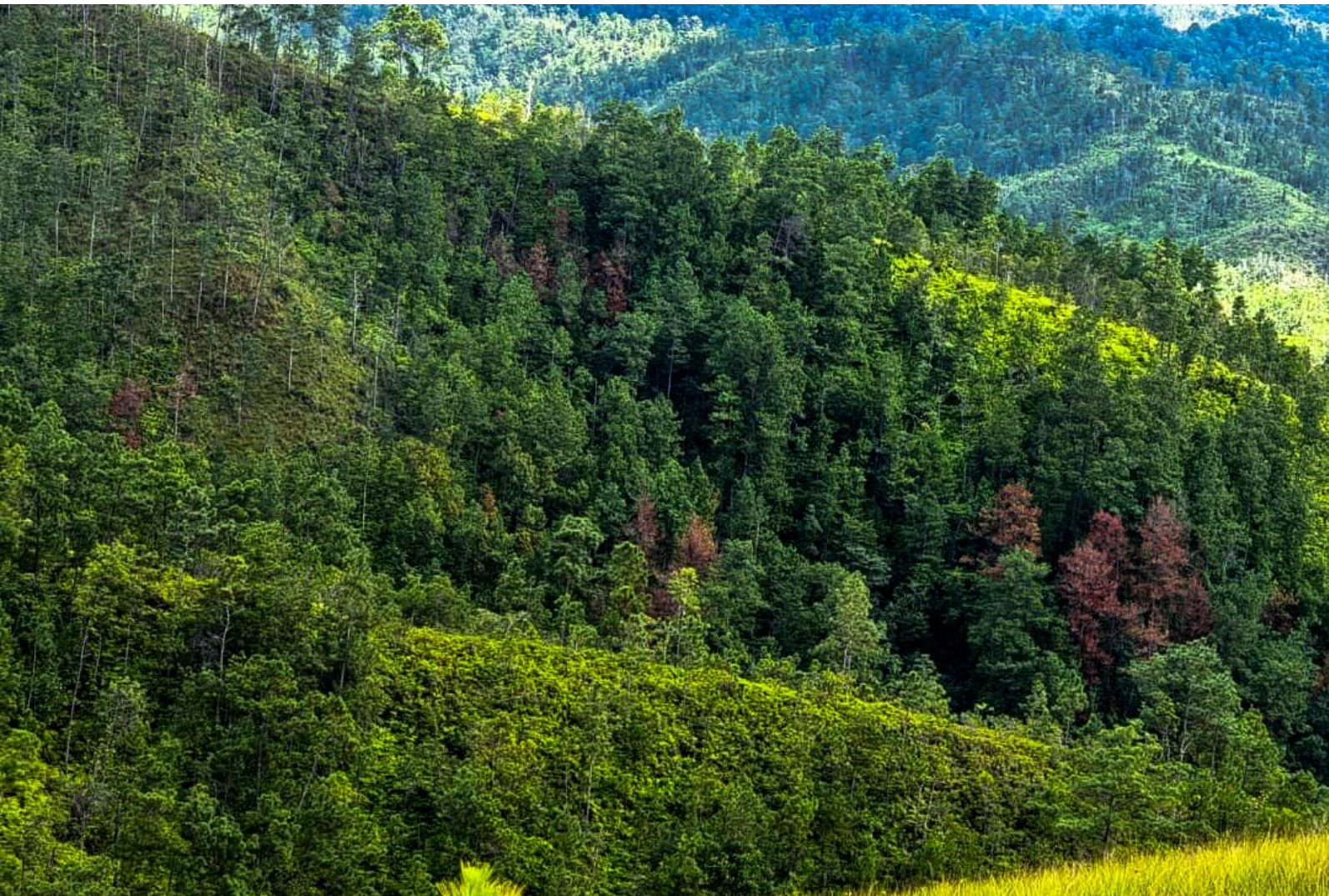
It is not certain what will be the extended role of FCD in the Vaca Forest Reserve; however, a governance framework with inputs from multiple stakeholders is currently underway. The review demonstrates that the Vaca Forest Reserve is under a category of its own being that farmers have been allowed to function inside the reserve. The area also has a 17 km boundary line with Guatemala with incursions becoming a hot issue, and on the north it is flanked by the community of Arenal. All in all, it has a delicate geo-political status that warrants multiple interventions.

Vaca Plateau Vaca Forest Reserve

FCD's mission in the Vaca Forest Reserve is to conduct research, biodiversity monitoring, and promotion of alternative livelihoods.



In the Bald Hills, the threats include bark beetle infestation, forest fires and hunting



Through wildlife camera trapping the evidence shows a stabilization of wildlife populations



The inaccessibility and ruggedness of the Chiquibul makes management a complex endeavor



The distances to cover are extensive and the ecosystems are diverse



Education and Public Outreach



EDUCATION EFFORTS CONTRIBUTED TO:

- Reduction of forest fires
- Strengthening of public participation
- Promotion of binational river conservation

“Today, I find myself working with more people of different cultures, age, groups and partners which have forced me to improve my verbal and nonverbal communication, my ability to handle conflict, teamwork, empathy and demonstrating proper etiquette and body language”, says FCD’s Environmental Educator, Justin Pook. Indeed, the

education and public outreach is diverse and Justin has embraced it with much enthusiasm and commitment.

This year prior to the dry season, Justin organized one to one visit with farmers from the Vaca plateau in order to prevent the incidences of forest fires. Armed with posters and t-shirts, he presented the methods to reduce forest fires and encouraged the 18 farmers to obtain their fire licenses from the Agriculture Department. The fires were reduced this year and although the months were moister, it is certain that the sensitizing of farmers paid off. Justin also worked with a Guatemalan educator in development of materials that they could use in Guatemalan communities to alert them about the importance of preventing forest fires. This cross- border collaboration is essential since fires are primarily caused by community members from across the border. Implementation of these bi-national strategies is made possible through the activation of a binational forest fire taskforce and the development of a binational action plan.

River conservation also has a binational component and, on this subject, Justin also made major achievements. In Belize he has promoted reforestation, clean up campaigns and public outreach by establishing collaborations with the FCD Environmental Youth Group (FCDEYG), Caretakers of Rivers and the Environment (CORE) and the Cayo Watershed Conservation Alliance. In Guatemala, Justin has worked with Asociacion Integral de Cuencas Chiquibul y Rio Mopan and Todos Por Un Mundo Verde as the key contact for facilitating guidance and technical assistance. By the end of the year, he also worked with an Educator from the National Council of Protected Areas (CONAP) in Guatemala to develop a public outreach action plan for the GIZ Selva Maya One Health Project. The "One Health" approach is a holistic and interdisciplinary approach that focuses on the interaction between humans, animals and the environment. This approach is also being duplicated in Belize led by Justin, targeting 15 Belizean communities.

This year Justin was engaged in training community promoters within the scope of the FCD/Maya Leaders Alliance partnership. Four promoters were trained and MLA’s educator was provided with technical assistance that helped him institute a public outreach program among four Maya communities in Toledo on the subject of indigenous forest stewardship. In addition, within the Itzamna Society partnership, 4 communities were targeted to promote protection of the Maya Mountain Massif in the Cayo District. Justin was also the main instructor and coordinator for the Junior Ranger Summer Camp which catered for 13 children in August.

River conservation has been one of the main themes annually promoted through education



Junior Rangers graduating after a one-week outdoor program of learning



Transboundary Cooperation



TRANSBOUNDARY EFFORTS CONTRIBUTED TO:

- Reduction of incursions into Chiquibul
- Promotion of community livelihoods
- Confidence building with communities

“Concerning the protection of the Chiquibul-Maya Mountains, FCD has to be our partner in everything we do”, explains Bayron Castellanos, Executive Director of Asociacion Balam. Rightfully so, for more than 10 years FCD has had an ongoing

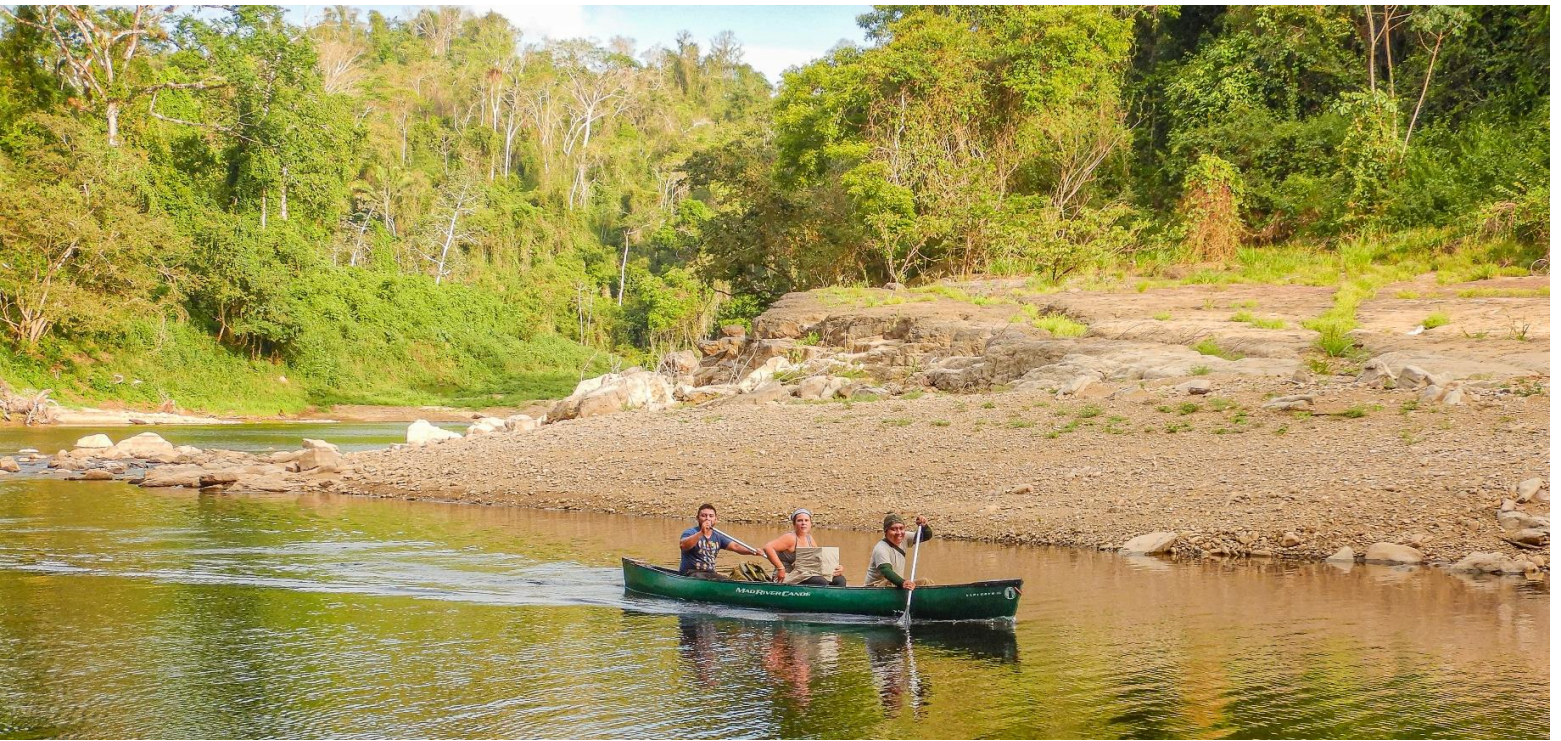
strategic partnership with Balam and the results of this cooperation has paid off. Today, the binational efforts are diverse and the number of donors on the Chiquibul-Maya Mountain landscape have multiplied leading towards a significant difference on the ecosystem and the lives of people located along the western border with Belize. As early as 2008 the first binational action plan to protect the shared Chiquibul-Maya Mountains was based on a three-prong approach, namely, alternative livelihoods/community development, environmental education/outreach, and environmental law/enforcement.

This year FCD worked with Asociacion Balam in developing program plans for technicians from both organizations in areas of education, cultural heritage, enforcement and sustainable livelihoods. FCD maintained the coordination of two task forces that relate to illegal wildlife trafficking and wild fire and finalized a binational plan to prevent and combat wildfires. Working with Balam the bi-national environmental security strategy and action plan was finalized and a bi-national environmental education action plan is being developed. Balam continued their work of supporting communities located nearby the western border and rallied behind other institutions to highlight the poverty conditions of the community members living in the Chiquibul-Maya Mountain Biosphere Reserve. The biocultural landscape has benefitted with financial inputs from organizations including the European Union, GIZ Selva Maya, U.S Department of the Interior, US Fish and Wildlife Service and KOICA among others.

FCD also extended its work with el Conejo Nacional de Areas Protegidas (CONAP) and the Municipality of Melchor de Mencos in areas of patrolling and fire prevention. CONAP technicians were flown over the western border to detect any human activity and were assisted financially to conduct ground reces in hotspot areas. CONAP also organized with FCD two combined link ups which led to a positive exchange between Guatemalan community members of two hotspot areas and Belizean technicians. This first of a kind approach helped highlight the environmental impacts created by Guatemalan communities and opened a dialogue to address the problems of deforestation at the local level.

The work of river conservation with local groups in Guatemala included planting and implementation of restoration, public outreach and clean-up campaign. To do this, FCD organized and developed specific action plans for Asociacion Integral Para la Proteccion de Rios Chiquibul y Mopan and Todos Por Un Mundo Verde and provided seed funds. Belizean local counterparts were also supported technically and financially.

Volunteers help protect scarlet macaws annually



Las Cuevas Research Station is located in the heart of the Chiquibul



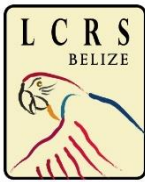
FCD staff conduct monitoring and surveillance on land, air and water





CNP Management Effectiveness

The management effectiveness assessment for Chiquibul National Park provides a snapshot of the protected area at a given point in time - the end of 2021 – as assessed on the 9th March, 2022. Management effectiveness of Chiquibul National Park is rated as VERY GOOD, with an overall score of 76.2%, with Management Categories ranging from 68.2% for Community Engagement to 83.3% for Human Resources.



Recreation and Public Use



LAS CUEVAS CONTRIBUTED TO:

- Research for increased understanding of Chiquibul biodiversity
- Catering for 484 guests
- Outdoor learning for young children from 5 communities

“There is always plenty of work to do here”, remarks Rafael Mesh, who is responsible for the maintenance of Las Cuevas Research Station (LCRS). He is constantly on the move on the mower or on the trails keeping the area neat and clean for the guests who pop in sometimes for days or for a brief stay at the station. “This is my first house”, he adds, “... since I spend more time here than at home.” Indeed Mr. Mesh spent this year an average of 27 days per month at Las Cuevas, which is located in the heart of the Chiquibul Forest.

This year three buildings were refurbished and solar energy was expanded at Las Cuevas Research Station. The station has the primary mission of promoting research that can help better understand the Chiquibul ecosystem and thus improve in making management decisions. This year several research activities were undertaken including a study to identify tardigrades on this moist ecosystem led by Dr. Matthew Hoch of Lamar University. Ms. Jane Champion from The Crocodile Research Coalition undertook further studies on the isolated population of Morelet crocodiles at the Chalillo Lake and gathered information on distribution of howler and spider monkeys in the Chiquibul. Dr. Andrew Burt of Sylvera undertook field investigation on next-generation forest carbon estimates from multi-scale LiDaR. The study primarily was to assess the accuracy of air borne LiDar by using terrestrial scanning LiDar and ground based plot measurements to verify the estimates. FCD’s research team undertook an in-situ scarlet macaw conservation program using the facility as the research laboratory and for the soft release of four parrots.

This year, Las Cuevas also returned back to the catering of student groups after a two-year gap due to the COVID pandemic. The University students marveled at the rich biodiversity in this remote location and got a first-hand experience of the complexity of managing this exotic ecosystem. The Universities this year included Southampton, Rice, Centre College, Wolford College and University of Florida.

The area was also visited by guests who simply wanted to relax in a remote yet comfortable setting. The VIP room had some occupation and proved that tourism is a strong potential to be further coordinated and organized with support systems from the Belize Tourism Board and partner lodges such as Chaa Creek and Blancaneaux Lodge. This year a total of 484 guests visited LCRS compared to 379 hosted in 2021.

Special events also took place this year using the Station as the central launching hub. This included the Chiquibul Challenge Marathon organized through the Belize Wildlife and Referral Clinic that had the participation of 77 athletes. Then the Junior Ranger Summer Camp took place for a week at the Station funded by the Belize Roadworks Construction Company.

The Chiquibul Challenge Marathon is an event to fundraise for scarlet macaw protection



Students from University of Florida relaxing at Las Cuevas Research Station



Bald Hills, Mountain Pine Ridge Forest Reserve

The mission of FCD in the Mountain Pine Ridge is to conduct biodiversity and fire monitoring, watershed management, surveillance and provide support to the Forest Department in the operations of the area.



Eco-Guard Buffer Protection



Despite the Chiquibul National Park being the largest terrestrial protected area in Belize, it cannot exist on its own. The buffer areas, namely Vaca, Columbia and Mountain Pine Ridge Forest Reserves are a shield that helps protect biodiversity of the Chiquibul. Apart from having a ranger presence in the Vaca and Mountain Pine Ridge, FCD renewed its partnership with Fortis Belize in providing Eco-Guard services. Eco-Guards stationed at the Chalillo, Mollejon and Vaca Dams not only guard the entrance to the area but also patrol the perimeter to

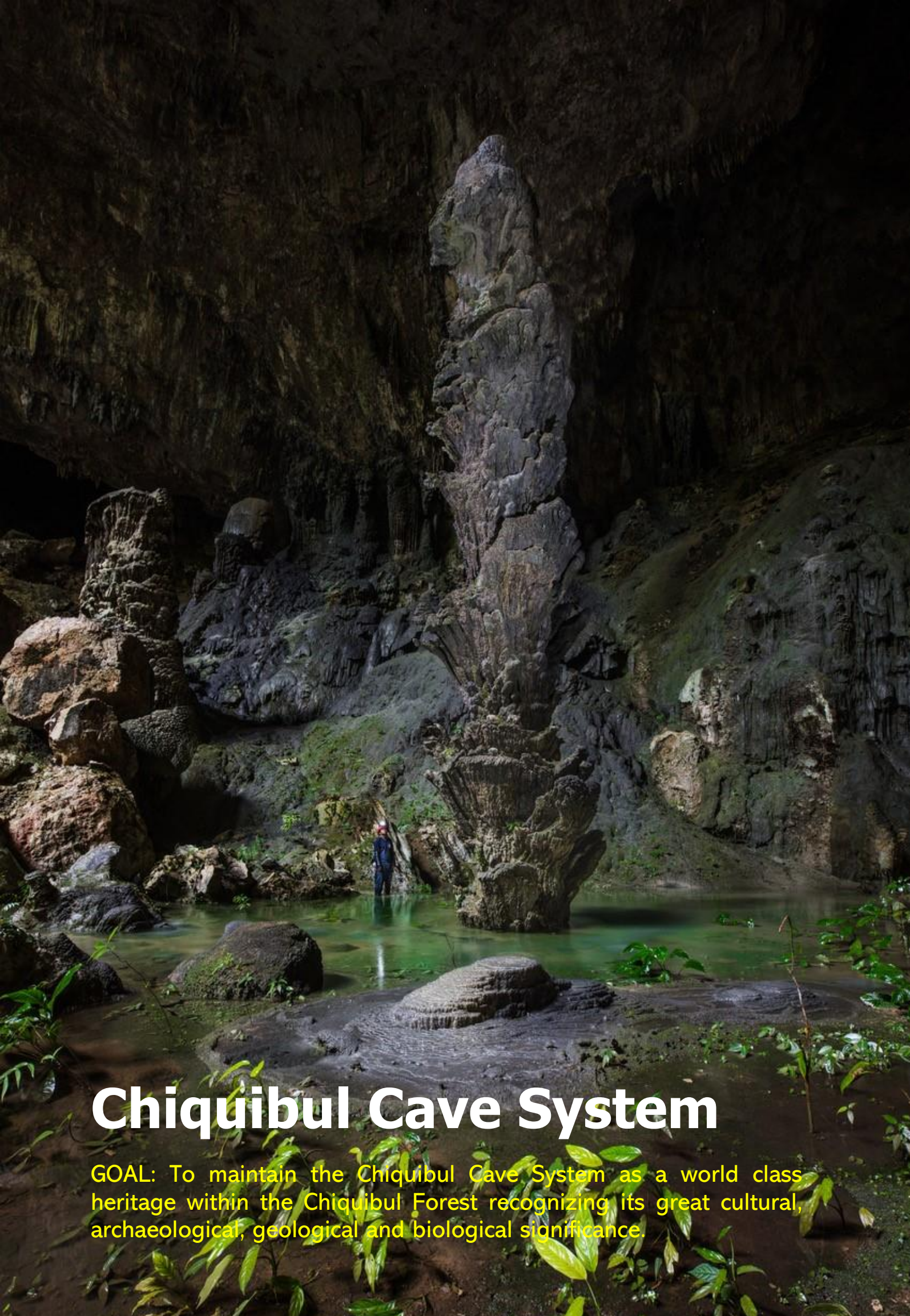
reduce hunting and detect any human activity. During this year the presence of Eco-Guards on these locations helped detect forest fires, reduced human activity and expansion that helped protect over 1,700 acres. In the Toledo District, FCD partnered with the Maya Leaders Alliance to promote indigenous best practices and environmental education among 4 communities located nearby the Columbia River Forest Reserve.

Public Participation in River Conservation

Outside of the protected areas where FCD works, rivers have been one of the primary resources that has enabled the development of a vibrant public participation program. The Chiquibul, Mopan and Macal Rivers contain their headwaters in the Chiquibul and Mountain Pine Ridge and as these run down through communities, there is no doubt that the integrity and stability of these rivers tend to be compromised. To help reduce the human effects, FCD has partnered with the Cayo Watershed Conservation Alliance (CWCA) and Caretakers of Our Rivers and the Environment to protect the Mopan and Macal Rivers. This year the Upper Macal Working Group, endorsed by the Forest Department, was strengthened with the participation of the Mennonite community and other stakeholders found in the upper limits of the Macal headwater. This group has supported the development of a macroinvertebrate assessment and Belize Communication and Security Limited (BCSL) has provided finance to acquire the basic equipment to expand this type of research. In Guatemala, FCD also worked with el Grupo Integral para la Proteccion de las Cuencas Chiquibul y Mopan (ASIPROM) and the youth group Todos Por Un Mundo Verde to promote river conservation. An agreement between youth to promote this endeavor was signed by October 2022. To date, this is the only initiative currently ongoing for the protection of transboundary rivers between Belize and Guatemala.



The stakeholder associations have been instrumental in organizing clean up campaigns, reforestation and community outreach to sensitize villagers and authorities about the importance of keeping the Chiquibul, Mopan and Macal Rivers clean.



Chiquibul Cave System

GOAL: To maintain the Chiquibul Cave System as a world class heritage within the Chiquibul Forest recognizing its great cultural, archaeological, geological and biological significance.

Cultural Heritage Preservation

KARST EFFORTS CONTRIBUTED TO:

- Cultural Inventory of Nohoch Chen region
- Improved understanding of Chiquibul Caverns
- Data collection expansion across the Chiquibul



“It is important to note that once cultural material or any landscape is destroyed, then it makes it difficult to understand and obtain the right data. Protection of our Cultural patrimony should be made a priority”, says Yasmini Manzanero, who leads the Karst Management Unit as the Cultural Heritage Coordinator. The main task of the Unit has been to conduct inventory of cultural remains in the Chiquibul Cave System

region. The area is rugged and access has been difficult, particularly this year as the team intended to finish the inventory of the system. With the Nohoch Chen zone as the main area left to finish the team worked arduously to bring in the data. The three-person team could go as much as a week in the jungle but due to water scarcity the work was limited. The Chiquibul Cave System is vast and much of the treasures are yet under the forest canopy, hidden and cloaked with dense vegetation and thick trees.

Discoveries have been a common practice for the Karst Unit, as they immerse themselves inside sink holes, shafts and cave formations. The field work has its risks but the finds are exciting. The data gathered is now more systematic and a more direct line of communication has been established with the Institute of Archaeology (IA). Two sessions conducted with the Director of the National Institute of Culture and History, and with the Director and staff of the Institute of Archaeology helped establish a roadmap for further collaborations and communication. This has also enabled a review of the co-management agreement which is on its last phase for eventual signing. Dr. Melissa Badillo, Director of IA notes that, “Having this MOU with the FCD will afford both parties an opportunity to work together in safeguarding Belize’s cultural resources.”

This year, the Karst Management Unit had the opportunity to get hands on experience working with cave specialists from the United States, and learnt more about the challenges and opportunities to cave tourism. Likewise, technicians from FCD learnt about cave management and use of specialized equipment to conduct inventory. The Unit also received training on the use of SMART, which better documents field efforts and observations made are better organized.

Communication was maintained with the Guatemalan counterparts from Atlas Arqueologico and Instituto de Antropologia e Historia with the purpose of understanding the conditions of the last chamber of the Chiquibul Cave System which is located in Guatemala. Last year, the Guatemalan technicians had visited the Chiquibul Cave and provided training to the field staff in areas of mapping and cultural inventory.

Park Rangers deployed to various areas in the Chiquibul on a biweekly basis have also started to document cultural features. The expansion of this data base is to help the Institute of Archaeology better preserve the cultural resources found in the Chiquibul landscape. Several areas have been found to be looted, as a result, the Karst team has also been more vigilant to conduct frequent reconnaissance of the Chiquibul Cave System in order to enhance the presence and reduce human activity.

Partnerships

FCD is honored to have worked with more than 80 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
Belize Tourism Board
Economic Development Council
Department of the Environment
National Biodiversity Office
Ministry of Foreign Affairs
Ministry of Defence and Border Security
Ministry of SD, Climate Change and Disaster Risk Reduction
U.S Department of the Interior-ITAP
U.S State Department - INL
U.S Fish and Wildlife Service
British High Commission of Belize
British Army Training Support Unit 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
Caretakers for Our Rivers & 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
Itzamna Society
Maya Leaders Alliance
Julian Cho Society
Upper Macal Watershed Working Group

Exploring Solutions Past ~ The Maya Forest Alliance
Mesa Integral de Tierra y Medio Ambiente
Cooma Cairn Mennonite Community

NON-GOVERNMENTAL ORGANIZATIONS

Belize Nature Conservation Foundation
Association of Protected Area Management Organizations
Centre for Strategic Studies, Policy Analysis and Research
Asociación Balam



Programme for Belize
COACAP
ACOFOP
Belize Maya Forest Trust
Engaged Scholarship & Service Learning
Belize Audubon Society
Foro de Justicia Ambiental
Belize Wildlife and Referral Clinic
The Belize Zoo and TEC
Harvest Caye Conservation Foundation
Chaa Creek Foundation
Wildtracks
Ya'axche Conservation Trust

INTERNATIONAL ORGANIZATIONS

United Nations Development Program
The European Nature Trust
Forecastle Foundation
Sisters of Nazareth
The Nature Trust of the Americas
Toucan Education Programs
Wildlife Conservation Society
Panthera Belize
GEF-Small Grants Program
World Nomad
GIZ-Selva Maya
Adventure Travel Conservation Fund
Wildlife Media



PRIVATE SECTOR



Belize Communication Services Limited
Fortis Belize Limited
Chaa Creek Inland Expeditions
Belize Roadway Construction Ltd.
Blancaneaux Lodge
John and Susana Vanzie
Bull Run Farms
Pacific Heights
Cayo Cargo
Turtle Inn
GAIA River Lodge
Channel 5 Belize
Channel 7 TV

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
Dr. Elma Kay - Vice President
Mr. Jorge de Leon - Treasurer
Mr. Joop Hendriks - Secretary
Mrs. Valerie Woods Smith - Director
Mrs. Tanya Santos Neal - Director
Mr. Tony Rath - Director

STAFF

Rafael Manzanero, Executive Director

Esther Sho, Programs Director

Diana Garcia, Accounts Clerk

Derric Chan, CNP Manager

Ermann Requena, Extension Technician

Rafael Mesh, Assistant Station Manager

Marco Diaz, Chief Ranger Level I

Cruz A. Keme, CNP Chief Ranger (Until July)

Yasmini Manzanero (From August)

Orvin Mai, CNP Ranger (Until December)

Mainor Tzalam, CNP Ranger (Until May)

Reynaldo Sutherland, CNP Ranger

Josue Najera, Research Assistant

Mariano Beckford, CNP Ranger

Abimael Guzman, CNP Rangers (Until July)

Ricky Cunil, Comm Technician (From July)

Ivy Flores, TEDP Manager (Until January)

Jovanni Puc, CNP Ranger

Simon Lotiff, CNP Ranger

Francisco Galicia, Research Assistant (Until May)

Ricardo Mena, Research Assistant (Until Jan)

Christian Mena, Research Assistant (From May)

Rocendo Chun, CCS Ranger

Ismael Landero, Chief Eco-Guard (Until August)

Daniel Cruz, Eco-Guard

Alberto Cruz, Eco Guard (From July)

Darrio Bautista, Station Caretaker

Angelica Morales, Cook (Part-Time)

Luceli Itza, Finance Manager

Myrna Claros, Receptionist (Jul-Aug)

Wilford Pook Jr., Enviro Educator

Wilmer Guerra, Data Conservation Manager

Kumar Quiroz, (From September)

Demery Harris, CNP Chief Ranger (Until March)

Kenny Pech, CNP Chief Ranger

Erwin Chi, CNP Ranger

Ellsworth Sutherland, MPR Ranger

Pedro Manzanero, CNP Ranger (Until Nov)

Rahim Ponce, CNP Ranger

Luis Ayala, CCS Ranger (Jan-May)

George August, CNP Ranger (Until July)

Robin Magana, VFR Field Assistant (Until April)

Reynaldo Sho, CNP Ranger (From August)

George Pott, MPR Ranger (From March)

Irvin Choc, CNP Ranger (From August)

Stephen Coc, CNP Ranger

Douglas Monroy, VFR Ranger

Richard Angel Harris, Research Assistant

Eric Antonio Max, Research Assistant

Rommel Melendrez, CCS Ranger

Donicio Cal, CCS Ranger (From September)

Ryan Thompson, Eco-Guard

Axel Castellanos, Eco Guard (Until July)

Ken Smith, Eco Guard (From September)

Carrin Martinez, Janitor (From February)



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