



# Annual Report 2016

Ya'axché Conservation Trust

Punta Gorda | July 2017

**Cover page**

Scarlet Macaw (*Ara macao*)

Photo: Maximiliano Caal, courtesy The Belize Zoo

**Back page**

A small creek in Bladen Nature Reserve

Photo: Erik Hammar

**Maps**

All maps prepared by Carly Voight.



# Annual Report 2016

## Ya'axché Conservation Trust

Punta Gorda, Belize - July 2017

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The second Ya'axché Point discovered in Bladen Nature Reserve.

*Photo: Maximiliano Caal.*



Maturing cacao pods.

*Photo: Maximiliano Caal.*



Jaguar (*Panthera onca*).

Photo: Panthera/Ya'axché

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## List of acronyms

BDF	Belize Defence Force
BNR	Bladen Nature Reserve and
CFII	Chiquibul Forest Investment Initiative
COL	Community Outreach and Livelihoods
FCD	Friends for Conservation and Development
FD	Forest Department,
GSCP	Golden Stream Corridor Preserve,
GIS	Geographic Information Systems
GPS	Global Positioning System
GTS	Global Trees Symposium
IFS	Integrated Farming System
km	kilometer
LULC	Land Use/Land Cover Change
MFFSD	Ministry of Forestry, Fisheries and Sustainable Development
MGL	Maya Golden Landscape
MMNFR	Maya Mountain North Forest Reserve
NGO	Non-Governmental Organization
PAM	Protected Areas Management
SBFWG	Southern Belize Fire Working Group
SMART	Spatial Monitoring and Reporting Tool
TFCGA	Trio Farmers Cacao Growers Association
WCS	Wildlife Conservation Society
YFE	Ya'axché Farmers' Expo
Ya'axché	Ya'axché Conservation Trust

## From the Executive Director

2016 was a year of hard work, dedication, transition and program restructuring. There is an overwhelming amount of achievements to report on in an environment of growing population, demand for agricultural land, and pressure on precious resources mostly found in protected areas within the Maya Golden Landscape. Ya'axché has become an iconic star in conservation over the past 19 years.

Protected Areas Program Director Lee McLoughlin departed for another conservation post and Operations Director Kamille Pennell took leave to pursue a Masters degree in Conservation Leadership. The hiring of a new Protected Area Program Director, and Community Outreach & Livelihoods Program Director, as well as additional supporting staff, helped strengthen our work and expand our area of impact.

In 2016, we employed a variety of approaches to addressing unsustainable land use, including the integration of camera traps in agroforestry farms and increasing patrols significantly across protected areas with the aid of SMART technology. We fully adopted inga alley cropping and promoted the integration of agricultural practices which enhance sustainable land use and increase the income of 120 farming families.

We also continue to maintain a high level of support towards the Trio Farmers Cacao Growers Association, working to cultivate cacao in the agroforestry concession within Maya Mountain North Forest Reserve. Guided by a management plan and conservation agreement, the farmers have begun harvesting short term crops while they wait for the cacao to reach full production.

The positive impact Ya'axché has on the conservation work in Belize is quite admirable, but there needs to be greater collaboration among governmental agencies, NGOs, communities and other partners. Successfully tackling illegal incursions into protected areas and deforestation requires cooperation, greater enforcement of the laws, mutual understanding and support from community members.

As we make every effort to bring harmony between nature and human development for the benefit of both, Ya'axché will continue to strengthen its program areas. With the tireless efforts of our staff and volunteers, and of course with the support of our donors, we will strive to maintain a healthy environment and foster sustainable livelihoods within the Maya Golden Landscape. Lastly, I take the opportunity to recognize the hard work of the staff, board of directors, volunteers and the kind funds received from our donors; without their hard work and dedication, none of this would have been possible.

Sincerely,



**Christina Garcia,**  
Executive Director





Holey Rock, Bladen Nature Reserve.

Photo: Maximiliano Caal.

## Strategic plan

The work carried out by Ya'axché is guided by a strategic plan that sets out the goals of the organization and the means to achieve them.

The strategic plan for the period 2015 to 2017 was finalized in December 2014 and includes updated mission statements, as well as updated organizational values.

### Vision statement of the organization

Harmony between nature and human development for the benefit of both.

### Mission statement of the organization

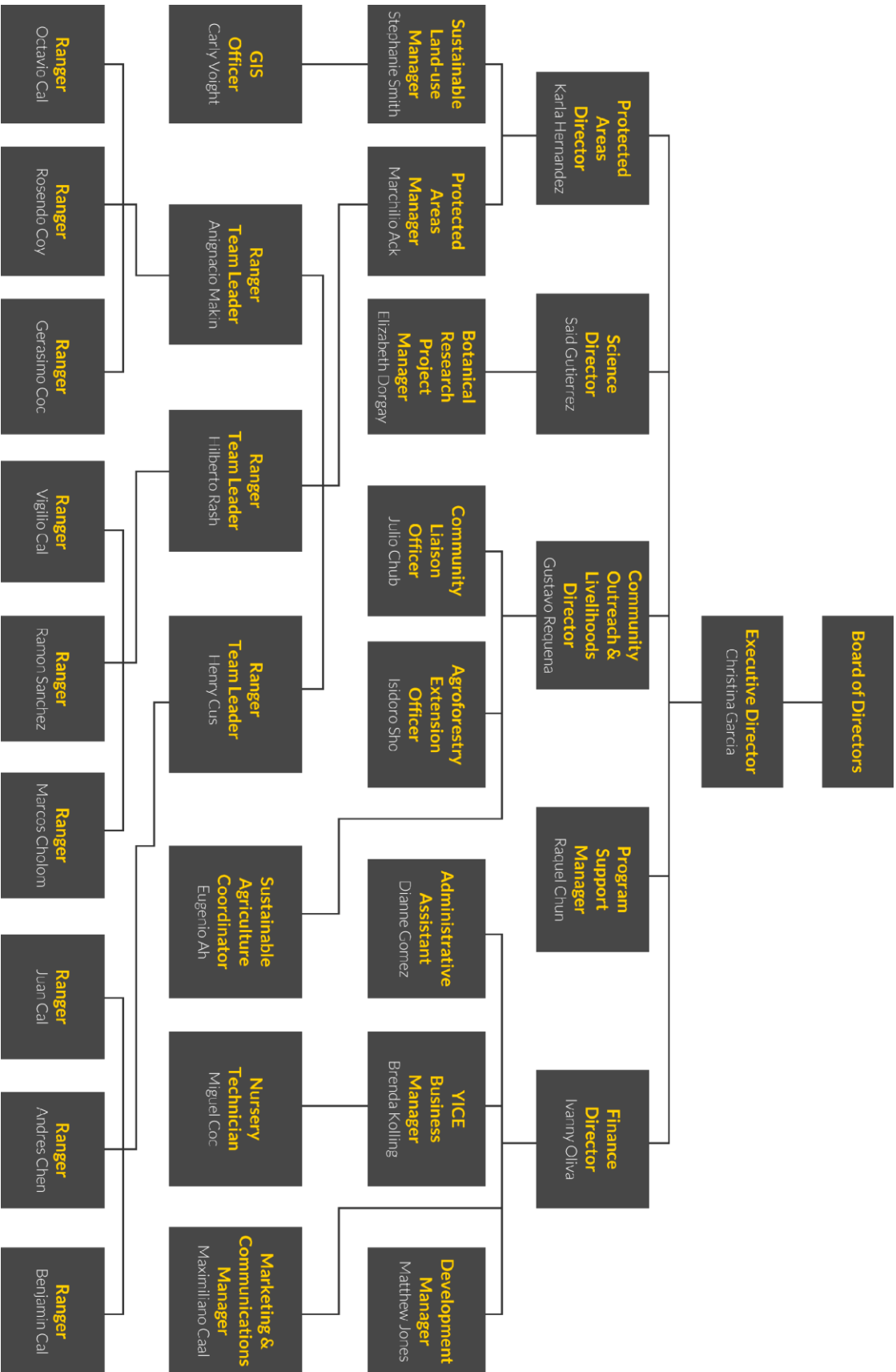
Ya'axché is a Belizean organisation which aims to maintain a healthy environment with empowered communities by fostering sustainable livelihoods, protected area management, biodiversity conservation and environmental education within the Maya Golden Landscape.

### Organizational values

Ya'axché works with...

- Integrity
- Respect
- Professionalism

# Institutional structure



## An Integrated Management Approach

The two main programs at Ya'axché are Protected Areas Management (PAM) and Community Outreach and Livelihoods (COL), and an important aspect of the organization's work is finding the overlap and points of collaboration between the programs. While one program focuses more on nature and the other on human development, the vision of the organization is to find harmony between the two, and this is where integrated landscape management comes in.

Ya'axché is constantly learning and adapting its approaches to suit the complex, multi-dimensional and dynamic context of the Maya Golden Landscape (MGL). We continue to foster creativity, encourage innovation and adopt cutting edge technology to realize this integrated landscape management approach to our work in the MGL. There are a variety of ways in which we seek to bridge protected areas management with community livelihoods. We utilize GIS to map the sustainable farms we work with, as well as employ remote sensing to detect changes in land use and forest cover within the protected areas and buffer zones. These methods allow us to better understand trends in land use and formulate strategies and plans to reduce deforestation in key areas, in addition to monitoring our impact.

One strategy that has been developed over the past year is working with farmers to integrate sustainable farming practices into a larger and more connected integrated farming system rather than promoting individual methods.

This new approach to farming seeks to improve economic return, increase healthy food production and create more habitat for biodiversity, especially in buffer zones surrounding protected areas. This year also saw the initiation of biodiversity monitoring in cacao farms to understand whether these environmentally-friendly farms are viable connectors of forest in a fragmented landscape.

Another way in which we worked toward fostering harmony between communities and protected areas this year was through the consultation of communities in southern Belize to understand how to increase voluntary compliance with protected area rules and regulations. The resulting compliance strategy provides a deeper understanding of how communities and protected areas can co-exist in the MGL. One approach that continues to be an example of such integration is the agroforestry concession in Maya Mountain North Forest Reserve, a model that we will continue to promote.

Through the implementation of these and other innovative methods, the vision is to reach a level where communities are actively engaged in protected area management, where a network of integrated farms connect forests, and where communities participate in land-use planning. In short, the goal is to achieve "harmony between nature and human development for the benefit of both."

# THE MAYA GOLDEN LANDSCAPE



## MAYA MOUNTAINS

### BLADEN NATURE RESERVE

### MAYA MOUNTAIN NORTH FOREST RESERVE

### COCKSCOMB BASIN WILDLIFE SANCTUARY

### COLUMBIA RIVER FOREST RESERVE

### DEEP RIVER FOREST RESERVE

### SWASEY-BLADEN FOREST RESERVE

### PAVEN'S CREEK NATIONAL PARK

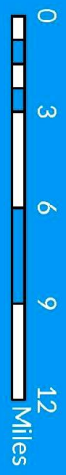
### PORT HONDURAS MARINE RESERVE

### GSCP

GUATEMALA  
BELIZE



- Villages
- Highway
- Rivers
- Maya Golden Landscape
- Protected Areas



## Protected Areas Management

The Protected Areas Management (PAM) Program manages three critically important protected areas in Belize – Golden Stream Corridor Preserve, Bladen Nature Reserve and Maya Mountain North Forest Reserve – each with individually unique characteristics and challenges. Team work made 2016 a successful year.

Our accomplishments were possible through the expansion of our team which included the addition of three rangers, SMART Technician, GIS Officer and Botanical Research Project Manager. We said good-bye to Lee McLoughlin and welcomed Karla Hernández as the new Protected Areas Program Director.

Partnerships were made with government and non-governmental organizations for the protection of forests nationally through a two-year Chiquibul Forest Investment Initiative. This initiative increased enforcement patrols, equipped rangers, and built capacity in advanced SMART technology, GPS, navigation and biodiversity monitoring.

Communities buffering protected areas participated in the development of a Compliance Strategy through a study that identified ways to increase voluntary community compliance with rules and regulations of protected areas.

We are thankful for the dedication of the Development team who work to secure financial resources for an increasing need for more boots on the ground. Moving forward, our team remains committed to plan strategically for the effective management of protected areas in Belize.

### Spatial Monitoring & Reporting Tool

Ya'axché became an expert leader in the utilization and customization of the Spatial Monitoring and Reporting Tool (SMART) in 2016. This software tool is aimed at improving efficiency and effectiveness of ranger patrols by collecting, storing, communicating, and evaluating threat levels, patrol efforts and results. Ya'axché developed a large and comprehensive dataset, one of the largest in the region, and the organization's expertise is often sought after by Belizean counterparts for advice and technical support.

Ya'axché's 12-man ranger team is fully trained in SMART patrol data collection and evaluation. The dedicated work of the ranger team throughout 2016 has resulted in the successful collection of a full, uninterrupted year of data, the first of its kind terrestrially in Belize. Alongside frequent field testing and training, an end of year scenario training and evaluation session was conducted, assessing each ranger's SMART proficiency. Strengths and weaknesses of each ranger were identified to guide future SMART training.

We increased our patrols from 249 in 2015 to 432, covering 4679km in 2016. SMART has revolutionised the PAM Program at Ya'axché and has dramatically helped combat the threats facing protected areas. Improved collection, storage and analysis has meant strategic planning and action is carried out with greater efficiency and capability for the management of the three protected areas.

SMART has become and will remain a key component within the PAM program moving forward.



Tablets with SMART software installed have allowed rangers to improve data on illegal activities.

*Photo: Benjamin Fletcher.*

## Compliance

Around the world protected areas provide ecological benefits, conserve biodiversity, maintain natural processes and support community livelihoods. In fact, protected areas are one of the most common conservation tools used to address specific conservation issues, such as forest loss, by regulating the sustainable extraction of resources.

However, protected area managers are faced with challenges in receiving full support from buffering communities in following rules and regulations of reserves. In Belize, many protected areas allow sustainable extraction of resources, including Maya Mountain North Forest Reserve, where Ya'axché is having successes with promoting environmentally-friendly farming practices inside the protected area.

Coercive compliance, patrolling and prosecuting perpetrators of illegal activities within protected areas, has traditionally been the approach by enforcement agencies. In order to have more effective protected area management, Ya'axché realizes the need for more voluntary compliance from communities that depend on and border protected areas. In 2016, Ya'axché consulted with various stakeholders in southern Belize to develop a compliance management strategy, one that will guide a holistic approach to conservation in Belize.

A total of 366 surveys across three villages, 17 stakeholder interviews and 3 focus group workshops were conducted with the inclusion of government, non-governmental organizations and private sector members.

The resulting analysis identified the “Five Pillars of Compliance,” which affect voluntary compliance with protected area rules and regulations. Protected area managers need to take into account the culture and tradition of communities; strengthen law and policy to support protected areas; educate and build awareness of communities on importance, rules and regulations of protected areas; help improve livelihoods of communities; and increase law enforcement. The compliance strategy further recommended that protected area managers build on communication, capacity and technology.

Ya'axché has begun to strengthen these areas for voluntary compliance with the rules and regulations of Golden Stream Corridor Preserve, Bladen Nature Reserve, and Maya Mountain North Forest Reserve.





Rangers patrolling the 100,000-acre Bladen Nature Reserve.

*Photo: Maximiliano Caal.*

## Biodiversity Monitoring

For a number of years now, Ya'axché has been promoting sustainable farming practices including cacao-based agroforestry to address threats from climate change, unsustainable farming, and deforestation linked to population growth. Implementing sustainable practices is a small step in preserving the integrity of the forest corridors, ensuring connectivity between the farmlands and the protected areas in Maya Golden Landscape. Although there has been considerable effort placed on sustainable livelihoods, much less has been done to understand the role of the sustainable livelihoods in conservation. As a result Ya'axché has deemed it necessary to gather evidence to measure its effectiveness and to ensure that cacao-based agroforestry systems, if proven beneficial to wildlife, are established in areas where habitat connectivity is most vulnerable.

A short pilot study was conducted in 2016 as a first attempt at documenting biodiversity within cacao-based agroforestry farms. Five cacao farms were chosen out of nine potential farms identified through criteria based on farm size, age, distance between farms and farmer willingness to participate in the pilot study. Farm size ranged from 6 to 12 acres, with the smallest area dedicated to cacao being 1.5 acres and the largest 8 acres. Farms are spaced at least 2km apart and all are in close proximity to secondary growth forest patches.

Point counts were conducted within the farms to monitor indicator bird species and camera traps were set out to monitor for mammal species that use the farms as part of their home ranges.

Farms were monitored between 6 to 12 times for the duration of the study, which began in June 2016 and ended December 2016.

Fifteen out of 31 species of indicator birds were documented within the farms. Fourteen species of mammals of which six species are considered indicator species were documented through the camera traps. There was apparent difference in the number of species that were documented within older farms with good canopy cover. However samples sizes are currently too small to make any statistically significant interpretations and this is an oversimplification of trends and merely an arbitrary observation.

The results of the study now form the baseline for the integration of farm biodiversity monitoring into Ya'axché's growing science program. More farms will be added in late 2017 and early 2018, and will allow for improved sampling frequency and units for a better understanding of the status of biodiversity within the farming landscape of the Toledo District.

Most of the biodiversity data in existence for the district are relevant to protected areas and forested land. The logical progression of such an initiative is to build on the monitoring of wildlife within a wider area with the end goal of providing outputs that can assist conservation management at the national scale.



Collard Peccary (*Tayassu tajacu*) was recorded in one of the cacao-based agroforestry farms.

Photo: Erik Hammar.

## Community Outreach & Livelihoods

In addition to managing protected areas, which are essential to communities' lives, and using science to measure the impact of our work, we continue to partner with buffering communities to foster sustainable livelihoods, increase environmental awareness and engage in conversations. In order for communities to sustainably use the land, they must be aware of, and have access to, environmentally-friendly livelihoods that meet their needs. For this reason, we are constantly seeking approaches that maximize economic, environmental, and social benefits, leading us to evolve and adapt our methods and programme over time.

Two thousand sixteen was a year of big changes and great strides for the Community Outreach and Livelihoods (COL) team. Gustavo Requena was hired as the new COL Program Director, while we said goodbye to Community Liaison Officer Bartolo Teul, a founding member of the organization who retired after 18 years with Ya'axché. Eugenio Ah joined the team in the new Sustainable Agriculture Coordinator position.

We progressed in moving beyond the promotion of individual sustainable agricultural techniques toward integrating the methods holistically. We took steps toward creating lesson plans for our training sessions in order to move farmers from the beginner to advanced level in a systematic way.

Overall, the year was one in which adaptive management led us to consider our vision, adjust our approach, and renew our passion for our work with communities.

### Sustainable Agriculture

One of the new developments in our approach is moving toward integrated farming systems (IFS) where we can begin to look beyond getting a farmer involved only in cacao, coffee, beekeeping, or inga alley cropping. IFS are farms that utilize several sustainable agricultural techniques in a connected manner in which outputs and waste from one element become inputs for another, providing most of what a farmer needs, creating financial and food security, and benefitting the environment.

We now have farmers interested in adopting multiple techniques, and we are inspired by the vision of some of the farmers we work with who are implementing a variety of methods.

For instance, 2013 Farmer of the Year Santiago Cus of San Miguel has a small plot on which he has integrated cacao, inga and fruit trees, chickens, and pigs, and he is setting an example for other farmers in the area. Additionally, Prudencio Cucul of Indian Creek is an enthusiastic young farmer who recently planted cacao and is looking to integrate many sustainable methods on his farm and also plans to incorporate ecotourism as a sustainable livelihood.

This year, a survey was conducted with 52 farmers who have been involved in our work, with the purpose of soliciting their thoughts on the strengths, weaknesses, opportunities, and threats to implementing IFS. Their input will be used to create an Integrated Farming Strategy in 2017, to guide the promotion of sustainable agriculture over the next 5 years and creation of more self-sufficient farms.



Mateo Ack of Medina Bank village is one of the first farmers to adopt inga alley cropping farming in the Maya Golden Landscape.

*Photo: Maximiliano Caal.*

In 2016, we continued to see the adoption of agroforestry, inga alley cropping, and beekeeping among farmers. We worked toward the establishment of four demonstration plots to showcase these techniques in various communities in order to promote knowledge sharing throughout the MGL. We continue to support farmers with materials, equipment, training workshops, technical field visits and exchange visits including peer-to-peer.

The year saw an expansion of cacao- and coffee-based agroforestry, especially in Medina Bank and the agroforestry concession in Maya Mountain North Forest Reserve, with a total of 83 additional acres established under agroforestry.

An exchange visit to the Inga Foundation in Honduras and an Inga Forum, have increased interest in the new inga alley cropping method. A total of 18 farmers have planted inga, including six farmers who will promote the method through demonstration plots.

This year included both successes and lessons learned in apiculture. Over 400 pounds of honey were harvested between the 18 beekeepers we work with, and although some hives swarmed, the beekeepers are still determined to turn honey into a profitable business.

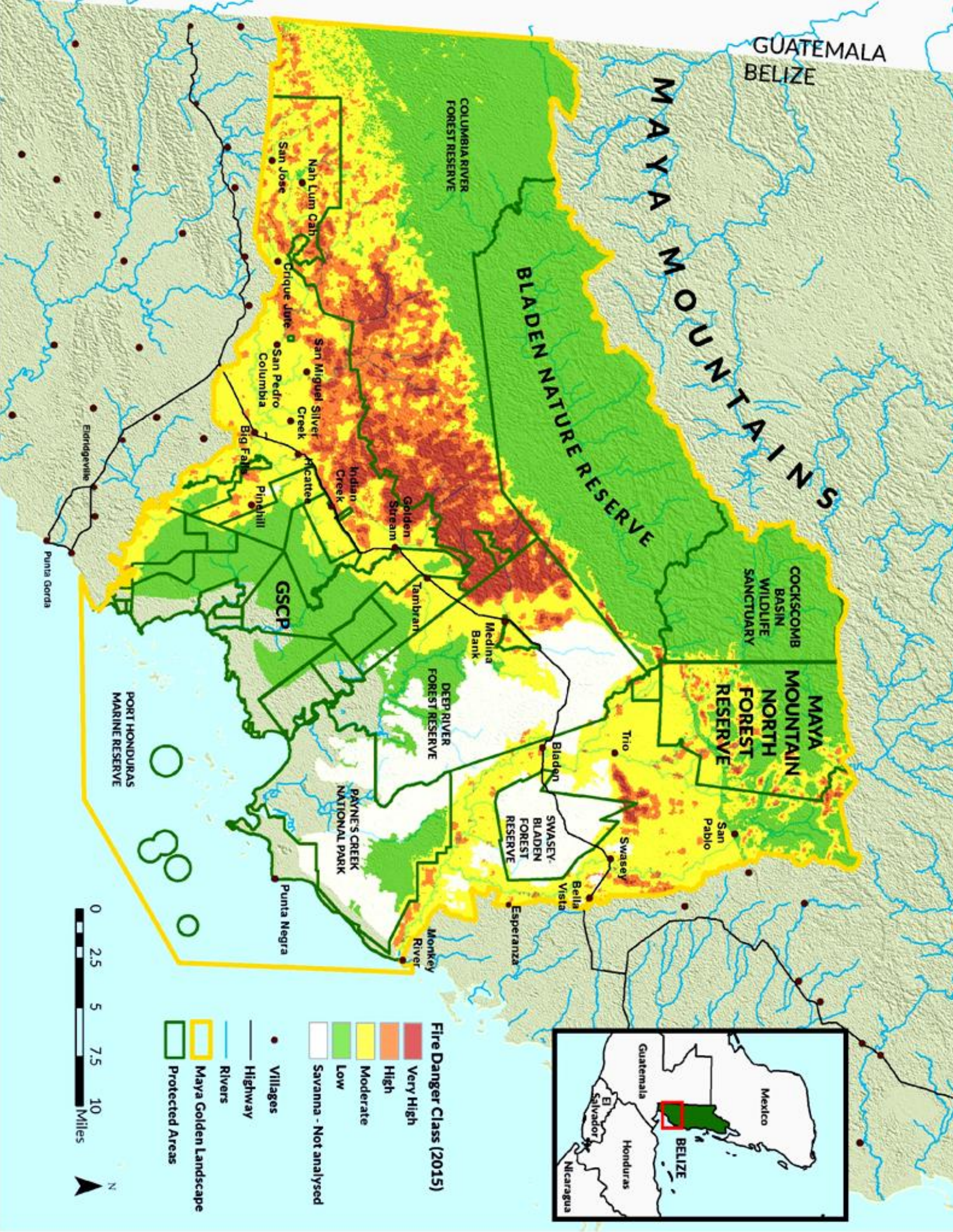
## **Fire Management**

As part of our work in sustainable agriculture, Ya'axché has long recognized escaped fires as a threat to farmers, to sustainable land use, to the methods we promote, and to the protected areas we manage. This year, we advanced toward promoting proper fire management in the Maya Golden Landscape (MGL).

The new Sustainable Agriculture Coordinator was tasked with duties specifically pertaining to fire training, assisting farmers with burns, and providing farmers with technical advice on fire management. We had the opportunity to send five staff members to attend a basic fire training with representatives of organizations from around the country. We received some fire equipment and set up a system whereby trained community members can borrow the equipment to safely conduct burns. With the help of the Southern Belize Fire Working Group, we offered a fire training session in Golden Stream. Additionally, our staff assisted four farmers with their agricultural burns and prevented the fires from escaping into nearby cacao farms.

Another development was the use of GIS to conduct a fire danger risk analysis and create a map showing areas that are more prone to fire. Geographical and topographical features that corresponded with areas that had been repeatedly burned were examined to identify factors that have a strong effect on fire probability. If an area is within or in close proximity to agricultural land, it is at higher risk for being burnt. If a piece of land has rugged topography, has been burnt by fire in the recent past, or has endured hurricane damage, it is more likely to burn. This information can be used to better manage fire and improve sustainable land use in the MGL.

Ultimately, the goal is for farmers to move toward sustainable methods that eliminate the need for fire. In the meantime, we are working towards reducing the occurrence of escaped fires and the resulting effects to livelihoods and security of communities and forests in the MGL.



GUATEMALA  
BELIZE

MAYA MOUNTAINS

BLADEN NATURE RESERVE

COLUMBIA RIVER  
FOREST RESERVE

COCKSCOMB  
BASIN  
WILDLIFE  
SANCTUARY

MAYA  
MOUNTAIN  
NORTH  
FOREST  
RESERVE

DEEP RIVER  
FOREST RESERVE

SWASEY-  
BLADEN  
FOREST  
RESERVE

PAYNE'S CREEK  
NATIONAL PARK

PORT HONDURAS  
MARINE RESERVE

San Jose

Nah Lum Cah

Chrique Jure

San Miguel Silver  
Creek

San Pedro  
Columbia

Big Falls

Pinetown

Elridgeville

Punta Gorda

San Jose

San Miguel Silver  
Creek

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Creek

San Pedro  
Columbia

Big Falls

Pinetown

Elridgeville

Punta Gorda

Fire Danger Class (2015)

- Very High
- High
- Moderate
- Low
- Savanna - Not analysed

- Villages
- Highway
- Rivers
- Maya Golden Landscape
- Protected Areas



# Maya Mountain North Forest Reserve

## Three Years of Celebrating Success

The first community agroforestry concession in Belize continues to be an innovative, trendsetting example of sustainable agriculture which builds relationships between protected areas and buffering communities. The model supports sustainable economic development, reduces threats to biodiversity and conserves the integrity of forests.

In 2012, landless farmers of the Trio Farmers Cacao Growers Association (TFCGA) sought assistance from Ya'axché to obtain permission to establish cacao-based agroforestry in the Maya Mountain North Forest Reserve (MMNFR). Belize's Ministry of Forestry, Fisheries and Sustainable Development endorsed the agroforestry concession management plan and granted access to use the land in June 2014.

The TFCGA, in close collaboration with Ya'axché, has continued to experience successes since the implementation of the 936-acre agroforestry concession in 2015. To date, Ya'axché, with the assistance of international donors, has provided over 58,000 cacao saplings, some of which are already blooming with pods. Over 60 training sessions in shade management, pruning, pest control, soil management, agroforestry, inga alley cropping, beekeeping, and vegetable production have been delivered. In addition, equipment, materials and field extension services have also been provided to the farmers. Ya'axché staff also volunteered their time to support the farmers. These contributions have all helped build the capacity of the group members to manage their individual farms.

The agroforestry concession was carefully designed so that farmers can plant annual crops such as corn, beans, and plantains while they wait on production from the cacao plots. In 2016 farmers harvested over 3,000 plantains and have cultivated 8,712 pounds of corn. TFCGA and associated members have also produced vegetables, peppers and honey.

The dedicated and hard working farmers have planted a total of 126 acres of cacao. Cacao buyers and chocolatiers have expressed interests in purchasing the cacao beans.

Each farmer in 2017 will be establishing an additional 2 acres of cacao and with similar expansion in 2018 and 2019. There are also plans to develop an inga alley cropping demonstration plot to be utilized as a training area in which the farmer field school approach to creative learning will be applied. The farmers will also continue with the planting of vegetables and other cash crops in the annual crop section of the concession.

The integration of an agroforestry concession in the management of MMNFR is helping the reserve maintain its function of flood and drought regulation, providing much needed clean water for downstream communities and protecting critical forested habitat. With close guidance from Ya'axché, the members of the TFCGA are providing food and viable income for their families whilst playing an important role in reducing forest loss and protecting the natural resources and ecosystem services which they rely on.





Cacao trees require careful attention from farmers and shade from forest canopy to grow properly.

*Photo: Maximiliano Caal.*

## Community Events

As part of our ongoing efforts to engage the communities of the Maya Golden Landscape (MGL), as well as the nation, in conservation, we continue to host events aimed at increasing public awareness and enabling discussion on topics such as biodiversity monitoring, fire management, sustainable agriculture, and climate change. These events are critical for the improvement of communication and management of Belize's natural resources alongside communities. In addition to the favourites from previous years, this year saw several new occasions in our line-up.

### BioBlitz

This year, we hosted our first annual BioBlitz event, focusing on teaching students about the different biodiversity monitoring techniques that our team uses in the field. Teachers and 114 students 11 to 14 years old from five primary schools in the MGL attended the event. They were able to learn about identifying birds, mammals, freshwater macro-invertebrates, trees, and navigation from our skilled and experienced rangers. It was a great success, and we look forward to continuing this event in years to come!

### Global Trees Symposium

This year also saw the introduction of the Global Trees Symposium, a national event held at the University of Belize in Belmopan. The aim of the event was to increase national awareness on threatened tree species and community forestry. As is the case in many countries, the timber industry is often seen in a negative manner for its detrimental impact on forests. However, there is huge potential for the industry to grow in a sustainable manner while preserving species for the long-term.

Experts in forest management presented and held discussions on topics such as the status of the threatened Rosewood (*Dalbergia stevensonii*), sustainable forestry, and phenology studies on endangered tree species. The Global Trees Symposium helped stir interest in work being conducted by experts that can contribute to sustainable management of forests in Belize.

### Summer Camp

As in previous years, a two-week summer camp was held in July, with the theme this year being "Climate Change: Taking a Stand for the Future". The 50 participants enjoyed lessons, activities, and field trips that were aimed at increasing the students' knowledge about causes and effects of climate change. The young people examined the big picture of climate change impacts on a global level, as well as what climate change looks like closer to home and how our actions can contribute to or mitigate effects. By involving students in our work, we hope to educate the next generation of leaders about the importance of environmental issues.

### Ya'axché Farmers' Expo

This year we combined two of our most popular events from years past, the Race Against Fire and the Farmer of the Year Award, to create the Ya'axché Farmers' Expo. Held in Golden Stream, this extravaganza brought together all of the highly-anticipated activities from its predecessors, including the bicycle race, presentation of farmer of the year, goal against fire, and football marathon, as well as introducing the new student mascot competition.



Participants of the mascot competition at Ya'axché's Farmer's Expo..

*Photo: Maximiliano Caal.*

The themes of sustainable agriculture and fire management were conveyed throughout the day, from the presence of farmers selling their organic produce to the live demonstration of how to conduct a controlled burn. And the winner of the Farmer of the Year Award 2016, Mr. Hubert Cus, expressed his personal reasons for implementing sustainable agriculture.

The mascot competition consisted of groups of students who teamed up to create mascots, speeches, and songs to personify the event's theme of "Better farms, healthier forests, happier lives." The creativity of the young people wowed the crowds, and the judges were impressed by the depth to which the students understood and communicated the importance of a healthy environment for the benefit of people.

## Discoveries

### Ya'axché Point artefact

Between 2012 and 2014 colleagues Lee McLoughlin and Maximiliano Caal discovered, on two separate occasions and locations, what appeared to be spearheads. Most of these blades, more technically referred to as "points", are not uncommon in the world of archaeology.

After cross-examination by archaeologists, the points were deemed unique and are now proposed as a new provisional type of point with its own name – "Ya'axché Point", in recognition of the Ya'axché staff who found them in the "crown jewel," the Bladen Nature Reserve. The Ya'axché Points have been dated at around 8,000 years old. More research is required to understand how the Ya'axché Points were used.

### New plant species *Spathelia belizensis*

This year was a ground-breaking year for research findings in the Golden Stream Corridor Preserve (GSCP). In early 2014 colleague Gail Stott and botanist Dr. Steven Brewer stumbled upon an interesting tree species at the north end of GSCP in the limestone foothills. The species was found during a survey for rare and threatened trees under one of Ya'axché's research projects. After expert examinations, the specimen was determined to be an undescribed species. Not only is the tree new to science, but it is also endemic to Belize, and so the species was named *belizensis* after the only country in which it occurs.

*Spathelia belizensis* is one of only ten species of trees in the genus *Spathelia*, which, up until this discovery, was considered endemic to the western islands of the West Indies. This is the first record of the genus in the continental neotropics. The species is in the citrus family and grows up to 16 meters tall with a single trunk, unbranched with a 15cm diameter at breast height. At first glance, the species appears palm-like with spirally-arranged compound leaves.

The discoveries of the Ya'axché Point artefacts at Bladen Nature Reserve and *Spathelia belizensis* tree species at Golden Stream Corridor Preserve underscore the importance of preserving and protecting our cultural and archaeological wealth in addition to our biological heritage that are found in the Maya Golden Landscape. Ya'axché endeavors to keep it that way for generations to come.



*Spathelia belizensis* is a new tree species discovered in Golden Stream Corridor Preserve and so far has only been recorded in Belize.

Photo: Dr. Steven Brewer.

## Staff

The list below represents staff (past and present) that have contributed to Ya'axché's achievements throughout 2016. As of January 2017, Ya'axché employs 30 full time staff. Volunteers, indicated by an asterisk (\*), fill key positions in the organization.

<b>Christina Garcia</b>	Executive Director
<b>Karla Hernandez</b>	Protected Areas Program Director
<b>Ivanny Oliva</b>	Finance Director
<b>Gustavo Requena</b>	Community Outreach & Livelihoods Program Director
<b>Said Gutierrez</b>	Science Director
<b>Kamille Pennell</b>	Operations Director
<b>Marchilio Ack</b>	Protected Areas Manager
<b>Stephanie Smith</b>	Sustainable Land Use Manager
<b>Raquel Chun</b>	Program Support Manager
<b>Maximiliano Caal</b>	Marketing & Communications Manager
<b>Elizabeth Dorgay</b>	Botanical Research Project Manager
<b>Julio Chub</b>	Community Liaison Officer
<b>Isidoro Sho</b>	Agroforestry Extension Officer
<b>Eugenio Ah</b>	Sustainable Agriculture Coordinator
<b>Miguel Coc</b>	Nursery Technician
<b>Dianne Gomez</b>	Administrative Assistant
<b>Anignacio Makin</b>	Ranger Team Leader, specialized in freshwater monitoring
<b>Octavio Cal</b>	Ranger Team Leader, specialized in freshwater monitoring
<b>Hilberto Rash</b>	Ranger Team Leader, specialized in navigation
<b>Rosendo Coy</b>	Research & Monitoring Ranger and licensed tour guide
<b>Vigilio Cal</b>	Ranger, specialized in navigation
<b>Marcos Cholom</b>	Ranger, specialized in snail monitoring
<b>Andres Chen</b>	Ranger
<b>Juan Cal</b>	Ranger
<b>Henry Cus</b>	Ranger
<b>Benjamin Cal</b>	Ranger
<b>Ramon Sanchez</b>	Ranger
<b>Gerasimo Coc</b>	Ranger
<b>Jaume Rusalleda</b>	Sustainable Land Use Manager
<b>Angelia Lane*</b>	Development Manager
<b>Benjamin Fletcher*</b>	Protected Areas Program Assistant
<b>Caitlin Furio*</b>	GIS Officer
<b>Jean Linsky*</b>	Research Officer
<b>Michael Storey*</b>	Fire Program Officer
<b>Alyssa Thomas*</b>	Protected Areas Project Manager
<b>Bartolo Teul</b>	Community Liaison Officer
<b>Herminio Sho</b>	Agroforestry Extension Manager
<b>Marta Pop</b>	Nursery Assistant

## Funders and Partners

Ya'axché is grateful to its long-term institutional partner, Fauna and Flora International for its support over the years and would also like to thank all those who have supported and contributed to our work throughout 2016:

- Belize Nature Conservation Fund
- Canada Fund for Local Initiatives
- Caribbean Community Climate Change Centre
- Conservation, Food and Health Foundation
- Gesellschaft für Internationales Zusammenarbeit - Selva Maya Programme
- Global Trees Campaign
- Inter-American Foundation
- Lotex Foundation
- Protected Areas Conservation Trust
- New England Biolabs Foundation
- UNDP-GEF Community-Based Adaptation Programme
- GEF Small Grants Programme
- Rufford Foundation
- United States Fish and Wildlife Service
- Wild Earth Allies
- WWF Russell E. Train Education for Nature Program

## Partner organizations

- Belize Association for Private Protected Areas
- Belize Audubon Society
- Belize Foundation for Research and Environmental Education
- Belize Defence Force
- Colorado State University
- Fauna and Flora International
- Ministry of Agriculture, Forestry, Fisheries, Environment, and Sustainable Development
- Maya Mountain Cacao
- Maya Mountain Research Farm
- Panthera
- Penn International Impact Consulting
- Protectors of the Last Corridor
- Toledo Institute for Development and Environment
- Trio Farmers Cacao Growers Association
- University of Belize – Environmental Research Institute

## Members

Ya'axché would like to extend a heartfelt thank you to all our members who support our work through their kind monetary contributions!

# Financial statement

1st January to 31st December, 2016

## REVENUE

### Grant Revenue

YICE Revenue	120,656
Admin/Operational Reserve	315,828
SGP-GEF	9,604
BNCF PACT	20,150
PACT Large Grant	29,634
Inter American Foundation	2,416
USFWS HJL	179,952
Caribbean Community Climate Change Centre	116,341
NEBF 2015	22,430
CBA-Medina Bank	35,125
Global Trees Campaign 2015-Year 3	3,470
Rufford Foundation 2015	10,050
Lotex Foundation	21,232
USFWS F15AP00942 Wildlife Security	64,657
Conservation Food & Health 2015	39,091
GIZ Selva Maya- Waha Leaf Group	18,841
GIZ Selva Maya-Farm Strategy	65,217
PACT- World Ranger Park Congress	5,840
Lotex Foundation 2016	24,769
Global Trees Campaign Year 4	58,450
CFLI 2016	25,503
PACT PDG GRANT-2016 Max	1,415
USFWS HJC 2016 F16AP00784	34,375
FFI Sub Grant	29,646
Rufford Foundation 2016	8,877
CFI MFFSD 2016	204
NEBF 2016	11
GEF SGP 2016	14,697
Other Revenue	89

**Total GRANT REVENUE** **\$1,278,481**

## EXPENSE

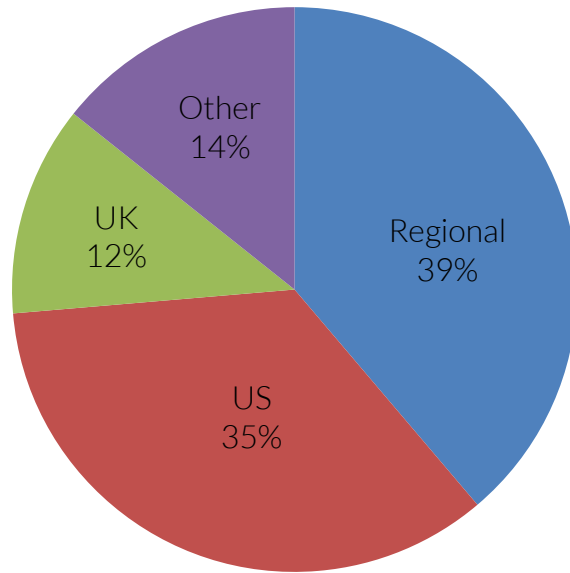
Salaries	588,897
Core Activities Expenses	367,507
Program Expenses	305,022
Capital Expenses	17,634

**TOTAL EXPENSE** **\$1,279,060**

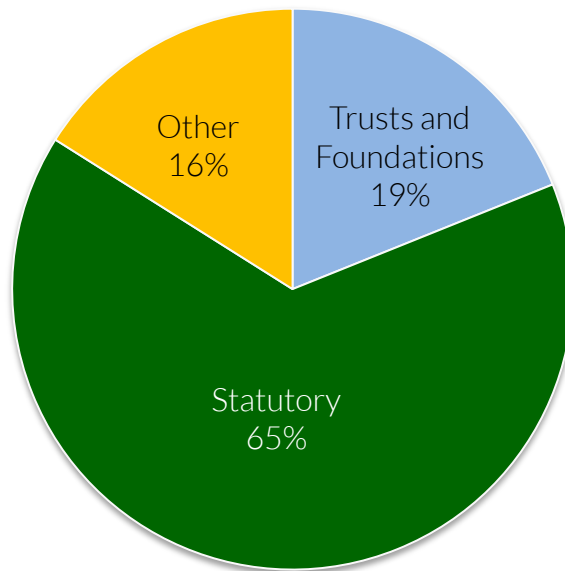
Revenue less Disbursements **\$(579.00)**



## Geographical Origin of Funding 2016



## Funding Source 2016





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